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Russia on the Move

The Railroads and the Exodus from Compulsory Collectivism 1861–1914

Sylvia Sztern

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Abstract

Western scholars of Tsarist Russia emphasize the continuity of collectivism on the Russian plain. Numerous endogenous factors explain the human clustering that occurred as kinship structures evolved into territorial agrarian communal patterns. In my dissertation, combining the Westernizers' and the Slavophiles' conceptualization of the *mir*—the village commune—it is argued that precarious climatic conditions, uncertain yields, and the high frequency of famines and other calamities caused peasant mutual-insurance strategies to take shape, resulting in *krugovaya poruka* (mutual responsibility). Tsarist rulers exploited this practice to enhance tax extraction, impose social control, and reduce surveillance costs. The ensuing degradation of labor explains Tsarist Russia's perennial status as a technology importer and a debtor. The Imperial rulers' territorial aspirations that entailed the strategic import of railroads, however, incentivized the peasantry to accumulate literacy and other skills that, by investing them with growing subversive and bargaining power, compelled modernizing reforms. By inducing a culturally revolutionizing reduction of temporal-cognitive distances, the railroads linked the peasants of European Russia to urban industrial economies and to customary (*volost*) and formal Imperial court systems, cumulatively reducing the costs of property and individual-dignity lawsuits while increasing the predictability of outcomes favorable to them. The railroads also dramatically mitigated the uncertainties and mortal perils of peasant life while introducing peasants to a plethora of institutions allowing rational choice, specialization, and, from 1903 onward, gradual delegation of property rights by the rulers. Challenging Gerschenkron, I posit that the nature of collectivism changed after the emancipation. The iron arms of the Tsarist state—the railroads that steered peasants to seasonal wage labor as well as permanent migration—paved the way to a modernizing transition from authoritarian obedience to rational utility maximization. The compulsory collectivism of the serfdom era gave way to rationalist cooperation and individualism. The delegation of household-head property rights in land, catalyzed by the railroads and codified in Stolypin's reform, portended Russia's transition to a constitutional monarchy. As an epilogue, the empirical and concluding chapter of the dissertation reveals a positive correlation between a commune's distance from the nearest railroad stations and the proportion of peasant land cultivated in the traditional collectivist repartitioning manner of the *obshchina*, and a negative correlation between distance from the railroad and the proportion of individualistic modes of land cultivation. This empirical chapter, co-authored by my advisor, Professor Michael Keren, suggests that the modernization of Russia was occasioned by the railroads and occurred three decades *before* the advent of Stalinism.

Key words: Institutions, technology, village commune-obshchina, insurance, famines, calamities, railroads, rationality, collectivism, individualism

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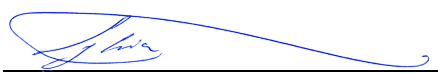
Signature  Date July 14, 2017

Russia on the Move

The Railroads and the Exodus from Compulsory Collectivism 1861–1914

Sylvia Sztern

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To my grandparents and parents:
***Sarah and Leibl Sztern** ("**Trotsky**"), Hebrew entrepreneurs who paid their taxes to the Jewish Community of Lublin for the last time in 1943 before perishing at Sobibor.*

Fruma and Ruvim Jakovlevich Dereczynskij
My grandfather was Professor at the St: Petersburg Institute of Telecommunications, who perished in Stalin's purges in 1937.
יהי זכרם ברוך.

Moshe Sztern - I will forever celebrate the joy of your music.
יהי זכרו ברוך

Cecylia Dereczynska - I cherish your ever-present love, sacrifice ,care, moral support, and inspiration, which allowed me to write this dissertation.

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Sylvia Sztern

Chapter 1 - Introduction

Aims and Contents of the Dissertation

As a grandchild of two men of honor who were slain by totalitarian, enslaving societal perversions—the Stalinist and the Nazi, respectively—I have since childhood been intensely fascinated with the magnificent human urge to freedom and dignity, the search for novelty and creative endeavor, and the omnipresent exodus from the institutional shackles of the past toward unprecedented spatial, temporal, and cognitive personal mastery over the collectivist environment and the oppression it imposes through dependency and domination. Here the pious subversives Isaac Levitan and Fyodor Dostoyevsky share a commonality with Mikhail Bakunin: profound abhorrence and rejection of the hierarchy of oppression of men by men. Paradoxically, Russia has been the playground of multiple expressions of the ultimate escape from and rejection of bondage.

My dissertation combines New Institutional Economics and American Evolutionary Institutionalism to study the transition of the Tsarist Russian village commune, the *obshchina*, from evolutionarily determined obedience of patriarchal elder authority to individuals' rational participation in a cooperative mechanism of their choosing. The uncertain harvests in Russia's climatically precarious agrarian environment, coupled with a high land-to-labor ratio, explain the state of bondage that existed under compulsory coercive peasant collectivism. This structure allowed *samosud*, barbarian village mob rule, to sanction individuals for defection from custom and redistribute surpluses, if any, from the younger to the eldest generation in order to attain a premium and use it to control uncertainty. Peasants, in turn, practiced mutual insurance against famines and other calamities in collectivist redistribution networks. The guiding philosophy encouraged rather low productivity and a stable probability of survival by all, under the structured control of the landlords, all of whom cooperated with the eldest generation.

In 1837-1843, the Tsarist autocracy introduced railroad technology. Its thinking in doing so was dual-purpose: military strategy and mitigation of peasant households' risk of dying in frequent famines and other calamities while raising peasant standards of living through access to urban markets and income. The iron horse that powered the Tsarist post-Emancipation spurts of industrialization (1861-1890-

1907) absorbed the risk-insurance function of the premodern collective. In due course, as I argue—contrary to Gerschenkron's expectations—the coercively collectivist village evolved into a voluntary rationalist cooperative network. I conceptualize Pyotr Stolypin's agrarian reform (1906–1917) as the ex post codification of an ex ante emergent peasant rationalist individualism in landholding that was the cumulative result of the interaction of mirs (in their origin, self-governing communities composed of peasant households) with railroads. The world of the peasantry widened under growing individualized control—spatial, spiritual, intellectual, and cultural—in tandem with cognitively dwindling distances to factories and courts of law. The increasingly literate cohort of *otkhodniks* (peasants who turned to urban wage labor) gained even more than monetary income as they faced less and less risk of death due to violence, famine, and miscellaneous calamities.

My dissertation proposes that 1906–1917 reform be understood as the result of market formation, integration, and specialization, coupled with a temporal increase in transaction costs, that compelled the Tsarist state to set forth individual household-head property rights in land, triggering a mass exodus of the peasantry from compulsory collectivism. When economic civil rights are awarded, political bargaining power is transferred. In the aftermath of the reforms, the Tsarist autocracy unintentionally metamorphosed into a constitutional monarchy.

In the empirical section of this study, I (the lead author) and my cherished co-author and academic advisor, Professor Michael Keren, were able to prove that the closer peasants were to railroads, the more frequently they adopted, through rational choice, individually farmed landholding. If so, the modernization of Russia was engineered by the Tsarist steam locomotive and not by Stalin's Five-Year Plan and collectivization. The latter tragedy was not necessary for developmental parity between Russia and the West.

Structure of the Dissertation

Chapter 2 - Hierarchy and Egalitarianism in Tsarist Rural Structures

This chapter answers the question of why the explanatory weight of Rationalist arguments rises in tandem with technological progress that involves the growing availability of choice. While Gerschenkron's account emphasizes the restriction of rational deliberation due to obedience of authority as dictated by custom, Gregory's work represents the Rationalist extreme, in which a peasant household atomistically practices a hedonist utility-maximizing calculus. The two schools cannot be seen as

mutually challenging and excluding. This chapter proposes that the spurt in industrialization in 1890 triggered a transition from personalized-collectivist-hierarchical to impersonalized-individualist-and egalitarian institutions (Raeff, 1994, pp. 90, 91; cf. Boserup). Such a perspective challenges the Marxist conceptualization of the post-Emancipation Russian institutions.

Chapter 3 - Through the Lences of Theory

This chapter introduces NIE-AEI Complementarity and the Regulationist School; Railroads – National Market Formation and Democracy. Applying the integrated NIE New Institutional Economics with agency conceived as the source of structure—the AEI framework, in which structure brought about by natural selection and adaptation preconditions individual agency—I emphasize that the railroads, supplemented by the use of the telegraph (Chandler, 1977, p. 89), affected the cognitive and physical perception of distance, allowing income risk diversification and predictable use of the legal system for dispute resolution.[1] I combine Neoclassical (Metzer, 1972), NIE (North, 1973), and Evolutionary Cognitive Economics (Martens, 2004) approaches to explain that the railroads triggered a hazard- and uncertainty-reducing market integration, leading to specialization and temporarily raising net transaction costs. Seeking to lower these costs, the Tsarist government delegated property rights in land to individual heads of household under the aforementioned Stolypin reform. This transfer of economic rights amplified the demand for political rights, propelling Tsarist Russia toward constitutional monarchy.

Chapter 4 - Industrialization as a Precipitant of Tensions between Tsardom and Nascent Civil Society

The discourse in this chapter addresses the social costs of the Gerschenkronian substitution pattern of Tsarist industrialization in terms of the Tsarist state's enforcement of coercive authoritarian hierarchies in view of the "endogenous" egalitarianism and "external invasion" (Boyer and Orlean, 1993, p. 22) of the demand for participation that they occasioned. The railroads played a crucial role in the transformation of patriarchal authority, embedded in the popular conceptualization of the anointed Tsar, emulated by the village elder structures, into rationalist cooperation in which the premium for membership, in terms of the alternative returns on the options forgone, cannot exceed the risk-insuring benefits

[1] Crafts, 2007, and Martens, 2004, p. 55. I suggest that the railroads also reduced the opportunity cost of study.

of cooperation. The *art'el* ethos evolved endogenously into the forerunner of organized labor. It is argued there that the autonomous Tsarist "commitment devices" were of rural and kinship, rather than of Marxist-class, origin.

Chapter 5 - The Peasantry and Its Ties to the Land amid Tsarist Industrialization

In this chapter I argue that population increase in the Russian hinterland necessitated more intensive use of resources and posed novel internal and external territorial control challenges to the Tsarist government. This stimulated railroad construction for strategic reasons, unintentionally reducing the land/labor ratio and the interdependency of households in villages along the railways. This chapter centers on the quantitative indicators of industrialization and the effects of this processes on the peasantry's ties to the land, i.e., its labor mobility. The revisionist studies of Gregory (1994, 1982) and Bideleux (1990) challenge Gerschenkron's claim that the obstacles to industrialization originated in rural collectivism. I posit that the interaction between the railroads and the communal custom and its corollary, growing accessibility of urban industrial employment, caused barriers to peasant rural-urban and center-periphery migration to erode through the rise of peasant rationalism. The latter facilitated the transfer of labor from agriculture to industry, the accumulation of industrial skills, and the diversification of income sources, while lowering dependency on mutual insurance against calamities and its consequence, collectivism within the communal villages.

Chapter 6 - The Railroad and the Metamorphosis of the Mir-Westernizer and Slavophile Conceptions Revisited

This chapter encapsulates the challenge to Gerschenkron's proposal. Conceptualized in the combined NIE–AEI paradigm, the railroad changed the character of the peasant commune during the post-Emancipation period. The commune transformed itself from a compulsorily collectivist institution, structured on patriarchal authority, that embodied the legacy of serfdom with its heavy reliance on corporal punishment, to a hedonistic, rationalistic, and voluntary unit based on mutual insurance and cooperation following the industrialization spurt of 1890. The village commune formally dissolved during the Stolypin reform in accordance with what preceded it: an informal, voluntary peasant choice of the mixture of collectivism and individualism that would produce optimal productivity growth. The NIE–AEI model suggests complementarity between the Slavophile and Westernizers' conception of the commune.

The chapter concludes with a summary of the long-term decrease in risk occasioned by Imperial Russia's imports of Western technology for strategic purposes. Unlike the maritime technology that was absorbed during the reign of Peter I, which predominantly gave nobility navigation skills, the dual-purpose railroads abetted increases in peasant literacy, mobility, standards of living, and, ultimately, individualization of landholding rights, paving the way to productivity-raising agrarian entrepreneurship.

Chapter 7 - Secularization and Pious Subversion–To the Constitution by Rail

Contrary to Fogel's (1964) proposal concerning the American railroads, Baykov (1954) acknowledges the crucial role of railroads in the modernization of Russia, specifying their role in facilitating Tsarist industrialization by linking populations with centers of natural resources. Supplementing Baykov's focus on tangible aspects of modernization, I argue that the new technology also introduced an element of genuine choice that set a cultural revolution in motion: a transition among the peasantry from obeying authority to rationalism. Challenges by rival spiritual cultures were thrusting the Greek Orthodox legitimacy base of the autocracy[2] into a state of flux. Massive canonization gatherings, defection to the revolutionary Old Belief—Starovery—and retreat to other piously subversive sects, as well as secularization, challenged the empire's spiritual stability base (Freeze, 1996, p. 311; Burds, 1998, p. 217). The resulting institutional competition caused the intra-ecclesiastical structure to metamorphose from hierarchical-authoritarian to an egalitarian and participatory parish (Shevzov, 2004, p. 39, derived from Burds, 1998, p. 217). The Russo-Japanese War, instigated to distract discontent, ended in a debacle in 1904, destabilizing the army. To re-legitimize the empire, Nicholas II launched a land-title reform in 1906 that aimed to improve the peasantry's living standards (Freeze, 1996, p. 309). Bearing in mind the incongruence of individual property rights and autocratic rule, I argue that the railroads established a direct line to the Constitution.[3]

[2] Freeze (1996), p. 309, relates to the political-stability function of the Church, the army, and the Tsar's personality cult.

[3] Quotation from Weber in Pipes (1999), p. 98, applied contrarily by Ascher (1988), pp. 87–89.

Chapter 8 - From Peter to Nicholas-Continuity and Progress through Reform

This chapter emphasizes the tension between Gerschenkron's (1968) notion of abstract continuity in history and Confino's (1997) historical-uniqueness approach. The allocation of physical and human capital to military use[4]—always a precipitant of backwardness—entails the institutionalization of the primacy of the common welfare (Anisimov, 1989, p. 122) to individual welfare that typifies a war economy. This condition historically legitimizes individual subservience and degradation, hampering innovation.[5] This explains why, due to a historical vicious cycle, Tsarist Russia became a backward importer of technology. The historical uniqueness approach, however, allows us to distinguish between Peter I's earlier version of modernization and that under Nicholas II. The "dual purpose" nature of railroad technology (Kahan, 1989, p. 28), as opposed to the eighteenth-century Baltic fleet, allowed broad population strata to acquire human capital, bringing on Cultural Revolution (ibid., p. 23). The railroads stimulated the growth of domestic commodity markets, resulting in a short-run increase in net transaction costs contingent on specialization. The ensuing Stolypin land reform, instituted with the Hayekian political rationality lag that, according to the Coesian paradigm, accumulated the costs of transactions, was incongruent with the Tsarist system of non-participatory rule (Pipes, 1999), p. 98.

Chapter 9 - Was Stalin Necessary? Railroads and the Crumbling of the Obshchina in Tsarist Russia[6]

This chapter uses a primary database: second-stage statistics for the Penza region and its rural self-government (zemstvo) in the Stolypin reform (1913), including the distance from each group of communal villages (selo) to the nearest railroad station, and fifteen land categories. Each category embodies a different degree of collectivism versus individualism in the landholding mode that emerged in the time between the emancipation of the serfs (1861) to and beyond the implementation of Stolypin's reform (1913).

The transformative impact of railroad technology, expressed in the distance from each selo to the nearest railroad station, is an exogenous explanatory variable that

[4] Gerschenkron (1968, p. 315, points 1–5) presupposes the systematic reallocation of funds for military use. See Gregory (1982), Appendix F, Table F 4, p. 256,, and Hughes, L. (1998), p. 136.

[5] Ibid.; Mokyr (1990), p. 177. Deriving from this source, I posit that the enforcement of individual property rights provides an assurance against degradation attempts.

[6] Coauthored by Michael Keren.

influences the choice of landholding type—land category—and the congruent degree of individualism versus collectivism that each of the fifteen post-Stolypin categories embodies. The degree of individualism versus collectivism is the dependent variable in the impact of Stolypin's reform on rural self-government in Penza, i.e., the 1913 zemstvo data applied. The landholding category is defined as the percent of the specific land category in the total land area[7] in the selo. The results of the inquiry are as expected: the shorter the distance to the nearest railroad, the more individualistic is the land category chosen by the peasants. This also indicates that the peasantry's transition to rationalism took place in tandem with its use of the railroads. Thus the Russian economy modernized with the advent of the Tsarist railroads; Stalinism was not necessary to introduce the process.

[7] Data adjustments: Keren, 2012.

Chapter 2 - Hierarchy and Egalitarianism in Tsarist Rural Structures

Transitioning from Gerschenkron to Gregory: Introducing Deduction and Induction from NIE-AEI Complementarity and the Regulationist Model

> "*Tysechu let nami upravliali ludi nie zakony*" - For a thousand years we [Russia] had been governed by people, not laws. Alexander M. Yakovlev, SVT Documentary, 1994

The Proposed Perspective: Institutional transition from personalized to impersonalized rights

The transition from personalized to impersonalized institutions is the one feature that Russia's historical transition and the recent one, dating from 1985 or so, share. Thus, my investigation of the Tsarist modernization from a historical perspective centers on studying the dissolution of personalized hierarchies of coercion.

Figure 2-1 The Two Russian Transitions

Back to the relatively modern concluding stage, 1890–1914

Planned economy to market economy, from 1985 to the present writing (2017)

Commonality: personalization to impersonalization of rights

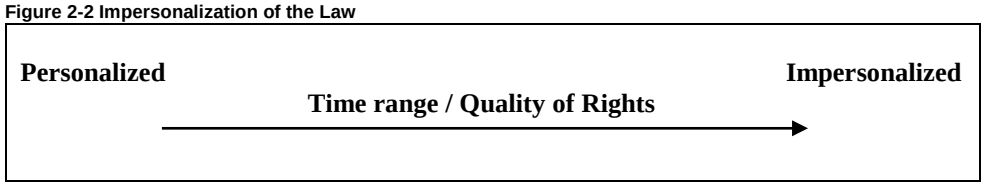
The transitional reform embodied in this commonality comprises a set of corrective measures triggered by the change in informal institutions (conventions), to which the general defining elements of the institutional superstructure adjusted at a lag. It is assumed in the following discussion that during the Tsarist period, as well as in the institutional disintegration and transformation of the Soviet Union, "bottom-up"

informal institutional adjustments that strove to mitigate uncertainty, i.e., to lower transaction costs, preceded the actual "top-down" reform. Thus, society's demand for decentralization was the novelty and the formal institutional restructuring of property rights was a lagged, i.e., a path-dependent, incorporation of this novelty into the formal institutional infrastructure. The popular demand for institutional change in the late Tsarist period constituted society's adjustment to the increase in population density and the state-led industrialization, i.e., the change in the production possibility frontier (Eggertsson, 1990, p. 319), as determined by technology.

The argument that follows rejects the Marxian paradigm, which considers class conflict the way to conceptualize the effects of industrialization on institutions, and vice versa, in Tsarist Russia. Instead of discussing the consequences of the development of an ostensible disequilibrium between the relative weights of competing class interests, I believe it more appropriate to address the contradiction between the subjectivization and the objectivization of the society-specific concept of rights over time generally and of property rights specifically.

Let us assume a continuous time axis along which the transition of a society, manifested though systemic metamorphoses observable at two discrete points, is defined by degrees of subjectivization / personalization versus objectivization / impersonalization of the process that distributes and enforces rights. The qualitative variable defined by this principle assumes the following polar dichotomy:

Figure 2-2 Impersonalization of the Law



The quality of rights, in principle, is defined according to the distribution of the rights and the probability of their enforcement. Personalization means that a right is assigned by the highest ruler to a particular person and is non-transferable by definition. Thus, it assumes the form of a personal privilege, the terms and durability of which are constrainable by changes in the nature of a particular ruler–subject relationship. In this case, the probability of enforcement is zero. The opposite would be a right distributed under a specific and relatively permanent set of rules that applies to any person who meets foreknown criteria. The right would be fully transferable and predictable; the probability of its enforcement would equal one.

In historical time, these qualitative proportions evolve from personalized, hence subjective, privilege in pre-modern society to objective rights in modern society. The probability of enforcement makes the following transition:

$0 \leq \Pr(e) \leq 1$.[8]

Transaction costs rise when property rights are insufficiently delineated in terms of reliability (Barzel, 1989, pp. 3–12). Plain intuition indicates that personalized subjectively legitimized property rights are insufficiently delineated. Generalizing this theory of property rights to other kinds of rights, e.g., civil rights, one ends up assuming that rising system-specific transaction costs in a society are a symptom of vaguely delineated rights, which in our case would mean that when restrictions as well as rewards depend on the nature of personal relations—by no means excluding those between ruler and subjects—no set of such rights can endow life and property with long-term security.

The objectivization of the distribution of rights and obligations in general requires the establishment of instances that can play an autonomous legislative role vis-à-vis the sovereign without incurring personal risk. A legal code consistent with a set of fundamental principles, judicial uniformity, sundry administrative praxis, and equality before the law may be thought of as necessary, although not sufficient per se, for the objectivization of rights.

[8] Let us summarize this in symbolic form: Probability of enforcement = $0 \leq \Pr(e) \leq 1$

Transferability = $0 \leq \Pr(f) \leq 1$

Predictability = $0 \leq \Pr(c) \leq 1$

System-specific transaction costs = TR(S)

The system-specific transaction costs are a function of the expected value of the variables defined above:

$TR(S) = f[\, E(\Pr(e), \Pr(f), \Pr(c))\,]$

It also stands to reason that the system-specific transaction costs, Tr(S), are positively related to the proportion of personalization / subjectivization, $0 \leq \Pr(P) \leq 1$, and are negatively related to the proportion of objectivization, $0 \leq \Pr(O) \leq 1$, of rights:

$\Pr(O) = 1 - \Pr(P)$

$\Pr(P) = 1 - \Pr(O)$

In symbolic form:

$TR(S) = f[\Pr(P)]$ alt. $TR(S) = f\,[\,1 - \Pr(O)]$

$TR(S) = f[\Pr(P)]$ alt. $TR(S) = f[1 - \Pr(O)]$

Locus and type of rule in Tsarist Russia

A feature that clearly distinguishes the Tsarist Russian institutional tradition from its West European counterparts is the lack of decision-making power centers that are both legally constituted and autonomous relative to the Tsar. Muscovy's late-medieval policies were defined by attempts to attain national unification by legitimizing the unconstrained authority of the autarchy. Tsardom had been raised on foundations of the patrimonial principle, which allowed all state lands to become the personal votchina (patrimony) of the ruler (Pipes, 1995, p. 70). State governance was restricted to the performance of *posylki*—"errands" assigned to the crown, from which the nation could benefit via personal service to the Tsar (Raeff, 1966, p. 90). This absolved government officials of personal responsibility for the quality of judicial and other administrative services performed on the sovereign's behalf.

The absence of a coherent legal code of conduct randomized the discharge of governmental functions, placing it at the mercy of competing personal rent/favor-seeking interests. It also raised communication barriers in relations with the crown and hindered coordination among different arms of the autarchy in the systematized managing of its subjects' conduct.[9]

Due to delayed and distorted information flows, the personalized distribution of obligations as well as of rights (or, more appropriately termed, "privileges") was unpredictable, resulting in insecurity of life and property even at the highest levels of the social hierarchy.[10] Expressed in modern neo-institutionalist terms, one may state that the personalized rule of the absolute autarchy, contrary to expectations at the time of its enforcement, was characterized by high transaction costs occasioned by traditionally vaguely defined rights (Barzel, 1989, pp. 3–12). The notion of the person of the Tsar as the sole mediator between the human and the divine, a mere executor of the latter's wish—by definition, satisfying the highest moral requirements—was considered instrumental for a formally strengthened Greek Orthodox national identity, the unification of all conquered ethnicities under the European Russian rule of a Tsar who was conceptualized as God's go-between with man, and the uniformity of governance that would enhance personal security. Paradoxically, however, this very notion resulted in a volatile institutional setting and unpredictable outcomes even for Tsarism's most intimate servants.

[9] This overview owes its provenance to Raeff (1966), Wagner, (1994), and Wortman (1989), pp. 12–31.

[10] This conclusion is inspired by ibid. among other sources.

Peter I and his notions the rule of law: militarized absolutism

It is true that a relative separation of Tsar and state took form under Peter the Great (r. 1682–1725) and oriented the guidelines of government administration toward rationalization and universalization of the legal framework.[11] Institutional adjustments in the eighteenth and nineteenth centuries, such as greater autonomy for the Senate, were brought on by the exigencies of war, leading to the adoption of the military hierarchy as an organizing model for state administration (Wortman, 1976, pp. 12, 13, 71). However, since the concept of an impersonalized state, distinguished from the Tsar's personalized rule, clashed with custom, a regression toward the latter followed the cessation of Peter's coercive reign.[12] The prevalence of traditionally established ways of conduct over formally introduced innovations verifies North's postulates about the historical durability of informal institutions and their impact on adaptability to systemic changes in general (North, 2005, p. 117;). The need to transition from conformity to custom to an innovation-adjusted set of available skills limits the de facto effectiveness and durability of reforms. The more quickly the transition occurs, the greater the risk of regression.[13]

Thus, the personalized distribution and modification of civil and property rights re-emerged as a manifest and distinctive feature of the Russian institutional superstructure and persisted for decades to come. Furthermore, the inquisitorial procedure—a relic of the Petrine era that remained identifiable until the judicial reform of 1864—severely restricted the autonomy, that is, the purview, of judges. The subordination of civil law to a military concept of law that centralized the power of implementation in the hands of the Tsar was itself a seventeenth-century institutional innovation that eventually attained the status of tradition.[14]

[11] Wortman (1976), p. 9, states that various eighteenth-century Petrine reforms were inspired by the "absolute police states of the West" and were to be legitimized by the new notions of pravosudie—legal justice instituted by a secular state governed by positive law (zakonnost), as distinguished from the legitimacy of divine inspiration on which Tsarist rule was founded—the political function of which would be to secure *obshchaia pol'za,* the general welfare. See Raeff (1966), pp. 92, 93, 98.

[12] Wortman (1976), pp. 12, 13, 71. Wortman considers Peter's attempts to create "a discrete judicial sphere in Russia" premature. See also Raeff, M. (1966), pp. 92, 93, 98.

[13] Conclusion inspired by North (1990, 1993).

[14] Wortman (1976), p. 14. The institutions that guided the courts, inspired by Swedish, Danish and German military codes, were introduced in the Military Process section of the Military Statute of 1716.

Catherine II: Ambivalent Steps toward the Impersonalization of Law

Catherine II (r. 1762–1796), cognizant of the political need to ratify the nobility's de facto strengthened position, absolved landed subjects of compulsory state service in 1762. These subjects' allodial property rights were codified in the 1785 Charter to the Nobility, which ostensibly assured her erstwhile servants—the *khlopy*—a historical category of landed subjects , prior to 1785- the nobility's allodial property 1714 and freedom of state service- security of life and property. The informal restrictions inherent in the intermediary executive echelons, however, prevented these acts from allowing a consolidated estate, one that could influence the crown's decisions and legislation, to emerge. Still, concern for property and civil rights during the eighteenth century—inspired by Western philosophers—was not restricted to reforming the conditions of the nobility. The contemporary debates also turned their attention to aspects of an incentive structure composed of a codified set of rights that would address the institutional environment problems of the state peasants-who lived on land owned by the Tsarist State (Moon, D. 1999 p. 22). Thus, an "instrumental" version of the property rights concept was adopted to free the nobles, who, according to the Charter, were formally assured—*polnaya sobstvennost*—full ownership, and propositions to grant the right of possession and use—*vladenie i polzovanie* (transferable only through hereditary tradition and distinct from ownership rights)—were expressed in regard to the state peasantry.[15] Finally, state peasants were formally, through codification in the *Svod Zakonov* (the Tsarist law book), given property rights—*krestianskaya sobsvennost*—that shared the characteristics of nobles' rights although not fully applied (Crisp, 1989, pp. 34, 36).

[15] Crisp (1989), pp. 34, 36. The instrumental tradition, derived from the thinking of John Locke, accepts the individual as given and acknowledges the importance of the right to property in its welfare-generating properties. The property right is seen as a "means," an instrument, for the promotion of economic progress. The contrasting self-developmental tradition, represented by Kant and Hegel, regards property rights as a value per se, one that assures "men's welfare and freedom from oppression," i.e., that establishes a forum for individuals' will. Consequently, the right in itself is conceived of as an "end." Thus the Kantian conception of property rights, in contrast to the Lockean perspective, endows the property right with a principial intrinsic value that is independent of the inducement to productive labor input and returns on the owned assets. The value of Kantian rights is captured in the ruling structures' acknowledgement of this institution, i.e., "Yes, it is yours." The Lockean "instrumental" conception of property rights is congruent with the Russian peasantry's hostile and antagonist relation to the Tsarist government. It is the peasants' labor input and the right as the means of livelihood that are socially enforceable within the peasant environment as "This is mine." (Workshop on Institutional Economics Hertfordshire University, September 2001, discussion with D. Bromley).

Generally speaking, the contents of Catherine's formal reform may be seen as progressive. The inclusiveness of the reform suggests that one should treat the question of legitimacy and attempts to implement the rule of impersonalized law as the key variables in addressing the metamorphoses of the Russian system, instead of promoting a conflict perspective that focuses on the various "class-specific" proportions of rights granted. The personal talents, concepts, and aspirations of the Tsar, and his ability to effectively dominate the informal institutions—the essence of autarchy—were crucial in any institutional change in Imperial Russia.

While Petrine legislation bore evidence of the Tsars' signature *imennye* edict (Hughes, 1998, p. 93), the enlightened Catherine II submitted the institution of the Tsar to the rule of law by strengthening the role of the Senate and autonomous local government by giving sway to systematized and impersonal law, albeit not superseding the dignity of anointed Tsars' rulings (Hosking, 1997, p. 101). Hosking (1997) explains that as a matter of administrative novelty European Russia was to be divided in *gubernii* (provinces populated by 200,000–300,000 souls) and, within each gubernia, *uezdy* (districts populated by 20,000–30,000 souls). Each gubernia was to be structured by a governor responsible to the Senate and entitled to appeal directly to the Tsar. The institution of the governor embodied controlled autonomization of the tax collection, police, and trade monopolies functions (Hosking, pp. 101, 102). Catherine's attempt to create exclusively judicial institutions, such as the local uezd—administrative district—courts, established in 1775 (Wortman, 1976, p. 13), may be interpreted as an effort to decentralize, i.e., to autonomize the judiciary in the manner necessary for the impersonalization of law. These attempts, however, were counterbalanced by the supremacy of the procurator general, whose task it was to closely supervise the activity of the Senate in accordance with Tsarist directives.[16] Thus, in principle, the Tsar remained the unchallenged source of all law.[17]

[16] Wortman (1976), p. 13. The instance of procurator general was established during Petrine times and constituted the highest level of the judicial hierarchy. Catherine organized this hierarchy as follows: bottom level—uezd—and district courts, intermediary level—civil and criminal chambers; Senate (which elected participants in the chambers); and the highest level: the instance of the Procurator General, who controlled the Senate and reported to the Tsar. During Peter's reign, the duties of the procurator were performed by military servants.

[17] Raeff (1966), pp. 98, 103–107. A relatively important change of concept was introduced in the eighteenth century by the Western Enlightenment, inspired by members of Masonic lodges who emphasized the importance of the rule of law. Their reform proposals addressed the rights of the nobility as well as those of the serfs. Nevertheless, even those who favored non-interventionist state policies that would restrict the domain of superstructures to the provision of security of life and property advocated autocratic rule. A legal code crafted for this purpose would have created a Ständestaat (a "state of estates") by codifying grants of possession and leaving the Senate with a measure of legislative autonomy. Such a development would have created powerful estates that, by their very existence, would have constrained the autarchy's rule. The reform proposals were rejected from the start because such a state, once developed, would have lacked

Did the 1864 Judicial Reform Institute the Rule of Law?

One would assume that the formal codification of rules in 1833, the 1864 judicial reform, and the subsequent professionalization of the judicial services (ibid.; Wortman, 1976; Wagner, 1994) would have combined to further the de facto objectivization of the principles that informed the distribution of obligations and rights. All this notwithstanding, however, the imperial institutions evolved unpredictably. Their patterns of conduct were dictated by the ad hoc preferences of the sovereign, which he communicated to his subjects in the form of decrees unrestricted by any aspiration to consistency within the general legal framework.

Patriarchal Authority as the Source of Law, Personalized Institutions, and Erosion of Estate Cohesion

As late as the nineteenth century, the state and the Orthodox Church considered the family the cornerstone of the social and political order[18] and, at the micro level, invoked the guiding principle of patriarchalism as a metaphor for the sovereign's unquestionable authority.[19]

Confusion between birthrights (which were presumably personalized in their origin) and privileges (which rewarded specific members of the nobility for meritorious service) mired the huge seigniorial clans in perpetual internal conflicts (Raeff, 1966, pp. 98, 99), not to mention institutionalized hurdles against the development of solidarities that would delineate broader strata such as a gentry. Consequently, the most vigorously promoted objective of the crown was to prevent, systematically, the formation of any alternative power centers such as powerful estates defined by a homogeneous set of goals, including a center composed of nobility. Russian society, including the gentry as well as the commune-bound peasantry (Ibid. and Crisp, 1989), was conflict-ridden, atomized, and, where property rights were

anthropomorphous features due to its contradictory nature in relation to tradition. It is of interest to add that the members of the Masonic lodges faced especially dire persecution at Catherine's hands.

[18] Wagner (1994), p. 3. This implied an obligation on the part of peasant subjects to respect and obey the Batjushka Tsar—the cherished father, none other than the Emperor, and to expect the latter to protect "the children among his subjects"—the peasants. Hughes (1998), p. 94.

[19] Even while guiding initial attempts to codify the imperial law in 1767, Catherine the Great exclaimed, "The sovereign is absolute" (Wagner, 1994, p. 5). Wagner (ibid., p. 6) notes "*the reluctance of the Russian autocrats and state officials to abandon the practice of personalized and discretionary paternalistic authority*, [...] *the rule of law being secondary to the political ends*" (ibid., p. 5), emphasis added.

concerned, chaotic at its highest levels.[20] To explain the weakness of the concept of property rights in Russia, one must note both the codification of rights and its absence. Several examples bear this out: An act passed in February 1803 proposed to award full individual title in specified parcels of land to serf householders by the *pomeshchik*, their former owner, who individually decided to free them (Crisp, 1989). Legislation in 1848 allowed serfs to acquire and possess immobiliers in their own names, not merely in that of their master (ibid., p. 37). Prototype reforms ahead of the 1861 Emancipation Act, however, *did not delineate* the full individual right to property but solely hereditary use rights and institutionalized the customary law, which was based on collective ownership (ibid.). Given the erratic nature of the statutory praxis, the question of who held rights (title) to a given parcel of land could be answered, de facto, only on a personalized basis. In the case of serfs, until the general emancipation the answer depended simply on the strength of the pomeshchik's memory. Thus, in the Russian context, the codification of laws by no means guaranteed their objectivization.

Laws in the Service of Political Goals

Laws of whatever kind, written as well as customary, had no superior dignity over political ends and were reconciled with such ends ad hoc. Differences in ownership status between one seignior's emancipated serfs and another's, which presumably existed, prevented the formation of a peasant estate and abetted perpetual internal conflicts instead of class solidarity.

The delegation of political power for the purpose of legitimizing, through the franchise, autonomous legislative and executive instances and allowing for the establishment of a bureaucracy that would take governmental actions according to a consistent, rational and predictable set of rules, i.e., a legal code of higher dignity than the autarchy's short-term ends, was paradoxically thought to have destabilizing proprieties.[21]

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[20] Crisp (1989). Concerning the peasant economy as well as that of the gentry before the 1906 reform, see Macey, D.A.J., "The Peasant Commune and the Stolypin Reforms: Peasant Attitudes, 1906–14," in Bartlett, R., ed. (1990), *Land Commune and Peasant Community in Russia*, p. 220.

[21] Wortman (1976), pp. 2, 5. As independent public courts were being introduced during the 1864 judicial reform, the autocrat termed the emerging institutional innovation "the usurpation of autocratic prerogatives, threatening the very basis of the Tsar's power." In other words, the Tsar as the source of a personalized institutional system never came to terms with the impersonalization of law. This created an inherent contradiction in the reform process, impeding progress and, in the eyes of the autarchy, legitimating repression. Such is adduced from Ascher (1988).

According to the sources, it would be no exaggeration to assume that Russia's defeat in the 1853–1856 Crimean War (Ascher, 1988, p. 18) called the Tsarist Government's attention to the dire need for modernization and the "top-down" delegation of legislative and political power. Thus the communication problems between the Tsar and his subjects could be addressed and the imperial administrative efforts could be coordinated. The debates that would herald the emancipation of the serfs in 1861 erupted, presumably in response to the importance—acknowledged by the ruling elites, the intelligentsia, and the government—of the subjects' loyalty and participation, not least in battle. Another factor that should not be neglected is the effect of an endogenous change in attitudes toward the concept of legality that had been occurring gradually since the middle of the eighteenth century (Wortman, 1976).

Skill Accumulation as the Source of Corporate Demand for Legality

One assumes that each top-down reform created a lagged increase in adaptability, i.e., an enriched spectrum of skills at the executive levels. This process, although hampered, strengthened the demand "from below" for institutional innovations. A deeper discussion of this issue is found in Chapter 7. An example of such requested changes might be society's commitment to equality before the law, which one may understand as a "translation" (Boyer and Orlean, 1993, p. 22) of a form of egalitarianism specific to Russian culture. Theoretically, the institutional innovations could be induced indirectly, by confronting the crown with a credible threat of a disorganized, knowledge-determined challenge to its supremacy. The voice of the enlightened among the nobility and the intelligentsia, which rejected the notion of serfdom as such (Gerschenkron, 1968, p. 155), as well as the urgency of the political threat inherent in the serfs' poverty and backwardness, assumed weight in Tsarist considerations.

Viewed from a historical perspective, the Emancipation Act of 1861 and the gradually strengthened position of the gentry, including the establishment of rural self-government—the zemstvo assemblies (Ascher, 1988; Atkinson, p. 21)—implied recognition of the interdependence between the stability of the autarchy and the existence of cohesive social strata loyal to the crown. The mere acknowledgment of this state of affairs restricted the scope of despotic rule. The institutionalized protection of the interests of landowning strata, contrary to a particular noble's interests, may be seen as the onset of de facto recognition of the importance of objectivizing rights in land. This process, as well as the attention given to the peasantry's need for socioeconomic subsistence, amounted to a forced concession

by the totalitarian ruler to his subjects, in the shape of a modernizing land reform, for the long-term aim of self-preservation. The origins of Stolypin's land reform are put into theoretical conceptualization in Chapter 2. Despite the hardships endured by peasants at the time of its implementation, the decision to embark on the rapid industrialization program—personified by S.I.U. Witte, the enlightened Minister of Finance (1892–1903)—was expected by the Tsarist Government, the ruling elites, and the Westernized intelligentsia in the long run to raise the masses' standard of living and, in turn, guarantee the supremacy of autocratic rule.

Emancipation and Redemption in the 1861–1863 Statutes, Enforcement of the Peasant Commune as an Unintended Paradoxical Challenge to Totalitarian Atomization

Admittedly, the imperial government never intended to attenuate the country's social atomization unless forced to do so. On the contrary[22]: the consolidation that occurred within the agricultural and industrial production units emerged as a byproduct of the modernization that industrialization brought in train. Cultural modernization driven by the industrialization process, in turn, inspired reactionary elements among the entrepreneurial class and the landowning nobles to intensify their demand that the autarchy formally redefine the principles of its rule (Atkinson, 1983, p. 19).

The cause of this social imbalance was manifested in the redemption acts, which favored the gentry, implicitly acknowledged the political need to secure the nobles' loyalty, and appeared to amplify the importance of the peasant commune. These

[22] Atkinson (1983), pp. 12, 13. The Tsar's highly personalized rule imposed a top-down restriction on the bureaucracy's modus operandi. Instead of following a predictable impersonalized law, the imperial bureaucracy is said to have "served at the sovereign's pleasure," that is, it was controlled by the Tsar's will from the very top to the very bottom. *Freedom of association was not recognized*; the operative idea was to exacerbate social atomization and render the creation of an organized opposition to the autocracy impossible. The institution that supplied imperial rule with its legitimacy, the Orthodox Church, was itself restricted by the Tsar in its practical endeavors, as "The administrators of the Orthodox Church were servants of the state appointed, personally, by the Tsar." Atkinson emphasizes the "weakness of public institutions" relative to the crown. If so, the pro-atomization forces were represented by the "extended hand" of the tradition-oriented order. A formidable example of the Tsar's personal influence for the cause of restricting autonomization was the dismissal in 1899 of I.L. Goremkin, Minister of Internal Affairs from 1895, as a direct consequence of Goremkin's attempts to permit the creation of zemstvos in western provinces by extending the self-rule statute of 1864. The minister is said to have "fallen out of favor."

features, in the Russian context, may be considered unintentionally progressive and representative of an in-between stage, suggesting the transformative possibility of creating consolidated and, in relation to autarchy, reasonably autonomous power centers that would influence policy. There was in fact a causal connection between the consolidation of the post-Emancipation commune and autonomous demand for political negotiation power; it is discussed in Chapters 3 and 5. The developing entrepreneurial sector and the professionalization of judicial services oriented to Roman law implied the *possibility* of development toward a pluralistic society (Raeff, 1966; Oberkofler and Zlabinger, 1976, pp. 111–116; Gerschenkron, 1968, p. 124; Ascher, 1988, p. 18) that could absorb and institutionalize an objectivized code of socioeconomic conduct. The intelligentsia's rejection of ownership of men by men may be regarded as a first step toward the de facto implementation of the principle of equality before the law. Growing awareness of the need to establish an independent judiciary may be seen as the beginning of a transition toward the impersonalization of law. Concurrently, a gradual change in favor of privatization on a household basis and the individualization of property rights occurred in the interpretation and implementation of the emancipation and redemption statutes of the 1860s (Crisp, 1989, p. 41).

Now that the peasants enjoyed freedom (relative to the serfdom conditions that had limited them to being a supply of cheap labor for the landed gentry), they increasingly demanded modernization. Thus, despite institutional anachronisms inherent in rural customs, the abolition of serfdom and the judicial reform of 1864 paved the way to the 1890 industrialization program, which in turn, fostered an innovation-oriented set of skills that placed the autarchy under additional and decisive pressure for change (Gerschenkron, 1968, p. 132).

Industrialization as the Foremost Challenge to Personalized Institutions until 1906

Nevertheless, the problem of objective rights, the de jure and de facto implementation of the rule of law as a supreme principle, remained largely unresolved until 1906. During the decades preceding the industrialization effort, the relation between ownership structure and economic performance received emphasized attention amid open debate. Viewed from this perspective, nineteenth-century Russian society cannot be criticized for lack of intellectual consciousness on socioeconomic issues. The hindrances to development lay in the inability of the professionals and intellectuals to effectively influence policy outcomes in accordance with the conclusions they had reached without questioning the rationality of preserving the autarchy. This suspended the autarchy, in turn, on the

horns of an ancient dilemma that totalitarian states face: disregarding the perceived need for change, absolutist Tsardom could not reform itself from within without jeopardizing its fundamental legitimacy and self-destructing in the process.[23]

Since Petrine times, the scope of institutional innovation in Russia had been restricted to a range of Tsarist prerogatives bounded by leaving the autarchy in place as an omnipotent, personalized institution or serving merely as the sole guardian of justice. Within this range, the authority of the crown could concentrate on legislating and executing justice or could lay down institutional guidelines through reform and guarantee the executive functions of the judicial system. As the matter played out, the crown traditionally eyed the general independence of courts and the professionalization of service with suspicion. The bolder a Tsar's decision to introduce impersonalized law in Russia was, the more severe the personalized restrictions that were imposed on its implementation.[24]

Thus, the country's legal culture yielded a Russia-specific dualism. Progressive reforms were accompanied by an intensified effort to control the Tsarist judicial system, officialdom and all, thereby impeding the skill acquisition process that was needed for the successful implementation of the new statutes. Corruption and lack of professional knowledge at the intermediary levels were exploited by the "head" to legitimize additional control and repression (Wortman, 1976, p. 12). Russians lived constantly under the illusion that the Tsar was their just protector whereas the judges, the advocates, and the clerks who applied the law were their tormentors and despoilers (ibid). Willfully erected barriers to the development of intellectual integrity in the judicial system prevented the secularization that was needed to demystify the institutional role of the Tsar and limit the scope of despotism, impairing the predictability that would enhance socioeconomic progress (ibid. by implication). The ruler, according to the conservative mindset that held sway—supported by the Orthodox Church for its own interests—had to be perceived as the source of moral order. Judicial autonomy and the objectivization of rights, if successful, would strip the cherished Father (Batjushka), the Tsar, of the stability that illiteracy and custom assured him. The implementation of an impersonalized legal code would deprive the sovereign, as a source of law, of its raison d'être.

The role of the 1890 industrialization effort in strengthening innovative thinking and, in turn, the challenge that it posed to the autocracy, should not be ignored in this context—especially if one bears in mind Gerschenkron's depiction of the

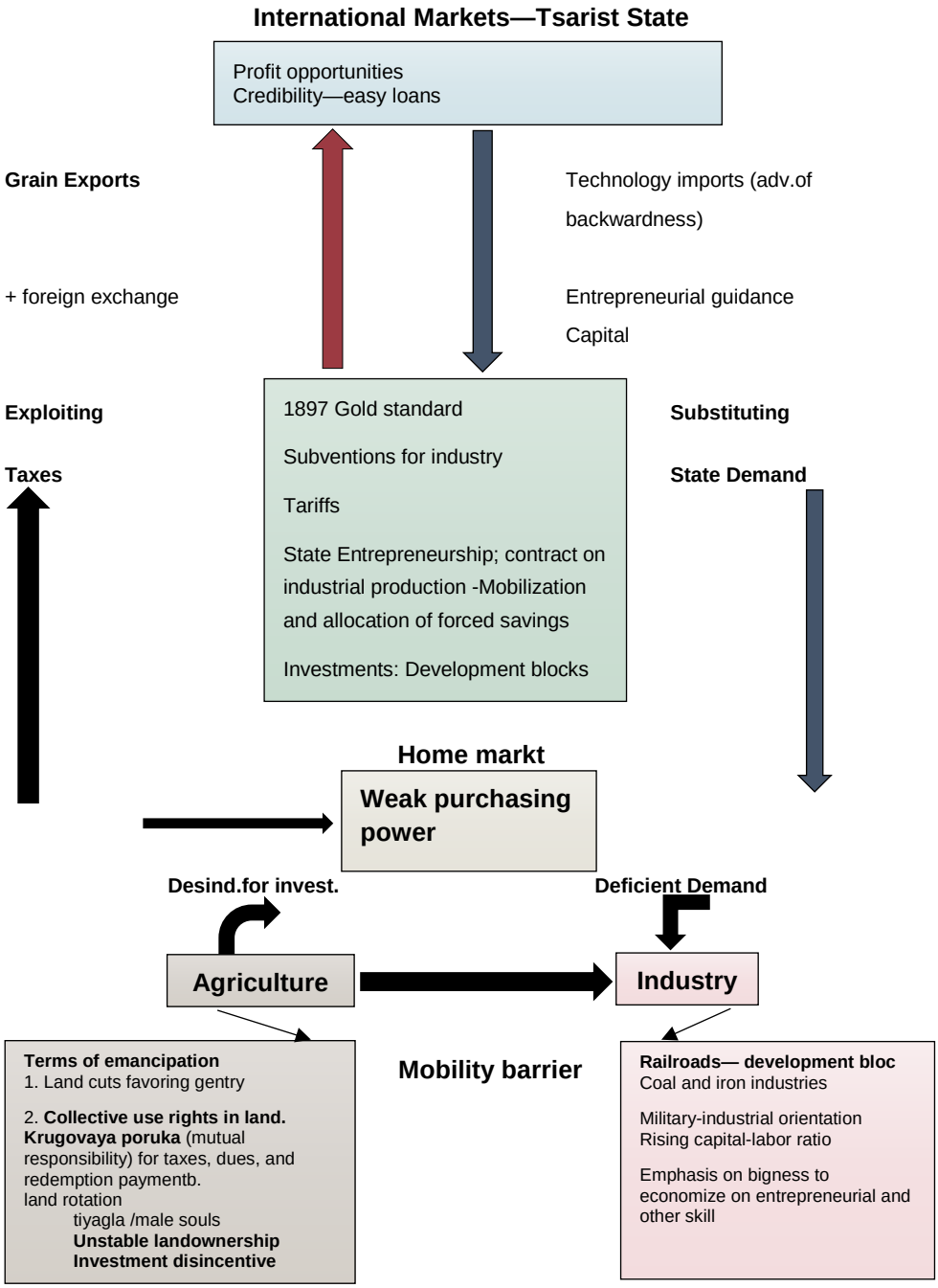
[23] Gerschenkron (1968), p 113. See previous essay (1994), *Det socioekonomiska systemets desintegration och omvandling Sovjetunionen/Ryssland*.

[24] Wortman, R. (1976), *The Development of Russian legal Consciousness*, pp. 10, 11. Consider Catherine the Great's *nakaz*—instruction—to the 1767 legislative commission, demanding an absolutely literal interpretation of law and total subservience of judges, severely restricting executors' personal responsibility and the autonomy of the judicial system.

process as having been spearheaded by imports of technology. Viewed in this manner, one may assume that this process led perforce to intensified interaction and intellectual interdependence between Russia and the West. Given the ongoing transition to constitutional government in Western and Central Europe, the Russian hereditary monarchy, based on the 1832 Fundamental Laws,[25] may have been perceived by more and more constituencies as an anachronism by the turn of the twentieth century.

[25] Ascher (1988), p. 12. The first article of the Fundamental Laws, quoted by Ascher from Svod zakonov Rossiiskoi Imperii, states: "*The Emperor of all the Russias is a sovereign with autocratic and unlimited powers. To obey the commands not merely from fear but according to the dictates of one's conscience is ordained by God himself.*"

Figure 2-3 The Gerschenkronian Perspective Modeled
Summary of Gerschenkron's Substitution Theory of the State



Property Rights in Land, 1861–1890, and the Industrialization of Russia Gerschenkron (1962, 1968) and the Gerschenkronians; Atkinson (1983)

Collective use rights in land: the village commune (obshchina) [left hand side of Fig. 2–3]

The abolition of serfdom in Russia (Gerschenkron, 1968, p. 153) was followed by a legal opportunity for peasants to transform their use rights in land into ownership rights through a redemption procedure.[26] Intuitively, one might expect these two measures to have created the necessary incentives for investment and productivity increases in agriculture, thereby freeing labor for industrial production in urban centers (Gerschenkron, 1968, p. 147). As Gerschenkron emphasizes, however, that were not quite so simple in Imperial Russia [left-hand side of Figure 2]. An ancient custom in rural life erected a major impediment to labor mobility and, in turn, imposed a development barrier of formal nature (Gerschenkron, 1968, pp. 122, 187). The custom originated partly in the survival strategies of the non-urban population (V. Alexandrov Alexandrovich, in Bartlett, 1990, pp. 36, 37), partly in taxation procedures, and partly in the aspirations of the autarchy (the Tsar) (Atkinson, 1990, p. 9; Gerschenkron, 1965 [reprint 1968], p. 189) and the nobility to maintain social and political control of land collectively held and cultivated by the obshchina.[27] Thus, a tense coexistence ensued between institutionalized

[26] Gerschenkron (1962), pp. 120, 171–182. Gerschenkron concludes that the redemption procedure did concern the transformation of use rights into ownership rights. Generally speaking, the annual redemption payment reflected the maximum rate of interest permissible for the period—6 percent—and the regressive allotment quitrent, which was set according to "the law of diminishing returns to land." Consequently, the quitrent was higher for the first desyatina (2.7 acres) of land than for the next one. Nevertheless, the additional burden relative to the pre-reform quitrent obligations concerned the 20–25 percent of redemption debt that was not taken over by the state. The peasants' post-reform economic hardships originated largely in their dependency on the goodwill of the gentry as well as that of the state, the latter charged de jure with protecting the interests of the former (ibid., p. 188). The redemption process was carried out collectively by the mir, a village of former serfs belonging to the same seignior, which might contain several village communes (Atkinson, 1983, p. 23). According to the 1861 Imperial Manifesto, the nobility retained property rights in land even after the abolition of serfdom under a formally maintained fiction. The Emancipation prescribed the granting of permanent use rights in land that would be collectively allotted to peasants. The same land could be transferred to a selskoe obshchestvo, a "rural society," in exchange for payment, 80 percent of which was to be made by the state and repaid by the peasants over a forty-nine-year period.

[27] Bartlett (1990), pp. 1, 2. The terms *mir, obshchina, and obshchestvo* all denote a commune. The distinction among them is attributed to the nineteenth-century Russian intelligentsia. "Obshchestvo," according to Bartlett, denotes the "body of peasants to whom the land was to be given under any emancipation agreement with an estate owner." This is relevant mostly after the 1861 Emancipation Act, which defined the abolition of serfdom in Russia.

collectivism[28] and attempts to individualize land ownership. It was inherent in communal landholding[29] as well as in the dichotomy of conformity versus contradiction in preserving the obshchina amid the pursuit of the industrialization goals of the late nineteenth century—well before the "second emancipation" in 1906 (Atkinson, 1983, pp. 41, 48, 53). An additional player in this tension was the patriarchal family hierarchy (Wagner, 1994, pp. 3–5; Frierson, 1990, p. 303; Gerschenkron, 1968, p. 120). Beyond the differences between the positive imperial law and peasant custom in general,[30] the principles of patriarchalism[31] and patrimonial inheritance[32] as well as the tradition of property through the generations,

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[28] Crisp (1989), p. 49. In addition to the aforementioned sources concerning the "ancient custom of collectivism" in the rural ownership structure, collective responsibility or "mutual guarantee" is said to have had its roots in the treaty between the Kievan Prince Oleg and the Byzantine Greeks. Thus, the established risk dispersion practice was ancient indeed. Its continuity was broken by a statute in 1903 that abolished joint responsibility for taxes and dues.

[29] Alexandrov Alexandrovich, in Bartlett (1990, p. 37). According to the source, inheritable household land ownership was granted through common law that developed during the "disintegration of the tribal commune" (ibid., p. 39). The custom applied even to "*odnodvortsy* living under state feudalism" in pre-Emancipation Russia. An egalitarian "system of redistributive ownership" was adopted to prevent internal conflicts, thereby increasing the probability of survival. The inheritable right to household land may in itself be seen, relative to the commune, as partial privatization of ownership. However, the family-based right to land is but an intermediary stage to its individualization. In the short run, household ownership imposes a barrier to the individualization of property right (Crisp, 1989, pp. 43, 44). The Emancipation Edict of 1861 makes provisions for 1. obshchinnoye pol'zovanie —common or community tenure, 2. mir—peasant self-government, comprised of elected officials and assemblies of householders, and 3. sel'skoye obshchestvo—village society (volosc), which, in a vague way, embraced the units under 1. and 2. The source concludes that the inherently arbitrary attempt to generalize does not allow the distinction among the different functions of those units to be clarified. Furthermore, the status of the obshchestvo as a legal person was ill-defined, leaving scope for intervention and arbitrariness. Since there was "no provision in law for the protection of the rights of individual against the collective," the application of the Statute random with regard to the individual was random.

[30] Crisp (1989), p. 40. Peasant customary law became an important element in the *de jure* peasant "apartheid."

[31] Wagner (1994), pp. 61–81. The Orthodox Church as well as imperial law, the legitimacy and authority of the latter additionally strengthened by the religiously determined legitimacy of the former, defined the code of conduct within the family nexus, in which nearly total compliance of females and offspring with husbands' rule was required and legally enforceable. Thus, to obtain an internal passport or work outside of the household, a married woman needed permission from her husband and a single woman needed the same from her father (Gerschenkron, 1962, p. 120). Even a male member of the family could not leave the commune without permission from the head of the household (Frierson, 1990, p. 303). Finally, the consent of the eldest male, the head of the family, was necessary to divide a family holding into separate households.

[32] Wagner (1994), pp. 228–230. "The property became identified with the kin-group (*rod*)," meaning that as a rule it should be passed on to the male heirs of the family, who in the case of sale could exercise preferential right of redemption. In the case of an heiress, the right of inheritance concerned 1/14 of immovable property and 1/8 of movable, with the remaining 13/14 of the immovable property equally divided among the male descendants. A widow had no right of

restricted the legal status of family members in relation to the male head of household. These norms affected all subjects of the empire until the 1917 Revolution.

The labor-mobility barrier to industrialization

Consequently, considering the Gerschenkronian conception of the post-Emancipation village commune, the right to land within the commune was doubly controlled: through family law, following the aforementioned principles, and via the decision-making power that the communal assembly[33] wielded de jure as well as by peasant custom. Thus, the institutional foundations of family conduct acted in concert with the economic disincentive that household elders faced when adult family members asked them for permission to leave the commune.[34] Even when such consent was given, the quitrents that the obshchina assembly demanded (Gerschenkron, 1965 [reprint 1968], pp. 180–181, 194–196)—as the law allowed it to—created an institutionalized impediment to the allocation of labor to non-agricultural production,[35] obstructing urbanization and industrialization in the last quarter of the nineteenth century (Gerschenkron, 1968, p. 211). In a nutshell, despite the abolition of serfdom by legislative act in 1861, restrictions on the individualization of ownership[36] within the family and the commune hierarchy

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inheritance. The patrimonial principle seems to have restricted testamentary power, as "the legal status of the latter remained uncertain"— ibid., p. 230.

[33] Frierson (1990), p. 303: "An approval of 2/3 of the members of the communal assembly was required before a division of land could take place."

[34] Gerschenkron (1962), p. 120. The periodic formally induced repartitions of land were conducted on the basis of manpower / household. If an adult male left the obshchina permanently, his household might be entitled to less land than otherwise in a future repartition. Therefore, in keeping with the principle of patriarchal authority, the departure of males from village communes was restricted by the need to obtain the consent of heads of households, who had a disincentive to grant it (Gerschenkron, 1965, reprint 1968, pp. 165, 166).

[35] Atkinson, D. (1983), pp. 26, 27. The peasants were mutually responsible for the collectively assigned land and its corresponding tax liability. Formally, even a temporary departure entailed the consent of the obshchina assembly for the issue of an internal passport. Thus, the collective tax responsibility could constitute a mobility barrier due to the discrepancy between the market and the redemption value of allotted land (Gerschenkron, 1968, p. 180).

[36] Atkinson, D. (1983), p. 23. The Redemption Acts of 1861, 1863, and 1866, concerning the gentry, the appanage, and the state peasantry respectively "1) recognized communal land tenure, 2) The newly unbound peasant was in effect now bound to the commune." (p. 27). An example is presented as an illustration: A peasant who wished to redeem his allotment land from the commune was obliged, apart from having to obtain the head of household's consent , to pay a price set not relative to the productive capacity of the land but according to its taxable value, which was set above the allotment market price. The commune assembly could block such

curtailed the inclusion of the peasantry in the late nineteenth-century modernization of Russia.

Since the sanctions created by imperial civil law constrained the division of household land, one might argue that the relative stability of ownership that had been achieved would have satisfied the necessary preconditions for investment in agricultural production, providing prerequisites for productivity increases and subsequent wealth accumulation within the commune. This, by extension, would have attenuated the effect of economic disincentives to the migration of labor to urban industries. The initial effect of household ownership would then have been offset in the long run by the increased mobility of labor. Unfortunately for such a line of reasoning, the obshchina was a very convenient instrument for the imperial government to use in securing its tax revenues (Crisp, 1989, p. 39; Gerschenkron, 1965 [reprint 1968], pp. 189, 190), especially in the post-serfdom era. Since the 1861 Emancipation Act nullified landlords' responsibility for peasant taxes, the state and the peasantry were left without the mediator that until the reform had helped to enforce the serfs' fiscal obligations.[37]

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redemption even though half of the assessment had been paid. The redemption payments exceeded land rental costs. Notably, despite the institutionalized acceptance of the commune as the basic form of peasant holding, the possibility of a transition to private ownership in the future was recognized by *the granting of hereditary rights on a family / household* basis. If such rights had not been implemented earlier by custom, they could be legalized by a two-thirds majority vote of the commune assembly. According to Atkinson (ibid., p. 24), the elders' consent in this matter may be seen as an intermediary step toward the individualization of ownership.

Gerschenkron (1968, p. 177), notes that under the provisions of the 1863 Redemption Act the transformation of use rights into ownership rights would, as a rule, be conducted on a family basis. Thus, he concludes that the statute "irreversibly" legalized "the establishment of *family farms* in Imperial Russia" (ibid., pp. 186, 187). Article 36 of the General Statute of the 1863 Redemption Act, quoted by Gerschenkron and reproduced in Chapter 2 of this dissertation, gives the impression that joint / communal ownership was voluntary on the member's part. According to Article 165 of the Redemption Statute, subsequently quoted by Gerschenkron, however, one needed the consent of the commune to secede from the commune. If so, it remains true that the requirement of permission per se constituted an exit barrier.

[37] Leonard (1990), pp. 122, 123. Before the Emancipation, "The landlords served as agents of the state, collecting taxes and levying recruits." Leonard's assumptions about the effects of the costs of "exercising authority over the labour force" conform to the Northian explanatory framework. Supported by both approaches, one may assume that the transaction costs inherent in the need to closely survey and supervise the communes through paid officials subjected the landed nobility to a growing burden and gave it a motive to accept the peasants' emancipation (Atkinson, 1983, pp. 22, 25, 27). The volosc assembly, headed by a *starshina* (eldest) and its court, seems to have taken over some intermediary functions, as its domain expanded in the wake of the Emancipation. This form of joint representation for several rural societies (almost the equivalent of communes) is seen by Atkinson as a compromise between "tendencies of local autonomy and autocratic centralization." A similar function on behalf of the nobility was assigned to the zemstwo, the provincial organs of self-government. Notably, however, one-third of the seats in the zemstwo were reserved for representatives of the peasants (Gerschenkron, 1965 [reprint 1968], p. 189).

Gerschenkron and the Immutable Backwardness of the Peasantry: A Critique

Gerschenkron's analysis, largely confirmed by Atkinson (1983), depicts an utterly backward peasant economy that was trapped by active de jure and de facto popular support for the obshchina, a setting oriented to recognition and political stability. This economy was hampered by poverty and misery due to population growth, onerous redemption payments, and heavy taxation. Following the Gerschenkronian analysis, the subsequent economic hindrances and institutional disincentives for innovation and investment magnified the effect of the growing numbers of eaters, an effect that should have been offset by greater productivity and higher levels of agricultural production. Such an economy could not possibly sustain the domestic market and satisfy the theoretical prerequisite for industrialization.

Nevertheless, a great spurt (Gerschenkron, 1962, p. 124) began in 1890 under such conditions of backwardness as almost to coincide with the crop failures and famine of 1891–1892 (Atkinson, 1983, p. 33). It happened due to institutional improvements favoring free trade, railroad construction, and an upsurge of complementary industries that created Dahménian "development blocs"[38] that were supported and utilized by a dramatic change of governmental attitudes in favor of industrialization. Restricted peasant consumption freed growing shares of national output for investment (Gerschenkron, 1968, p. 125). Domestic demand was replaced by demand for exports, improving the balance of payments and making foreign credit and loan servicing possible (ibid.).

Gerschenkron identifies a substitution pattern that characterizes industrialization under conditions of backwardness [Fig. 2]. In the Russian case, restrictions on peasant consumption through taxation, redemption payments, and the diversion of agricultural output in favor of exports created a budget buffer that could be used to import technology. Thus the initial deficiency of the domestic market generally, and of the large rural sector particularly, was counterbalanced by the "surplus" accrued by the boldness of the political decision to give the growth rates of industrial output a sharp upward push.

The Gerschenkronian conception emphasizes that short-run railroad construction and railroad-related industries satisfied governmental demand for industrial output. The railroads in Russia were constructed with government attention directed at the strategic-military advantages of this technology (Kahan, 1989, p. 29). The primary role of the railroads, thus conceived, was to render effective the territorial claims of the autocracy, which affected the legitimacy base of this structure (Freeze, 1996, p.

[38] Gerschenkron (1968), p. 125. On Erik Dahméns "development blocs," see Schön, L. (1990, 1994).

309). However, the dual-purpose (military/civilian) (Kahan, 1989, p. 28) effects of railroad construction had the consequence, unforeseen by the government, of causing a cultural and economic revolution (ibid., pp. 31, 34, 35) that liberated most of the Tsarist Russian population from the vicious cycle of compulsory collectivism and poverty.

Understanding the effect of railroad construction, Gerschenkron selected the substitution of expanded government industrial investment, and demand—that is, savings forced through fiscal pressure (Gerschenkron, 1962, p. 126)—for the general lack of domestic demand.

My thesis, complementing Gerschenkron's analysis in a manner that has been touched upon neither by this scholar nor by his followers, is this: the railroads abetted the emergence of membership ties that were autonomous relative to estates such as peasantry and *zemliachestvo* (landsmanship) (Johnson, 1979, p. 69), along with spontaneous anonymous trade (Martens, 2004, p. 161,163), that is, trade coordinated by the price mechanism under a trans-regional price convergence that mitigated transaction uncertainty and cost while enhancing the formation of national markets (Metzer, 1972, p. 12). Paradoxically, government demand and credit did not, in and of themselves, substitute for deficient domestic demand and capital formation within the scope of private enterprise, respectively. Railroad construction triggered a transition from the premodern economy of the self-sustaining patriarchal household, which had been oriented to subsistence while being structured by the common use value of production as defined by the patriarchal *bolshak* (head of household) (Backhouse, 1985, p. 18), to the personalized intra-and inter household barter of goods and services under the mutual-insurance systems of the village (Eggertsson, 1990, p. 303). Under the impact of railroads, and rising peasant otkhod-wage work, the ultimate transformation of this transition was the impersonalized, individualized, specialized mixed agrarian-urban-industrial market exchange of goods and services in anonymous trade. Moreover, the railroads enhanced the transition from an extensive growing method to an intensive one. Traditional self-sustaining household farming, endowed by "common knowledge" (Martens, 2004, p. 11,106___), caused the input/output ratio to rise continually at this time, necessitating the appropriation , most often through conquest of an additional quantity of production factors for the same amount of output—which may partly explain the redistribution of villages' land allotments in accordance with labor teams per household. Specialization of production under a newly absorbed technology, with prices of goods and services as the coordinating mechanism, *inevitably lowers the input/output ratio, i.e., raises factor productivity*. This transition from a risk-averse, low-productivity modus operandi—extensive farming[39] restricted by a

[39] Poznanski (1985), p. 41; Backhouse (1985), p. 27; Ricardo's corn model on diminishing marginal factor productivity under static conditions.

common pool of knowledge (Martens, 2004), p. _106___)—to the anonymous exchange of specialized production (ibid., p. 162___) under rising factor productivity should be attributed to railroad construction. Challenging Gerschenkron's proposal, I suggest that the effects of the state-led industrialization, an exploitative process in respect of the fiscal pressure that it imposed on the peasantry, was offset by the rising accessibility of the railroad technology, which, I assume, had a crucial impact on factor productivity, i.e., the prevailing growing method. This assumption is congruent with findings of the revisionist school, represented by Gregory, on the rising and not declining living standards of the peasantry that followed the Emancipation.

Abstracting from the aforementioned transitions, Gerschenkron maintains that the Tsarist government made subsidized investments in the iron, steel, and machinery industries. He argues that lack of skilled entrepreneurs and labor, the latter due to the institutional barriers that prevented an exodus from the rural sector to the urban, was offset by the centralization of industry at high capital/labor ratios. Capital and the quality of entrepreneurial talent made up for the shortage of skilled labor supply. The main advantage of backwardness was the absence of vested interests and other retarding factors that ordinarily accompany general transitions from obsolete to new technology (Gerschenkron, 1968, p. 120). Russia, as an industrial latecomer relative to England, Germany, and the United States, benefited from this position by importing the most advanced technological equipment extant. Accordingly, its industrial growth raced ahead at an 8 percent average annual pace in the 1890–1900 decade (Gerschenkron, 1962, pp. 127–129). This investment-driven growth, specific to Russia during this period, was according to Gerschenkron financed largely by additional pressures on the peasant economy.[40] In conclusion of this sequence, I argue that the fiscal burden imposed by the Tsarist autocracy to finance railroad construction was offset by the improvement in peasant living standards, for those served by rails, that railroad construction itself brought about.

Indirect evidence supports the effect of rails on income. Studies indicate an increase in standard of living related to railroad use during the post-Emancipation era. Frierson (1990) finds that the closer a population was to railroad lines, the more frequent would be the occurrence of nuclear as opposed to extended family structure. The extended family served as a living form of insurance for its numerous dependents and was historically typical of European Russia. It is possible to infer from Worobec (1995, pp. 98, 101) that such a family structure was a peasant response to uncertainty. In this context, Frierson's finding implying causality that proximity to the railroads occasioned rising incomes which resulted in the formation of nuclear families, i.e., dissolved the extended family structure, clearly indicates

[40] Gerschenkron (1962). p. 130. Atkinson (1983, p. 34) quotes Finance Minister I.A. Vyshnegradskii (1887–1892) as "insist[ing] that grain be exported even at the cost of going hungry."

that the closer to the railroads the lower the uncertainty due to stable income streams and, in turn, the higher the living standards. Hence it may be fruitful to relate railroad construction to income in late nineteenth-century Europe (Caruana, personal communication, 2013).

I come back to the contribution of railroads to living standards of peasant households in Chapter 8. Here I note that they made peasant households relatively less dependent on each other for insurance against famines and other calamities, a condition which allowed the transition to the individualism of landholding; the main source of livelihood. The assumed economic emancipation occasioned by the railroads function interacted with the cognitive intellectual and spiritual, allowing the transition to individualism and rationalism to occur. This, in turn, lowered transaction costs, facilitating rising returns on invested capital in a virtuous circle that boosted standards of living. The focus on the railroads sustains the challenge to the Gerschenkronian postulates on peasant impoverishment in the industrialization era, as well as the hypotheses of other scholars who, in the Gerschenkronian tradition, emphasize the agrarian crisis.

Gerschenkron's Entrepreneurial State Theory in Coase's and North's Transaction Costs and Uncertainty Mirror

Gerschenkron's (1962, P. 355) Theory of Relative Backwardness

This theory is oriented toward an explanation of the dynamism of economic development. It incorporates relative changes in factor scarcity over time and the corresponding place-specific restrictions on economic performance, i.e., the institutional and, therefore, economic effects of cultural patterns, disclosing a diachronic dimension. Gerschenkron's theory, based on induction from a long-term comparative analysis of continuity and discontinuity—identifiable spurts of industrialization in European, including Russian, economic development—may be understood as complementary in providing a basis for a theory on a "moving equilibrium" (Coase, 1937, p. 55). Such a theory would explain why entrepreneurial units get larger or smaller (ibid.) or, alternatively expressed, why "islands of conscious power rise expand and disintegrate" (ibid., pp. 35, 53–55).

The higher the degree of relative backwardness, says Gerschenkron, the greater is the part played *by special institutional factors* designed to increase the supply of capital to nascent industries and, in addition, to provide them with *less decentralized and better informed entrepreneurial guidance*; the more backward a country, the

more pronounced was the *coerciveness and comprehensiveness of those factors* (Gerschenkron, 1962, p. 354, emphasis added).

By "special institutional factors," Gerschenkron means formal institutions in the Northian sense, i.e., designed by the state. The more severe the relative backwardness of a country is, the more restricted is its domestic market for industrial goods provided by increased productivity and surpluses in agriculture. Summarizing Gerschenkron's argument, I would add that the more acute the backwardness, the more state activity would substitute for market transactions. As for defining the degree of backwardness with regard to sources of capital supply, Gerschenkron sketches the following:

Figure 2- 4 Gerschenkron's Substitution Theory in a European Context

Stage of transition to modern economic growth	Advanced area	Area of moderate backwardness, e.g., Germany	Area of extreme backwardness, e.g., pre-Revolution Russia
I	**Factory**	**Banks**	**State**
II		Factory	Banks
III			Factory

Source: Gerschenkron (1962), p. 355.

According to Gerschenkron's theory of relative backwardness, the degree to which an economy is coordinated by a state bureaucracy should correlate positively with the degree of backwardness. By implication, the state's threat to "take over" should correlate positively with the degree of backwardness. Such a takeover may occur in various ways: nationalization; intervention via subsidies and dictates in industries, transportation activities and commercial service units that are temporarily uncompetitive but politically perceived as key (Owen, 1995, p. 33); concentration of industry in large production units; and/or geographical concentration of industry in centers of bureaucratic control (ibid.).

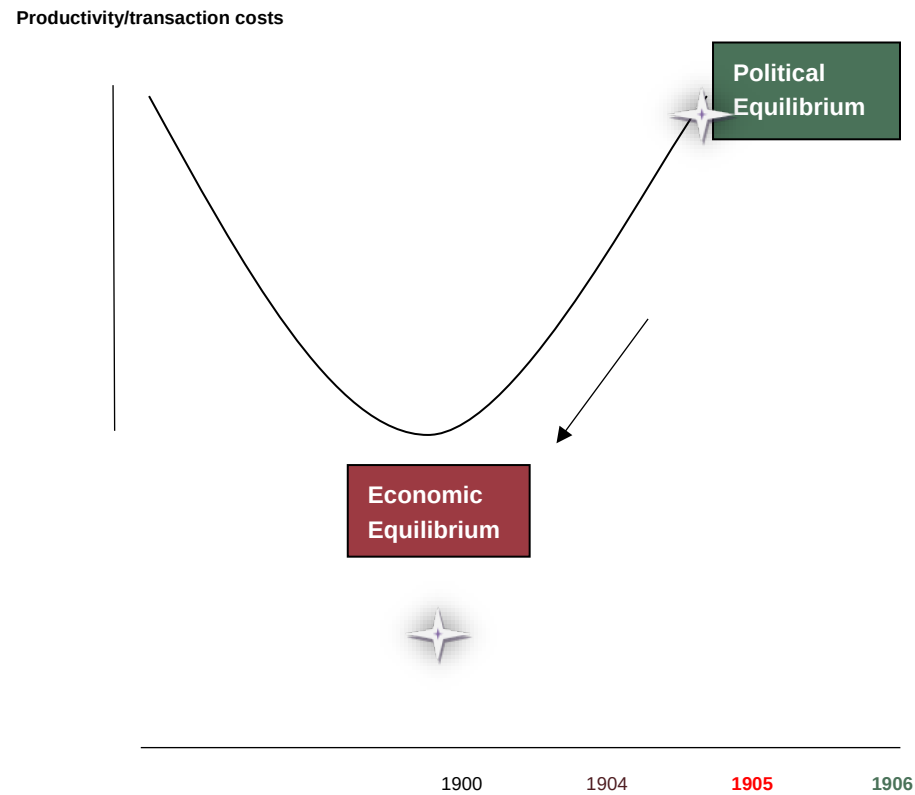
Gerchenkron in a Coasian Mirror

Purely theoretically, what would be the relation between Gerschenkron's substitution theory and Coase's theory of the firm?

To attain an in-depth understanding of Gerschenkron, I begin by positing our venerated scholar's "entrepreneurial state substituting for the market" theory against the transaction costs and uncertainty theory of the firm (Coase, 1937), which explains the rise, expansion, and fall of an entrepreneurial unit from a time- and culture-neutral perspective, depicting discrete equilibrium points for static or

synchronic analysis. Viewed through this lens, the scope of the state in the role of entrepreneur-coordinator in Coase's sense, substituting for the coordinative function of the market, should be related positively to the degree of backwardness. Since economic backwardness also indicates institutional backwardness and the latter implies greater uncertainty due to greater arbitrariness, information scarcity, higher risk, and more uncontrollable and therefore more costly external effects (higher transaction costs), the entrepreneurial coordinating state should initially expand its purview to internalize those costs. If the state is a rational agent, it will downscale its entrepreneurial functions as institutional and economic development increases. The essence of Gerschenkron-Coase theory combination leads us to conclude that the state's initial attempts to internalize transaction costs within its purview until socioeconomic equilibrium (in the combined Coase and Gerschenkronian sense) is attained do promote development. Afterward, however, continued attempts to internalize transaction costs until political equilibrium is attained, i.e., the stage at which the costs of additional surveillance equal or surpass the benefits of additional centralization to the ruler—when the effects of excess internalization become politically manifest through an observable threat to internal stability—burden society with the costs of state entrepreneurship. The corrective measures that Russia applied in 1906, as stated, lagged behind those that society demanded. Therefore, one might assume that a "rational state" would have introduced a reform meant to lower transaction costs, thereby strengthening the incentive function of property rights *before* industrialization, e.g., it might have reformed land rights and liberalized the state's concessionary policy toward corporations in 1860–1880 (Owen, 1995, p. 21). On the formal level, the crown did introduce these reforms, but it was too late.

Figure 2-5 Costs to Society: Political Rationality Supersedes Economic Rationality[41]



The hypothesis put forward here is that Russia's conventions and informal habits changed precisely in the direction of these corrective measures. Individual motives and informal (custom-determined) institutions are thought to adapt faster than formal institutions to population increase and subsequent industrialization, invoking social sanctions in the direction to promote the novelty, i.e., the individualization and, therefore, the objectivization of rights. The institutional change in Russia was led from below by the autonomization process. State activity, guided by internal political stability goals, promoted progress through lagged top-down reforms but impeded it by controlling the process of adjusting to the changed scarcity relations and repressing the adjustment to the formal state-led transition to modern economic growth.

[41] Economic equilibrium is derived from the combined Coase-Gerschenkron theory (Coase, 1937, 1988, p. 42; Gerschenkron, 1962, p. 126); political equilibrium is defined by Hayek (1944), pp. 80, 81.

The net effect of state activity during the transition to modern economic growth in Russia raises doubts about the very possibility of state-led, non-participatory institutional transition in general. The discrepancy in bargaining power between a leadership that is appointed on merits that are unchallengeable by the public (and, therefore, lack broad legitimacy and support) and disorganized individuals lead to arbitrary and discriminatory application of the law, much as prevailed under the Tsarist autocracy.

Theoretical Tools of Analysis: The New Institutional Economics (NIE)–Critical Realist Challenge (CR), American Evolutionary Institutionalism (AEI)

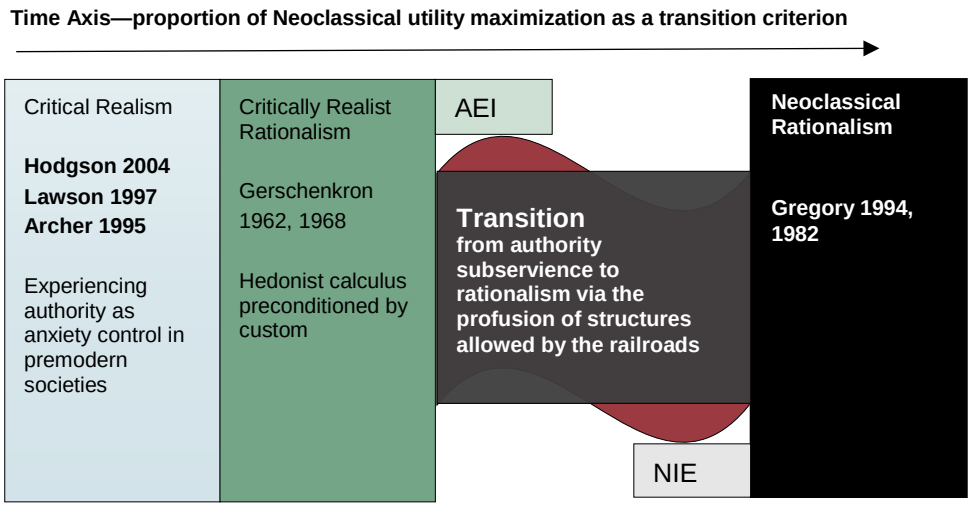
The applicability of theories changes over time. In poorly informed illiterate populations, living under the strain of volatile agricultural yields, natural calamities, and perceived terror due to superstition, the Critical Realist paradigm, embodying American Evolutionary Institutionalism (defined and combined with New Institutional Economics in Chapter 2) is the most applicable. This paradigm emphasizes the authoritarian long-term anxiety-controlling role of institutions; at the time and in the place of our analysis, this role was vested in the authority of the eldest. In AEI, institutions are conceptualized as temporally precedent to any individual decisions and transactions. North's New Institutional Economics (1973–2009) augments AEI by inserting the interaction of custom and codified legal statutes with individual hedonist rational utility maximization. Institution formation is explained by relative scarcities and prices, and vice versa. NIE shares its hard core with the Neoclassical paradigm. I suggest that NIE is the paradigm most applicable in the early-to-middle stage of civilization and beyond because it defines individuals' decision-making as boundedly rational. Finally, the neoclassical explanatory framework of the revisionist Paul Gregory is applicable to the microeconomic analysis of highly modernized industrialized societies characterized by anonymous economic interaction, close-to-ideal perfect competition, and full information, in which individual utility maximization is a realistic option. The long- and short-term hedonist evaluation is the common denominator (North, 1973; Vanberg, 1994) that makes these theories compatible.

As Gerschenkron's conception focuses on structure the preconditioning of individual agency, I deem his work a rather good fit for the hybrid Critically Realist and NIE paradigm. Tsarist Russia's peasant society, modernizing in interaction with the railroads, may over time be successfully understood within North's New Institutional framework. Finally, the peasantry's reaction to the Stolypin reform clearly reveals a rational individual-utility-maximizing calculus. Given that the

turn-of-century rural population in Tsarist Russia made the transition to individualism and rationalism, it may be understood through the lenses of the Neoclassical Economics of Gregory, Simms (1977), and others.

The figure 6 below summarizes the foregoing and introduces the next sequence.

Figure 2-6



American Evolutionary Institutionalism; the structure preconditions individual agency. New Institutional Economics; individual agency is the source of structure

The Historiographical Orientation

Conceptually and empirically, my dissertation fills in the missing dimensions of the confrontation between Gerschenkron (1962, 1968) and the revisionist Gregory (1982, 1994) and Simms (1977) in their understanding of the standard of living and institutions of the post-Emancipation Russian peasant. In response to Rostow (1960, pp. 6, 22), Gerschenkron emphasizes the retarding effects of rural collectivism[42] as the missing prerequisite for industrialization. The Gerschenkronian solution is encapsulated in the substitution of state entrepreneurship for the deficient formation of domestic markets. Gregory (1982, 1994) argues that the ostensibly retarding custom gave way, de facto, to mutually beneficial habits,[43] resulting in a

[42] Nafziger (2007), pp. 20, 22, measuring the impact of the redistributional commune on land productivity, finds a weak negative correlation between the number of repartitions and the yield per acre, verifying Gerschenkron's assumptions.

[43] Gregory (1994), p. 52: informal "side payments" compensated for the land rotation redistribution that was practiced, allowing households to manage land via long-term leases.

neoclassically efficient resource allocation that protected the hereditary stability of land tenure, allowing productivity and peasant living standards to rise in Tsarism's last decades.

My thesis accepts Gerschenkron's insights. It assumes that the mainstream Greek Orthodox structuring of wealth, the landed assets, and the fiscally responsible redistributive collectivist obshchina (village commune) survived during the post-Emancipation period. The coercively consolidated obshchina, inherited from the serfdom era, encouraged risk-aversive behaviors among the peasantry. Bridging from Gerschenkron to Gregory, however, I propose that the state-led construction of railroads unintentionally and irreversibly exposed the conventional hierarchies of coercion, based on personalized rule, to general collapse.[44]

The process was composed of several key elements. The novel technology induced a transition to rational choice among numerous emergent institutional structures, raising the propensity to spiritual choice.[45] This allowed the peasant household to assess and act on the declining probability of death occasioned by the diversification of subsistence risk between the rural and the urban economy.[46]

I propose that the pace of transformation from land as a production factor burdened with tradition and "ceremonial knowledge" to a growing share of "matter of fact" income-contingent industrial knowledge in the national accounts should be seen as an indicator of a transition to rationality.[47] Estimates of the Gerschenkronian great spurt, bounded by the years 1883–1887–1897–1901, provide a numerical proxy for the pace of the transition to rationality, as the share of agriculture in national income increased by 2.55 percent per annum while that of industry surged by 5.45 percent—almost twice as fast (see Chapter 3).

The trend recurred at the micro level. The faster proportional increase in household industrial income than in agricultural income illustrates the pace of households' transition to rationality and the corresponding atrophy of authoritarian coercion relative to the calculus of utility maximization in members of households' decision-

[44] Applied from Boyer and Orlean (1993), p. 22.

[45] Applied from Sheshinski (2010), p. 3, and Gintis (2009), pp. 1, 2. For historical examples, see Burds (1998), p. 188, and Shevzov (2004), p. 45, on the emerging-structure plurality and democratization within the Church, and Worobec (2001), p. 58, on consideration of medical judgment in diagnosing klikushestvo-demon possession as cases of hysteria, anticipating the transition to rationalism.

[46] Johnson (1979), pp. 40, 41; see also Smurova (2003), p. 102, on the cultural transformation of young couples embodied in the transition to otkhodnichestwo—wage labor—in city centers. The source emphasizes that not only the amount but also the type of income, i.e., agricultural versus industrial, was of significance.

[47] These concepts are cited in a Vebelian context by Hodgson (2004), p. 209; on the Vebelian dichotomy, see ibid., p. 367, and Gregory (1982), table, pp. 133–134.

making. The emergent aggregate of this process is assumed to be the voluntary dissolution of the collectivist custom. This premise is consistent with Atkinson's (1983, p. 74) finding that roughly 80 percent of European Russian households never rotated their land or did so less frequently than once every ten years. This finding challenges Gerschenkron's assumptions of continuous instability of ownership, stability of collectivist redistribution, and the existence of a mobility barrier.

Railroad construction abetted the formation of a national grain market by encouraging price convergence (Metzer, 1972, p. 12), itself a proxy for a rising proportion of rational calculus. The ensuing increase in predictability and specialization (Smith, 1998, p. 19) initially pushed net transaction costs up. According to my application of Martens' model (Martens, 2004, p. 193), the division of labor facilitated by railroad construction boosted transaction costs and, in turn, gradually relaxed the practice of state-induced collectivism that had held the commune together. By deduction, Stolypin's 1906 reform was a Tsarist concession that granted title to land in response to the gradual upturn in transaction costs during the post-Emancipation era in order to secure the tax base (see Chapter 2).

The nullification in 1903 of *krugovaya poruka*—the communal peasants' mutual responsibility for taxes and dues (Atkinson, 1983, p. 44)—improved the stability of ownership significantly. By implication, the Gerschenkronian description may remain valid but with decreasing explanatory weight over time. Referring to the Revisionist school represented by Gregory, Simms (1977), and Bideleux (1990), I suggest that a virtuous cycle was at work: the growing stability of land control and subsequent ownership raised land productivity and standards of living,[48] making collectivist risk-sharing[49] unnecessary. Stolypin's speeches before the Duma, informed by eyewitness experience, envisaged and abetted the ensuing de facto voluntary exodus of peasants from the commune (Klimin, 2002, pp. 11, 12).

I propose here that the interaction between railroad technology and the landholding system, initiated in 1842, paved the way to an informal voluntary transition to hereditary household ownership of land that was subsequently codified in the Stolypin reform. Paradoxically, the assumption of voluntary peasant cooperation, according to Pallot (1999, p. 157) emphasizes rationalist peasant resistance to the 1906 reform, which aimed to formalize the property rights in land of the individual head of household. Still, the negligible number of peasant revolts related to land settlement in the course of the 1906 reform (Yaney, 1982, p. 187, points 1–2) renders challengeable Pallot's focus on the intensity of peasant resistance to the reform.

[48] Gregory (1994), p. 53. For an empirical test of Gerschenkron's hypothesis, see Nafziger, S. (2007), pp. 20, 22.

[49] Moon (1999), p. 236, and my application of Scott (1976), p. 4, and Pallot (1999), p. 75.

Either way, the costs of Tsarist autocracy had been rising ahead of the 1906 reform, in tandem with the demand for public suffrage and a constitution that the Tsarist Ministry of Interior addressed with pure oppression. The intensifying informal transition to individualism gave these costs another upward push.[50] I therefore conceptualize the bloodshed and social displacement of the 1905 revolution[51] as the "costs of dictatorship"—all in relation to the properties of stable dictatorships, that my thesis, contrary to Gerschenkron, deems applicable to post 1890 Russia.[52]

As noted, Gerschenkron advises[53] that, under conditions of deficient prerequisites for industrialization such as vagueness in the delineation of property rights in land, the state assumes the role of source of capital formation and serves as a uni-directionally benevolent, progressive, and modernizing agent. Such, he says, was the case in the post-Emancipation Tsarist village commune. Gerschenkron's concept of the village is congruent with that of the nineteenth-century Westernizers as defined by Boris Chicherin (1828–1904). The commune's level of collectivism, says Gerschenkron, was continuous and stable over time. In his model, state entrepreneurship substituted for a domestic market for industrial goods. As railroad construction induced the formation of "development blocs" (Gerschenkron, 1962, p. 125), however, the risk inhering to the absorption of the novel technology was internalized via a guaranteed 5 percent return on government bonds, government fiat,[54] deficient or sharply fluctuating demand and full nationalization of the Tsarist railroads in 1880 due to risk of bankruptcy (Owen, 1995, p. 31, and 1991, pp. 38, 39).

[50] Mironov (1999), p. 288.

[51] For the text of the petition to the Tsar, see Ascher (1988), pp. 87–89.

[52] As specified by Gerschenkron (1968), p. 315.

[53] Gerschenkron (1962), p. 355, in response to Rostow (1960).

[54] Westwood (1964), p. 43.

The Gerschenkronian Proposal, the Revisionist Challenge and My Thesis—the Questions I Seek to Answer

The Railroads and the Metamorphoses of the Obshchina and the Tsarist Autocracy

My thesis brings the attention to the microeconomics of the institutions that constitute the Russian peasantry's village commune in interaction with railroad construction. I hypothesize that the railroads affected the conceptualization, cognition of time and space, and mutual dependency for survival of Tsarist Russia's peasant constituency and its assemblies of village elders, staffed by peasant entrepreneurs and creditors. Inspired by Frierson (1990), I ask; were mutual-dependence structures affected not solely within but also among extended families? How did peasants' access to urban industrializing economies and the cantonal and Imperial court system affect their dignity and willingness to take the individual entrepreneurial risks? Which changes in belief systems and theories about the world (North, 2005) did the culture of the railroad-using otkhodniks (urban wage laborers from the peasant "estate"- *soslovie*) bring to the villages? Finally, and in sum, did the Tsarist Russian village remain the stable bastion of patriarchal veneration *à la* "Batjushka the Tsar" (Ascher, 1988) that it had been, willingly relying on patriarchal experience to allocate its surpluses as an insurance premium (Burds, 1998; Hesse, 1993) vested in the eldest generation? Alternatively, did the obshchina evolve, contrary to Tsarist expectations, into a vehicle of pious and secularized subversion (Freeze, 1996)? Did the Russian peasants who rode the rails to otkhod (wage labor) with their newly acquired literacy and urban industrial skills remain obeisant, or did they begin to make personal utility choices, or at least satisfyingly bounded-rational choices, that were congruent with those endeavors (Burds 1998; Nelson and Winter 1982; Williamson 1991)?

Population Increase and Mobility Barrier

Against the background of population increase, was there a mobility barrier indicating that adherence to custom exceeds rational survival deliberations in institutional power, or did the assemblies of elders adapt rationally to the growing abundance of labor and the scarcity of land?

Gerschenkronian State Entrepreneurship and Modernization

Was it reasonable to assume that the substitution of state entrepreneurship for the market, characterized by the importation of the novel railroad technology [Fig. 3], would be free of the costs of modern dictatorship going forward? Could Tsarist Russia, in the course of its belated industrialization, still be perceived as a stable, tradition-compliant monarchy based on consent to leadership under the anointed Tsar as the source of law? Did the mainstream Orthodox Church, the base of the autocracy's spiritual legitimacy, remain unchallenged by the function of the railroads that constituted the core of the Tsarist industrialization? Did not the railroads affect peasants' standards of living and, in turn, the purchasing power of the domestic market (ibid.), rendering the state entrepreneurship institution a wielder of politically rational control rather than an instrument of economic progress? Both Gregory and Simms note the increase in peasants' living standards as industrialization moved ahead.

The State, the Railroad and the Mir: from Compliance with Authority to Rational Calculus

My dissertation fills in the micro dimension that the Gerschenkronian macro narrative leaves unclear. While Gerschenkron's work points to the inhibiting properties of village-commune collectivism as stable effects, it does not address the cumulatively intensifying effect of railroad technology on qualitative and quantitative changes in the collectivist structures. Specifically, it overlooks the discontinuity of the stultifying, coercion-structured collectivism in late Imperial Russia. Neither does it elaborate on how and why Russia's rural value systems changed and adapted to their European counterparts. In the Gerschenkronian reckoning, the Tsarist Russian entrepreneurs' adjustment to European standards of honesty is vaguely conceived of as the importation of value systems.

Applying Boyer and Orlean (1993, p. 22), I quantitatively define an "external invasion" of thought systems prevalent in the democratized parliamentarian West. The superior and increasingly egalitarian and democratic land-management strategy, adapted to the exigencies of technological change and novel terms of survival, gradually attracted more and more households until they outnumbered those that adhered to the traditional way of life.

The crucial aspect—the core of my dissertation—is that due to the industrialization process that centered on railroad construction, Tsarist Russia transformed its rule from an authoritarian, coercion-based system that meddled at every micro and macro level to a rationalist system predicated on individual utility calculus. Rationalism, in turn, heralded the transition to impersonalized constitutional rule

that presupposed individually delineated rights. By presupposing the rationalist calculus unquestioningly, Gerschenkron overlooks this aspect.[55] The Western standards of honesty that the Tsarist Russian entrepreneur absorbed, as Gerschenkron (1962, 1968) notes, resulted from rationalist competition over peasant labor. As the utilization of modern technology rendered peasant labor increasingly individualistic and human-capital intensive, contrary to Gerschenkron's assumptions, demand for mobility and personal rights escalated.[56] Rationalist competition concerns domestic as well as foreign credit providers. As I emphasize in Chapter 4, the Tsarist Empire's' debtor status vis-à-vis European financiers was an important factor in the harmonization of the two blocs' value systems.

Empirical Aspects, the Railroad, and the Landholding System

This dissertation concretizes the state entrepreneurship benefit function by focusing on railroad construction.[57] The essence of my thesis is the view of the landholding system in Tsarist Russia as a function of available technology. The main hypothesis states that the closer a village commune was to a railroad station, the less the inhabitants' subsistence was at risk and the less their mutual-insurance dependency would be. Taken to an extreme, railroad construction should have caused the obshchina to disintegrate. More generally, the more available this particular dual-purpose technology was, the higher the degree of individualism and the less coercive and more voluntary the commune village structure would be. I derive the latter prognosis from the notion that the strong collectivism prevalent in the pre-structuring serfdom era guaranteed serfs' lives and productivity as would mutual insurance—a guarantee encouraged by coercion on the part of the serfs' superior in the hierarchy, the *pomeshchik* (landlord). This ensured an adequate return on tax extraction efforts and reduced the ruler's surveillance costs.[58]

I propose several models to measure the transition to rationalism that the railroads induced. (The tests themselves, including the extended model, are however beyond the scope of this dissertation.)

[55] The historical facts of the democratization process appear below, as explicated by Ascher (1988), p. 1.

[56] See Mironov (1999), p. 289, and Burds, J. (1998), Table 1.3, p. 23, on the proportion of rural population that carried internal passports.

[57] Gur Ofer, personal communication, 1997.

[58] Ibid. and North (1990), p. 51.

- ratio of household agricultural / industrial income $=f$(distance to railroad station)[59];
- proportion of peasants per village who defected to Old Belief or other sects / ideologies, e.g., Molokane, Duchobory, Secularized Socialist Revolutionary $=f$(distance to railroad station).

  The latter model explains the decreasing propensity to repatriate agricultural income to the commune and, thereby, to influence the frequency of the exodus from the land.[60] The emerging spiritual choice, induced by the railroad, challenged the mainstream orthodoxy that held the autocracy and the commune together.
- *Otchodnichestvo*—the number of wage laborers per village or the extent of otkhod (wage labor) $=f$(distance to railroad station).

To control for omitted variable bias in the extended model, I propose the following:

Land category proxy for collectivism level$=f$ [distance to school, railroad station, number of dependents per household,[61] yield per *desiacina* (an endogeneity issue), labor productivity, and agricultural/industrial income share (multicollineary to distance).

For the nineteenth century (1842–1914), it would also be fruitful to test the following time series models[62]:

Population annual increase in the region $=f$(annual length of rail increase in the region)

and

Population density in the region (Batemann et al., 2010) $=f$(distance to the railroad station)

And finally:

Degree of commune village collectivism proxy$=f$(population density)[63]

[59] Indirectly inspired by Frierson (1990), p. 317.

[60] For historical facts, see Matosian in Vucinich (1968), pp. 81, 85, and Burds (1998), pp. 204, 205. As for the secularized movements, see Ascher (1988), p. 34.

[61] Inspired by Frierson (1990), p. 317.

[62] These models are inspired by a question posed by my editor, Naftali Greenwood, 2012.

[63] Source of material for cross-section: Penza Zemstvo Rural Self Government Statistics, 1913.

Summarizing Remarks

Congruent with North's NIE (1973), supplemented by the Regulationist paradigm, I contend within a broader AEI framework that the change in conventions in the pre-revolutionary period was ultimately set in motion by population increase, which necessitated the absorption of technological innovations, specifically the railroads. This, in turn, paved the way to the transition from anxiety-driven subservient obedience to authority (Lawson, 1997, pp. 180–182) to anonymous and rationalist rule compliance that rejected personalized interaction. The institutionally personalized hierarchies of coercion had proved inadequate in military rivalry with Western powers, forcing the initial Tsarist concession—the 1861 emancipation of the serfs—and the subsequent codification of the peasants' emancipation from compulsory collectivism in Stolypin's land reform.

Summary and Conclusion

The essence of Russia's historical personalized hierarchy of coercion is the metaphysically legitimized concept of main means of production in the pre-modern economy, land, as the votchina—the patrimony of the ruler—and the ruler him/herself as a high priest, the anointed intermediary between God and man (Pipes, 1995, p. 70; idem, 1999, p. xii.). I argue that the systematization of government and the importation of technology for strategic purposes during the Petrine era, which established the autocracy, fostered over the following half-century a quest oriented in human plurality of metaphysical structures and intellectual capital conducing to intensified demand for egalitarian rights in land distribution—the coordinating principle of the 1773 Pugachev rebellion (ibid., p. 155; Hughes, 1998, p. 457; Hartley, 1999, p. 110; Moon, 1999, p. 242). This uprising, challenging the throne of Catherine II in the name of the true Tsar, Peter III (ibid., p. 245), should be understood as Freeze (1996) would have understood it: as conceptualized by a "piously subversive" political disequilibrium that opposed a Tsardom nominally enlightened and inspired by Western philosophy. The post-Petrine demand for institutional egalitarianism and the acceptance of the Russian culture induced by peasant and Cossack xenophobia overshot the economic tipping point of their transaction costs. The rebellion itself should be defined in Gerschenkronian terms, even as his consensus conceptualization of Tsardom as absence of the cost of autocratic dictatorship should be challenged.

In the initial stage of the reform, involving the delegation of property rights, the de facto and de jure impersonalization of law was sought. By making concessions in view of the threat that this posed to political stability, the Tsarist throne secured the

loyalty of the nobles for internal strategic purposes. Such had been the function of the 1785 Charter to the Nobility (Pipes, 1999, p. 192), which granted the nobility allodial property rights in land that countervailed and restricted the throne's despotic decrees (Sztern, 1994; Martens, 2004, p. 193; Pipes, p. xii). Thus, the transition from personalized privilege to rights allowed for the relative impersonalization of law through the enforceability of allodial property rights, albeit partial for broad population strata. The granting of land entitlements to the peasantry (Pipes 1999., pp. 193, 194) was discussed in the eighteenth century but was not implemented due to the triumph of political rationality over economic. The ultimate impersonalization of the law through the assurance of enforceable civil rights, including the right to landed property, took 121 years to achieve—in the Stolypin reform.

I offer the foregoing as a preface to the following investigation of the historical origins of liberalism in Russia, beginning with several questions: Was the modern transition from state to individual ownership of means of production—that is, from communism to capitalism in 1986[64] -the result of economically coercive institutional adaptation to the Western system for short-term strategic purposes?

Was the process analogous to the NEP (New Economic Policy) of the 1921 Soviet Union (Boettke, 1993)? If it was, why was the Democratic Socialism formula swept away in the perestroika thaw instituted by Gorbachev latitude with the alien to Marxian theory private means of production and propaganda relaxation glasnost of 1986? Is Russia indeed historically collectivistic in its mindset, as the term is understood in the West (Ofer, 1997, personal communication)? May we regard Stolypin's 1906 land reform, imported from Bismarck's Germany, as the historical forerunner of the modern transition and emphasize the socioeconomic costs of the implementation of the reform to rationalist-collectivist peasant Russia, as Pallot (1999) suggests? Did the process have the structural capacity to allow the individualist householder to stabilize the autocracy in perpetuity or to enhance the transition to constitutional monarchy? Do these historical transformations indicate Russia's regression to an authoritarian system, or will the modern transition eventually bring on a Slavonian democracy?

[64] Sztern (1994), pp. 4, 31, 57. I chose 1986 to mark the takeoff of the informal institutional disintegration of the Soviet Union. The series of reforms that structured this process started with Perestroika (1985), which liberalized information flows. The formal privatization process dates to the July 1991 Privatization of State and Municipal Enterprises Law and marks the beginning of the formal dismantlement of collective ownership of means of production, the constitutive Marxist axiom of the Soviet system. In 1986, the combination of the Chernobyl disaster and the transparency of information flows to Soviet citizens illuminated the grave deficiencies of the Communist Party's monopoly on governance—a structure that abetted quantitatively defined five-year production plans that induced deficient quality construction that had escaped public scrutiny due to censorship and propaganda.

Chapter 3 - Through the Lenses of Theory

New Institutional Economics and American Evolutionary Institutionalism—Railroads, Specialization and Democracy in Late Tsarist Russia

This chapter investigates the applicability of two theoretical perspectives that I consider instrumental in addressing the following question: Who was the nineteenth-century Russian peasant?[65]

The New Institutional Economics (NIE) (North, 1981) paradigm universally sets forth a "homo economicus" who, hedonistically and rationally, seeks to maximize his or her personal utility. This conceptualized human calculates the payoff of cooperation while considering relative resource scarcities and historical and present opportunity-cost matrixes. Interactions among such people generate utility equilibria that explain the resulting stable structures ("institutions") that determine relative scarcities. Critical Realists (CR) challenge this "atomized" conception of the human, advising that individuals are born into temporally prior structures that shape their preferences and goals, meaning that totally independent rational utility-maximizing choice does not exist. American Evolutionary Institutionalism (Veblen, 1931; Hodgson, 2004), which I conceptualize in this dissertation as complementary to NIE, explains that individual agency, i.e., choice, evolve through social interaction while being shaped and molded by temporally prior institutional structures. These structures, in turn, are the results of natural selection and

[65] Concerning the ongoing discussion on whether the classical assumptions are realistic (Hodgson, 1999; comments by Lawson, 1997), one may say that ever since Adam Smith—for more than a century—classical theory has been shaping the culture and institutions of Western societies as well as those of nineteenth-century Russia. Consequently, even if the hedonistic "Homo Economicus" assumption is unrealistic and faulty ab initio, an approximation of an agent endowed with such properties could have been generated through a process of "re-constitutive downward causation" (Hodgson, 2004, p. 105), which would prove Lawson (1997) and Hodgson (2004) right and render the classical assumptions realistic.

adaptation of socially acquired "habits of thought," on the one hand, and conditions of life on the other (Veblen, 1931, p. 188).

In NIE, individual agency is the source of structures (institutions). In AEI, structures precondition individual agency. Again, I suggest that these theories are complementary.

The above question should be answered as posed, i.e., within a time- and place-specific framework. Are there insights to gain from a theoretical approach that is neutral in time and place? Any theoretical framework, irrespective of its level of abstraction, inherently flows from time- and place-specific assumptions about human nature. Theories may be likened to institutions, i.e., socially embedded systems of thought.[66] Their viability varies depending on their perceived instrumental value, the general stock of human knowledge, mankind's current dreams and aspirations, and research communities as repositories of the former (inspired by Hodgson, p. 168).

How Railroad Construction in Tsarist Russia Demonstrates the Complementarity of these two Paradigms

Understood from the NIE perspective, railroads affect relative prices and scarcities, reducing the costs of transactions and uncertainty in spatial interaction, whilst allowing anonymous trade (North, 1973; Martens, 2004; Metzer, 1972). Extending the market according to Adam Smiths' predictions, the railroads allow skills accumulation specialization and exchange paving the way for productivity increases, wealth and political bargaining power accumulation. At the crossroads between NIE and Evolutionary Institutionalism, Martens (2004, p. 193) explains that specialization causes transaction costs rise forcing delegation of property rights by the ruler to the subjects that aims to secure the rulers' tax base. Railroads allowing specialization lead thus to the transfer of property rights and along those civil rights bringing rulers decisions under popular franchise. NIE's "bottom-up" interpretation, however, needs a supplement. AEI emphasizes that individual choice is not independent of the institutional pre conditioning structure that is temporally prior to any individual interaction. Traditions are essential for anxiety control (Lawson 1997). The railroad technology discontinuously augments the spatial area and the spectrum of cultures that can be accessed by the peasants. This way the perceived by the peasantry "conditions of life" (Veblen, 1931) are amended. Human cognitive distance (Shivelbusch, 1986) to urban economies non-agricultural income

[66] Hodgson, G.M., on socially embedded systems of rules: "What are Institutions? From Orders to Organisations," essay presented at the 6tth International Workshop on Institutional Economics, University of Hertfordshire; idem (2004), pp. 424, 430.

sources and Imperial court adapt to the access to new transport technology. The perceived threat of natural calamity, thereby dependence on inherited at time t structures and the embedded in those authorities are profoundly affected shaping and molding the "fittest [to the new conditions] habits of thought" (Veblen, 1931 p. 188). The ceremonial tradition and authority bound component of institutions is challenged by newly in spatial mastery acquired matter of fact knowledge. Institutions do not vanish but through natural selection and adaptation in the totality of societal interaction transform. Accessible through the railroads novel environments, cultures and cultivation methods allow natural selection and adaptation congruent with the invading with the railroad technology institutions that shape and mold the "habits of thought" of the new generation born into the structures of the railroads age. Viewed in the combined perspective railroads transform the institutions into congruent with novel cognitive capacities and relative scarcities that condition the levels of uncertainty, budgets and ultimately the propensity to choose individualist structures in place of the collectivist and mutually insuring.

The Theoretical Angle: the Legitimacy of the NIE–AEI Combination; Critical Realism Challenges NIE

NIE—The Rationalist Explanation of Peasant Custom

The New Institutional Economics (NIE) school, represented in this discourse by North (1973, 1981, 1993, 2005, 2009), clearly acknowledges the merits and limitations of the Neoclassical approach (North, 1981, p. 11). Throughout history, man has been observed to follow rules and unwritten, custom-based moral norms under circumstances that may render shirking, freeloading, and opportunism consistent with maximization of self-seeking benefit.

North's solution to this problem is an individual calculus, in which the premium over the opportunity cost of an illegal act reflects the measure of the value charged to the legitimacy of the institutional structure (ibid.). This introduces a historical dimension to the Neoclassical core. According to North (1993, p. 3; 2005, p. 36), institutions, both in formal rules and in informal norms of behavior, embody a common cultural heritage, a belief structure inherited from past generations.[67] The institutional structure and its change constitute rational responses to the evolving environment, e.g., to relative price changes, including changes in transaction costs,

[67] For parallels between the "Old Institutional Economics" as represented by Thorstein Veblen's school and NIE, see below.

the latter reflecting costs of measurement and of the coercion necessary for the enforcement of rights (North, 1973, p. 29; 1993, p. 53).

Contrary to the Neoclassical approach, which assumes perfect information and, consequently, no transaction cost, NIE (e.g., Williamson, 1985) is grounded in Herbert Simon's assumption of "bounded rationality"—a limited capacity to gather and process relevant information—and focuses on the effects of information costs on organizational structures (Martens, 2004, p. 49).

Given NIE's commitment to methodological individualism, its consequent logic,[68] and the claim to universality flowing from its Neoclassical foundations,[69] the nineteenth-century Russian peasant may be characterized as a version of Homo Economicus, albeit a "boundedly rational" (Williamson, 1985, p. 30) maximizer of utility or minimizer of a risk-of-death (Faran on Scott, 1976, p. 4) who, independently of others, hedonistically calculates his payoffs at each discrete moment and chooses to engage in reciprocal relations with his fellows to insure himself against starvation and other calamities (Eggertsson, 1990, p. 303). In the long run, it is the demand for insurance that gave rise to the collectivist peasant custom.[70] The observed peculiarities of the peasantry's institutional structure and its change over time may be understood as the products of rational deliberation among individuals who interact in response to changes in relative prices / opportunity costs triggered by population changes (North and Thomas, 1973, p. 29). Viewed through this prism, any collectivist practice would atrophy if confronted by increased opportunities for stable income streams (Sahlins, 1989, p. 42) that would mitigate the risks to individual survival (hypothesis in Sztern, 2000) and, more generally, make economic relations more predictable (lower transaction costs) by allowing uncertainty to be absorbed into the national, as opposed to the pre-modern, social unit (Sztern, Project Description). The systematization of governance would trigger such an absorption by formalizing the structures that governed peasant life (as disclosed, for example, by Mironov, 2000, pp. 329, 328).

[68] I believe NIE should be seen as a combination in theory of a Marxist structure-oriented analysis and a Neoclassical core.

[69] For a critical review of these claims, see Hodgson (2001), p. 23. Hodgson strongly rejects the notion of a dimension of the Neoclassical approach that is valid across time and space.

[70] The collectivist peasant praxis, including land redistribution, is elaborated upon in Chapter 4.

Bounded Rationality, the NIE–AEI Bridge

As a point of departure, the assumption of bounded rationality[71] suggests the possibility of an intersection between NIE and the evolutionary approaches. An additional point of agreement between the two clusters of theories is the role of institutions as man-made structures aimed at reducing uncertainty in human interaction (North, 1993, p. 17). Hodgson defines institutions as "durable systems of established and embedded social rules that structure social interactions" (Hodgson, 2004). They are viable because they can "usefully create stable expectations of the behavior of others," thus mitigating uncertainty in human interaction (ibid., pp. 424, 425, 430, on institutions as social-rule systems). Insofar as social structures carry out their uncertainty-mitigating function, they remain viable over time (North, 1981, pp. 11, 20; Hodgson, pp. 424, 425).

Unlike North (1993, pp. 64, 78), who appears to view informal and formal institutions as restrictive of individuals' behavior, Hodgson (2004, p. 425) emphasizes their enabling function. His school maintains that although institutions are contingent on individual intellectual and other activity, they are not explainable by such factors (Hodgson, 2004, "What are Institutions?" and idem, 2004, p. 425).

Hodgson's interpretation of the AEI approach conceptualizes institutions, including formal rules, unwritten norms, and socially sanctioned conventions, as socially or culturally transmitted. *In this respect*, it conforms to the NIE conception of the phenomenon. AEI, however, views social structures as emergent entities that are irreducible to the interaction of its component parts (ibid., p. 425). Then, basing itself on Veblen's and Commons' tradition of old institutional economics, it assumes that institutions have a causal effect on agents' preferences and aspirations (ibid., pp. 185, 291).

While NIE is understood as an example of what Hodgson calls "downward conflation,"[72] i.e., the reduction of structure to individual interaction, Hodgson's evolutionary approach focuses on the interaction between agency and structure, refuting any reductionism—including biological—as well as methodological individualism and collectivism.

The bridge between the two schools of thought is the concept of economics of cognition, exemplified in this discourse by Martens (2004) and the precursors of the

[71] Williamson (1991). The cognitive assumption based on Simon (1961, p. 92), invoked by transaction-cost economics, is that human beings are "intendently" rational but only limitedly so.

[72] Hodgson (2001), p. 3: "downward conflation"—a methodological individualism in which the structure is explained in terms of individual interaction. On p. 9, he speaks of "upward conflation"—a methodological collectivism in which individual interaction is explained in terms of structures.

"Old Institutional Economics" school that, according to Hodgson (2004), anticipated AEI. Specifically, Lewes defines civilization as an accumulation of experiences encapsulated in institutional structures (Hodgson, 2004, pp. 104, 105, quoting Lewes). Following Lewes, social institutions are considered "repositories of social knowledge" (ibid., p. 105) that allow people to allocate rationally their cognitive capacity, thereby giving them an evolutionary advantage.

How far apart are NIE and AEI in Distributing Determination of Action between Agency and Structure?

North identifies cultural heritage as the source of informal institutions. Culture, he explains, provides the language-based conceptual framework through which information is gathered and processed (North, 1993, p. 65). In a manner surprisingly reminiscent of an evolutionary approach, North, quoting Johansson (1988), proposes that the capacity of the human intellect to utilize information depends on the ability to acquire moral values, attitudes, and opinions encoded in the pre-conditioned language-learning process. Thus, learning capacity, in the sense of the ability to process information rationally and reflexively, is itself dependent on informal institutions such as language.

North also acknowledges the tendency of human preferences to change over time due to changes in value systems, i.e., transformations of the institutional structure (ibid.). This, in turn, affects the price of the convictions (North, 1981, pp. 11, 53) that shape a society's ideological outlook, where an effect in the opposite direction may occur through the legitimization process. In this example, then, although the source does not say it in so many words, the price mechanism powers an active process of "re-constitutive downward causation" (Hodgson, 2004, p. 105), embedded in the NIE conception of the role of institutions as man-made information-handling phenomena.

Thus, it may be too simplistic to interpret NIE as an example of the explanation of institutional structure through ad hoc individual interaction of people now present. Not contrary to what Archer (1995) would have expressed, cultural heritage, the Northian "collective memory reservoir" (North, 1993, pp. 12, 14) embedded in institutional structures, can at best be only partly reducible to synchronic individual interaction among maximizing Homo Economicus agents. North, however, emphasizes individuals' subjective thought models, which cannot be fully explained by collectively determined structures that restrict the scope of available options (North, 1990; idem, 1993, p. 35). Given the parallels outlined above, the suggestion that these theories may be at least compatible with each other cannot be rejected.

Critical Realism

Critical Realism's challenge to the Neoclassical paradigm, in which NIE is regarded as an offshoot of "mainstream economics" (Hodgson, 2001, pp. 248, 249), indicates that an evolutionary approach focusing on historically specific structures may complement NIE in its properties.

The commonality of all Critical Realist (CR) approaches is their emphasis on structure as a "generative" or causal mechanism (Hodgson, 2004, pp. 53–73). Below I select Tony Lawson's "Economics and Reality" (1997) and Margaret Archer's "Realist Social Theory: The Morphogenetic Approach" (1995) to represent these approaches.

When we say "critical," we acknowledge that social structure is dependent on human agency. "The sciences along with philosophy," says Lawson, "are themselves social structures and practices which are unavoidably susceptible to critique" (Lawson, 1997, p. 158; see also exposition above). By implication, all social structures, including theoretical ones, can be reproduced or transformed via thoroughgoing critical enquiry (Lawson, 2003). Structures are dependent on individual human conceptions but cannot be reduced to them. CR thought may be applied as a tool for the evaluation of the merits and limitations of theories. Importantly, however, the tool itself has its limitations, given ideologically determined abstractions that may favor one type of causal factor over another (Hodgson, 2004, p. 68).

The next term in need of clarification in this context is "realism." Lawson advocates a *transcendental realist* conception in social science as opposed to empirical realism (Lawson, 1997, p. 19). The latter adheres to the positivist tradition, which Lawson deems inadequate because "Objects of science are structured (irreducible to events) and intransitive (existing and acting independently of their being identified)" (ibid., p. 28). There are structures, powers, and generative mechanisms and their tendencies (e.g., gravitation) that have a causal effect whether they are known or not (ibid., pp. 27–35; Lewis, 1999). The *causal criterion*, then, is applied in order to assign the term "reality" to social structures (Lawson, 1997, p. 31).

Transcendental realism encompasses three layers of reality: the empirical (experience and impression), the actual (actual events), and the real (structures, powers, mechanisms, and tendencies, in addition to actual events and experiences) (ibid.). The real cannot be reduced to the actual and the actual cannot be reduced to the empirical. These layers are unsynchronized; their mode of reasoning is neither inductive nor deductive but inferential—progressing from a "surface phenomenon" to an underlying causal one (ibid.).

It is not the rationality or maximizing assumption per se that Lawson's critique targets. Rather, it is the view of such phenomena as actualities as opposed to

capacities, which may be subjected to countervailing tendencies, that constitutes the core of the CR approach (ibid., p. 106).

Since NIE grows from the foundations of the Neoclassical core while extending the framework to include an analysis of institutions oriented to transaction costs (North, 1981, p. 25), this critique indirectly targets also NIE.

Opposing the atomistic conception of social beings, Lawson emphasizes interdependencies. Social structures—"rules, relations, positions"—are contexts that shape human agency. However, neither structure nor agency is taken as given; the emphasis is on the unintended transformation of the former through the routinized action of the latter. Each layer presupposes the other but is irreducible to the other.

In Lawson's model, the keystones of social systems are internal relations that result in positions; the latter are construed as constitutive of the identity of the parts (Lawson, 1997, p. 164). Lawson does not deny that some interaction is defined from an atomistic perspective as externally related; randomly bypassing individuals who are unrelated to each other by any type of endeavor or emotion are an example (ibid.). Within this construct, a social system is understood as a "structured process of interaction" (ibid., p. 165) and as an institution. In Lawson's view, the latter term is relevant in reference to "those structured processes of interaction (collecting together rules, relations, and positions as well as habits and other practices) that are relatively enduring and identified as such (ibid., p. 318)."

In defense of methodological individualism (as a useful simplification) and NIE, I argue that insofar as mainstream interaction in a society is characterized by external versus internal relations, is continuous (embodying both dimensions in various proportions over time), and is dependent on the type of society as regards its constitution and rule systems, it is related to material conditions. Seen from a different angle, the level of coercion in enforcing the rules (North, 1981, p. 21; idem. 1993, p. 97; Martens, 2004, p. 190) determines the degree of voluntarism in relations, in turn affecting the degree to which said relations will be genuinely constitutive of the identities of the parts involved. In totalitarian states that do not recognize rights of association and are noted for acute distrust among individuals (due to repression), relations are said to be atomized, i.e., external (Ticktin, 1992, p. 24, quoted in Sztern, 1994). In democratic societies, rights of association are codified in law and enforced but the association that is expected to "constitute identity" is not necessarily durable and, therefore, will remain ineffective as regards this very expectation. Consequently, the constitutive role of relations–positions cannot be taken as given; it is a factor that has to be explained in the context of the legitimacy issue (North, 1981, p. 11).

An additional example pertains to Tsarist Russia. The extent to which the relation between a household head—a *bolshak*—and his grown sons would be constitutive of their identities hinged on the economic dependency of the former on the latter. Factors such as literacy, wage labor in an urban center, and a change in religious affiliation (Burds, 1998, Table 1.3, p. 23; p. 177, the information revolution; p. 193, the allure of the Old Belief) might shift the balance of power in favor of the sons (in the extreme), transforming the relationship into an external one. Moreover, internal relations may, in the course of reform processes that legally amplify the sons' autonomy (restricting the bolshak's control of income streams—(Hesse, 1993, quotation from Caldwell, p. 52), be transformed into external ones.[73] The same pertains to relations between seignior and serf, which may cease to exist as such.

The extent to which relations are formally internal[74] or external appears to be a matter of institutionalized dependency/domination and voluntarism. The extent to which a teacher–student relationship is constitutive of both identities is a function of custom, formal rules, and voluntary choice. By implication, every internal relation may have an atomistic dimension. Moreover, not all relations of the same type are identical. However many commonalities they may have, each relation has a uniqueness that depends on the *individuals* involved.

The ability to engage in reflexive monitoring of, for example, adherence to social norms presupposes discursive as well as tacit consciousness (Lawson, 1997, p. 178). Thus, human agency guides itself by drawing on both discursive and tacit knowledge. Lawson recognizes the unconscious component of action; most human motives cannot be consciously identified (ibid., p. 179). The explanation of routinized behavior is sought in this phenomenon.

Lawson (ibid., pp. 181, 182), relating to Giddens (1984), explains rule-following behavior as the need for continuity and stability that were previously satisfied within mutual-trust frameworks of parental relations. The predictability of routinized behavior serves as an anxiety-controlling device; so does some level of identification with authority. Thus, rule-following behavior is explained by psychological factors, which are implicitly evolutionary.

Archer (1995, p. 65) links structure and agency, focusing on time. Consistent with transcendental realism (Lawson, 1997 p. 28), "Structures… contain non observable emergent powers whose combination generate the further emergent properties..." (Archer 1995., p. 69).

[73] Emotions are disregarded in both cases.

[74] Internal due to their being anchored in a formal rule system as opposed to informally internal dependency relations.

Reflexive human agency has the power to cause unintended structural changes. Thus, structure, although predating any given individual, is transformed through reflected action, albeit in an unintended manner (ibid., p. 75; see also Lawson (1997).

Archer's main argument against treating structure as an epiphenomenon of interaction between people "now present" is the existence of structural properties that cannot be changed in the short run (ibid., p. 85). Thus, phenomena such as prevalent demographic structures or literacy levels in a population are inherited from past generations and have causal effects on the interaction, including the dispositions, of present actors (ibid.). Inferring from Archer, such effects have been abstracted from NIE, conflating structure with individual agency.

The Marxian Angle

One may identify the Marxian source of inspiration that permeates CR thought Hodgson, 2004, p. 54) by pondering the following quotation:

> In the social production of their life, men enter into definite relations that are indispensable and independent of their will, relations of production which correspond to a definite stage of development of their material productive forces. The sum total of these relations of production constitutes the economic structure of society, the real basis, on which rises a legal and political superstructure, and to which correspond definite forms of social consciousness. The mode of production of material life conditions the social, political and intellectual life process in general. It is not the consciousness of men that determines their being, but, on the contrary, their social being that determines their consciousness (Marx, 1859, quoted in Cohen, 2000, p. 1).

The Austrian, the Marxian, and, for that matter, the Evolutionary Economics approaches, the last-mentioned including American Evolutionary Institutionalism, are conceived as consistent with the CR line of thought (Lawson, 1997, p. 247).

Archer (1995, p. 82) deems purely structural explanations an "oversocialized" or "overdetermined view of man," as would be relevant in the Marxian case but which cannot explain social change. In Archer's model, human agency at T2 is the source of the transformation that takes place as the inherited structure interacts with the present generation of agents.

Is NIE principally incongruent with CR, rejecting the temporal priority of structure?

The justification for applying NIE within a combined NIE-American Evolutionary Institutionalism framework is that the CR conception of NIE, the latter represented by North (1981, 1993), is too simplistic. Thus, NIE and AEI should not be deemed incompatible. The temporal precedence of structures over any given individual is implicitly acknowledged by North (1981) in his allusion to "reconstitutive downward causation" (Hodgson, 2004, p. 105). North's analysis of the effects of population increase (1981)—"initial conditions" within Archer's framework—may serve as an example. Unlike the results of deduction from the Neoclassical model, in which the adjustment on the margin would be instantaneous, implying simultaneous interaction, "in the context of institutions and positive transaction costs" (North, 1981, p. 9), the adjustment to changes in relative prices depends on the size of the market (an initial structural condition) and the technology of information dissemination (an initial condition). Such factors, North admits, do not change in the short run: "The "thinner" the market, the more primitive the technology, the longer is the period required for the adjustment process to take place (ibid.). Thus, structures predate interaction, creating initial conditions that determine the time lag until adjustment takes place and that dictate the pace of the adjustment. Informal institutions such as Tsarist Russia's "customary land agreements" introduce uncertainty in the nature of the adjustment process (ibid.). North (1981, p. 13) states clearly that the construction of present-day institutions "does not occur in a vacuum but [is] the result of people's perceptions stemming from historically derived opportunities and values." If so, historical institutions are the source of present-day people's perceptions. Here, I believe, lie both the implied temporal priority of structures and the structural conditioning that Archer (1995) envisions in regard to people's perceptions and, in turn, their preferences and goals. Moreover, there is no indication of an assumption of an "institution-free state of nature." The latter is the most frequent argument of CR theorists toward NIE:

The thing that we call "reality"—and, for that matter, that we call "necessity"—is relative to people's historically derived rationalizations of the world (North, 1981, p. 13.). This line of thought is congruent with the "Old Institutionalist" tradition as understood by Hodgson (2004) and the Critical Realist perspective as per Lawson (1997).

The foregoing comment on "reality" implies an additional dimension: a rational, calculative aspect of human nature that guides individual choice irrespective of time and place—albeit in different proportions—as the urge to obey authority may restrict the number of available options. The utility-maximizing calculus of historical and present costs of opportunities forgone constitutes the aspect of the evaluation that reflects the theory's Neoclassical insight. North incorporates into

this insight the rationalist ad hoc adherence to values—i.e., rule-following that is only indirect by definition, through the maximization of reputation and other social rewards that are linked to economic utility maximization.

Should a Neoclassically shaped NIE be conceived of as realistic in a sense other than CR?

Arguably, the emphasis in North (1981, pp. 48, 49) on the freeloader problem and the role of ideology in overcoming it is absolute veristically and abidingly realistic.[75] Mäki (1990, p. 41) argues that Friedman's thesis is "a coherent combination of semantic[76] and axiological[77] essentialist realism" (ibid.). As such, it is preoccupied with "deep "structure as opposed to surface phenomena (ibid., p. 27). The same argument is true of the Neoclassically shaped dimension of NIE:

> A fundamental hypothesis of science is that appearances are deceptive and that there is a way of looking at or interpreting or organizing the evidence that will reveal superficially disconnected and diverse phenomena to be manifestations of a more fundamental and relatively simple structure.[78]

Thus, the concept of the rational—utility maximizing—Homo Economicus, shared by Neoclassical theory and NIE, is the result of essentialist isolation.[79] Friedman's "as if" formulation does not necessarily imply instrumentalism (Mäki, 1990, p. 41). Mäki presents a general formulation of theory in "as if" terms: "Entities behave as if the isolated conditions were realized under which only those real and fundamental forces that are mentioned in the theory are in fact acting." Following Mäki's outline of the versions of realism, there are forms of realism that require certain kinds of unrealisticness. Essentialist realism is such a form; in it, the notion of the "whole truth" is purportedly violated. Applying Uscali Mäki, I understand the Neoclassical dimension of New Institutional Economics as committed to this type of realism.

As argued in the Introduction, the limitations of the Neoclassical model are well acknowledged by North (1981), emphasizing the commitment in NIE to explaining

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[75] Mäki (1990), p. 25, Def. 31: a representation is veristically realistic if it is true of features of its referent.

[76] Ibid., Three Forms of Semantic Realism: Def. 11, Referential Realism, Def. 12, Representational Realism; Def. 13, Veristic Realism, p. 20.

[77] Ibid., p. 23, Def. 26: Axiological Realism (or methodological realism) is the thesis that true representations of what exists should be pursued.

[78] Friedman (1953), quoted in Mäki (1990), p. 41, in support of Mäki's derivation.

[79] Mäki (1990), p. 33, Def. 54: "Essentialist isolation is a purported isolation of the (at least objectively existing) essence of the object under study from its inessential features."

real-world phenomena. The idealization (ibid., p. 28) of "zero transaction costs," allowed for in Neoclassical economics, is annulled in NIE, which centers on transaction costs and the role of institutions.

Challenging the CR critique of NIE, North (1981, p. 17) provides an additional example that implies the shaping, reconstitutive role of institutions: "These rules spell out the system of incentives and disincentives that guide and shape economic activity,", i.e., that guide and shape individual agents. A hint at a multilayered analysis that distinguishes between the observable dimension, the "superficial manifestations" (ibid., p. 35) of transactions, and a generative deeper structure is found in the following: "Underlying the transaction—making it possible—was a complex structure of law and its enforcement. Members of modern monetary economies accept pieces of paper as legitimate surrogates for a command over a certain amount of other resources and know that they can use it for that purpose" (ibid.). Here North calls attention to what Searle would define as the type of social fact that requires an institutional structure.[80] Contrary to Hodgson's critique of North, stating that the latter focuses on the constraining, restricting function of institutions (Hodgson, 2004, pp. 424, 425), this quotation acknowledges institutions' enabling role (ibid., p. 425, on the choice-enabling role of institutions).

Ultimately, however, as Archer (1995, p. 71) emphasizes, NIE explains structures in terms of individual interaction. There is no explicit indication of structures possessing emergent properties that are irreducible to individual interaction, which is the essence of methodological individualism and the focus of the CR challenge.

One of the differences between NIE and Critical Realist Evolutionary theories is their different conceptions of human nature. While NIE sets out from the assumption of a rational-utility maximizer guided by hedonism, evolutionary approaches focus on instinct and habit (Hamilton, 1999, pp. 29, 44, 45; Hodgson, 2004, p. 258) and emphasize tacit knowledge (Hodgson, 1999, p. 212), accepting the unconscious dimension of agency that is congruent with CR theory.

I argue that, by centering on different aspects of human nature, the NIE and evolutionary schools of thought may be seen as complementary rather than substitutional.

[80] Searle (1995), p. 33: "For social facts, the attitude that we take toward the phenomenon is partly constitutive of the phenomenon."

American Evolutionary Institutionalism; Darwinian Economics. AEI—Peasant Custom: Adaptation to conditions of life through natural selection

American Evolutionary Institutionalism (AEI) puts forward a conception of institutional structures as historically selected in the context of communities that respond to time- and place-specific conditions of life through strategies of survival into which individuals are born. These structures must be understood as predating any given individual and, as to their nature, must be irreducible to individual choices and interaction (Lawson, 1997, p. 32). Following the Hodgsonian interpretation of AEI, institutional structure acts on any given individual in a process of "reconstitutive downward causation" that shapes individuals' habits of thought and, thereby, their preferences and aspirations (Hodgson, 2004, pp. 105, 106, 107). Following Hodgson (ibid., pp. 422, 423), human intentionality and rational deliberation cannot be accepted as an axiom, an unexplained cause. These capacities, unique to humankind, hinge on innate instincts and acquired habits. Human rationality is the product of this evolution. An institutional transformation is an adaptation to a change in conditions following a process of selection and adaptation at the level of multiple and competing institutional structures (inspired by Veblen, 1931, p. 188).

My Hypothesis of NIE–AEI Complementarity

I propose an instrumental explanatory value for AEI–NIE complementarity and suggest that these theories cannot be reduced to, but possess, a common denominator in the preference, assumed in the theory, of the life perpetuation of individuals. Given that AEI is derived from Darwinian evolutionary universalism, it does not recognize abstraction from time- and place-specific contexts (a historically unique structure). NIE, in turn, assigns heavier weight to a dimension of human nature that is absolutely universal across time and place. Thus, a combined framework may yield a holistic explanation of the changes in the institutional structure of the communal-village system in Tsarist Russia as it interacted with the Tsarist state.

Known Theory Combinations: Bridging NIE and AEI through the Economics of Cognition (Vanberg, 1994, and Martens, 2004)

An interesting example of a combination of sociological, Classical, and Neoclassical economic theories that yield a synergy (a theoretical dimension

irreducible to its component parts) is offered by Vanberg (1994). This specific blend of theories also suggests that its main sources of inspiration, the NIE School and Evolutionary Economics, need not be mutually exclusive. Committed to methodological individualism and normative individualism, Vanberg (1994, p. 1) reconciles Homo Sociologicus, i.e., the being whose behavior is norm- or rule-guided, with Homo Economicus, the being who makes rational self-seeking choices (ibid., p. 12). He explains the institutional structure and its change over time by a long-term-oriented rational calculus that addresses itself to the level of rule.

Vanberg (ibid., p. 17) identifies three ways in which the perceived advantages of compliance with rule (as opposed to case-by-case responses) affect behavioral dispositions—a strategy that encourages the search for complementarities between NIE and evolutionary approaches. Thus, rule-following may be the product of (1) natural selection and genetic evolution, (2) non-reflective habitual learning, in which individuals adopt the strategy of following rules unconsciously, and (3) a diachronic rational calculus, in which individual see that they gain more in the long term by following the rule than by making case-by-case adaptations (ibid.). None of these ways excludes the other. In effect, Vanberg suggests the long-term rationality of custom. Transposing this reasoning to Tsarist Russia, the precariousness of life in the pre-Revolutionary peasant world may explain the strength and the viability of custom. The benefits of pre-commitment, in turn, relate to the social image of the agent. The essence of this combination of theories is its understanding of morality as conditional and contingent on the characteristics of the environment and its evolution and as the long-term response to changes in it (ibid., p. 24).

Martens (2004) combines evolutionary theory, Adam Smith's Classical economics, and NIE in the following way: The search for a cognitive economy results in specialization, which leads to (Martens') asymmetrical distribution of knowledge (Martens, 2004, pp. 4, 51, 104). The role of institutions is to relax the constraint on individuals' limited cognitive capacity (ibid., p. 113). Thus, in this sense efficient institutions constitute an evolutionary advantage. Given actors' limited capacity to process information, their motivation to follow rules (or reject institutional structures) can be seen as a strategy that maximizes their long-term probability of survival (North, 1993, p. 10, Vanberg, 1994, p. 55). The enabling and constraining function of institutions is emphasized. Initially treating institutions as exogenous to the model, Martens states that knowledge embodied in exchangeable goods is evolutionarily superior to that conveyed in symbols because it results in trade and specialization. Specialization, in turn, diffuses asymmetrically distributed knowledge, causing transaction costs to rise. The tradeoff between ex ante transaction costs and ex post transaction costs is the function of the institutional structure (Martens, 2004, pp. 112, 113). Thus, rule systems determine the degree of the division of labor and the accumulation of knowledge and, by so doing, determine the society's level of development (ibid., p. 134).

Rational Choice / Atomist Universalism; NIE—Indispensable but Insufficient for Understanding Peasant Russia's Transformation

The reason for deeming the New Institutional Economics perspective insufficient per se centers on the Neoclassical paradigms that make up the core of this group of theories, the underlying metaphor in Newtonian physics. Neoclassical economics conceives of the human being as analogous to an atom, composed of protons and neutrons, who reacts to price signals in accordance with the principles of magnetism that govern nature (Hamilton, 1999, pp. 22–24). I argue that Neoclassical theory and its offshoot, NIE, should be understood as universalistic. Contrary to the Neoclassical theory that bases itself on the Newtonian metaphor, evolutionary theory, inspired by the "old" institutionalism, is predicated on Darwinism (Hodgson, 2004, p. 91; Hamilton, 1999, pp. 22, 25.). As the application of Darwinian ideas in social sciences is controversial for commendable ideological reasons, it is worth quoting Darwin himself ahead of the discussion:

> As man advances in civilization, and small tribes are united into larger communities, the simplest reason would tell each individual that he ought to extend his social instincts and sympathies to all the members of the same nation, though personally unknown to him. This point being once reached, there is only an artificial boundary to prevent his sympathies extending to the men of all nations and races.[81, 82]

[81] See also Hodgson (2004), p. 79, who convincingly challenges the distorted versions of Darwinism.

[82] Hodgson identifies seven philosophical pillars of Darwinism that make the theory valuable for Realist social science:

1. Determinacy (universal causation)—there are no uncaused causes.
2. Emergentist materialism—for example, human intentions are regarded as emergent properties of materialist interactions within the human nervous system.
3. Population thinking—understanding the essence of something involves not only the singular entity but also its membership in a population composed of similar but non-identical entities. The essence of a type necessarily includes its potential to exhibit or create variety.
4. Continuity—complex outcomes are the result of accumulated incremental changes.
5. Cumulative causal explanation—one traces causal processes by focusing on their key processual algorithms.
6. Evolutionary explanation—social sciences must be consistent with acceptable versions of biology.
7. Consistency of sciences—any scientific assumption or principle at a specific ontological level must be consistent with a scientific understanding of all lower ontological levels.

The Darwinian framework of analysis yields a multidimensional understanding of institutional evolution that focuses on continuity and change and defines human intentionality and preferences as phenomena to be explained. Importantly in this context, however, it rejects biological reductionism. Social sciences operate at an emergent level that is, by nature, irreducible to any knowledge of biotic matter. Still, biotic matter cannot be ignored in a realistic inquiry into human beings. Thus, hypotheses posed must be consistent with biological insight (abridged from Hodgson, 2004, pp. 95–97).

Additionally, the most abstract and general framework of analysis within Darwinian economics, represented here by Veblen (1931) and Hodgsonian interpretations of this scholar, emphasizes the time- and place-specific social contexts and dependencies of the emergent human social world.

Veblen's theory (Veblen, 1931, p. 188) applies the Darwinian metaphor to social sciences while explaining the evolution of institutions through natural selection and adaptation of the socially fittest habits of thought. All dimensions of institutions adapt to conditions of life. I apply Lawson's CR conception of the human's need to control anxiety by relying on structures that emulate or manifest a "parental bent" (Veblen, analyzed in Hodgson, 2001, p. 147____; Lawson, 1997, pp. 180, 181) even if this instinct, defined by Veblen, carries with it the scope for the instinct of "exploit" while coping with uncertainty.

In the context of the pre-modern peasant world—poorly informed, illiterate, dependent on physical experience, and subject to the precarious climatic and highly uncertainty causing topographic conditions that characterized late Tsarist Russia (Engelgardt, 1993, p. 37; Chubarov, 2001, p. 4)—I deem Veblenian AEI, applied to my time- and place-specific environment, instrumental. This model emphasizes the experience of the generations of sages embodied in the leading authority of elites as the source of selection and adaptation of individual habits of thought. The latter justifies the inclusion of the AEI model (Veblen, 1931, p. 188) as conducive to the explanation of the tacit-knowledge-bearing (Hodgson, 1999, p. 249) rural collectivism as a supplement to NIE. The latter theory flows from a rationalist utility maximization axiom. Given its restricted information-processing capacity, the at-best "bounded rationality"[83] of the pre-modern peasantry cannot be taken as a given (Hodgson, 2004, p. 423).

Evolutionary economics focuses on explaining and predicting "changes in elements of the institutional context; norms, values, (and) legal rules" (Groenewegen and Vromen, 1999, p. 1). Contrary to the atomized and isolated individual in Neoclassical economics, AEI views individual interaction as preconditioned on

[83] Williamson (1991). The cognitive assumption based on Simon (1961, p. 92), invoked by transaction-cost economics, is that human beings are "intendently" rational but only limitedly so.

community and society. Following Hodgson (2004, pp. 123–283), Veblenian institutionalism explicitly conforms to the CR school of thought in its conviction that social structures are dependent on individual interaction but cannot be reduced to it. Thus, it rejects methodological individualism. Furthermore, it sees individuals as dependent on social structures but denies the possibility of explaining their behavior in terms of structures alone, i.e., it rejects methodological collectivism. Finally, the temporal priority of society over any individual is one of its conceptual pillars (Hodgson, 2004, pp. 178, 181). The end-state (Groenvegen and Vromen, 1999, p. 4) variant of evolutionary theory selects the individual in interaction with the environment as the unit of analysis (ibid., p. 4.). This paradigm encompasses competence-based theories of the firm rather than the contract-based approach of transaction-cost economics. Combinations of these two theories, however, are both possible and fruitful.[84]

The Psychological and Sociological Perspectives

According to the hedonistic psychology that underlies the Neoclassical and Neo-Institutional paradigm, it is sensation and feelings that power action (Hamilton, 1999, p. 44).

Hamilton's analysis distinguishes between more recent psychological doctrines—instinct, behaviorist, Freudian, and Gestalt—and hedonism, perceiving man as "a creature of motor impulses that result in a series of actions" (ibid.) that are merely accompanied by sensations. The latter are viewed as influencing further action rather than initially motivating it. Consequently, motive assumes secondary importance, as an object of inquiry, relative to action.

American Evolutionary Institutionalism anchors its conception of human nature in the findings of the more recent psychological schools listed above (Hamilton, 1999, p. 44). Thus, past activity gives rise to habits and further activity subjects the habits to change and adaptation. This view of individuals as undergoing processes of cumulative change in interaction with their social milieus is the result of the Darwinian revolution in habits of thought (ibid., p. 46).

In principle, hedonism is obviously incompatible with evolutionary thinking. The question, however, is: Are sensations of pleasure and pain as *foci for the analysis* of human action inadequate from an evolutionary vantage point?

[84]Hodgson (1999), p. 249, 2003 comments in Dosi,.5th International Workshop on Institutional Economics, University of Hertfordshire.

As regards the biochemistry of the sociologic man, the existence of a culture-, time and place-neutral dimension of human nature must be axiomatic because it is possible to identify with fellow humans over time and space or, as Adam Smith says, to "bring their case home to ourselves" (Smith, 2000, p. 4). This universalistic ability is—to quote reflections of North's hedonism-based Institutionalism—contingent on the specific collective memory reservoir (North, 1993, p. 12) and individuals' subjective thought models (North, 2005, pp. 38, 64; idem, 1993, p. 35).

The hedonistic dimension appears to be the common denominator of, and an ultimate precondition for, all human interaction. Therefore, hedonistic psychology conveys an understanding of the human that can be complemented, but not replaced, by other schools of thought.

According to the evolutionary-behaviorist schools, structures shape individual habitual interaction (Hodgson, 2004, pp. 14, 188.), creating an emergent source of causality for individuals' behavior, preferences, and choices. Thus, the hedonist evaluation cannot be cast aside in any quest to understand human behavior. Instead, it must be acknowledged as an element in the evolutionary analysis because causality in social structures concerning individual habit formation depends on subconscious and conscious hedonistic choices that determine compliance versus default. These choices, however, are not atomized phenomena; they are synergies of feedback mechanisms in social interaction.

At the intersection of psychology and economics, Rizello (1999, p. 83) criticizes the behaviorist conception of human nature, suggesting that it overlooks "retroactive round systems" that operate in individual–environment interaction. The concept of feedback in defining the improvement upon behaviorism is encapsulated in cognitivist theory of human nature.

In accordance with the cognitivist essence, every external impulse is subjected to history-contingent "checking process." I suggest that this very process, ubiquitous in Hodgsonian enculturation—"reconstitutive downward causation"—whereby institutions shape and mold individual habits of thought that delineates AEI, includes hedonist elements.

Referring to Soviet neurophysiology, Rizello (ibid., p. 92) advises that action is the consequence of new data and past experience as well as prediction of events—a conception that, he says, is congruent with Hayeks and Simons. I suggest that the hedonistic element of action is embedded in feedback, whereby:

> [B]rain centers are constantly informed about the success or failure of an action. If necessary a correcting mechanism is starting. The correspondence between present state and pursued goal is constantly checked. Every time a discrepancy is revealed new steps are taken towards a new afferent synthesis (ibid.)

Neo-Institutionalism

The inclusion of three time dimensions in the cognitivistic conception of human nature—present-time stimuli from the environment, historical experience embedded in the individual's enculturation within an institutional-organizational structure, historically shaped preferences, and future goals—broadens the scope of legitimacy for the AEI–NIE combination and the assumption of complementarity that underlies it. From Rizello (ibid., p. 98), one may convincingly deduce that bounded rationality is the common denominator of North's Neo-Institutionalism, with its orthodox core and unorthodox economics including AEI. The reflection adduced from Rizello, crucial for my theoretical combination, is that the interaction of an individual with his/her environment is characterized neither by a reflex nor by an immediate ad hoc calculus. Instead, it includes a historical knowledge-storage dimension of the mind–brain conundrum that renders each present phenomenon institutionally intelligible through the cognitive prism of experience. Moreover, each individual's subjective model of thinking (North, 2005, pp. 38, 64) is shaped and molded by the collective memory reservoir (North, 1993, p. 12). The insight offered by the socio-cognitive approach interpreted by Rizello (1999, pp. 86–92) legitimizes the assumption of compatibility and complementarity between NIE and AEI. I suggest that the feedback-to-experience decision-making process, ever-present due to the need, brought on by uncertainty, to economize on cognitive energy, includes the hedonist dimension that allows NIE and AEI to be bound together.

North justifies my linking of the old to the Neo-Institutionalist economic framework by saying, "Imperfect information and feedback underlie the ubiquitous character of uncertainty; in addition the rationality assumption fails to deal adequately with the relationship of the mind to the environment" (North, 2005, p. 24). Applying North's argument (ibid., p. 23), the more an environment is characterized by perfect competition, as in one of the assumptions of the neoclassical model, the stronger the legitimacy of the neoclassical psychological conceptions of human nature: "substantive rationality, self-interest, [and] perfect knowledge" (Rizello, 1999, p. 97). Thus, these human traits are not taken for granted in North's more recent work, which is surprisingly redolent of and close to the Old Institutionalist tradition.

My thesis starts chronologically in the insulated, pious, and patriarchally structured peasant world of the nineteenth-century Russian subsistence economy. The historical conditions of life there were characterized by the suffocation of competition in the absence of alternative options. The ongoing and intensifying transition that began in 1861 from adherence to routines of action enculturated by the patriarchal authority of heads of households and village-commune assemblies through the evolution of available options contingent on bounded rationality, growing in tandem with technological advances and enhanced by the ever-present

cognitive feedback process—approaching the post-Stolypin reform substantive rationality of individual peasant household members—is most convincingly explained within the combined NIE–AEI framework that acknowledges the triple dimension of time (North, 2005, pp. 23, 24; Sheshinski, 2010, p. 3; Gintis, 2009, pp. 1, 2; Rizello, 1999, pp. 86–98). Such a dimension is congruent with the CR approach.

One of the instruments of "reconstitutive downward causation" (Hodgson, 2004, p. 105) is precisely the association of perceptions of pleasure and pain with reward and punishment, fear and security, and inclusion versus exclusion. Thus, the process of cultural conditioning, shaping, and molding of individuals' preferences, emphasized by the Old Institutionalist tradition, presupposes an ongoing hedonistic calculus. This, in turn, suggests that NIE, also expressed via the proposed direct NIE–AEI combination by basing its assumptions about human nature on the hedonistic conception, may be understood as fully compatible with and, as will be argued presently, complementary to evolutionary approaches.

Before proceeding toward the proposal of complementarities, I wish to convey the essence of the Old Institutionalist conception of institutional change by quoting its most representative exponent, Veblen:

> Social structure changes, develops, [and] adapts itself to an altered situation, only through a change in the habits of thought of the several classes of the community; or in the last analysis, through a change in the habits of thought of the individuals which make up the community. The evolution of society is substantially a process of mental adaptation on the part of individuals under the stress of circumstances which will no longer tolerate habits of thought formed under and conforming to a different set of circumstances in the past. (Veblen, 1931, p. 192)

Thus, a prima facie parallel exists between NIE and Veblen's evolutionary approach, in that both schools of thought posit changes in the conditions of life (ibid.), or in relative scarcities/relative prices due to population changes (North, 1973, p. 29), as the precipitants of institutional change. In both, the line of causality seems to be circular or feedback-generating because the conditions of life/relative prices are somewhat explainable by the institutional framework.

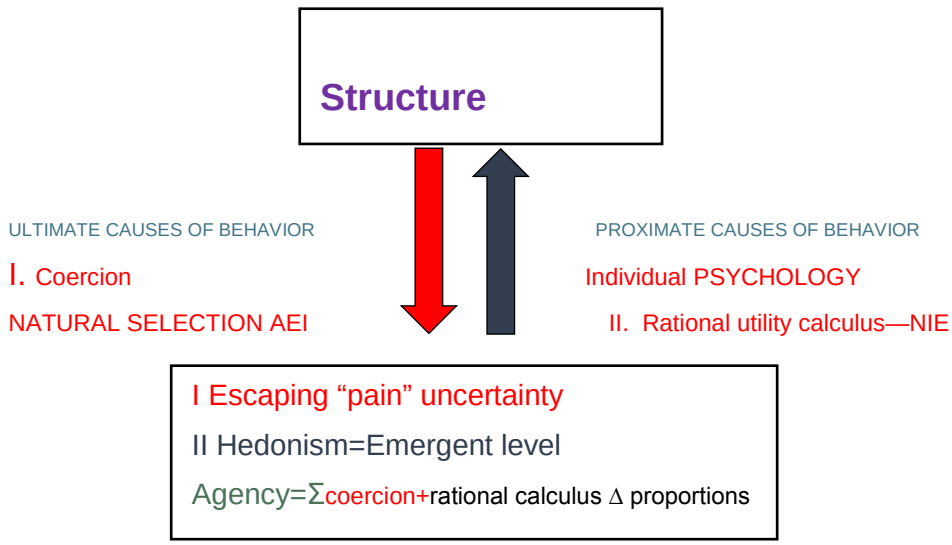
In NIE, for example, the model implies a causal chain captured as follows:
Institutional change ⇔ technological change ⇔ change in relative prices ⇔ Institutional Change

Note that the arrows point in both directions. According to Veblen's theory of the leisure class, the predatory culture that shapes individuals' habits of thought creates a set of wants that determine the perceived conditions of life. A closer analysis, however, discloses that those schools diverge in their emphasis on the constitutive weight of individual agency relative to structure.

NIE and AEI understood as mutually complementary

The figure below, inspired by Hodgson (2004), describes the relation between structure and agency in NIE (right-hand side) and AEI (left-hand side) according to a "loop" of determinants of ultimate and proximate behavior (Vromen, 2001, p. 194):

Figur 3-1 Loop of Behavioral Determinants



Veblen's theory (1931, p. 188) places greater weight than NIE on structure, which it construes as the result of the natural selection of institutions (ibid. and Hodgson, 2004, p. 141) that molds individuals' preferences and goals (Vromen 2001, p. 184; Hodgson, 2004, p. 105)—that is, shapes their habits of thought—through selection and adaptation (Veblen, 1931, p. 188). Thus, the theory emphasizes the "reconstitutive downward causation" process (based on Hodgson, 2004, p. 105), as shown by the red arrow in Figure 3–1 and the thicker arrows in Figure 3-2 below.

As proximate causes are the effects of the ultimate causes, intentional human agency is the product of evolution (Vromen, 2001, p. 194; Hodgson, 2004, p. 96).

In NIE, with its methodological-individualism orientation, the relative explanatory weight is assigned to the interaction among rational utility-maximizing individuals as the ultimate source of structure[85]: "Institutions are the creation of human beings. They evolve and are altered by human beings; hence our theory must begin with the individual" (North, 1990, p. 5). Thus, the assumption about a Homo Economicus

[85] Archer (1995), on conflationary social theory, pp. 79, 80.

who is relatively independent of the institutional environment in his/her preferences and goals emphasizes the "reconstitutive upward causation" process (the blue arrow in Figure 3–1 and the thicker arrows in Figure 3–2) (Hodgson, 2004, inferred from p. 105).

It is through organizations, which differ from institutions because they play the game while institutions constitute the rules of the game, that the set of strategic choices, in interaction with the institutional environment, brings about institutional change (North, 1993, pp. 19, 23, 114; 2005, p. 59). The informal institutional dimension—for example, a custom that structured a historical pre-modern community or contemporaneous unwritten conventions enforced by social sanction—is often codified into, and legitimizes or provides ideological/cultural grounds for rejection of, the formal rule.

It is explicit that structure channels individual choices through a particular set of incentives. The theory presupposes an ongoing hedonistic calculus, in which relative scarcities, expressed as relative prices, give rise to particular problem-solving—uncertainty-reducing—devices, i.e., institutional structures.

AEI proposes, as the replication of habits is dependent on common institutional constraints, that common conventions may yield similar habits of thought (Hodgson and Knudsen, 2004, p. 10). Rationality is said to depend on "a complex foundation of habit, tacit knowledge and experience" (ibid., p. 20). Thus, reason is partly seen as a cultural phenomenon (ibid.). This line of thought emphasizes reconstitutive downward causation. As argued above, it is the awareness of this process, emphasizing the temporal precedence of structure, that inspires CR evolutionary thought. At the organization level, knowledge is encapsulated in routines of action (Hodgson and Knudsen, 2004, p. 22; idem, 2002, pp. 2, 3; idem, 2005, p. 14). At the level of a society, institutions constitute the repositories of knowledge (Hodgson, 2004, pp. 12, 168).

The argument concerning "downward causation" in the evolutionary approach may best be presented in Veblen's own words:

> The evolution of social structure has been a process of natural selection of institutions. The progress which has been and is being made in human institutions and in human character may be set down, broadly, to a natural selection of the fittest habits of thought and to a process of enforced adaptation of individuals to an environment which has progressively changed with the growth of the community and with the changing institutions under which men lived. *Institutions are not only themselves the result of a selective and adaptive process which shapes the prevailing or dominant types of spiritual attitude and aptitudes; they are at the same time special methods of life and human relations, and are therefore in their turn efficient factors of selection.* So that the changing institutions in their turn make for a further selection of individuals endowed with the fittest temperament, and a further adaptation of

individual temperament and habits to the changing environment through the formation of new institutions. (Veblen, 1931, p. 188; emphasis added)

With the foregoing aspects taken into account, the theories may be seen as complementary.

Figure 3–2. NIE, Based on North's (1973, 1981, 1990, 2005) Emphasis on "Upward Causation" as the Source of Structure[86]

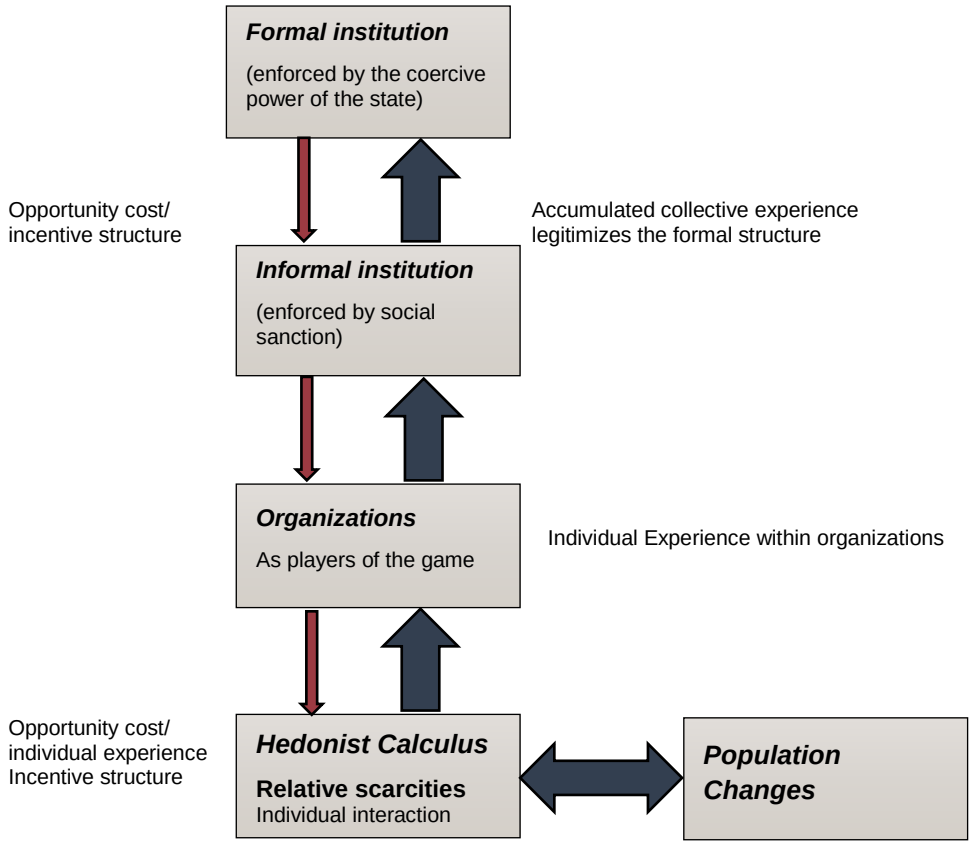
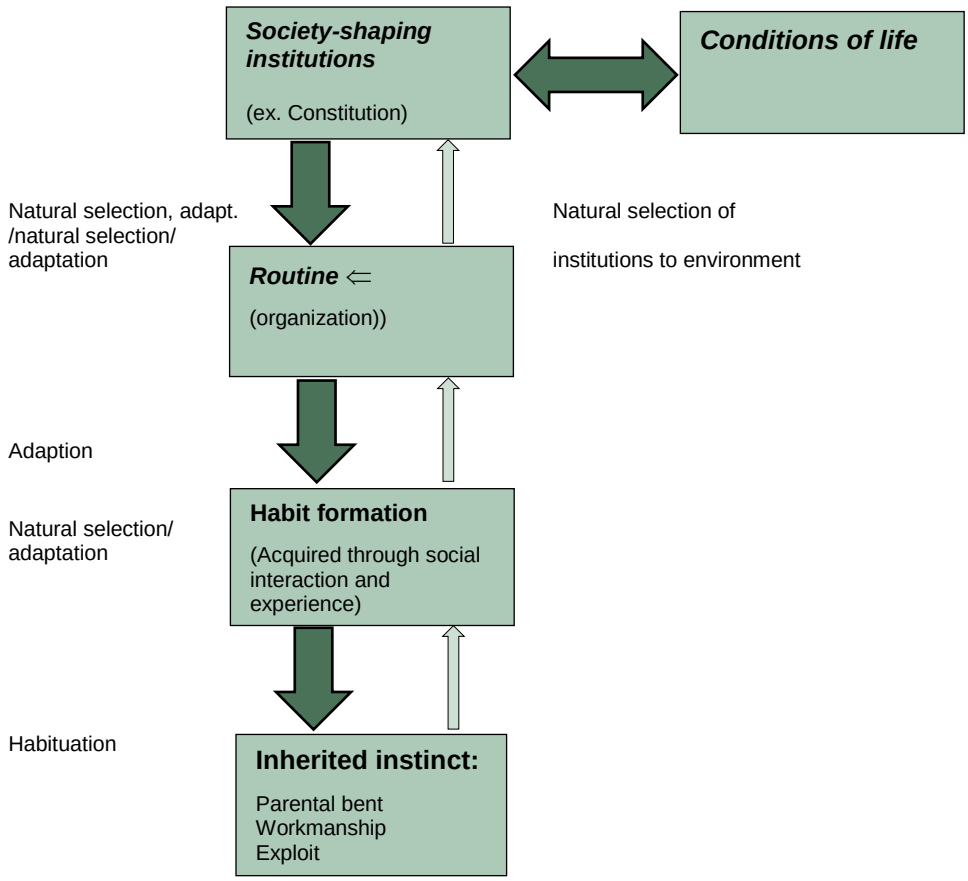


Figure 3–3 summarizes the evolutionary approach as inspired by Veblen (1931), Hodgson (2004), Hodgson and Knudsen (March 2004), and Hodgson and Knudsen (2005). The emphasis in this approach is on "reconstitutive downward causation" that operates through the process of natural selection and adaptation.

[86] Sztern, with profound gratitude to Hodgson for personal communication.

Figure 3–3 The Evolutionary Approach, Stressing Reconstitutive Downward Causation
(Sztern, with profound gratitude to Hodgson for personal communication)



Habits and Evolution

Following the evolutionary approach to the social sciences, which focuses on mechanisms of inheritance, variation, and selection (Hodgson, 2004), p. XV.), the repositories of knowledge that are specific at the ontological level, each level having emergent properties relative to the one below it, are replicators[87] that ensure continuity as well as variety over time. Variety occurs through a process of imperfect replication that is acted upon by a non-teleological natural selection process (Hodgson and Knudsen, 2005, p. 12). Thus, habit is the replicator when the individual is the interactor, routine is the replicator when organization is the

[87] Hodgson and Knudsen (2005), p. 12, and idem (2002) on routine as a replicator and repository of knowledge.

interactor, and institution is the replicator when society is the interactor (ibid., p. 14).

Instincts,[88] in turn, are "inherited behavioral dispositions that, when triggered, give rise to reflexes, urges or emotions," with the sensory input necessary to arouse the instinctive reaction (Hodgson, 2004, p. 162). The notion of inherited predispositions clashes with the understanding of a newborn human as a *tabula rasa*, since instincts are vital to the structuring of incoming information (ibid., p. 163). Hodgson, however, states emphatically that the human personality is shaped predominantly *after* birth; thus, socialization and acculturation assume a higher weight in the model in Figure 3-3 above (ibid).

It may be assumed that habit formation through social interaction plays an anxiety-controlling role (inspired by Lawson, 1997, p. 181), thereby conferring an evolutionary advantage.

The suggestion inspired by Veblen (1931) and expressed in Figure 3–3 is that at each of these levels, a process of natural selection (Veblen, 1931, p. 188) by higher-level structures and adaptation by lower-level structures takes place such that individual habits of thought are selected and/or adapt to routines within organizations that harbor the individual agent. Such units may be a modern firm (Hodgson and Knudsen, 2005, p. 7), a pre-modern collective of the obshchina type, or an individual household.

Ultimately, habits of thought adapt to institutional structures that meet the criteria of selection among a society's organizational forms by inducing/obstructing the replication of corresponding routines of behavior (Rizzello, 1999, p. 27). This model suggests that since competition (ibid.) is embedded in the institutional structure, it acquires the ultimate explanatory weight.

Although institutional change ultimately depends on change in individuals' habits of thought, as Veblen (1931, p. 192) demonstrates, the emphasis is on "top-down" causation because habits are largely shaped by the institutional environment. Thus, the effects of the systematization of Tsarist rule[89] and Stolypin's land reform (1906–1917) on the peasantry's habits of thought may be investigated from a "top-down" perspective.

Within this framework, both of these macro-level institutional transformation processes may be seen as adaptations by institutional structures to the changed

[88] Veblen (1931), pp. 2–7, attributes instinctive predispositions to the developmental stages of human culture. Thus, exploitative tendencies will predominate at the predatory stage while parental bent holds sway at the previous peaceful collectivist stages.

[89] See Yaney (1973), pp. 15, 16, 17, on the predictability of peasant mutual dependence in a systematic versus a non-systematic society.

conditions of life in the empire as a whole, brought on by industrialization—itself the result of an institutional change that ultimately constituted a response to the empire's endangered geopolitical position (Gerschenkron, 1962, p. 131; Veblen, 1931, p. 188). I propose, however, that the emphasis on the "top-down" interpretation of the historical facts would leave the analysis incomplete. As Hodgson (2004) and Goldhagen, focusing on individual motives (2006), perceptively indicate, the propensity of institutions to shape individual activity in each particular situation is not limitless. There are ample examples of extremely individualistic behaviors in the face of severe stress conditions, as evidenced in survivors of the Nazi Holocaust (Wiesel, 1958, p. 86). It is plausible to assume that the individualistic dimension of mankind is ubiquitously present and universal across cultures.

Therefore, the NIE approach, anchored in methodological individualism (Figure 3–2 above) and endowed with a historical dimension focusing on the collective memory reservoir encapsulated in informal language—that of custom—belief systems inherited from past pre-modern communities, and formal institutions codified in laws and statutes and enforced by the modern state (North, 1993, p. 15; idem, 1990, p. 80), may very well have support in real-world phenomena.[90] This approach bathes the origin of institutions in the light of rational survival calculus. What today's humans inherit is the result of historical payoff matrices. An approach that emphasizes independent individual choice is needed to explain, at least partly, the process by which structures—routines of action—are legitimized and reproduced or refuted or transformed. The "bottom-up" perspective, departing from the rational utility maximization assumption, is *instrumental* and complementary in this context. As argued above, the hedonistic conception of human nature, implicit in the evolutionary approaches, must be included in the model explicitly. The theories may be seen as complements rather than rivals.

NIE does not concern itself with the evolutionary processes that bring about intentional human agency; instead, it uses human agency as its point of departure. Therefore, one may also view the NIE model above as a special case of evolutionary theory (Hodgson, personal communication, June 22, 2005; idem, 2004, pp. 449, 450). In this context, however, the focus is on the complementary properties of these theories. I suggest instead that Newtonian neoclassical economics constitutes a dimension of higher and universalistic abstraction.

[90] This understanding of NIE counters Lawson's critique (1997, p. 168) of Neoclassical economics and NIE

Reflections on the Theory of Institutional Change

Let us reevaluate *da capo* our conceptualization of Tsarist Russia for a moment. Is it historically accurate to claim, as the Gerschenkronian school does, that the Tsarist state substituted for the market, i.e., filled in the missing Rostowian prerequisites for industrialization? Viewed from a time- and place-specific perspective, is it not so instead that the post-Emancipation Tsarist state substituted for the serf economy of the feudal lords—the *pomeshchiks*, the serf-dependents' protectors of last resort? Departing from Coesian-Gerschenkronian conceptualization, the post-Emancipation Tsarist state took over all functions of the landed gentry while allowing a limited, intra-estate peasant market in land to exist through the Stolypin reform. Therefore, to attain a full understanding of Tsarist Russia, I propose the Boyer and Orlean (1993) model on the conditions for institutional transformation. In late Tsarist Russia, set on the move by the imported railroad technology, all conditions for a Boyer and Orlean institutional-cultural revolution—a challenge to an ESS evolutionarily stable strategy—are met.

Informal Institutional Change in a Path-dependent Society

From the combined NIE–AEI perspective, society is seen as a pioneering agent that seeks to shape and mold an institutional structure consistent with technology and population change. Below I add that any sanctions applied by society are based on prevalent conventions, i.e., informal rules of conduct.

Boyer and Orlean (1993) define a convention as "a social arrangement which allows people to cooperate with each other. … The convention is self-sustaining, each agent will choose to follow it provided he expects his opponent to follow it. The quality of conventions is thus self-enforcing" (Boyer and Orlean, 1993, p. 19). The utility derived from choosing any strategy is a function of the number of individuals who previously chose the same strategy. Following convention delivers social returns in the form of good reputation or the feeling of belonging to a group (ibid.) Thus, a convention is an informal institution that provides social incentives for compliance. The stability of conventions, however, does not ensure their Pareto efficiency (ibid.); this explains the viability of economically inefficient institutions and the inefficient organizations derived from them.

The transformation from a rationally inferior convention to a relatively superior one, Boyer and Orlean (1993) argue, can take place if a process of social differentiation exists that makes it possible to "localize the coordination effects." In a totally individualistic or atomized society, such a transformation is impossible because agents lack the links with which they may identify one another (ibid.). To satisfy

the conditions necessary for agents to coordinate, a micro-collective based on social or historical reference ground must organize to overcome the strategic uncertainty (ibid.). One may relate this argument to the theorems of both Coase (1937) and North (1990). The costs of strategic uncertainty may be lowered if an informal institution socially legitimizes organizations that serve to internalize the transaction costs of a conventional transition.

Although informal restrictions are generally understood as impeding institutional innovation, it is plausible to suggest that all custom is formed in reference to its long-term objective of ensuring survival. Thus, an organization based on historical reference may contribute to the adjustment, i.e., the revision of custom, assigning to its objective the dignity of a principle. Conforming to Hodgson's analysis (Hodgson, 1996, pp. 249–269), the Boyer and Orlean (1993) model assumes that "coordination problems cannot be solved on the basis of individual rationality alone." A change in conventions is conditioned by the formation of "social filters" (Boyer and Orlean, 1993, p. 19), which, in turn, depend on the possibility of forming institutionally autonomous units.

An additional assumption inspires my thesis: the pre-revolutionary rural obshchina system, although seen by Gerschenkron (1968) and Atkinson (1982) as an impediment to the transition to modern economic growth, actually abetted the diffusion of institutional novelty by providing historical reference ground for the formation of urban organizations. The process of novelty diffusion yielded a particular folklore-based type of trade-union activity. The challenge to authoritarian society was embedded in the potential for cooperation in units based on an internally homogeneous set of values, coupled with autonomization or anti-atomization, that allowed "strategic uncertainty" to be internalized. The existence of these units in micro-collectives that were subversive to the autarchy made effective the demand for "corrective measures" in the form of institutional adjustment.

Action in the steps of an informal institution may, according to Boyer and Orlean (1993), be defined as an evolutionarily stable strategy (ESS) if *all* members of the population adopt the strategy so that no mutant strategy can invade.[91] Boyer and Orlean also define the concept of "path dependency" as follows: in quantifiable concepts; any choice oriented toward novelty will depend on the number of agents who have already chosen the innovative strategy. This definition is oxymoronic because the novelty will be chosen only after it ceases to be novel. Even so, the

[91] Boyer and Orlean (1993), p. 21, define the equilibrium between two ESS conventions as follows; p*=UB/UA+UB, where p* is the equilibrium frequency at which the utility of strategy B for an individual equals the utility derived from choosing strategy A. For p>p*, U(A,p) is greater than U(B,p) even if UA is less than UB because insufficient agents chose B. If convention A. prevails, proportion of individuals d*, equal to (1-p*), would have to change their behavior simultaneously for the system to converge to convention B. The greater UB is, the smaller proportion d*.

Boyer and Orlean taxonomy of conventional change defines four generalizable conditions under which an ESS may give way to an informal institutional innovation, i.e., the adoption of an alternative convention: general collapse, external invasion, translation, and collective agreement.

General collapse occurs when an overall change in conditions gradually depletes the individual utility of an ESS and lasts until a non-frequent choice acquires an invasive property, i.e., becomes dominant.[92] From Boyer and Orlean (1993), one may infer that events such as war or internal upheaval diminish the ability of ESS-based organizations to fulfill their uncertainty-internalizing function, inducing a gradual increase in the population of individuals who choose an institutional strategy that has adjusted to the "environment change." The individual utility derived from an alternative convention of this kind rises in positive correlation with the frequency of its choice. General collapse is also defined as an overall fall in the utility of a path-bound strategy, so that a new convention is adopted simultaneously and, thereby, emerges as a new ESS. In the first case, a "small number of mutants" (Boyer and Orlean, 1993, p. 22), combined with the gradually declining utility of the ESS, both in response to changed conditions, triggers a change in the choice of an evolutionarily stable convention. In the second case, the previously ESS-based organization simultaneously perceives an alternative convention as an evolutionarily stable one as the environmental change obliterates the utility of the erstwhile ESS. If so, general collapse may be seen as society's counterpart of the political disequilibrium depicted in the Gerschenkronian-Hayekian model interpreted above.

In an *external invasion*, a convention that is new and competes with the old one in frequency of choice causes the remaining over-equilibrium frequency of adherents to the initial ESS—1-p* = d*—to convert to the novelty. Such a conversion is even more likely if the utility derived from the previous convention decreases in relative terms due to an extra-institutional change such as an infusion of novel technology.

In *translation*, the prevailing convention, if it is compatible with the new one—meaning that the combined value expected from both conventions is in excess of null E(novelty, path dependent) > 0 as the choice frequency of the path-dependent convention—would not necessarily fall as the increase in choice frequency of the novelty translates into novelty. In this process, the more compatible the utility of the novelty is with the utility of the path-dependent convention—or, in Boyer and Orlean's terms, the smaller the difference between U path dependent–U novelty path dependent—the lower d* is. This represents a decrease in the proportion of

[92] Ibid., p. 22. As the utility of ESS falls, d*=1-p*. That is, 1-(equilibrium frequency at which both conventions, the new and the preceding, deliver equal utility) approaches 0 and a very non-frequent choice may gradually become an ESS.

conversions needed for the whole population to convert to the novelty, resulting in a systemic change in favor of the novelty.

Collective agreement signifies a change in path dependency in favor of a novelty because a collective exists that induces participating individuals to embrace the novelty. Such a pattern of institutional innovation is possible only under central government.

Russia, 1890-1906 – The Boyer and Orlean Model Applied

Having explicated the Boyer and Orlean (1993) model, I apply it below to construct a partial framework for analysis of the change in conventions that is assumed to have occurred in 1890–1906, when late Tsarist Russia transitioned from a backward to a relatively modern and developed economy. I will conceive the industrialization process, powered by imported technology and skills, as having exposed the previously rural population that now stratified itself in urban unions, as well as the local entrepreneurs and bankers, to an external invasion of individuals who were inclined to choose a novelty-oriented institutional structure. Thus, the informal custom shaped by personalized law gave way to growing demand by an autonomizing society for the objectivization of the legal infrastructure. The presentation that follows, applying North's (1973) paradigm, identifies society as the pioneering force in an innovative adaptation to changed scarcity conditions.

Notwithstanding historical evidence that characterizes the late Tsarist industrialization process as state-led, I postulate that it was the change in informal institutions and social sanctions—an external invasion that induced change in favor of a superior ESS, one adjusted to technology and concentration of production—that powered society's commitment to institutional "corrective measures." These measures, in turn, constituted an adjustment to the change in transaction costs that industrialization had brought about. The adjustment was effected amid escalating demand for civil and property rights and a strengthened opposition movement that demanded political decentralization. The centralized government adhered to political rationality and erected a barrier against the "bottom-up" diffusion of novelty, oppressing autonomous organizations that based themselves on the new ESS. Consequently, the confrontation between society's innovative adaptability to population increase and industrialization and the autocracy's conservative inclinations and thirst for further centralization—with which it could monitor and impede this very development—toppled the previous ESS, which had been based on personalized rule. Thus, the personalized formal institutional infrastructure yielded to a relatively impersonalized one that was codified in 1906 in the Stolypin land reform. If so, Boyer and Orlean's (1993) model may be applied to the pre-revolutionary transition as follows:

Industrialization—›› external invasion—›› (**political rationality = a barrier to innovation**)—›› the upheaval of 1905—›› **general collapse**—›› Δ ESS = institutional change.

Furthermore, it may be assumed that by responding to population increase and launching an industrialization process enabled by imported Western technology, the Tsarist government shifted the production possibility frontier (PPF) upward. However, by allowing political rationality to supersede economic rationality, it let the structural possibility frontier (Eggertsson, 1990) lag behind, resulting in rising transaction costs amid the transition to modern economic growth. The 1906 reform, aimed at institutionalizing the individualization of all civil rights including property rights—applying the principle of equality before the law and promoting the objectivization of the law—would have as its goal greater synchronization of the structural and the technological PPFs by revising the incentive structure that the formal institutions would set forth.

By implication, then Gerschenkron (1962) may be said to assume that the political structure "reformed itself," i.e., took a corrective measure in response to the threat to internal stability posed by the rising industrialization-caused uncertainty, the defeat in the 1904 Russo-Japanese war, and the political destabilization itself. The idea behind the reform, according to Ascher (1988), was to cement the continuing legitimacy of the Tsar's monopoly on political power, i.e., to sustain the autocracy. From this perspective, the late Tsarist transition is comparable with the recent one in one sense only: economic structural hardships resulted in political instability that triggered a formal, state-determined institutionalized adjustment. Like the recent transition, the late Tsarist one was only partly and formally a "top-down" institutional reform, engineered in this case in response to the widening gap between the technological PPF and the structural one. As for its results, the aim to preserve autocracy at the cost of increased oppression of autonomous organizations, such as the zemstvos (Ascher, 1988, p. 62), may be seen as an equivalent of the unsuccessful coup d'état that Russia experienced in 1991.

My objective here is to supplement Gerschenkron's position by assessing the source of the novelty. As stated above, the development-promoting change was driven by society and not solely by the political superstructure. One may presume that the higher the level of participation, the faster the transition from structurally obsolete institutional systems to those conforming with the technological PPF will be. Whether the change in PPF (or, in Boyer and Orlean's terms, the material cause of an external institutional invasion) may itself be promoted by the decentralization of the political structure would depend on the novel property rights incentive function, contingent on the barrier to novelty encapsulated in the viability of the structural possibility frontier of the previous system. Viewed thus, one may "blame" Tsarist Russia's economic backwardness on its institutional backwardness, which

ultimately traced to the Empire's climatic and geopolitical conditions. These, in turn, as to their impact had been structured by an initially high land-to-labor ratio that, both during the Golden Horde and the Tsarist eras, inspired recourse to various degrees of bondage and degradation of subjects in relation to rulers.

Precipitants of Endogenous Change

Before proceeding, I wish to present additional models and definitions as components of the explanatory framework or perspectives on which I will elaborate in the following chapters.

Witt (1993, pp. 1–15), examining the conditions for an endogenous institutional change, asks rhetorically: When is a system inclined to set out on a self-transformation process? The first condition to be met, he says, is *novelty*. The quest for novelty is triggered primarily by a preference for novelty, which "would ensure a basic rate of innovativeness, the latter varying with the cultural or social acceptance of innovations" (ibid., p. 4), i.e., prevailing conventions. The process is a function of the availability of the skills and motivation that allow the search to take place.[93] Witt then offers a satisficing hypothesis: the motive to discover an unprecedented solution also exists if "the best presently feasible action is inferior to the best one in the past."[94] Thus, an assessment of an *inferior optimum* would create motivation to discover novelty. The motivation to discover novelty would be a function of the probability of success, the latter based on past record. In addition to the existence of a novelty, its transition into innovating behavior, i.e., the acceptance and utilization of the novelty, is supremely important in assessing when an endogenously generated change in conventions will occur. In this context, Witt emphasizes frequency dependency[95] and the selection effect.[96] Individuals' decision-making, be it innovative, imitative, or conservative, is said to affect the

[93] Witt (1993), pp. 3, 4. Witt states that a shortage of skills may impede the search for novelty. I adduce from this that the availability of skills may promote the search for novelty.

[94] Ibid., p. 4. Witt offers a two-track prognosis: an adjustment to the best possible solution, even if it is inferior to the one desired, will occur if an optimization hypothesis is followed. If a satisficing model is verified, in contrast, the search for novelty will take place in an equivalent situation. According to the latter hypothesis, a crisis will trigger a quest for novelty.

[95] Ibid., p. 7. fa(t) =*f* (Fa(t) the probability of a marginal "a" strategy choice at time "t" is the function of the frequency of "a" at time "t" in a population.

[96] Ibid., p. 9. w a = aa-1. "The rate of change in the relative frequency of one alternative follows from the equation as a difference between the individual alternative's advantage and the average population advantage." For further proof, see the source. The selection effect is a special case of replicator dynamics, of which an example is given by the equation. "The process of competition constitutes a selection device which continually works to eliminate variants and thus, to reduce the variety of economic behavior in a population" (ibid., p. 12, citing Hayek, 1978).

relative frequencies of behaviors in a population (Witt, 1993, p. 5). Applying the Boyer and Orlean (1993) and Witt (1993) models in combination, we may expect the "culturally learned interpretation patterns" and the choice frequency, to be systematically interdependent. The selection effect may be the result of external pressures as well as "intra-group interactions" (ibid.). According to Witt's model, "Innovativeness creates the variety upon which selection effect operates."[97] The satisficing hypothesis yields a cyclical pattern. The erosion of innovative variety through selection is said to threaten aspiration levels; this, by triggering the search for novelty and causing the rate of basic innovations to rise, sets a new cycle in motion.[98]

Below I apply these models to explain the endogenous change in values that is said to have occurred gradually ahead of the formal codification of the Stolypin reform. In the specific context of Tsarist Russia, the novelty was the transformation of obshchina-specific *egalitarianism in land-use rights* into the principle of *equality before the law*. Applying the Boyer and Orlean (1993) model, I contend that the diffusion of this unprecedented phenomenon in Russia's rural and urban labor-force constituencies was promoted by the unionization of the latter. Thus, the transition from a novelty to an institutional innovation occurred through a process of *stratification* and *translation*. It follows that state-led industrialization subjected the informal institutional paradigm to an endogenously generated change. Moreover, the Emancipation Act (February 19, 1861) altered the levels of aspiration or, alternatively, increased the assessed probability of success in promoting egalitarianism, rendering obsolete the legislative "apartheid" that had been manifested in the collectivist peasant custom—an inferior optimum in these constituencies' own view. This may imply that the invasion of ideology from the West, which was liberal, and the land-tenure institutions shaped by the gentry's individual rights would be absorbed into the habitus of the Russian peasantry, creating a novelty that the village elders would select and transform into an institutional innovation within the erstwhile obshchina system. This, in turn, would tip the institutional frequency in favor of hereditary household land-use rights. This chain of inferences may explain the voluntary omission of repartitions in the late nineteenth century, preceding the 1906 land-rights reform, as well as the increase in labor mobility, i.e., the ongoing equalization and individualization of property rights. The absorption of a novelty—the individualization and, therefore, the

[97] Ibid., p. 10. The variance of profit distribution and also of productivity within an economy should be positively correlated with the intensity of innovative activities and negatively with the selection.

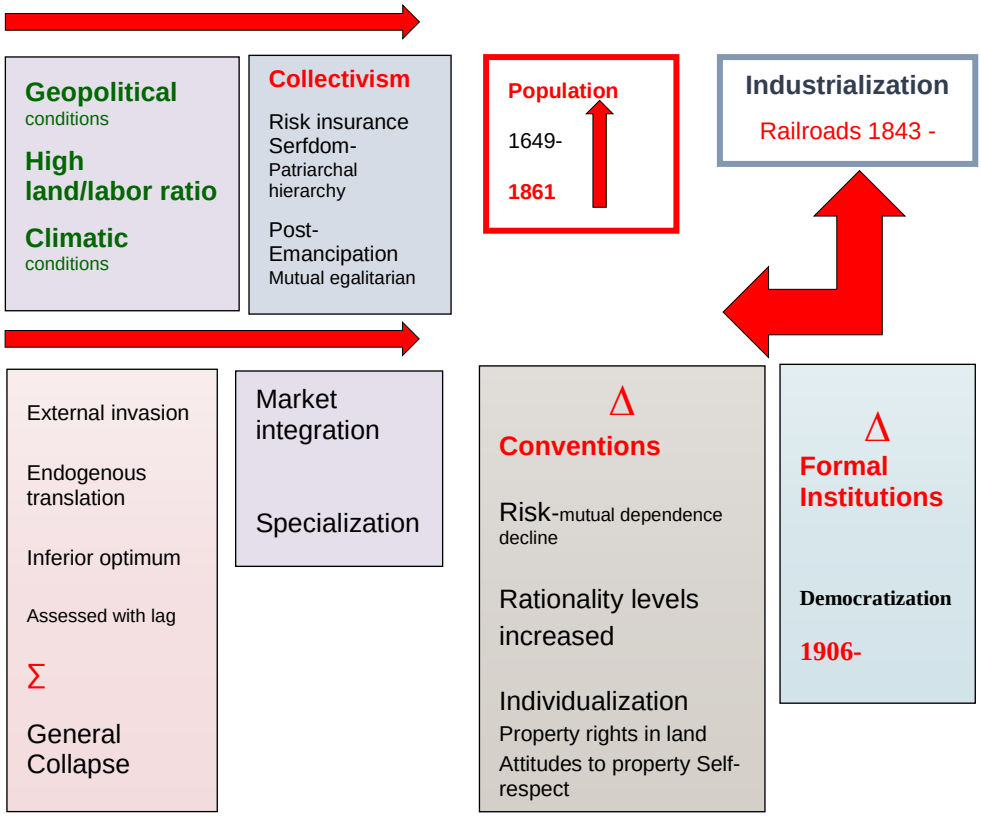
[98] Ibid., pp. 11, 12, "Variety eroding and generating activities reappear as coordinating and decoordinating tendencies and the dynamic balance between them produces a viable" and evolutionarily stable alternative. This postulate counters the neoclassical general equilibrium hypotheses.

equalization of rights—may be seen as an innovative adaptation to the reduced risk to perish in the realms of the serf economy since the perdurant change in population density since the eighteenth century (Hesse, 1993, pp. 47–61), paving the way to state-led industrialization, railroads construction and its stimulus for population rise during the nineteenth century. The latter process, additionally, strengthened the endogenous change of values in favor of institutional egalitarianism.

The emancipation and redemption acts of 1861 and 1863, respectively, may be assumed to have intensified competition between the gentry and its former serfs over the grain markets. From this perspective, the selection pressure would act to homogenize the rights of the peasants with those of the nobility, attenuating the initial institutional variety in favor of the institutional innovation absorbed by the peasantry. Increased demand for a property-rights reform would endow this strategy with ESS properties. As for the state, the strategy of suppressing the innovative process amid industrialization is assumed to yield an inferior optimum. The reforms introduced by the political agent from Petrine times onward are assumed to have gradually broadened the set of available skills, stimulating the search for novelty. Each reform raised the levels of aspiration, providing additional motives for the translation of folklore-based egalitarian conventions (Trubetzkoy, 1925) into de jure egalitarianism. It also facilitated the imitative absorption of Western ideologies, including liberalism and Marxism. Applying from left to right the combined models of Eggertsson (1990), Witt (1993) and Boyer and Orlean (1993), Metzer (1972), Smith (1998), Martens (2004), Gintis (2009), and Sheshinski (2010), I would summarize the assumptions that structure my analysis as follows[99]:

[99] Historical sources: Kolchin (1987), p. 2., Milov (2001), Kahan (1985), p. 8, Hoch (1986)

Figure 3–4. Railroads—The Population Conundrum; Institutional "Bottom Up" Demand, Leading to General Collapse of ESS in 1905



Lagged Institutional Adaptation: Stolypin's Land Reform (1906)

The "first emancipation" had one goal: the abolition of serfdom. The aim of the second reform, in contrast, was twofold: to institutionalize individual ownership of land, i.e., to "emancipate" its inhabitants from the formal boundaries of the commune (Atkinson, 1983, p. 41), and to equalize the civil rights of peasants and non-peasants (Ascher, 1988, p. 269). Thus, the village commune would constitute a totally voluntary form of land holding. The final draft of the 1906 statute in this matter is usually termed the Stolypin reform after the Minister of Internal Affairs and, subsequently, the Prime Minister, Pyotr Stolypin (Ascher, 1988; Atkinson, 1983).

By tracking the earlier debates on civil and property rights,[100] we may construe the statute of 1906 not primarily as the result of revolution of 1905 but as the culmination of a continuous process of innovative adaptation (Hesse, 1993, p. 51). The ultimate aim of the reform was to bolster the peasant constituency's sense of civic spirit (*grazdanstvennost*) (Ascher, 1988, p. 268) by abolishing the aforementioned legal "apartheid" that the customary law had imposed until then. The "apartheid" condition applied to the peasant community only, thwarting the equalization of its conduct with that of other population strata. Before the reform, the imperial civil code did not apply to the peasant constituency, rendering the majority of the population both *neravnopravnymi* and *nepolnopravnymi*[101] vis-à-vis the institutions of state. The Stolypin reform, allowing peasant heads of household the possibility of property rights in land, integrated the peasant estate into the jurisdiction of Imperial institutions, rendering the peasantry's civic status compatible with that of other estates.

The observed endogenous change of values in favor of socioeconomic progress, the attempts to raise living standards through industrialization, the debates over the effect of property rights on the productivity of the rural sector (i.e., over the instrumental properties of the ownership structure), and the discussions concerning the social safety net (which, according to the populist view, was provided by the commune—Wortman, 1967) preceded the reform. Therefore, the 1905 turmoil in itself cannot be seen as the determinant of the change. The options traditionally available to dictatorships—deflecting demands for institutional improvement by embarking on an extraterritorial military confrontation (in the Far East in this case) and mobilizing patriotic civic spirit on its behalf, or by selecting alleged internal enemies and provocateurs among the minorities, e.g., the Jews (Ascher, 1988), for the same purpose—proved to be an inferior optimum (Witt, 1993, p. 4) relative to the political utility of such strategies in the past. Theoretically, the failure of the traditional pattern of governance could have strengthened the imperial government's motivation to "search for new choices" (ibid.), which, in the case at hand, would have meant accepting the demands for institutional innovation. While the contents of the reform cannot be seen as a novelty introduced top-down, the acceptance of the innovative adaptation process through an institutionalized adjustment may be seen as such. Still, it is worth noting that the "usual pattern"

[100] Wortman (1976), p. 5. Wortman emphasizes the importance of an endogenous change of values. Gerschenkron (1968), pp. 132, 133, comments on the increased availability of an innovation-oriented set of skills due to the first industrialization wave (that of 1890). See also Crisp (1989), especially p. 42, and Macey (1987).

[101] Crisp (1989), p. 42. Neravnopravny denotes unequal; nepolnopravny signifies less-than-full legal capacity.

actually proved to be an inferior optimum that may be attributed to the pro-innovation skill set that had accumulated over time.

Since collective ownership was traditionally sanctioned by rural custom and became endemic in the imperial institutions merely by ex post acceptance (serving the interests of the state by securing its tax revenues, as is believed by the Westernizers school headed by Boris Chicherin 1828-1904), the generalization of imperial law to include the peasants also implied the voluntary granting to the former obshchina dwellers of full, that is, individual, household head property rights as well as obligations.

Collective responsibility for taxes and dues had been repealed back in 1903 (Atkinson, 1983, p. 41). Redemption payments were reduced following the November Manifesto of 1905 and canceled in 1907 (ibid., p. 44). The government's aim in taking these measures was to loosen the formal institutional ties that held the commune together (Atkinson 1983, p. 53). Under Stolypin's reform proposal to the Duma in June 1906, all peasant holders of allotment land would be able to claim it as their personal property and withdraw it from the commune at their will (ibid.). Land purchases by peasant smallholders would be facilitated through credits granted by the Peasant Land Bank, established back in 1882 (ibid., p. 44, 67), almost a decade before the first industrialization wave. This would expedite the peasantry's admission to the "club" of property owners (ibid., p. 45).

As result of the reform, peasants could consolidate their holdings within commune boundaries by establishing one of two entities: an *otrub*—a smallholder's parcel within the voluntary cooperative of the commune—or a *khutor*, separate from the commune and outside its boundaries. Most khutors were established where groundwater was abundant; this was the favored mechanism of large extended multi-nucleus families, which had higher ratios of labor teams (*tyaglo*) per family than did others. The higher ratios are explained by the character of the landholdings as hereditary landed assets, which, in the case of otkhod, could better serve as insurance against urban income volatility (Johnsson, 1979, p. 38) than could otrubs. Literacy was also higher on khutors than on otrubs; consequently, khutor holders were seen as pioneers in the formation of an emerging class of peasant-entrepreneurs (ibid., p. 94).

The table below itemizes personal appropriations of communal allotment land.

Tabel 3-1 Personal Appropriation of Communal Allotment Land, 1907–1915
(39 Provinces of European Russia and Stavropol Province)

YEAR	Applications for appropriation 000	Appropriated completed 000	Land appropriated, ,000 desyatinas	Avg. area appropriated, desyatinas
1907	212	48	4,316	7.7
1908	840	508		
1909	650	579	4,115	7,1
1910	342	342	2,303	6,7
1911	242	145	996	6,8
1912	152	122	785	6,4
1913	160	134	747	5,5
1914	120	98	594	6,1
1915	37	30	267	9,0
Total	2,755	2,008	14,123	7,0

Source: Atkinson (1983), p. 76.

As noted, the Northian formal conversion of individual household heads' communal land into hereditarily owned private land was impeded by the need to execute agreements with the commune assembly. Thus, unconcluded negotiations explain the discrepancy between the number of applications and actual appropriations. Although the reform was theoretically based on voluntarism, hereditary tenure could as well be imposed against individuals' will. Given that the assembly had to sign off on any household-based collective conversion by a two-thirds majority, some individual preferences relative to collective ones may have been overruled (Johnsson, 1979, p. 76). The decline in conversion applications between 1909 and 1910 is explained by the institutionalization of de facto hereditary ownership under a statute passed on June 14, 1910, according to which all communes that had not effectuated a repartition since the initial land allotment stipulated in the Emancipation Act of 1861 would automatically be transformed into hereditary household-based villages (ibid.). To sell land parcels, however, individual certificates of title were required. Therefore, so-called "land captains"—government officials appointed as aides in the field for the implementation of the reform—encouraged peasants to apply for appropriation (ibid., p. 77). Nevertheless, the number of applications remained limited (ibid.). Notably, fewer certificates of title were issued to communes between 1910 and 1911 than to individual heads of household (ibid., p. 78, Table 8, first and second rows.). The smaller the unit of transition was, the lower the transaction costs were and the faster the adaptation to novel relative scarcities, resulting in novel institutions. North (1990) emphasizes that general clauses concerning larger collectives as generic entities were more costly to change than specific economic institutions relating to individual or restricted collective interaction. Tsarist Russian village commune relative individual households, constitutes a case in point.

The decline in applications for appropriation of communal allotment land after 1908 is also explained by changes in demand during the reform period. The initial dramatic increase in the number of applications (1907–1908) expressed demand for the codification of the erstwhile de facto practice of individual land cultivation. Once this demand was met, the number of applications tapered off. However, *the rate of applications* for the consolidation of strips that were held in de facto hereditary tenure rose steadily until World War I.

According to Atkinson (1983), the assumptions of an exodus from the commune in favor of individually owned land are exaggerated. By 1915, an estimated 61 percent of all peasant households remained in formal communal tenure as against 77 percent in 1905, the revolution year (ibid., p. 81). However, the pace of "privatization," as stated, exceeded the pace of peasant acquisition of gentry land (ibid.). The steady increase in applications for consolidation indicates that the peasantry in principle responded enthusiastically to the reform (ibid., p. 95), which aimed to strengthen individual households' control of land. Consolidation of landholdings made the land more productive (ibid.).

Unlike agrarian programs proposed by the Kadet Party, the Trudoviks, and the Social Revolutionary Party in the Duma (Ascher, 1988, pp. 171–173), Stolypin advocated the inclusion of the peasantry in the inviolability of civil and property rights in the belief that this would secure internal stability. He also deemed the delineation of rights to be in the interest of the rural population.[102] The Social Revolutionaries were demanding immediate socialization, i.e., compulsory expropriation without compensation for anyone, including the gentry, and the subsequent equal distribution of the land among male peasants.[103] The Kadet Party and the Trudoviks agreed that expropriation was the way to proceed. The former, however, mulled full compensation for former owners while the latter proposed the creation of a "land fund" by nationalizing state, church, and landed possessions at areals in excess of the norm, with state compensation to the owners for the value lost (Atkinson, 1983, p. 49).

In view of the "political marketing effort" that attended the issue of land-distribution rights of 1906 (i.e., the rhetoric of the speeches in which every faction indulged, especially as the reform and political turmoil progressed), Stolypin summarized his attitude several times, first in a memorandum from 1904: "Private peasant ownership is a guarantee of order because each small owner represents a nucleus on

[102] See below and ibid., Ascher, 1988 Vol.2 p. 50, on the Tsarist government's response to its pledges on the general socialization of ownership through nationalization.

[103] Ibid., p. 270. Consider Stolypin's polemics in response to the Social Democratic proposals on the agrarian issue, which implicitly addressed the problem of the incentive structure: "Everything will be equalized—and one can make everyone equal only at the lowest level. … " For this and the Social Revolutionary Party's proposals, see Atkinson (1983), p. 50.

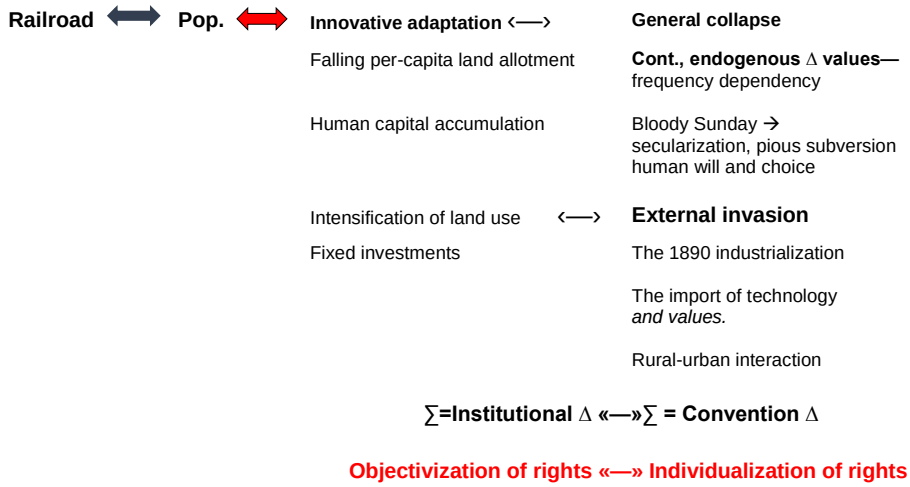
which the stability of public order rests" (quoted in Ascher, 1988, p. 269). Thus, he emphasized the linkage between civil and property rights. As for the Kadet Party's expropriation proposals, he expressed himself in a speech on May 10, 1906, in a way that certainly addressed the nationalization question as well: "Compulsory expropriation also abrogates the *principle* of private ownership; *consequently, no one's land would be safe any longer*" (summarized in ibid., p. 321, italics added). This may be interpreted as a shift toward the rule of impersonalized universal laws, an essential component of equality before the law. At long last the regime acknowledged the objectivization of the distribution and enforcement of property rights as the ubiquitous foundation of the predictability of social order and, in turn, a guarantee of political stability.

According to the sources, the reform had several aims: to reorient the peasants from customary law and collectivism (ibid., p. 268, and Wortman (1989), p. 31) toward individual property rights, to broaden the understanding of these institutions' public functions, and to diffuse respect for private ownership as an integral part of all civil rights, i.e., to provide the majority of the Russian rural population with a sense of institutionalized protection of life and property and public obligation. The concepts were clearly Western-inspired (Ascher, 1988, p. 269; Wortman, pp. 13, 14).

I am going to argue, however that this change in convention had been taking place through *general collapse* and *external invasion*[104] at the formal and informal levels before the statutes of 1906 codified it once and for all. The government-provoked violence during the 1905 revolution—specifically, the events of Bloody Sunday—may have accelerated the process that created the conditions for *general collapse* as defined by Boyer and Orlean (1993, p. 22). Thus, relatively speaking, the impact of the railroads on the revolution may be seen as catalytic rather than the primary cause of the change in conventions. How the combined change may have evolved is described in the following scheme:

[104] Boyer and Orlean (1993), p. 22. The general collapse brought on by the innovative adaptation may have occurred due to the interaction of population increase and railroad technology. External invasion may have been the result of the industrialization of 1890, which involved the importation of technology and skills and, for this reason, may have diffused the sense of legitimacy of Western-style change. External invasion could have occurred within the obshchina as a consequence of strengthened interaction between the urban and the rural sectors.

Figure 3-5 Back to Theory: The Regulationist–Institutionalist Summarizing Loop



The scheme combines three separate theoretical models and applies them to the Russian case: Witt (1993, pp. 1–17) on the motivation to exploit novelty, the function of available skills, frequency dependency, and selection effect; Boyer and Orlean (1993) on the conditions for a change in conventions; and Hesse (1993) on the process of innovative adaptation. *Applying the last-mentioned model, we may state that population increase interacted with railroad technology in the process of innovative adaptation* to accumulate human capital. The scarcity of land led to the intensification of its use. Necessary fixed investments induced institutional adjustment. Use of the Boyer and Orlean (1993) model reveals additional aspects of the process. An endogenous change of values interacted with, and was a part of, the process of innovative adaptation. Demand for a novelty (equality before the law) gradually spread. The government's efforts to repress this development, ostensibly led by anointed Tsar, caused a massacre (Ascher, 1988, vol. I, p. 91). The massacre elevated the concept of secularizing the Tsar as the source of law, inducing the general collapse of prevailing conventions[105] that legitimized a hierarchy of coercion—a development ultimately legitimized by the Greek Orthodox Church. Preceding this event, the industrialization of the 1890s allowed novelty-oriented ideologies to invade from without; it may also be seen as an interactive part of the innovative-adaptation process. From the perspective of Boyer and Orlean (1993, p. 22), general collapse and external invasion caused the change in conventions. From

[105] Ascher (1988), vol. I, p. 91. In the immediate response to the massacre, the Orthodox cleric leader of the heterogeneous petitioners' procession to the winter palace on January 9, 1905, Father Georgy Gapon, is said to have exclaimed, "There is no God! There is no Tsar!"

Hesse's perspective (1993, p. 51), the process of innovative adaptation culminated in the adjustment of institutions.

If the concept of institutional change is understood in this context as a shift toward the objectivization of rights (= a shift to the right on the aforementioned time range), this scheme may be related to the one offered above. In the case of Stolypin's reform, the assessment of complementarity between the objectivization and the individualization of rights seems to be correct. Moreover, it may be argued that this interdependence can be generalized and applied to Russia's contemporaneous transition.

In a system of collectively assigned institutions, individuals' rights are enforceable on a personalized basis because the law generally subordinates their rights to those of the collective. The impersonalization/objectivization of law depends on the degree to which individual rights are enforceable, transferable, and predictable, i.e., on their delineation. Thus, the individualization of institutions leads to their objectivization. The latter determines the level of transaction costs and the incentives emanating from the structure of property rights, which in turn is considered decisive for the pace of economic growth and development. Applying Martens' insights, we adduce the following in the Tsarist Russian case: the industrialization process, with railroad construction at its core, contributed to impersonalized interaction and specialization by offering wage-labor opportunities in industrial centers (Smurova, 2003, p. 100; Johnsson, 1979, p. 15). This would have increased transaction costs unless these costs were internalized within the national unit. Indeed, according to Martens, residual uncertainty may be reduced without raising transaction costs through structural change, i.e., an institutional adjustment can be made. The transition from community to society (formalized structures), identified by Mironov (2000, p. 286) in Russia, is assumed to have constituted such an adjustment. Mironov's definition of institutions, inspired by North, is composed of general laws, social and moral norms, normative beliefs and taboos, and private contracts.

Complementarity of Perspectives in the Structuring of My Thesis: Summarizing Matrix

c=*Methodological collectivism*

i= *Methodological individualism*

The analysis has three dimensions: formal law, which viewed the national collective as the source of its objective reflection; conventions originating in the pre-modern kinship-based village commune; and individual motives within the household. With

all these in mind, I propose that a mutually supplementing parallel between NIE and Critical Realism is appropriate. North (1990, p. 78), adopting a methodologically individualistic view, proposes that general laws are the most costly to amend, while Archer (1995, p. 76), a Critical Realist who rejects all reductionism, rests her arguments on the temporal priority of structures. Making a synthesis, I suggest that the larger the collective that codifies the tradition to formal law and perpetuates the institutional structure over time, the less flexible the structure will become. Such a structure will precede the current generation's micro-collectives and will precondition current decision-making in environments such as the village. Following the same argument, the traditional village assembly of elders will precondition the socioeconomic behavior of households. The households' patriarchal structure, in turn, will shape and mold individuals' behavior preferences and choices until the ultimate individual emancipation arrives—which does not constitute a Critical Realist condition of life. Boyer's and Orlean's (1993) model, as applied, explains the metamorphosis of conventions and analyzes quantitatively the size of the collectives that adhere to the previously evolutionarily stable strategy (ESS) and the conditions under which they will change.

It follows from the foregoing that the mutual exclusion of methodological individualism and collectivism is not a feasible analytical option for the diachronic understanding of institutional transformations that take place amid inter-structural friction. It is the daily interaction among a multitude of structures, corresponding to the different sizes of their generative collectives, that makes institutional change possible. Therefore, methodological individualism and collectivism cannot be seen as mutually exclusive. Every decision outcome is contingent upon institutions of higher historical dignity. As advised by Hodgson (2004, pp. 161, 252) and, in our specific historical context, by Bakunin (1970, p. 23), rational choice cannot be taken for granted and must be understood as a capability attained at a specific stage of development that is reached in an evolutionary process. Analyzing North (2005, p. 117) in Boyer's and Orlean's terms, I posit that the broader the scope of the institutional "translation" between novelty and tradition, the less costly the transition will be. The demand for materialist egalitarianism—redistribution of assets—and abstract egalitarianism—equality before the law—must be seen as endogenous to the Russian superstructure as well as to the country's informal conventions.

The reforms that entailed the individualization and privatization of property and the individualization of civil rights in Russia did not require violent revolt then or now (Yaney, 1982, p. 187). In the Russian case, rationalist democracy rather than authoritarian rule should be regarded as a historically organic outcome.

The combination of theories on which this thesis is structured is summarized in the matrix below. Formal law is ontologically irreducible to individual rationality;

therefore, methodological individualism cannot be adopted even as a merely instrumental option. Rational choice is at all times contingent on the prevalent hierarchies of institutional restrictions, congruent with the generative collectives; consequently, it is at all times "bounded."[106] This adduction is the bridge between NIE and AEI. If so, I propose the construction of a cluster of complementary theories that will embody the complementary elements of methodological collectivism and individualism, each contributing different proportions of explanatory power over historical time. The processes of upward (NIE) and downward causations (AEI) are complementary.

Figure 3-6. Complementarity of NIE and AEI, Applied to Selected Sources

	Dynamic	Static	∑ (c+i)
I State	Gerschenkron (1962) c	Coase (1937) i	
II Society	Boyer and Orlean (1993) i|c	Gregory (1994,1982) i	
	Witt (1993) i|c		
	Hesse (1993) i|c		
∑(I,II)	**Individual rationality | Conventions | Formal law**		**NIE | AEI**

Historical Application – Linking the Railroads to Democracy

Figure 3–7. Interdependent Dimensions of Cultural Evolution in Imperial Russia and Applicable Theories

Structural precondition (Archer, 1995): Serfdom and Petrine Modernization, 1709–1725

1861–1914

I Serfdom-collectivism——— Voluntary-collectivism——-Libertarian individualism

II Personalized rule————Pre-modern Custom————Impersonalized law

III Coercion————————————Path Dependency————-Rational Calculus

AEI (RDC) ———————— NIE (Rationalism)

[106] Derived from Hodgson (2004), p. 412, and the "situated rationality" concept—Lawson (1997), p. 187.

The 1861–1914 Transition: within Predominantly Applicable Explanatory Frameworks

The foregoing theoretical discourse clarifies my argument and leads to the composite model that I apply in later chapters to disclose the peculiarities of the transition triggered by the communal village's interaction with railroad technology. My assumption is that, in the course of this transition, the Russian peasant constituency relinquished authoritarian collectivism and endorsed individualism and voluntary cooperation. In the course of this process, the institutional structure transformed from a hierarchy of coercion to impersonalized objective law. The objective of this chapter is to prepare the path to a history-specific investigation based on primary sources. This inquiry will focus on the impact of railroad construction on the redistribution of property rights from the Tsarist patrimony to the peasantry (Pipes, 1995, p. 70), providing the latter constituency with resources for the acquisition of economic and, therefore, political bargaining power (Martens, 2004, pp. 191–193). This, in turn, I suggest, paved the way to the transformation of autocracy into constitutional monarchy, i.e., democratization.

The Reforms and their Political Aims

In the introduction to the foregoing theoretical discourse, I analyzed the institutional framework of peasant life in European Russia in 1861–1914 and its transformation from institutions that formally sanctioned peasant collectivism (1861–1906) to those that legitimized peasant individualism (1906–1917). The Great Reform era that began with the emancipation of the serfs in 1861, followed by judicial reform and legislation on rural self-government (the *zemstvo*) in 1864, triggered changes in the peasantry's habits of thought (Hodgson and Knudsen, 2004; see also Veblen, 1931, p. 188) and set the stage for the Tsarist state-led industrialization spurts of the 1890s and 1907 (Gerschenkron, 1962, pp. 124, 136, 137). This process, with railroad construction at its core, catalyzed the adaptation of peasant customs to population increase and previously launched reforms.[107] *Otkhodnichestvo* – peasant wage labor in industrial centers—entailed the absorption of urban culture in the theretofore insulated world of the Tsarist Russian communal village (Smurova, 2003, pp. 100, 101), additionally changing the rural value systems. The informal institutions of the peasantry, transformed endogenously and through external invasion (Boyer and Orlean (1993), pp. 2, 22.), brought on the 1905 revolution when confronted with the autocracy's repressive response. The general strike in October 1905 forced Tsar Nicholas II to make a historical concession: allowing the passage of legislation to

[107] This section is based on the foregoing and on Sztern (2000), "On the Origins and Function of the Obshchinas."

depend on the approval of an elected parliament, the Duma (Ascher, 1988, p. 1). As it happened, he broke his promise, restoring the autocratic structure of governance in breach of the constitution. The initial concession, however, had irreversible implications: Tsarist Russia embarked on slow democratization (ibid.).

Here the discourse departs from the formal abolition of serfdom in Russia (1861) and centers on the nature of Stolypin's land reform (1906–1914–1917). The declared objective of the reform was to free the peasant estate from the formal restrictions imposed on it by collective ownership[108] and its corollary, collective responsibility for taxes and dues under the communal-village system (Atkinson 1983., p. 23).

Stolypin's rural transformation project, inspired by a German schema, would result in the formation of a peasant proprietor class (Klimin, 2002, p. 11). Following the Westernizers' school of thought, it had been believed that the transition from communal to hereditary household ownership[109] would unleash the nation's productive potential, enhancing Russia's socioeconomic development relative to the West European adversaries of the empire (Klimin 2002, p. 13).

In his speeches before the Tsar and the Second Duma, Stolypin urged the government to satisfy two requisites for the successful implementation of the reforms: material aid in the form of government credit and educational institutions that would enhance literacy among the post-serfdom peasantry. The idea behind this rural transformation project (1906–1917) was to revise the incentive structure and provide resources for the accumulation of physical and human capital, stimulating peasant entrepreneurship.[110]

Historically, individual property rights in land, as well as exclusive rights to other material and intellectual property, are closely related to parliamentary governance structures (Pipes, 1999, p. 116; Martens, 2004, pp. 166, 168, 193). Pipes, adopting an evolutionary perspective, finds the acquisitiveness instinct universal in the biotic world and manifest among humans irrespective of age and cultural development (Pipes, 1999, p. 116), exposing as a myth the putative existence of pre-modern communities that lack consciousness of possession (ibid.). The evolution of private

[108] Gerschenkron (1962), p. 120, idem (1968), p. 176, and Atkinson (1983), p. 23. The abolition of serfdom led to the transformation of collective use rights into collective property rights through the submission of a "redemption payment" over a forty-nine-year period.

[109] Sztern (2000) and Mironow (2000), pp. 344, 348, 349. According to the latter source, the government's abolition of mutual responsibility for taxes and dues gradually legitimized the spontaneous rise of individualism in the commune prior to Stolypin's land reform.

[110] Klimin (2002), p. 17. Stolypin's emphasis on the voluntary exodus of the Russian peasantry from the commune, itself an element of choice and rationalism, prepared the ground for productivity-enhancing entrepreneurship; see pp. 22, 23. The reformers' focus on peasant education had the same effect.

property proceeds from inheritance (ibid., p. 117) is greatly intensified by commerce and urbanization, which give private property a relatively well delineated form (ibid.). The formation of states is the ultimate stage, heralding a transition from custom-sanctioned possession to legally enforceable ownership (ibid).

Property and Political Freedom: The Nexus

The principal axiom in my thesis is the positive correlation between individually delineated property rights in the context of civil rights and freedoms and the productivity of factors (Poznanski, 1992, pp. 71–94), i.e., the accumulation of knowledge over time on the basis of diachronic insurance against the poverty pattern. Collectivist dependency within a hierarchical order is addressed in Chapter 6 concurrently, an effort will be made to delineate and explain the optimal, in terms of factor productivity and calamity insurance, ratios of individualism to collectivism. In this chapter, my focus is on the correlation between the railroads as a "dual purpose" (Kahan, 1989, pp. 28, 29) technology infusion that had uncontrollable outcomes in terms of political structure—bringing on the formation of national commodity markets[111] and property rights in material and intellectual assets—and democracy.

The crucial point made by Pipes (1999) is that the development of civil and political rights flows intrinsically from the evolution of property rights. In structures that allow property rights to emerge unsuppressed, the economically empowered citizenry democratically demands that the state protect them in the course of "protecting the citizens from the state: along with law, its by-product" (Pipes 1999 p. 116). Thus, according to Pipes, property rights are an effective bulwark against unlimited state power and arbitrary rule. Individual ownership of means of production gives citizens a countervailing power base vis-à-vis the state, ensuring equality before the law in the long run. Martens (2004, p. 168) makes the same point: "When property rights are fully assigned and enforced by law, the autocrat's margin for discretionary behavior is reduced to zero and he becomes a civil servant without residual claim rights." Democratic parliamentary systems of governance generally correlate with higher levels of economic development (ibid.). Sen (1999, pp. 150, 151) also emphasizes the intrinsic, and not only the instrumental, value of democracy. It follows that rights to material and intellectual assets are closely related to personal security, freedom, and prosperity.

The Tsarist land reform of 1906–1917 emphasized the instrumental characteristics of property rights. Stolypin's ultimate political objective was the perpetuation of the

[111] See Metzer (1972), p. 82, on the formation of a national grain market, through price convergence, that reduced transaction uncertainty and costs.

autocracy and the empire's internal stability by creating a new middle and affluent class of peasant proprietors, loyal to the Tsarist state. This "wager on the strong" (Klimin, 2002, p. 16; Ascher, 1988, p. 269)—the independent peasant-entrepreneur—was the essence of the autocracy's gamble with the revolutionary forces that had built up. The peasant upheaval in 1905 clearly challenged the regime's prevalent belief in the commune, based on an egalitarian ethos, as the barrier to a peasant insurgency (Gerschenkron, 1962, pp. 131, 133).

Nevertheless, by granting the peasantry—the majority of the Tsarist Russian population—title to land, the reform drew a distinction between sovereignty and property, i.e., the ultimate abolition of the patrimonial state structure that had shaped ruler–subject relations in Russia since the dawn of Muscovy (Pipes, 1995, pp. 64, 69). The Charter to the Nobility (1785) had set the precedent of ceding property rights to subjects without the latter's meeting the condition of state service (ibid., p. 133). By enacting the Charter, Catherine, inspired by the Enlightenment and the Physiocrats, attempted to secure the nobles' support against the background of a recurrence of the Cossack-led peasant rebellion of 1773–1775 (Pipes, 1999, p. 191). Notably in this context, the idea of emancipating the peasantry and granting it title to land also traced its roots to eighteenth-century liberal thinking (ibid., pp. 192, 193). However, the totalitarian agent—the autocracy in this case—always takes necessary corrective measures at a lag, reacting to external challenges to its territorial claims or its internal political control (integrated theory of Gerschenkron, 1962, and Coase, 1937; see North, 1981, p. 91). This generalization is justified and necessary because centralized hierarchical systems are, in my thesis, assumed to be less flexible and less prone to self-correcting marginal-utility responses to changed relative scarcities than are pluralist democracies (derived from Coase, 1937; Gerschenkron, 1968, p. 315; and North, 1990). The Hayekian (1944) conception of political rather than economic rationality as the determining factor in transaction costs and uncertainty-adjusting structural reforms explains the belated, in terms of relative material scarcities, institutional adjustments in Tsarist Russia and the Soviet Union. It is this presence of structural preconditions, among the political institutional stability considerations, that makes the integrated NIE–AEI model a necessity.

Thus, the Russian serfs were emancipated six years after the Crimean War of 1855 (Gerschenkron, 1968, pp. 143, 144) and were allowed to own land after the 1905 revolution, not as would have been economically rational in anticipation of the industrialization spurt of the mid-nineteenth century. The difference is this: while Catherine the Great, challenged by peasant unrest, "wagered" on the nobility, Nicholas II, challenged by the Liberation Union (representing the liberal intelligentsia, which sought constitutional governance—Pipes, 1995; Ascher, 1988, p. 59), placed his bet on the peasantry.

From the vantage point of a patrimonial state, reforms that decentralize property rights to subjects must be seen as concessions that indirectly affect potential insurgents' aspirations to success.[112] Faced with a credible threat from below, as well as external challenges (Martens, 2004, p. 193; Poggi, 1978, p. 175), the Russian autocracy moved toward a parliamentary structure of governance. As I argue below by applying Martens' (2004, p. 193) model, industrialization and railroad construction played a crucial role in the democratization of Tsarist Russia—a process that, according to the defenders of the Stolypin reform, was interrupted by World War I (Ascher, 1988, p. 273).

Stolypin's Reforms – Intentions and Consequences

May Stolypin's land reform be understood as an imported Western innovation, introduced "from above" into a peasant community that had voluntarily and deliberately chosen to structure its life around a collectivist (obshchina) ethos? (question inspired by Hodgson, 2004, p. 105, and Vanberg, 1994, p. 55). Pallot's analysis of peasant resistance to the Stolypin reform (Pallot, 1999, pp. 166, 167, 168) unambiguously emphasizes peasant opposition to the historical shaping of peasant–state relations by the Tsarist authorities. Moreover, Pallot traces this resistance to the destruction of the commune to rational reflection rather than "primordial," "elemental," or "animal" rage, as liberal and Marxist historians contend (ibid., p. 157). However, despite her mention of manifestations of "collective will," including peasant petitions against the coercive measures that were applied in the implementation of the reform, a Ministry of Internal Affairs survey in 1911, also cited by Pallot, reports a threefold increase in land-related lawsuits between 1908 and 1910. This, if supported by other findings (Chapters 4, 5, 7), would indicate growing differentiation and individualism within the peasant community.

Alternatively, should the land reform of 1906–1914–1917, intended de jure as a voluntary transition from a communal-based to a household-based land-tenure system (Klimin, 2002, p. 14—Stolypin's observations of the peasantry and speeches), be seen as a Tsarist concession to the peasantry's genuine demands, thereby constituting an ex post codification of an ongoing individualization process? I answer in the affirmative.

Mironov's analysis of the pre- versus post-Emancipation peasant institutions (2000) (Mironov, 2000, p. 349) clearly supports my argument. Mironov structures his analysis on Ferdinand Tönnies' two ideal types of social organization: the Gemeinschaft, i.e., the community (*obshchina*) and the Gesellshaft, a society

[112] On peasant rebellions, see Moon (1999), pp. 237, 240, NIE—New Institutional Economics.

(*obshchestvo*) (ibid., p. 286). In the former, interaction is spontaneous, personal,[113] kinship-oriented, and traditionally (consciously) and emotionally (unconsciously) structured. The determinants of individual conduct are irrational, based on notions of morality and respect. In a community, the collectivist spirit is said to predominate and the economy is based on agriculture and crafts. A society, in contrast, is characterized by rational and relatively impersonalized interaction. Within the framework of the formal system of rules that determines social status, greater scope is given to the individual will. Trade and industry constitute the economic base of social organizations of this type.

One may array history- and space-specific social organizations along a continuum bounded by the relative predominance of the "community properties" or "society properties" that structure peasant life. In Mironov's view, social relations under serfdom in the peasant communes of European Russia, which were self-governing to varying extents, were structured by the characteristic principles of the community. The Emancipation Act of 1861 set in motion a gradual transition to social relations centering on shifts from collectivism to individualism in land tenure, family structure, and gender and intergenerational relations (Mironov, 2000, pp. 338, 349).

The differences in interpreting the viability of the communal-village system in pre-revolutionary Russia, as exemplified by the foregoing sources, suggests that the rural institutions constituted historical units that exhibited, over time, changing degrees of collectivism versus individualism (inspired by Kingston-Mann, 1991, pp. 45, 46). They may also imply ideological differences, i.e., the impact of the sources' native cultures on the tendencies of their analyses (North, 1981, p. 55). They may even reflect the merits and limitations of the theoretical frameworks applied, each model allowing the focus to settle on different aspects of the object of inquiry (inspired by Bengtsson, 2004).

Railroad Construction and its Unintended Consequences

Applying Martens' insights, I propose that repeated PD games may explain the allocation of property or use-rights strategies for relatively small communities that exhibit low degrees of specialization (those with an economic base in agriculture), in which power is equally distributed and information on players/producers is shared. The pre-Emancipation Russian village commune would approximate such a social unit.

[113] See Chapter 2 on the transition from personalized to impersonalized rights.

With the introduction of "anonymous trade" (ibid., p. 162), three basic conditions must be met. Transaction costs must be reduced, the solution must be applied in large communities without raising transaction costs, and it must be effective under terms of information asymmetry (ibid.). These conditions may be partly fulfilled under nonviolent third-party enforcement, i.e., the threat of social and economic exclusion (ibid., p. 164). Examples relevant to my topic include the heads of household (the *bolshaki*), religious sects of the Old Believers mold, and the communal-village assembly, the *skhod*. There is, however, a limit to such a sanction: its cost to the defaulting party must not exceed the benefits of membership (ibid., p. 165). This statement is especially valid in the context of Russia's industrialization, which somewhat eased members' social and economic dependence on the agrarian commune organization.

In NIE, the ultimate condition for "anonymous trade" is said to be fulfilled through violent third-party enforcement, i.e., the state's monopoly on violence. However, while such enforcement reduces transaction costs, it amplifies the power asymmetry in the distribution of benefits.

The sources conceptualize anonymous trade as long-distance trade in which the distance is both physical and cognitive and is reduced or annihilated through a structural adjustment that allows changes in perceptions. This type of trade expands the market, allowing economics of scale and specialization to come into play (ibid., p. 162). Its inspiration from Adam Smith—"The division of labor is limited by the extent of the market"—is explicit (Smith., 1998 p. 19)

Applying insights from Martens' (2004) theory to the Tsarist Russian transition from coercive collectivism to voluntary individualist cooperation, one may identify the following initial causal relation:

> **Railroad construction (reducing physical distance and indirectly (through increased interaction) reducing cognitive distance, expanding the market) ⇒ specialization (rising transaction costs) ⇒ institutional change**

The essence of Martens' theory of institutions that are endogenous to society defines individuals' asymmetrically distributed knowledge as a variable exogenous to the economy and the political system. The evolution of political-institution-specific property rights is a function of a combination of asymmetrically distributed conflict technology (state monopoly on violence) and asymmetrically distributed production technology (high division of labor) (Martens, 2004, pp. 190, 192).

Martens' model (ibid., pp. 188, 190) departs from "stable anarchy," a condition of indecisive decentralized conflict technology and low division of labor. In such a society (pre-modern agrarian and "stateless" or self-governing), egalitarian sharing norms prevail, dictating weak incentives and low levels of development. As implied

above, the "stable anarchy" developmental stage, in which communities are based on egalitarian sharing norms, approximates the Slavophile depiction of the obshchina system (Sztern, 2000). In the next step, asymmetry in conflict technology is introduced while the division of labor remains weak. The result is slavery or dictatorship. The only motive a ruler might have to cede property rights to subjects is his expectation of higher productivity and a larger extraction base, especially in view of rising surveillance costs. This model may be understood as a simplification of the early stages of Tsarism in fifteenth-century Russia. Finally, production technology asymmetry is introduced, inducing an acute division of labor and raising transaction costs. The state lacks the capacity to measure the properties of all traded goods and services. The decentralization of property rights, relying on intermediaries and independent third-party enforcers, incentivizes producers to reveal important information and increase productivity and, in turn, to broaden the ruler's tax base. Thus, the combination of acute division of labor and decisive, monopolized conflict technology results in democratic government (Martens, 2004, pp. 193, 201).

Deducing from Martens' theory, I posit that in nineteenth-century Tsarist Russia the railroad expanded the market, widening the division of labor and, thereby, individuals' specific stock of knowledge. Production technology distribution became unequal, resulting in rising transaction costs. To improve the incentive structure and, in turn, enhance productivity[114] —including the disclosure of important information—the state, with its monopoly on violence, decentralized and enforced property rights to ensure its tax base (Martens, 2004, p. 193).

The upshot of the foregoing deduction is that Stolypin's rural transformation project may be better understood from the perspective of Martens' integrated theory.[115] Thus, given the state's monopoly on violence and the asymmetric distribution of conflict technology, the link between industrialization and technological change—specifically, railroad construction, which aggravates production technology asymmetry—and movement toward enforceable civil rights (including property rights) and democracy for the peasant population may be summarized as follows[116]:

Railroad ⇒ *division of labor* ⇒ *delegation of incentives in the form of property rights by the state* ⇒ ***democratization***

[114] Sztern (1997). Consider the link between transaction costs and productivity: the lower the former is, the higher the latter because innovative investment increases as the incentive function of property rights gathers strength. The relationship may also act inversely depending on the institutional structure. See Martens, B. above.

[115] See also the causal chain below.

[116] On the relation between property rights and democratic government, see Pipes (1999), XI, XII and sequences above.

It is essential in this context to note Metzer's dissertation on the importance of railroad development for the creation of the national grain market and gains from trade in Tsarist Russia (Metzer, 1972, p. 82). Combining this purely Neoclassical model with North's, it may be suggested that railroad construction triggered institutional change by the convergence of grain prices and specialization in the spread of (variance) of prices, allowing diversified portfolios to be built. If so, an elaboration of the effects of market integration on institutional change, specifically in property rights, would be the following:

Railroad $\Rightarrow$ *market integration (specialization)* $\Rightarrow \Delta$ *relative prices* $\Rightarrow \Delta$ *institutions (transition from inclusive to exclusive property rights*

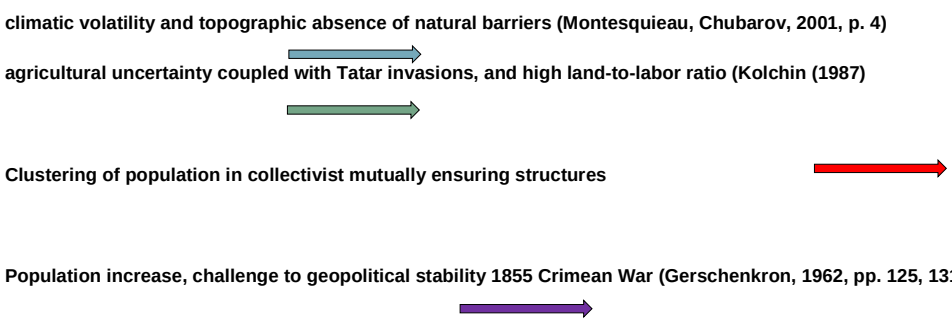
Notably, Martens (2004) implicitly combines aspects of evolutionary theory, classical economics, and NIE by putting forward a theory on the economics of cognition-endogenizing institutions while modeling the transition from "stable anarchy" to "democratic capitalism," inspiring a hypothesis that points in the same direction of change. The integration of the three models—Metzer's (1972), Martens' (2004), and North's (1973) is obvious:

Railroad $\Rightarrow$ *market integration* $\Rightarrow$ *specialization* $\Rightarrow \Delta$ *relative prices including transaction costs* $\Rightarrow$ *tacit transition to excluding property rights* $\Rightarrow$ *delegation of incentives in the formal redistributing of property rights by the state (Stolypin's rural transformation project in 1906–1917)*

In general terms, **NIE–AEI**: (**structural preconditions—Archer 1995, p. 76; North, 1981**)

Figure 3-8

The structure at t-1 preconditions the pace of the institutional adjustment at time t,



Chapter 4 - Industrialization as a Precipitant of Tensions between Tsardom and Nascent Civil Society

This chapter calls attention to the challenges the egalitarianization and impersonalization of law presented to the late Imperial Russian autocracy. The demand for institutional equality, (Chapter 2) posed a question mark over the compulsory collectivism, encapsulated in the legacy of the pre-Emancipation commune, that typified the takeoff conditions of the Tsarist industrialization. Gerschenkron distinguishes between a voluntarily endorsed hereditary monarchy that is legitimized through religious beliefs, as was Russia of the Tsars, and a dictatorship legitimized by its actions, such as the one that emerged from the October Revolution and was manifested in the Soviet system (Gerschenkron, 1968, pp. 314, 315). I propose that Russia in 1861–1906 was burdened with costs of dictatorship embedded in hierarchies of coercion that stemmed from the substitution of the state for individual entrepreneurship in the state's urge to industrialize under conditions of backwardness. The legitimacy of my challenge to Gerschenkron's distinction is found in the institutional emergence of elites in the Decembrist revolt of 1825, fueled by the egalitarian ideas of the French Revolution (Pipes, 1995, p. 188), and from Napoleon's invasion (1812) to the emancipation of the peasantry four decades later and beyond. Moreover, the pious challenge to autocracy had been embedded in the seventeenth-century dissent of the Old Believers (Moon, 1999, p. 239) and the Masonic lodges that Catherine II persecuted (Chapter 2). To view Tsarist Russia as legitimized by a consensus among the pious concerning the legitimacy of hereditary rule entails in-depth explanation.

Peter the Great's rein was plagued by the Bulavin rebellion (1707–1708), a.k.a. the Don Cossack revolt (Moon, 1999, p. 242; Anisimov, 1993; Chapter 8), while that of Catherine II was terrorized by the Pugachev peasant and Yaik Cossack uprising (1773–1775) (Pipes, 1999, p. 192, Chapter 2). Gerschenkronians may argue that the rebellious forces were united by veneration of the "true" Tsar, Peter III. Pugachev's warriors, however, questioned the very essence of Tsardom, the *votchina* ("sovereign" lands) and *gosudarevy zemli* (property rights in Russian lands that belonged to the anointed Tsar) (ibid, p. 70). In the mid-Volga Penza region,

Pugachev's decrees of July 28 and 31, 1774, promised the agricultural serfs land and freedom (Moon, 1999, p. 245). Finally, the revolt of the heterogeneous (pious and secular) peasantry and elites in 1905 (Ascher, 1988), a repeated challenge to the ruling monarch's perceived legitimacy as manifested in battle (ibid., p. 240) allows one to analyze Tsarist Russia as a stable dictatorship rather than a hereditary contract between rulers and the ruled.

I propose that the Nicholean modernization transformed the former peasant inhabitants of the obshchina, who migrated for wage labor while organizing along landsman ties, into urban workforce associations that could effectively pose a credible threat of upheaval in their demand for equality before the law. Stratifying in urban associations of peasant origin, *otkhodniks*—wage laborers originally from the peasantry—helped to diffuse Western value systems, which invaded along with Western technology, to the peasant commune. In so doing, they transformed rural material egalitarianism into egalitarian pious and secular ideologies, demanding predictability and the rule of law.

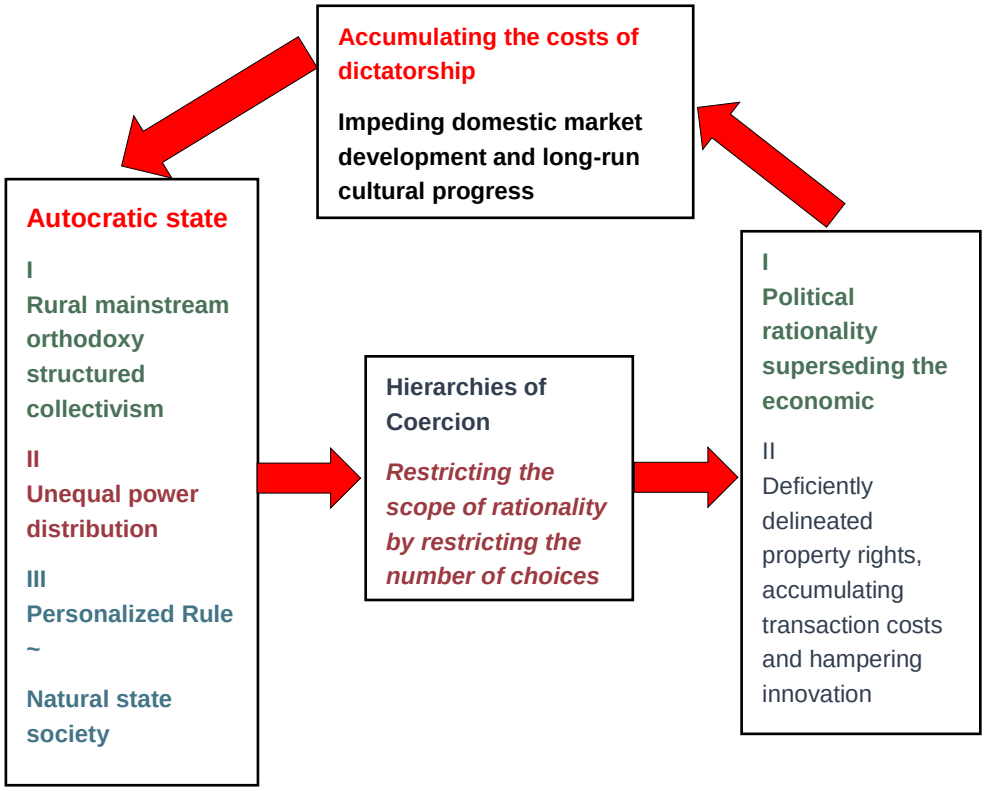
The Tsarist State and the Costs of Dictatorship: The Gerschenkronian Conception and Imperial Self-Perpetuation

With Tsarist state entrepreneurship substituting for the market, the hierarchies of coercion were snared in a vicious cycle that retarded modernization. Consequently, it is assumed here that, in the long run, the Gerschenkronian "costs of dictatorship"[117] exceeded the intended beneficial effects of the substitution pattern. Thus, these costs became increasingly burdensome to Tsarist Russia as the country's modernization process advanced. I extend the Gerschenkronian conception of the Soviet modern dictatorship to Tsarist Russia, explaining substitution theory of the state through the lenses of Coase's transaction-costs theory of the firm (Coase, 1937). Applying this theory and the Hayekian conception of political rationality (Hayek, 1944, p. 75, and p. 81 on the domination of politics over economics) to the absence of individual choice in an economy oriented to the supply of a common good—in the case of Tsarist Russia, the good that best fit the autocrats' plans and priorities—the real value of the state-entrepreneurship substitution should be deflated by the rising burden of transaction costs over equilibrium, a factor that

[117] See Gerschenkron (1968), p. 315, on the stability of dictatorships and the associated costs to society.

burdens the state management function and therefore expands in a vicious cycle (Coase, 1937, p. 43).

Figure 4–1 Accumulation of Autocratic Dictatorship Cost 1709–1914



Sources of this figure, counterclockwise from center: Gerschenkron (1968), p. 315; Owen (1995), p. 21; idem (1991), p. 37; Hughes (1998), p. 136, synthesis; Ascher (1988), p. 84, Burds (1998), p. 188; inspired by Martens (2004), p. 165; inspired by Raeff (1984), pp. 82, 83; North (2009), p. 2; Gintis (2009), pp.1, 2; Sheshinski , (2010), p. 3; Hayek (1994), pp. 75, 81; Coase (1937), p. 43; Poznanski (1992), pp. 71–94; Gerschenkron (1962), p. 122; Barzel (1989), pp. 7, 9, 65; Gerschenkron (1962), p. 123; ibid.

As the following sequences show, the technological shift embodied in the application of railroad technology catalyzed the transition between 1861 and 1914 from coercion-based pure collectivism, which had characterized the communal village system inherited from serfdom, to a voluntary individual calculus based cooperation, effectively an individualist structure, as codified and implemented in Stolypin's 1906 land reform.

Industrialization Productivity and Incomes in the Russian Village

Gregory's (1994, 1982) and Bideleux's (1990) analysis indicates that the inherent long-term growth potential of the Tsarist economy was comparable to that of the industrialized countries in Europe and the U.S. and squares with the aforementioned evidence of rising and not declining living standards due to industrialization. Given the observed conformity and comparability of Russian and international growth indicators, it is arguable that Russia's economic and institutional systems may, in the aggregate, have *been compatible and equivalent*, i.e., that Imperial Russia in Tsarism's last quarter-century could actually qualify as a market economy (Gregory, 1982, 1994). That is, the compatibility of the average annual increase in product per worker with that of systems based on individual property rights indicates that the Russian commune village system had, de facto, evolved into a hereditary household ownership structure.

This reasoning, derived from Revisionist School descriptions by international comparison, challenges Gerschenkron's claim that the Tsarist commune village system, with its perennial instability in property rights, induced an industrialization-hindering stalemate in productivity increases. The extent of structural change in the industrializing Russian economy may provide additional indirect information about Russia's balance of rigidity versus flexibility, inherent in its agrarian and commercial institutions, relative to other countries. Assuming that Imperial Russia entered the era of modern economic growth during the 1880s, thirty years later the share of agriculture in its national product declined by 6 percentage points, that of national product attributed to industry increased by 8 percentage points, and the share of services declined by 3 percentage points (Gregory, 1982, p. 166, Table 7.3).

In Britain, the share of national product attributed to agriculture as estimated at the time of the country's industrialization (1786–1885) fell by 13 percentage points over the next thirty years, that of industry in national income climbed by 5 percentage points, and that of services increased by 8 percentage points—indicating more vigorous commercial activity in post-industrialization England than in post-industrialization Russia.[118] In Japan, where the relevant period ran from 1874–1879 to 1904–1909, the share of agriculture in national income fell by 24 percentage points, that of industry rose by 15 percentage points, and that of the services

[118] On the scope and importance of the service sector for the availability and, in turn, the costs of information—transaction costs—and the correlation between this sector's development and the overall level of economic development in the Soviet Union compared with other economies, see Ofer (1973). The signs of a restricted service sector already seemed to be present in the Tsarist period, implying that Gerschenkron's postulates on continuity between the Tsarist and the Soviet economic structures are indeed valid.

increased by 10 percentage points. In the U.S., the fraction of agriculture in national income declined by 14 percentage points between 1834–1843 and 1864–1873, that of manufacturing surged by 15 percentage points, and that of the services was unchanged—approximately 10 percentage points higher than its Russian equivalent. The data on the extent of structural change between the onset of each country's great spurt of industrialization and a point in time thirty years later show that Russia underwent a larger structural change than France did, though the latter country experienced a 2 percentage point increase in the share of the services in national income. The extent of the transformation in Russia resembled that in Germany, where the economy was based on individual households' property rights in land. In general, the decline in the share of agriculture in national income and the increase in that of industry was more gradual in Russia and France, although the extent of the structural transformation in Russia conformed to the average pattern of change of Western economies in the thirty years following their industrialization (Gregory, 1982, p. 166, Table 7.3, and p. 167)—clearly indicating the compatibility of the Western and the Russian institutional structures.

During the period bracketing Russia's industrialization spurts (1883–1887 to 1909–1913), agricultural labor productivity grew at a 1.35 percent annual pace, industrial labor productivity by 1.8 percent, and total productivity by 1.5 percent (ibid., p. 168). The ratio of yearly agricultural productivity growth to the annual productivity increase in the economy at large was 0.9. Given the size of Russia's agricultural sector, this may indicate somewhat limited annual productivity growth in the rural sector. This, in turn, implies a potential increase in output that might have been realized had the formal institutional conditions been better suited to a transition to modern economic growth, i.e., to industrialization. Even if Gerschenkron (1962, 1968) overstates the effect of formal rural institutions on economic performance, this effect cannot be entirely neglected insofar as its continuity aspects are concerned. Considering the ratio of agricultural to industrial productivity growth, however, this structural component of economic development in Tsarist Russia cannot be deemed unusual by international standards. As for dynamic development, the 1.8 percent annual rate of industrial labor productivity growth indicates the rising profitability of industrial investment and the increasing availability of skilled labor, rather than the exploitation of a massively available but limitedly productive Marxian "reserve army." Given the character of the Russian economy, in which rural proletarians seldom severed their ties with their native villages, the expectations of rising productivity in agriculture due to the infusion of skills through the *zemliachestva* networks (Johnson, 1979, p. 69), interacting with the correspondingly rising institutionalized individualization of returns to human and physical capital and investment (Hesse, 1993, p. 51), should have been legitimized.

Thus, the differentiating feature of Tsarist Russia's economic development relative to that in the West was its high level of domestic investment. Until the gold standard

era began (1897), development had been financed through domestic savings. The high share of government spending in NNP and the small proportion of private consumption for a low-income country explain the investment-driven growth (Gregory, 1982, p. 175). During the 1897–1901 period, 20.56 percent of net investment originated abroad.[119] Given the size of the Russian economy, a *derived industrialization* in the Gerschenkronian sense—an acceleration of economic growth induced by inflows of demand, capital, and technological knowledge (Gerschenkron, 1968, pp. 80–82)—should be seen as unusual. Since the initial upturn in the growth rate of industrial output (1890) resulted from a political decision by the imperial government and was financed through domestic savings, the Russian process generally qualifies as autochthonous.[120] However, considering the advances facilitated by the import of modern technology and skills from already-industrialized economies—the main advantage of backwardness that Gerschenkron (1962, 1968) emphasizes in the Russian case—and the importance of foreign demand as well as foreign capital inflow in the Tsarist-era industrialization, the process may be said to have both derived and autochthonous elements. What is more, the latter defined Russia's overall transition to modern economic growth through the identifiable "great spurts" of 1890 and 1907.

Industrialization and the Invasion of Modernity

The derived components of this autochthonous (state-induced) industrialization, I argue, contributed to an external invasion of prevalent Western thought habits, powering a change in conventions in favor of entrepreneurial integrity[121] and more

[119] Gregory (1982), p. 127, Table 6.1. The share of net foreign investment in total net investment is calculated from the table.

[120] Ibid. and Gerschenkron (1962), p. 361. An autochthonous industrialization process is defined by the decisive role of the state. A derived process is said to emerge when industrialization is induced by a foreign market and knowledge available in a more advanced country; such industrialization is more gradual and lacks a "spurt" or a distinguishable takeoff phase. The transition to modern economic growth is promoted by interaction with domestic institutions, which are assumed to be highly adaptable to innovation. As a rule, derived industrialization is an exception and is likely to occur in a small country that has an appropriate geographical location and a well developed or rapidly developing transportation system.

[121] Gerschenkron (1966, repr. in idem, 1968), pp. 128–139, initially challenges propositions about the emergence of entrepreneurial talents as a prerequisite for industrialization. The interdependence between entrepreneurial honesty and revulsion for illicit conduct in commercial relations, prevailing rates of lending interest, and the development and fine tuning of interest rates oriented to individual entrepreneurship and long-term investment are thought to be instrumental for the process of modern economic growth. The independence of the industrial decision-making process from the prevalent set of values, which in the Russian case were alien to industrialization, is implicitly assumed to be one of the requisite entrepreneurial qualities. The necessary

intensive popular demand for active participation in political and economic decision-making. The particular features of the Russian industrialization[122] evidently intensified the anti-atomization or autonomization movement,[123] an

entrepreneurial talents are said to develop often in the course of, and in, very backward countries due to an initial industrialization spurt; therefore, they cannot be viewed as prerequisites for industrialization. In Tsarist Russia, a country that Gerschenkron classifies as utterly backward (p. 138), "The importation from abroad of foreign entrepreneurial talent" in the course of industrialization substituted for the absence of such talent in the domestic economy. As a result of the initial spurt in the 1890s, the emergence of a domestically skilled entrepreneurial segment contributed to the renewal of the industrialization effort in 1907–1913. The active role of the Russian state in "substitution for missing prerequisites," something that Gerschenkron assumes to have occurred, is further addressed below.

[122] In this context, I emphasize the relatively high share of government spending and, especially, its distribution (see below), a relatively low level of private consumption for a low-income country, and the heightened importance, for an empire, of economic interaction with Western and previously industrialized economies. In this respect, Gregory's (1982, 1994) findings and Gerschenkron's (1962, 1968) postulates, which assign the state the dominant role in the 1890 industrialization, do coincide. Moreover, Owen (1995), p. 19, provides evidence of an interventionist state policy that aimed to industrialize through concentration but in fact impeded progress. The policy was applied with special intensity in regard to incorporation concessions and the selective granting of credit facilities to large companies that wished to set up shop in bureaucratic power centers. The specific feature of Russia's industrialization under this policy would have been the net effect of saving on transaction costs through concentration and state intervention, whereas such costs increase due to this process. It is the latter tendency that conforms with Gerschenkron's notion of continuity and the "Asian development pattern." Moreover, Gregory's assumptions on the limited role of the state in regard to subsides to preferred industries are countered by Owen (1995), pp. 16, 17, 19, 21. The Tsarist state, much like its Soviet successor, participated in principle, though not in scope, in the economic sphere by allocating funds to industries that it preferred on political or other non-economic grounds. Thus, the role of the state as an entrepreneur—or, to use Gerschenkron's words, the substitution of state entrepreneurship for independent entrepreneurship—may be seen as a specific feature of the Russian transition to modern economic growth. The social anti-concentration movement, induced by the state's interventionist policies, and the costs of excess concentration, i.e., those incurred when political rationality supersedes economic rationality, should be viewed similarly.

[123] Smith (1989), pp. 145–165. Following the industrialization (from 1899 onward), Russian workers as a collective repeatedly demanded civil and political rights (Ascher, 1988, p. 32). An interesting example of a policy transition that coincided with the industrialization spurt occurred in the activities of *zemstvos*, rural self-governments. Originally, the 1864 Law on Zemstvos stated that the zemstvo's decision-making power should be constrained by the landed gentry in that 42.1 percent of the elected deputies must be selected from the gentry's ranks. An additional 38.5 percent were allowed to be chosen among the peasants and the remaining 19.3 percent should be recruited among the merchants and the clergy. In 1890, the state, wishing to strengthen the power of its bureaucracy (in Gerschenkronian terms: to broaden the base of its "surrogate" entrepreneurship), enlarged the prescribed share of the gentry. As a result of this measure, aimed at widening the scope of bureaucratic intervention, zemstvo activists—*zemtsy*—pivoted to the "left," assigning additional decision-making and agitation power to the so-called "third element"—technical experts employed by rural self-government. Thus the professionals, including teachers, statisticians, and agronomists, were invited to transform their human capital into a political force. This transformation brought entire zemstvos, as autonomous units, into opposition against the bureaucracy, intensifying the commitment to political reform. This shift in zemstvo attitudes coincided with the industrialization effort.

innovative trend that was also novel in its opposition to the autarchy's aspiration to retain a total monopoly in political decision-making power. The collision between this movement's demand for institutional change, in terms of public representation and the right of association, and the Tsarist state's oppression of it (launched in the name of "public order," in the conservative sense of this term) may *partly* explain the violent and socially costly aspects of the exodus from compulsory hierarchical collectivism. The village commune expected to constitute an extended control unit of the Tsarist state, petitioned the Tsar in protest, while shot at, effectively revolted, which was manifest in the events following Bloody Sunday, January 9, 1905. Moreover, as mentioned above, the eighteenth- and nineteenth-century reforms in the direction of impersonalized law[124] (an innovative process that found formal expression in the abolition of serfdom in 1861 and the judicial reform in 1864) contributed, through a "translation" process (Boyer and Orlean, 1993, p. 22), to an endogenous change of values: increased adaptivity to and a quest for institutional innovation, diffused at the informal level.[125]

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[124] Ascher (1988), p. 31. In addition to the foregoing discussion of the reforms introduced by Catherine the Great, the origins of liberalism in Russia can be traced to her reign (1762–1797). It took the movement until the late nineteenth and the beginning of the twentieth century to organize formally; in the eighteenth century it was actively prevented from disseminating its ideology and becoming an oppositional political force. Still, the intelligentsia among the nobility, which held liberal views and adhered to the notions of *rationalism*, *individualism*, and *patriotism* during Catherine's reign, became increasingly active in various charitable and educational organizations. The Russian people labeled those constituencies *obshchestvennoe dvizhene*—a social movement. It may be of interest to note that the Russian word obshchina, a village commune, has a similar root as the adjective *obshchestvennoye*. The village commune in Russia may be assumed to have been a symbol of egalitarianism, majority rule, and social responsibility for its members. *Obshchestvennoe dvizhenie* under Catherine the Great was committed to moral and spiritual improvements and even advocated outright institutional change to bring about social progress. The movement is said to have been less concerned with improving material conditions per se, instead focusing on demanding freedom of speech and association and raising the question of moral standards and the legitimacy of governance. During the 1860s, the obshchestvennoe dvizhene increasingly expanded its ranks to included *raznochintsy*—people, mostly intellectuals, of different and not necessarily noble ranks. Finally, the nineteenth-century liberals demanded fundamental institutional reform: equality before the law, specifically equal civil rights, and universally elected constitutional rule. The movement organized in 1904–1905 and became powerful enough to induce the Mensheviks to cooperate with them in their opposition to the absolutism of Tsarist rule.

Notably, too, the newly formed trade unions were greatly influenced by the original ideology of obshchestvennoe dvizhenie—Russian liberalism—in their demands of the autarchy for social and institutional improvements.

[125] Ascher (1988), pp. 58, 59. The Liberation Union advocated universal suffrage for the election of a constitutional assembly that could influence the empire's future politics. In the course of their opposition to the autarchy, the Liberals became associated with the industrial workers movement and influenced the demands for institutional change that the nascent trade unions subsequently raised. Even the Slavophiles, who generally supported the Tsar's patriarchal rule, deeming it an organic form of governance suited to the Russian cultural model, favored the "introduction of a legal order" and went so far as to suggest the formation of a "consultative legislative body"

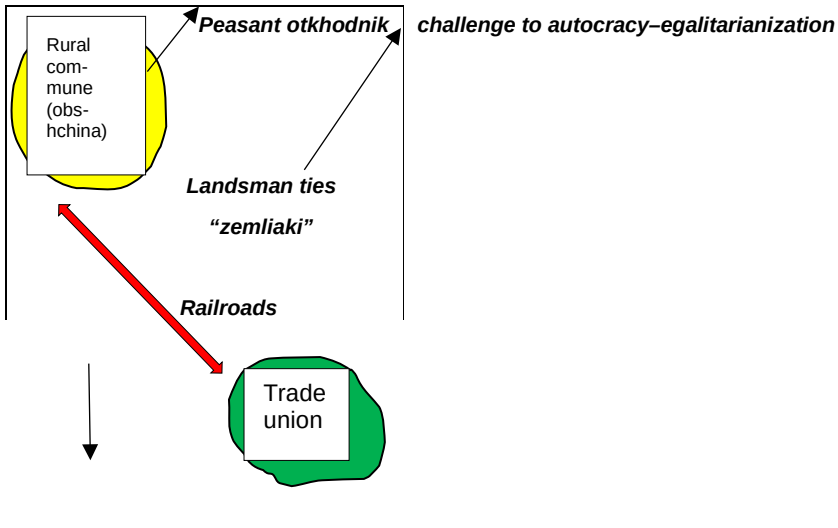
Facing the "bottom-up" demand for public representation and constitutional government (intensified by industrialization), the autarchy responded with unequivocal resistance, regressing to despotism and centralized and personalized totalitarianism. The collision between the demand for a political-reform-oriented change in conventions and the formal inflexibility of totalitarian rule resulted in rising costs of dictatorship (Gerschenkron, 1968, p. 315). One may state that by substituting bureaucratic supervision for the development of an adequate institutional infrastructure that would protect and induce independent entrepreneurship, the Russian state generated such social tensions as to incur surveillance costs that made autocracy economically irrational. Evidence in support of such a proposition is provided by Owen (1995, p. 19), who questions the applicability of the neoclassical theory of the state to the case of late Tsarist Russian development. According to Owen's theory, the formation of a nation-state abets economic development by reducing transaction costs through the guarantee of property rights. Gerschenkron's (1962) dynamism-oriented model also credits the state with a constructive function in the internalization of transaction costs.[126] Both approaches, however, seem refutable in the Russian case because the "strong state" environment there, by means of intervention, could contribute mainly to the arbitrariness of economic activity[127] due to the personalized nature of property rights as well as other civil rights—rendering predictability, probability of enforcement, and transferability low and transaction costs, including the state's surveillance costs, high.

composed of members chosen by zemstvos and municipal councils. The quest for popular participation in political decision-making was a direct response to the military disasters that the empire had sustained in the Russo-Japanese war of 1904. Nevertheless, one may argue that the demand for popular representation and a more conspicuous rethinking of the concept of legality developed tacitly as a complementary quality to the emergence of entrepreneurial integrity and the autonomization of decision-making induced by industrialization (ibid., p. 33). In the 1890s (corresponding with the great spurt of industrialization), Russian liberalism is said to have attracted the support of various professionals: professors, lawyers, writers, doctors, and engineers. A decade and a half later, the ideas diffused by this constituency became the core source of massive demand for constitutional reform and the right of association for industrial workers.

[126] Incorporation of Coase (1937) into Gerschenkron's substitution theory of the entrepreneurial state.

[127] Owen (1995), pp. 25, 27, comments on selective concessions granted by the autocracy to formally illicit cartels and syndicates, which may be seen as parallels to the de facto personalized concessions on property rights that the Soviet-era *nomenklatura* received.

Figure 4–2 Peasant Trade Unions, the Tsarist State, and Innovative Adaptation



Source: Derived from Johnson (1979), p. 68.

Basing myself on revisionist sources, I have argued thus far that Russia's industrialization process cannot be said to have impoverished the rural classes. The country's transition to modern economic growth did, however, centralize and concentrate an erstwhile rural population, tied to their villages through wage repatriation obligations (Burds, 1998, p. 189) and landsman (*zemiliaki*) ties (Johnson, 1979, pp. 68, 69), in large urban industrial units, depriving this population of the self-governing institutional environment that characterized the communes. The structures of this environment came to constitute an informal, in the Northian sense, institution that ultimately shaped the character of the urban industrial labor associations and in their transformed version imported urban tastes to the commune. This erstwhile peasant constituency went about its urban wage labor under state bureaucratic supervision on factory premises—a process that may in many respects be likened to the internalization of the self-sustaining and self-managing soldiers' artel' in regimental economies (Bushnell 1990, p. 389). A contemporary interview with Tsarist soldiers reveals that they valued their economic and social autonomy within their artel' economy more than their fellows valued the post-centralization betterment of per-capita economic conditions and the diminished responsibility occasioned by the inflow of treasury funds (ibid., pp. 390, 391). True to the Russian custom, even convicts exiled to Siberia as a punishment used to alleviate the hardships of punitive labor servitude (katorga) by forming artel's or obshchinas.[128]

[128] Dostojewski (1860), "Zapiski iz miertwego doma " published in Polish as "Wspomnienia z domu umarlych" by Panstwowy Instytut Wydawniczy (Warsaw, 1977) on the redistribution custom relating to *jalmuzna*—alms, charity.

These mechanisms of mutual social and economic responsibility appointed their eldest—the *starosta*—as representatives whose function it was to negotiate better conditions for the collective as Tsarist gendarmes escorted them down their "road of chains" (*kandal'naia doroga*) (Wood, 1990, p. 403). Seen against the background of this traditional institutional environment, the industrialization-induced transformation of former rural obshchina-dwellers into an industrial labor force and the centralization of this constituency in urban industries, as was specific to the process, resulted in the creation of a new and initially socially displaced stratum. We learn from the foregoing anecdotal evidence that the obshchina, as a latent institution, had been ubiquitous in the otkhodniks' urban environment, which, by facilitating the transfer of urban institutional pluralism to the village commune, transformed the Russian agrarian landscape.

The class consciousness of the Russian industrial proletariat during and after the industrialization period is moot. According to Lenin, such awareness must be taught (Ascher, 1988, p. 2; Harding, 1996), implying that it does not exist independently of political agitation, i.e., indoctrination. Nevertheless, considering Russia's deeply rooted folklore-based institutions, one would expect urbanization and centralization processes that placed the peasantry under state bureaucratic supervision and deprived it of its "intermediaries/negotiators" to be accompanied by demands for freedom of association and increased social security. Moreover, aware of the rising economic significance of their class, the better informed peasant industrial workers undertook to translate their labor power into political power in coordination with their lesser informed peers and non- peasant intellectuals. Industrial peasant workers emulated commune village traditions, in which the most industrious individuals were chosen as natural leaders, just as the most prominent rural-entrepreneur peasant heads of household were historically named to the communal village assemblies. These assemblies, elected by village members, were expected to negotiate with the state bureaucracy on behalf of the communes. Internally, the *starosta*—elder-headed organizations—complied with traditional egalitarian norms while applying rural common law to land repartitions, transfers of immobiliers, and mediation in internal conflicts. The urban peasant workers, seldom severing their ties to the obshchina (Johnson, 1979, p. 15), experienced the relative institutional autonomy that typified the rural sector (including participation in decision-making through the election of representatives) in the course of the industrialization, urbanization, and labor-force centralization that they were now undergoing. This experience evoked and shaped their demand for political reform. Instead of being requited, however, they were met with an increase in bureaucratic intervention in their daily lives through their foremen, who were puppets of the state. Considering the mounting demand for social services (including resources for the improvement of human capital) and the subsequent increase in dissatisfaction with the imperial

government, the centralizing entrepreneurial role assigned to the Tsarist bureaucracy had a destabilizing effect.

Otkhodniks who had not yet melded into a disciplined industrial labor force were initially predisposed to establish associations functionally equivalent to artel's/obshchinas for industrial workers. Their demands centered on freedom of association, freedom of coalition (through which employees could establish mutual-aid funds and engage employers in collective bargaining for working conditions), and the right to strike (Smith, 1989, pp. 148, 149). The specific to Tsarist Russia labor movement per force constituted of the otkhodniks intuitively strove to have the deficient state safety net replaced with a traditional type of net, the kind sustained by autonomous organizations.[129] By clearly promoting the autonomization of society, the movement confronted the autarchy's atomization strategies. Its ultimate goal was to increase public participation in political decisions, i.e., to induce a "top-down" transfer of political power commensurate with the increasing economic significance of industrial labor.

The union apparently had the additional goal of protecting its constituencies from bureaucratic enserfment in the process of industrial centralization. In its entrepreneurial role, the imperial government, restricting the labor force's behavior by deploying its deficient judicial machinery, police, and army (Gerschenkron, 1966, p. 138), ostensibly aimed to protect the transition to modern economic growth against the intrusion of hostile agrarian values (ibid.). My thesis proposes that the endogenous autonomization of the otkhodnik industrial labor force, effected by translocating the autonomy of the rural mutual-aid network to an urban industrial environment, was the direct product of the Tsarist industrialization; contrary to Gerschenkron's proposition, *it enhanced the peasantry's rural–urban mobility and its amalgamation at the factory level*. Unlike obshchinas, urban associations labor associations specifically were formed under conditions of multiple institutional structures that had become available in tandem with peasant utilization of railroads. As I argued in the Introduction, these conditions created theretofore unexplored options of choice. Thus, the propriety of distinguishing traditional rural associations from modernizing rural-urban ones was the belated result of an increasingly rational individual calculus rather than obedience to authority or pure peer pressure within the migrating landsman networks (Johnson, 1979, p. 69).

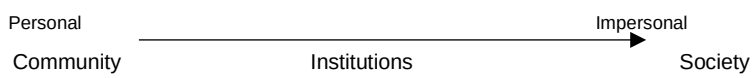
[129] In 1898, paralleling the industrialization and to a greater extent consolidating it—in a manifestation of what Lenin would call class consciousness—the St. Petersburg Union of Struggle for the Emancipation of the Working Class demanded civil rights as well as social improvements: "freedom to strike, freedom of speech, the press, assembly, freedom of conscience and religion, equal rights for all nationalities, an elected parliament and a statutory eight hour day."

Tensions between the Rigid Traditional Order and the Social Effects of Industrialization

Following North (1973, 1990), I suggest that the disharmony between informal and formal institutions would increasingly saddle Russia's industrialization, under state entrepreneurship, with exorbitantly costly uncertainty.

It is interesting to note that the number of complaints to the Factory Inspectorate concerning maltreatment of workers by their foremen (*durnoe obrashchenie*) rose from 2,136 to 21,873 between 1901 and 1913 (Smith, 1989, p. 151), reflecting a per-capita increase as well. Industrial workers repeatedly protested against *proizvol* (arbitrariness) and *bezpravie* (absence of rights) (ibid.). As events unfolded, the peasant perception of a linkage between bezpravie in the workplace and bezpravie in society at large (ibid.) would burden the Tsarist substitution of state entrepreneurship for private entrepreneurship with rising surveillance costs (North, 1990, pp. 90, 91). Importantly, the peasant-workers' protest movements were by no means the only, nor even the most ideologically homogeneous and autonomous, vehicles of change. In 1905, the mining and metallurgical workers and entrepreneurs in the Ural region, protesting against the state's bureaucratic tutelage, demanded a permanent system of just law and independent courts (*pravovoi poriadok*) (Owen, 1995, p. 28). The zemstvo constitutionalists, serving constituencies that were concerned mainly with charity, education and health, roads and bridges, and improvements in agricultural productivity and statistical record-keeping in rural society (Ascher, 1988, p. 32), sought very limited suffrage and the participation of elected representatives in economic and political decisions (including the government's distributive praxis). What they got at first was persecution (ibid., p. 33). The constitutionalist campaign of 1904–1905 also enjoyed the active support of students.

Figure 4-3 The Shifting Structure of Rights



Source: Mironov (2000), p. 286.

Let us bear in mind the assumed continuous transformability of socioeconomic institutions from regimes of personal to impersonal rights (within the time frame sketched above) and the industrialization-induced autonomization of urban workers, on the rural-commune model, against government efforts to centralize surveillance of the labor force under the state's bureaucratic thumb. It was via this policy that the state conveyed its entrepreneurial function. The decreasing socioeconomic returns of this state practice as against the increasing internalization of this function (Coase, 1937) enhanced the social potential of achieving, through stratification, a

shift in the structure of the rights being demanded (Witt, 1993). The direction of this shift at this particular time and place was determined by the liberal movements' demand for universal suffrage, civil and political rights, and, by implication, equality before the law irrespective of social rank, ethnicity, religion, and sex. Generally, equal civil and political rights—the impersonalization of law—leads to the individualization of ownership, i.e., egalitarian per-capita distribution of property rights and vice versa. Only as an abstract idea could such rights be linked to the folklore-based agrarian egalitarianism specific to Russia. Unlike that concept of equity, "repartition" achieved via universal suffrage would concern not the material good itself but the right to acquire and own it on equal terms. Thus, formal political liberalism could lead to economic liberalism, provided the informal institutions would not impede individuals in demanding optimum control over their property and its fruits.

The individualization of ownership from the family nexus on up, in turn, would herald society's transition from the principle of *violence* to the principle of *contract* (Mises, 1922, repr. 1981, pp. 32–35). An emerging institutionalized egalitarianism would necessitate the impersonalization of law because any political or civil action—be it of the king, the landlord, the factory owner, the intellectual, the industrial worker, or the peasant—would have to conform to the same set of basic restrictions. The autonomization of executive authority relative to legislative authority, i.e., the establishment of an autonomous judiciary, would secure the right to enforce compliance with a coherent set of norms. In this manner, the judiciary would cease to be merely an instrument of the ruler and formal law would evolve into a *socially enforceable* impersonalized system of higher dignity than anyone's command or decree.[130] The manifestation of liberalism described above may be conceptualized as aiming to achieve a shift to the right on the aforementioned time axis—theoretically leading to lower system-specific transaction costs and better economic performance.

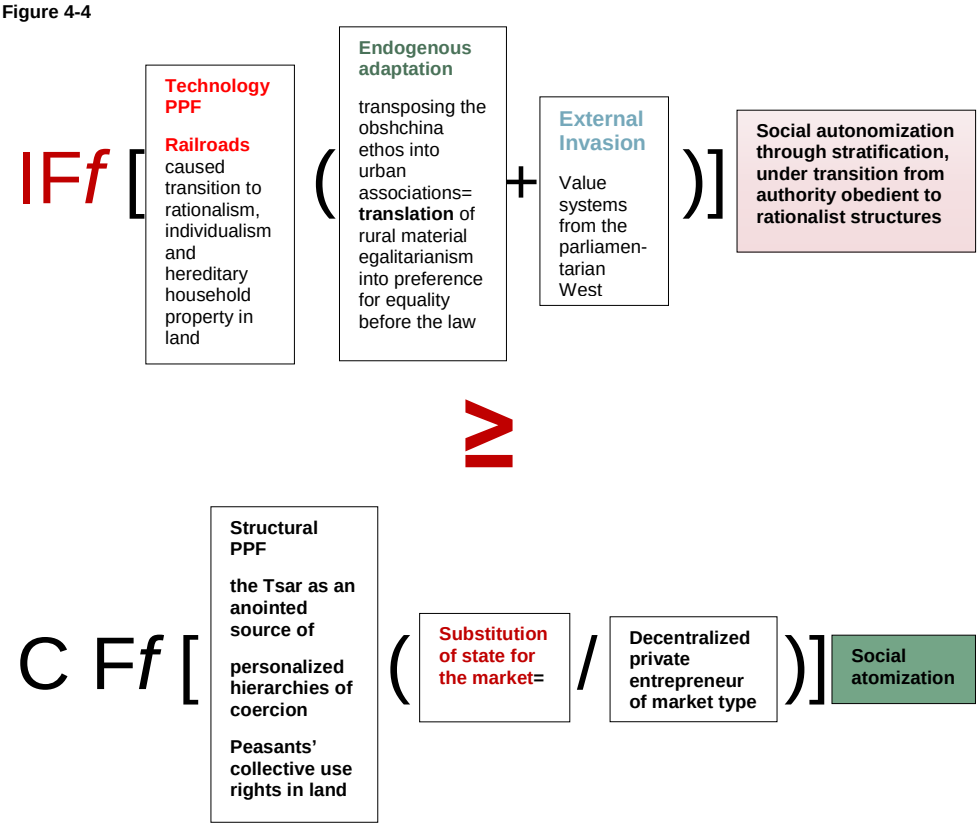
[130] Arguably, a social order based on a state religion might yield a socioeconomic system that submits to the restrictions of impersonalized law. If so, theoretically there was nothing wrong with the Tsarist order other than the monopolization of the right to interpret morality by the earthly ruler, an institutional power, and the subsequent distribution of this right as a tool of favor. A religion-based social order, however, can prevent injustice only if each individual is equally and identically conscientious and pious, answering to with a universal conscience—an unattainable outcome among humans. Attempts to attain social "purification" of this kind have repeatedly plunged humanity into bloodshed; the goal of "preventing injustice" has resulted in monstrous abuses of this very concept by any human norm of conduct. Even if a social order is based on Natural Law, e.g., the French Code de Napoleon, which traces its ultimate source to the Judeo-Christian cognitive sphere of the Ten Commandments, a society as well as an international community can achieve internal peace only if it equilibrates political and economic power in a way that ensures non-discriminatory enforcement of the law. Such an equilibrium, in turn, depends on the unrestricted right to form associations in order to shape the de facto content of the civil and political institutions and their enforcement.

External Invasion, and Endogenous Change of Values Topple ESS

Let us represent the intensified demand for such a shift by the expression IF, denoting innovative force in both the economic and social sense. The industrialization-induced autonomization that facilitated the endogenous change in conventions as well as the assimilation and diffusion of externally invading strategies through stratification is symbolically summarized as [End Δ + Ext. Inv.] Str, of which IF is the function. The conservative, concentrating, and centralizing force is symbolically expressed as CF *f*[centralized state entrepreneurship / decentralized, independent entrepreneurship] atomization.

If so, the discrepancy of impact between the structural-institutional and technological production possibility frontier that caused surveillance costs to exceed transaction costs, including uncertainty saved through centralized state management of the socioeconomic fabric, may be summarized as follows:

Figure 4-4



The figure above summarizes the essence of the Tsarist Russian authoritarian Janus. IF is the consequence, unintended by the autocratic ruler, of state-led industrialization imported for military purposes. The missing aspect in Gerschenkron's analysis is the marginal microeconomic impact of the imported railroad technology on the landholding system and the peasants' attitude toward individual property as an aspect of civil rights, i.e., the marginal institutional adaptation that the technology caused. Therefore, from a historical perspective, it is legitimate to suggest that the institutional backwardness in terms of personalized totalitarian hierarchies of coercion-breeding compulsory collectivism, as a means of uncertainty insurance against arbitrariness, was the source of economic poverty and not the other way around.

If so, the substitution of state entrepreneurship for individual entrepreneurship was but one element of a vicious cycle.

Chapter 5 - The Peasantry and Its Ties to the Land amid Tsarist Industrialization

Gerschenkron (1962, 1968) versus Gregory (1982, 1994): Mobility Barriers and Transition from Extensive to Intensive Growth

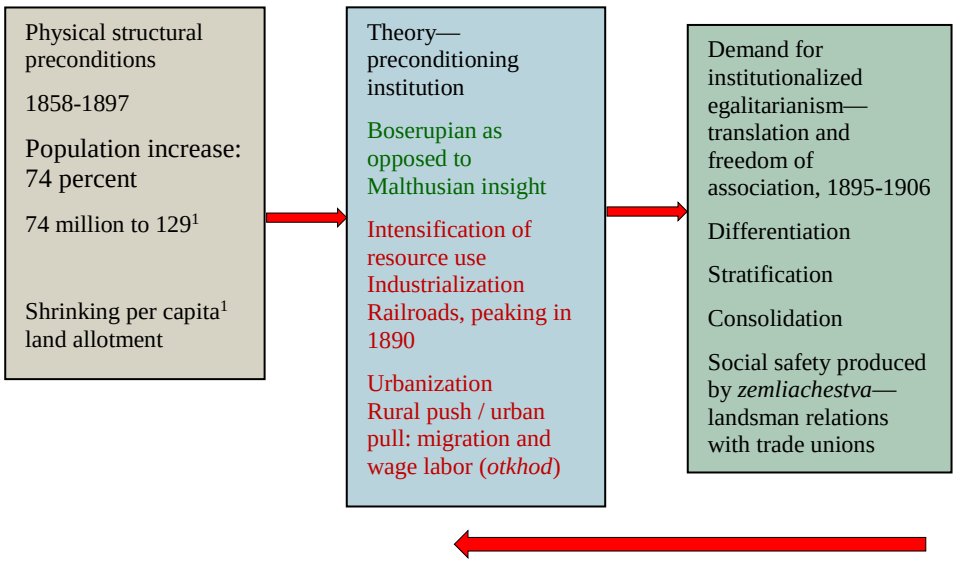
I begin by presenting a paradox. The effect of state-led autochthonous industrialization in Tsarist Russia, as conceptualized through Gerschenkron's lenses, was a coercive and authoritarian resource repartitioning process that nevertheless allowed external novel ideas to invade,[131] abetting a change in conventions and weakening the informal foundations of autocratic rule. Industrialization created demand for institutional transformation. The validity of the Gerschenkronian analysis, which conceives of the commune village as continuous in character from the emancipation of the serfdom to the Stolypin reform of 1906, is of great importance in this context. According to Gerschenkron's conception, the commune, structured by the legacy of serfdom, was the primary cause of a mobility barrier that led to peasant impoverishment due to industrialization. If so, industrialization, in Gerschenkron's view, created a "dual economy"—backward agriculture and modern, state-led industrial enclaves.[132]

[131] The intensified inflow of foreign capital, technology, and knowhow from 1897 onward, given the generally strong interdependence of the turn-of-the-century Russian economy on Western development as indicated by the Gregory index series—(I assume European and American dependency on Russian grain exports as well as high return investment options; otherwise, Tsarist Russia's creditworthiness in European banks would be inexplicable), presumably helped to overthrow conservative conventions through the invasion of ideas (Boyer and Orlean, 1993, pp. 23, 24). The theoretical model depicted on this basis suggests that conventions may change if a group that follows conservative habits is "invaded" by a sufficient number of individuals who have chosen an alternative convention. Constitutional government and the impersonalization of law, for example, may be sought in this manner.

[132] Gerschenkron (1968), p. 229, _Gregory (1994), p.29___.

The challenge put forward in this chapter was briefly mentioned in Chapter 3: the emergence of anti-atomization or consolidation movements as politically unintended "battleships" borne on the waves of socioeconomic adaptation to the processes of urbanization and technological progress. This chapter explores the actual effects of industrialization in late Tsarist Russia as opposed to those intended by the Tsarist government and traditionally assumed by scholars of the Tsarist import of technology, with railroad construction at their heart. Did this process impoverish the peasant population while replenishing and strengthening the perceived legitimacy of the Tsarist autocracy? Or was it the other way around?

Figure 5–1. Population increase and the Boserup vs. Malthus insight



Sources: Archer (1995), p 76; Boserup (1965); Johnson (1979), p. 39; Hesse (1993), p 51, Boyer and Orlean (1993) p. 22; Witt (1993); Atkinson (1983), p. 29.

The figure above assumes a partial[133] developmental scheme, a chain of phenomena that transformed institutions and represents the structure of this chapter. Soviet and post-Soviet scholars emphasize the agrarian-crisis hypothesis, in which severe overpopulation impoverished of the peasant constituency as Malthusian thinking would have it. My thesis suggests the superior explanatory value, in the Tsarist Russian context, of Boserup's (1965, p. _41_) hypothesis of intensified resource use

[133] The scheme focuses primarily on the role of industrialization as an intensification of resource use, i.e., an "innovative adaptation," as defined by Hesse (1993), p. 1, to population increase in the serfdom and Post Emancipation era, cumulatively promoting technological and institutional change. Hence its partial nature.

in tandem with and *occasioned by* population increase, and the findings of Paul Gregory's (1994, 1982) revisionist school. From these perspectives, industrialization should be understood as an element of Russian modernization that is endogenous to population increase.

Boserup (1965) suggests that population increase intensified resource use and powered the transition to intensive growth. The increase in population, viewed through the NIE prism, is explained by means of the safety net of serfdom and its legacy (Engelgardt, 1993, p. 37) as well as a change in the rate of "surveillance costs" (North, 1990, pp. 90, 91) that was disadvantageous to the landed gentry (Leonard, 1990, pp. 122, 123)—both contributing to the abolition of this system through the Emancipation Act of 1861. Applying Boserup, I argue that population increase induced the Tsarist Government to implement the Witte system, proposing rapid industrialization with railroad construction at its core (Gerschenkron, 1962, p. 125). Moreover, I suggest that in the last decades of the nineteenth century, the railroads caused a demographic transition that reduced mortality and raised life expectancy at birth. The net explanatory effect of the railroads on population increase and regional density is adduced Atack, Bateman, Heines, Margo (2010, pp. 171–197) and is suggested for empirical test in Chapter 2.

The Hesse-Boserup Perspective; Railroads, Population Increase, and the End of Land Reallotment

Hesse and the Causes of Population Increase

From a dynamic perspective, the relation between land-ownership structure and population growth may be addressed within the framework of the investment theory of childrearing and, more specifically, the wealth-flow theory of population (Caldwell, 1982, quoted in Hesse, 1993, p. 52). Hesse (1993) emphasizes the importance of the level of income generated by offspring and the intensity of control, i.e., the degree to which the parents' generation may, de facto, take possession of and/or exert control over income generated by the child. Turning to Tsarist Russia and bearing in mind the principle of patriarchalism, the household-based tradition of land rights, and collective use rights until redemption and, subsequently, the manifestation of redemption, and property rights through control of ownership by the obshchina's assembly of elders—an element inherent in the communal land-tenure system—the level of control must have been higher before Stolypin's reform than after. (See below.) Consequently, the fertility rate before the 1906 reform must have been higher as well. If this hypothesis can be verified, one

may establish the combined effect of collective and relatively individualized land rights on population growth, something that may well add knowledge to the attempts to test this assumption as put forward by Atkinson (1983). However, the post-emancipation correlation between collective ownership and population increase remains to be proven whereas the aforementioned schools of thought define the pressure of population increase on available land resources as the cause of impoverishment.[134] Incorporating the railroad function into this analysis, I suggest a testable hypothesis on this technology's attenuating effect on patriarchalism, collectivism and, in turn, the parental generation's control of income—an effect that perforce reduced fertility while helping to alleviate famine and other calamities. The result would be an increase in life expectancy at birth, in effect causing a demographic transition that, in terms of its net effect, may be determined in purely empirical ways. Gerschenkron's analysis advises that mobility barriers and disincentives to innovation and capital investment in agriculture inherent in the institutional structure[135] rendered unavoidable a downward movement in standards of living for the growing peasant masses, which were held hostage by the land. The great scholar's analysis, however, systematically omits the wealth- and insurance-generating role of the railroads, one that created an incentive for innovative wealth-generating investments in land and enhancements in the proximity of the rail lines (Hesse, 1993, p. 51). Contemporary opponents of collective land tenure, wishing to modernize and perhaps Westernize the Russian countryside, evaluated in this manner the effect of the legal and customary restrictions on economic performance in the rural sector. The development- and industrialization-oriented theoretician of our time, Alexander Gerschenkron, does the same. As argued in Chapters 2–8, however, this assessment did not go unchallenged.

An additional concept in this analytical toolkit is "innovative adaptation," a process that Hesse (1993) defines as the "recombination" of elements and the "introduction" of new ones as a creative adjustment to population changes. The population changes, in turn, interact with the marginal value product of labor to determine the land-use system (Hesse, 1993, p. 57). According to this model (ibid., p. 51), reproductive

[134] The Malthusian model may initially be seen as instrumental in this context.

[135] Gerschenkron (1968), p. 219. The required consent of the commune, reflected in a two-thirds vote of the assembly, created an exit barrier (p. 220). An amendment to Article 165 of the Redemption statute had a similar effect (p. 221). On the passport statute, see pp. 219, 221, 222, 224. The combination of population increase and these mobility barriers made less land available per capita and the effect of this was intensified by limited output capacity of soil and, in 1881–1891, falling prices of agricultural produce relative to industrial produce. The result of the exit barriers, strengthened by unfavorable market conditions, resulted in a dearth of investment capital that was further aggravated by lack of credit, hampering the possibility of productivity increase through innovation (p. 218). Prior to the 1893 legislation that prohibited repartitions less than twelve years apart, the instability of household ownership within the commune is assumed to have created an investment barrier (Atkinson (1983).

behavior adjusts human-capital accumulation as a result of cognitive creativity.[136] This innovative adaptation of human-capital endowment determines population density and vice versa. When the population grows, land must be used more intensively. Consequently, the adjustment of land and resource use systems is seen as an innovative adaptation to the increase in population density. The latter process encourages immobile investments, which trigger the subsequent adjustment of the property-rights structure in favor of exclusive access to landed assets. Thus, "Increasing population density, intensification of land use and more excluding property rights are all parts of one process of innovative adaptation to a few basic and invariable constraints."[137]

In the Russian context, the entire industrialization process was an adjustment of resource uses, an innovative adaptation to population increase. The importation of modern technology and the performance of the requisite domestic investments for the intensification of resource use were, when viewed in the short term, an inelastic, long term orientated input that triggered an institutional transition from collectivism to individualism in agriculture, i.e., the exclusivity of property rights in land. Hereditary household ownership and its de jure codification via the 1906 reform represented an innovative adaptation by institutions to the population increase and precipitated the subsequent intensification of resource use.

Hesse's (1993) model, applied, indicates the crucial role of railroad technology in its selective ability to affect population density (Atack et al., 2010), resource use intensification, and, ultimately, the transition to exclusive access to land, attracting immobile investments, and vice versa. The paradigms applied below—conforming to Neoclassical, neo-institutional, and evolutionary economics—are organized according to their explanatory function and are presented in the matrix section below. As an introductory step, my thesis supplements Gerschenkron's and serves as ground for deduction with North's insight (North, 1973, pp. 28–29). The Northian model selects population changes as the explanation for relative scarcities that cause institutional change. Practically speaking, the eighteenth-century increase in population (Kahan, 1985) that traced to the safety net provided by landlord patronage during serfdom, lowered land-to labor-ratios—ultimately resulting in the abolition of serfdom and the gradual individualization of peasant attitudes toward land. This integration of the Northian and the Gerschenkronian models reveals that during the 1890 industrialization spurt, the Russian peasant manifested behavior that is explicable on the basis of rational calculus, all of which within the limits of inherited custom. I assume that population increase and its outcome, shrinking per-capita land allotments, adapted and weakened the adherence to custom that

[136] Hesse (1993), p. 50. Innovations are explained as "a result of a cumulative variation / selection process."

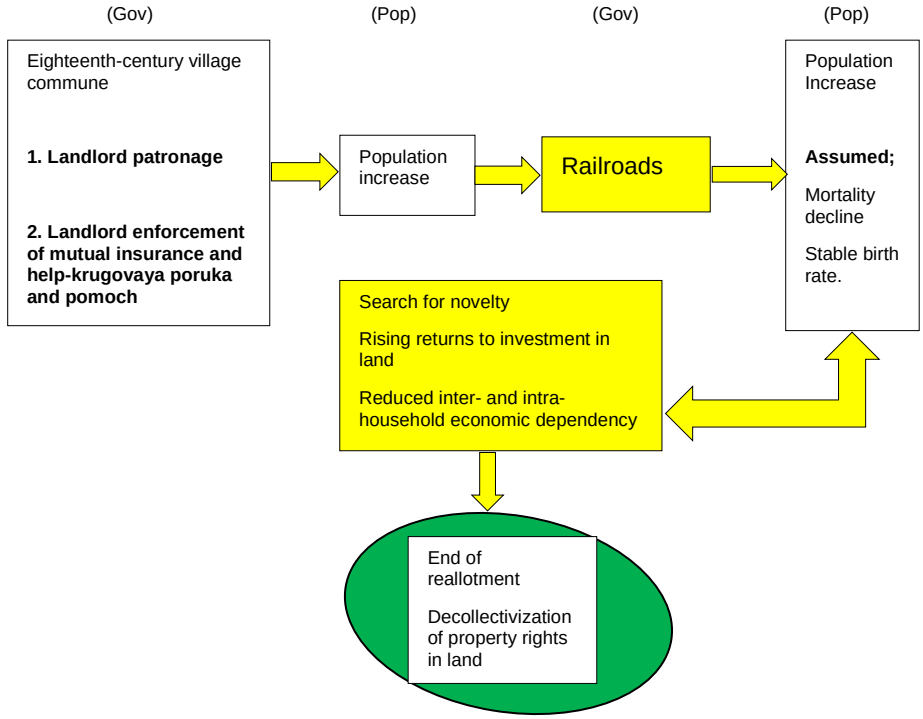
[137] Ibid., p. 48. The basic constraints are energy and information availability.

epitomized the collectivist legacy of serfdom. Ultimately, it was the population increase that eroded the mobility barrier. Boserups (1965) as well as Hesse (1993) (Figure 5–1) allow the relation of population increase to the de-collectivization of property rights in land. Rising population, according to Boserup, triggers the transition from extensive to intensive growth patterns. In my thesis, railroad construction is understood as the catalyst of this process. Rising returns on investment in land near railroad lines, explained by the proximity of urban markets, contributed to the individualization of land tenure and innovative investment control through the exclusivizing of property rights, initially de facto through forgone land repartitions and subsequently de jure upon the implementation of the Stolypin reform, through the choice of individualist land categories. Elaboration on this issue is found in Chapter 9.

I suggest that the railroads should be understood as the ultimate causal factor in the erosion of the mobility barrier during the post-emancipation era. This technology served to alleviate famines in cases of crop failures, constituting (along with the railroads' impact on literacy, education, and skill accumulation—Robbins, 1975; Burds, 1998) an explanatory variable for the nineteenth-century net population increase, i.e., a greater decrease in mortality than in fertility. Concurrently, it mitigated the mutual-insurance dependency of households on the village commune against other calamities and shortages. This facilitated access to multiple earning and spiritual options, fueling the transition to rationalism (Sheshinski, 2010; Gintis, 2009) and encouraging the peasantry to form individual risk-diversifying portfolios of sources of income—a process that entailed industrial and agricultural sources, that evolved to become of increasingly stable variance , i.e. increasingly predictable (Bates, 1989, quoting Sahlins), and set in motion a self-enforcing virtuous cycle that cumulative facilitated peasant mobility and migration.

We may now summarize the argument as follows:

Figure 5–2 Population Increase, the Railroads, and the End of Land Reallotment



Sources: Boserup (1965), p. __41; Hesse (1993) p. 51; Witt (1993), p. 2___; Atkinson (1983), p. 31; Worobec (1995), p. 93; Kahan (1985), p. 8, Table 1.1; Hoch (1986), pp. 84–89; Engelgardt (1993), p. 39; Gerschenkron (1962), pp. 125, 126: Kahan (1989), p. 3, Table 1.

Introducing Discontinuity in Compulsory Collectivism

The schema set forth above is used as a framework for the reexamination of Gerschenkron's analysis of the coerciveness of barriers to labor mobility and the assumed impoverishment of the peasant population due to industrialization, referring to the work of Gregory. By applying this strategy, I emphasize the economic and historic complementarity of institutional and technologic factors and of institutional reforms.

I seek to investigate whether the Tsarist Russian institutional legacy is, as a matter of peasant legal and customary coercive enforcement, collectivist and homogenous in character, as advised by mainstream Western scholars (Ofer, 1997, personal communication). Thus, the question is whether individualism and rationalism in the Russian context should be viewed as phenomena imported from the West in 1906 and 1991 and coercively implemented through privatization processes led by a "big bang" government rejection of collectivism. May the transaction costs of an

institutional transformation be lowered solely through adherence to gradualism? (Keren and Ofer, 1992, p. 90; North, 2005, p. 117) Alternatively, is there an organic source of individualism and rationalism in Russia that was catalyzed by the railroads and codified in the Stolypin reform? What happened in the era between the emancipation and the 1905 revolution? Did collectivism continue, or did the interaction of population increase with the railroad technology trigger spontaneous transitions to individualism and rationalism, bringing on discontinuity?

Chapters 2-8 of the dissertation, focuses on the assumed—not yet proved—discontinuities that occurred in Tsarist Russia's village-commune collectivism in 1861–1914 that were occasioned by the technological change. Challenging the Gerschenkronian conceptualization of the continuous village commune structure, understood in my thesis as encapsulated in mutual insurance against famines and calamities , that entailed the alleged mobility barrier that caused the severe poverty embodied in the collectivism of the Russian village commune, I quote the findings of Gregory's (1994, 1982) revisionist school. To appreciate the depth of the peasantry's impoverishment, we investigate and question the explanations of the Gerschenkronian school. The question, then, is: were peasants subject to unusual consumption restrictions relative to their urban counterparts during the industrialization process (due to restricted labor mobility and oppressive taxation), contributing to a specifically "Asian" type of industrialization?

Was the Russian industrialization indeed autochthonous, as Gerschenkron (1968, pp. 80–81) insists? Were its sudden spurts in 1890 and 1907 exploitative/oppressive vis-à-vis the peasant as well as toward entrepreneurs, the landed nobility, industrialists, intellectual constituencies, and the clergy?

Challenging Gerschenkron, Gregory identifies the industrialization process as derived from Europe and largely following global business cycles. Such a process inescapably created institutional harmonization in price structures between Russia and the industrialized, relatively politically pluralistic, and parliamentarian Europe. In this harmonization, the Tsarist state came to represent an obstacle to modernization rather than its vehicle (Owen, 1995, pp. 17, 19).[138]

My thesis suggests that these two seemingly conflicting conceptions of the Tsarist Russian industrialization—the Gerschenkronian substitution of state entrepreneurship for a market that failed because of the poverty stricken peasant constituency's insufficient purchasing power, and Gregory's assumption of a relatively market-led modernization process— are merely end points on a continuous scale. The transition from the initial point to its opposite leaves room for

[138] According to Ascher (1988), pp. 88, 89, the primary cause of the 1905 petition to Tsar Nicolaus the II petition was not immiseration but a demand for equality before the law, including the rights of association, the freedom of speach and universal suffrage. ____.

my explanation. Namely, the daily interaction between the imported railroad technology and the rural commune led to changes on the margin in the character of collectivism during the post-emancipation era (1861–1914). The crux of my argument is: The underlying structures inherited from serfdom, such as the rate of population growth and the distribution of regional density, interacting with the ever-expanding railroad network, reduced the land-to-labor ratio. This raised land values along rail lines and attenuated peasant households' dependency on the mutual-insurance function of the collective in the event of famine or other calamities (applied Archer, 1995; Hodgson, 2004; North, 1973; Atack, Bateman, Haines, Margo, 2010; Kolchin, 1987; Eggertsson 1990; Hesse, 1993; Robbins, 1975, p. 33). This, in turn, relaxed the legitimacy and the grip of compulsory collectivism—affecting the frequency and purpose of land repartitioning and paving the way to the formation of a domestic market for industrial produce and a national grain market (Bideleux, 1990; Metzer, 1972).

Generally speaking, uncertainty and the dependency on hierarchy did retreat, enhancing the creation of horizontal and increasingly egalitarian-democratic institutional development blocs (Gerschenkron, 1962, applied), alternately termed voluntary collective action networks (Barzel, 2002), that evolved in complementarity to technological-material ones.

As this chapter continues, the plausibility of this hypothesis will be evaluated against the findings of the revisionist Paul Gregory (1982, 1994) and Robert Bideleux (1990) and their schools.

Tsarist Industrialization Interpreted: Gerschenkron vs. Gregory

Gerschenkron (1962, 1968) and Gregory (1982) agree about the occurrence of an initial upsurge of industrialization in the 1890s.[139] Gregory identifies the percentage growth rate per annum of output, measured in 1913 prices, in five years averages as

[139] Gerschenkron (1968), pp. 129, 133. During the 1890s, the average annual rate of industrial growth was estimated at 8 percent. From the 1905 revolution to the outbreak of World War I, it was estimated at 6 percent. The difference between Gerschenkron's estimates (1962) and Gregory's (1982) traces to the components chosen, i.e., the definition of industrial output (Gerschenkron) and of aggregate output (Gregory), as well as the methods of calculation, the chosen base years, and the periodization and sub-periodization. Notably, too, Gregory identifies two five-year periods of *negative per-capita* and *zero absolute growth*—1885–1889 to 1889–1893 and 1901–1905 to 1905–1909—which he credits to declines in personal consumption expenditure and net investment. The first period may have contributed somewhat to Gerschenkron's different findings, i.e., lower estimated average annual growth during the entire 1885–1913 period, measured in 1913 prices. At this point, this assumption is unsupported.

spiking between 1889–1893 and 1893–1897 and between 1906–1909 and 1909–1913 (Gregory, 1982, p. 128, Table 6.1 c). Over the entire 1885–1913 period, aggregate product grew by 3.25 percent and per-capita income by 1.7 percent, both annualized (Gregory, 1982, p. 182, Table 8.1). Aggregate product expanded more quickly, on average, before the turn of the century than after because political instability and the Russo-Japanese War caused a loss of output in 1904–1906. Per-capita income grew at an annual rate of 2.3 percent before 1900 and by barely 1 percent annually after; this is understood to be the combined effect of faster population growth and slower annual average output growth after the turn of the century (ibid., p. 126). Both schools conclude that the *relative* annual growth rates (measured for industrial and for aggregate output) were higher before the 1905 revolution than after.

During the great spurt of industrialization in the 1890s, as identified by Gerschenkron (1962), the share of net investment rose to 10.9 percent of national income. Since net domestic savings amounted to 9.3 percent of national income, 1.6 percent of GDP, 15 percent of net investment total had to be financed by net foreign investment, that is, foreign savings (Gregory, 1982,., p. 127, Table 6.1 B). By the end of the decade, this source was financing over 20 percent of net investment.[140] Since the foreign capital was channeled primarily to industrial investment (plant and equipment, inventory accumulation, and railroad construction), it had a greater impact on the growth of industrial output than on that of aggregate output. Thus, according to both schools the Gregorian revisionist and the Gerschenkronian, industrialization strengthened economic ties between Russia and the West. Gerschenkron maintains that the state-led industrialization, financed by foreign capital, created a dual economy. When World War I began, foreign savings financed 40 percent of Russian industrial investment (ibid., p. 129). Moreover, the Russian price index and national output (the real GNP series), measured in 1913 prices, indicate that the Russian economy in 1885–1913 was strongly integrated into the world economy. Domestic prices were roughly determined by the world market and the index series of total output, especially before the turn of the century, followed Western business cycles, giving evidence of general interdependency in development between Russia and the countries that preceded it in industrialization. Thus, the data presented thus far support Gerschenkron's periodization and the importance that he attributes to the role of foreign capital in the industrialization process. The data may even be interpreted to verify an assumption that the increased economic interaction between the Russian and Western economies, tracing to

[140] Gregory (1982), p. 127, Table 6.1 B. During the period immediately preceding the "great spurt," however, net foreign investment accounted for barely 3.7 percent of net investment, suggesting that the initial industrialization effort was financed by domestic and not foreign savings. The breakthrough in attracting foreign capital was the onset of convertibility of the ruble, i.e., Russia's adoption of the gold standard in 1897.

ongoing industrialization, allowed ideas from the latter to invade the former. The industrialization decade was characterized by an especially rapid increase in the share of net fixed investment in national income, from 4.3 percent at its beginning to 8.2 percent at its end.[141]

Was the Peasant Standard of Living Sacrificed on the Altar of Industrialization? Gregory's Challenge to Gerschenkron

A central component of Gerschenkron's (1962, 1968) analysis and Atkinson's (1983) Gerschenkronian evaluation is the assumption that the rural economy "financed" the industrialization of 1890 by having to sacrifice consumption (Chapter 2, Fig. 2-2). If so, the Gerschenkronian continuity conception structurally links the Tsarist industrialization to Soviet industrialization in terms of the priority that both gave to the urban industrial-military sector. In reference to the Tsarist era, the "common good" (Anisimov, 1989) of a successful territorial claim by the Empire justifies the involuntary sacrifice of individual rural households' living standards. In this case, should the Tsarist legacy be understood as compulsively-coercively collectivistic at the national level? Gerschenkron conceptualizes the Tsarist Russian *obshchina* (village commune) as an instrument of Tsarist tax collection and immiseration of the peasant economy for the benefit of industrialization and social stability in a process of this nature. Data challenging such a theory, presented by Gregory, are reproduced in the following tables.

[141] Ibid. This finding is especially valuable in regard to the continuity aspects of Russian and Soviet industrialization. The tilting of resource allocation toward fixed investment was definitely characteristic of the Soviet era. (See previous essay, 1994, *Det socioekonomiska systemets institutionella desintegration och omvandling*. *Sovjetunionen/Ryssland*.) Viewed in a Gerschenkronian context this particular aspect of Gregory's findings does not allow the rejection of Gerschenkronian reflections on the continuity of allocation behavior that typifies a totalitarian state, the foregoing data provide interesting starting points for further elaboration.

Table 5-1 Personal Consumption Expenditure, "Urban" and "Rural" Components 1885–1913—1913 Prices, Five-Year Averages

	Personal consumption expenditure, "urban" proxy (retail sales, urban housing, services)		Personal consumption expenditure, "rural," proxy (retained farm consumption, rural housing)		Other final expenditure (government, investment)	
	Pct. of national income	Annual growth rate	Pct. of national income	Annual growth rate	Pct. of national income	Annual growth rate
1885–89	45.6		37.9		16.5	
		1.2		0.4		0.4
1889–93	46.5		37.3		16.3	
		5.7		5.9		11.9
1893–97	45.3		36.2		18.3	
		5.7		1.6		3.4
1897–1901	49.0		33.9		17.1	
		2.9		3.1		2.9
1901–05	47.9		33.6		18.5	
		0.1		0.3		1.0
1905–09	47.8		33.8		18.4	
		3.0		5.1		8.2
1909–13	46.5		34.0		19.5	
1885–1889 to 1909–13		3.2		2.7		4.5
1885–89 to 1897–1901		4.2		2.6		5.0
1897–1901 to 1909–13		2.3		2.9		4.0

Source: Gregory (1982), p. 131, Table 6.2

Table 5–1 shows that urban consumption expenditure grew slightly faster during this period, by 3.2 percent per annum on average, than rural consumption expenditure, which advanced at an annual pace of 2.7 percent, and that growth was fastest in other government expenditure plus investments, at 4.5 percent. Our question concerns the extent to which the compulsory exploitation of the rural economy was characteristic of the Tsarist industrialization. Generally speaking, the growth rates at that time imply the reapportionment of personal consumption expenditure from rural to urban sectors and attribute the fastest growing resource flows to other government expenditure and investment. If the reapportionment of national income to other government expenditure and investment at the expense of consumption is proven to be *unusual* by international comparison, one may qualify the Russian industrialization of 1890 as "Asian."[142] Moreover, if the transfer of labor from rural to urban sectors was indeed impeded, these data taken separately, given

[142]State-led autochthonous industrialization is observable through an international comparison that shows an exceptionally high ratio of government to personal consumption in national income; see below. An increase in the annual growth rate of government investment in national income during the period from 1889–93 to 1893–97 (five-year averages as calculated by Gregory, 1982) also illuminates the state's active role in the Russian industrialization.

the population increase, may indicate a decrease in per-capita consumption in the rural sector, proving Gerschenkron right. The data for the period from 1893–1897 to 1901–1905 illustrate faster growth of rural consumption expenditure and slower growth of urban consumption expenditure as time passes. Before one ventures any assumption about the alleged impoverishment of the peasant economy due to the ongoing industrialization process, the next table, calculated and presented by Gregory (1982), should be studied.

Table 5–2 Composition of Russian National Income by Sector of Origin, 1883–1913, 1913 Prices

	Agriculture		Industry, constr., transport, com.		Trade and services		National income
	Pct. of national income	Annual growth rate	Pct. of national income	Annual growth rate	Pct. of national income	Annual growth rate	Annual growth rate
A. Sector output, structure, and annual growth rates.							
1883–87	57.4		23.4		19.2		
1883–87 to 1897–1901		**2.55**		**5.45**		**2.5**	**3.4**
1897–1901	51.3		30.6		18,1		
1897–1901 to 1909–13		3.0		3.6		2.75	3.1
1909–13	50.7		32.3		17.1		
1883–87 to 1909–13		2.8		4.5		2.7	3.3
B. Sector labor-force growth rates.							
1883–87 to 1897–1901		**1.1**		**3.4**		**1.4**	**1.4**
1897–1901 to 1909–13		1.7		2.0		2.0	1.8
1883–87 to 1909–13		1.4		2.7		1.7	1.6
C. Sector output-per-worker growth rates.							
1883–87 to 1897–1901		**1.45**		**2.05**		**1.1**	**2.0**
1897–1901 to 1909–13		1.3		1.6		0.75	1.3
1883–87 to 1909–13		1.4		1.8		1.0	1.7

*A. Sector output, structure, and annual growth rates.

*B. Sector labor-force growth rates.

*C. Sector output-per-worker growth rates.

Source: Gregory (1982), pp. 133–134, Table 6.3.

The table provides further evidence of structural change and verifies the occurrence of industrialization. Between 1883–1887 and 1897–1901, the share of agriculture in national income fell from 57.4 percent to 51.3 percent as the agricultural sector grew at a sluggish 2.55 percent annual rate while the share of industry climbed from 23.4 percent to 30.6 percent on the heels of a 5.45 percent annual pace of growth. What is more, the industrial sector grew more rapidly than total national income (3.4 percent per annum). The annual growth rate of the sector-specific labor force (Panel B.*) provides a case in point.[143] During the late nineteenth-century industrialization (1883–1887 to 1897–1901), the industrial labor force grew at an annual rate of 3.4 percent while the agricultural labor force expanded at barely 1.1 percent per year, indicating *an exodus of labor from the rural to the urban sector*. Moreover, the meager differential between agriculture and industry in per-worker annual productivity growth (Panel C.*, first row)—0.6 percentage point—suggests that the assessment of Gerschenkron (1962, 1968) and Atkinson (1983) of unusually restricted consumption in agriculture due to impoverishment may be refutable. An international comparison of ratios of agricultural productivity to industrial productivity growth does not indicate unusually depressed agricultural productivity growth in Russia. Thus, the data challenge the dual-economy hypothesis implicit in Gerschenkron's depiction of the Russian industrialization.[144] The following table, again reproduced from Gregory, shows that the Russian ratio of agricultural to industrial productivity growth is comparable to its equivalents in non-dual Western economies, including post-enclosure England. The estimated growth rates of annual average product per worker in the late nineteenth and early twentieth centuries also reveal comparability between Russia and England (Gregory, 1982, p. 162, Table 7.2.).

[143] Gregory (1982), p. 135. Gregory chose sector-specific labor force growth rates and not the sector-specific labor force shares to avoid arbitrariness. For further elucidation of his methods of calculation, see ibid., pp. 134, 135.

[144] Gregory (1994), pp. 29–31. Russia in Tsarism's last thirty years was seen by both Lenin and Gerschenkron as an utterly backward ocean in which the industrial sector was an island of modernity. The productivity increase in agriculture was hampered by the remnants of feudal institutions; increases in industrial productivity were generated by inflows of foreign capital and knowhow. The ostensible discrepancy between the productivity rates of agriculture and of industry, intensified by the industrialization effort, resulted in a "dual economy," i.e., stagnating agriculture and developing industry. The deficiencies of the domestic market hampered the latter but were offset by the aforementioned substitution of government and foreign inputs for domestic demand. Whether the role of the state and foreign capital in Russian industrialization was indeed unusually large? by international standards—i.e., whether Russia's industrialization pattern qualifies as "Asian"—is discussed below. The table presented above provides at best a premise on which to question the dual-economy hypothesis.

Table 5-3 Growth of Agricultural Labor Productivity Divided by Growth of Industrial Labor Productivity, Russia and Selected Countries

Country	Period	Relative growth rate
Russia	**1883–1913**	**0.75**
Germany	1850–1909	0.67
France	1870–1911	0.99
United States	1870–1910	0.87
Japan	1880–1920	0.86
Norway	1875–1930	1.00
Canada	1880–1910	0.77
United Kingdom	**1801–1901**	**0.74**

Source: Gregory (1994), p. 31, Table 2.4; and idem (1982), p. 169, Table 7.4.

Gregory's (1982) findings on the pace of employment growth in Russian industry and positive labor productivity growth rates in agriculture, as well as his conclusions about the period from 1883–1887 to 1897–1901, cast reasonable doubt on Gerschenkron's evaluation of the adverse effects of the obshchina system on the mobility and productivity of agricultural labor during this period. The hypothesis about severe impoverishment of the rural population due to industrialization amid a countrywide agrarian crisis (Gerschenkron, 1962, p.49) is refuted by the foregoing evidence (Gregory, 1994, pp. 37–54). Russian agriculture developed on the basis of an extensive growth policy that allowed frontier or peripheral regions to achieve higher annual output growth rates than central black-earth regions. Therefore, countrywide aggregate agricultural production grew faster than the population while the traditionally cultivated regions suffered from an inverse relation between agricultural output and population growth. The evidence is provided by the intensification of migration to peripheral regions, which, among other factors, shielded the rural population from general impoverishment (Treadgold, 1957, p. 33, Table 2, Russian Migrants Reporting as Settling in Asiatic Russia 1801–1914; p. 34, Table 3, Migration to Siberia 1887–1913)

Amid an ostensibly intensifying agrarian crisis in 1883–1901 (Gregory, 1994, pp. 37, 44), agricultural output grew at a 2.55 percent annual rate while the population expanded at a 1.3 percent pace.[145] *Moreover, an index of consumption goods output*

[145] Ibid., p. 44; see table: Indexes of Agricultural Production, Factory Production, and Population, Fifty European Provinces, 1870–74, as estimated by Goldsmith.

Period	Crops	Factory production	Total population	Rural population
1870–1874	100	100	100	100
1883–1887	117	217	120	117
1900–1904	185	588	156	151

comprising grains, animal products, and textiles, weighted by 1913 prices, shows a 26.25 percent increase in real per-capita output of consumption goods between 1887 and 1904.[146] Since 85 percent of Russia's population was rural, the general increase in output of consumption goods may be taken to reflect increasing per-capita rural demand and consumption. Per-capita agricultural output, in turn, grew at an annual pace of 1 percent, as stated.

The hypotheses about "hunger exports" of grain, emphasized by Atkinson (1983), is countered by Gregory (1994). Gregory interprets the imperial government's shift from direct to indirect taxation as evidence of peasant accumulation of direct-tax arrears in a manner countercyclical to harvests, implying that peasants could improve their living standards by exchanging cash crops, thus enabling grain exports, for imports of manufactures.[147]

The annual growth rate of agricultural capital stock between 1890 and 1904 suggests that the estimate of a deficiency in fixed investment due to unstable ownership and impoverishment in agriculture, as depicted by Atkinson (1983) and Gerschenkron (1962), may have been the result of an overestimate by these scholars of the formal institutions' practical effect on economic performance. Agricultural capital stock is said to have grown more rapidly than population during this period[148] and evidence of rising price value of grain products retained for consumption casts doubt on the rural impoverishment hypothesis. Indeed, while the rural population increased by 17 percent between 1885-1889 and 1897-1901, the real value of retained grain products was 51 percent higher by 1913, indicating rising and not falling per-capita income in agriculture and refuting the impoverishment hypothesis (Gregory, 1994, pp. 47, 48). The annual growth rate of rural consumption according to the foregoing data, given the migration of labor from rural to urban areas, is consistent with the assumption of growing, not falling, annual consumption per capita.

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[146] Ibid., p. 45, Varzar's index of output of consumption goods in 1913 prices.

Period	**Value of production** (millions of rubles)	**Per-capita output**
1887	4298	48
1904	7057	60.6

[147] Ibid., p. 46. Peasants paid direct income taxes when harvests were good and accumulated tax arrears when they were bad, thus securing a stable income by producing grain for export.

[148] Ibid., pp. 46, 49–52, and Table 3.4, p. 7, reproduced below:

Annual Growth Rate of Agricultural Capital Stock 1890–1914, 1913 prices.

1. Equipment and structure	2.7 percent
2. Equipment, structures, and livestock (Kahan's estimates)	1.8 percent
3. Equipment, structures, and livestock (Gregory's estimates)	2.0 percent

Source: Gregory (1994).

Further evidence of *rising living standards in agriculture*, consistent with the data on the rising growth rate of per-capita consumption, is the 14 percent average real increase in the wages of rural hired farm workers between 1885–1887 and 1903–1905.

As summarized above, Gregory (1994, p. 48) supports Gerschenkron's periodization, which detects two waves of industrialization: the first in 1887–1901 and the second peaking shortly before World War I.[149] Reflecting on the first industrialization and weighing the shortcomings of own statistical estimates, Gregory (1982, 1994) concludes that Gerschenkron's hypothesis about the mobility barrier imposed by institutionalized collective ownership and fiscal obligations during the period from the emancipation (1861) to the turn of the century, resulting in the impoverishment of the peasant economy and intensified by industrialization, *is not supported by the data* (Gregory, 1982, p. 136).

An examination of the formal law detached from actual economic performance, and deduction based on it, suggests qualitatively that the combination of mobility and investment barriers and population increase did intensify the peasants' immiseration. Particularly implicated is the institutionalized acceptance of collectively assigned land rights and the obshchina-specific egalitarianism manifested in the periodic redistribution of control over agricultural means of production as was inherent in the rural custom. Viewing the legal statutes, one would propose that their effect was aggravated by the coerced financing of industrialization via tax increases, which dealt the rural population's living standards an additional blow.[150]

Contrary to the Gerschenkronian deduction, Gregory proposes that informal rural habits seem to have neutralized the adverse effect of formal restrictions on economic performance, allowing agricultural output to increase more rapidly than the population and ensuring rising rural living standards during the industrialization decade (Gregory, 1994, pp. 50–52).

Gregory's argument is supported by Semyonova Tian-Shanskaia (1993, pp. 153, 154), who finds that according to the Tsarist state's hierarchy of responsibilities and coercion, the village elders guaranteed the tax debt payments of heads of household. By custom, the joint responsibility norm that structured the village commune resulted in auctions of draft animals, affecting all villagers for collective repayment of the tax arrears of the worse-off. It is important to acknowledge this practice

[149] Gregory (1982), p. 137, emphasizes that Gerschenkron premised his periodization on changes in industrial output while his own calculations are extended to aggregate output value.

[150] Gerschenkron (1962, 1968), may be said to have concentrated on the socioeconomic effects of formal institutions in Imperial Russia, inferring from the emancipation and redemption acts of the 1860s their effect on economic performance.

because it substituted land rotation from the common land allotment pool for the redistribution of movable assets. These "*informal contracts*", which protected the stability of landholdings, were one example among many that neutralized the investment disincentive effects of the formally institutionalized and imposed land-rotation in accordance with tax obligation custom.

Elasticity of Collectivist Land Repartitioning, Population Increase, and Risk of Poverty

The informal habit of mutual beneficence within the communes, with reapportionment of chattels substituting for reapportionment of land as a way to equilibrate taxpaying capacity, may have created a de facto hereditary family-based land-ownership structure throughout European Russia, rendering the differences in increases of land productivity explainable in ways additional to the institutional restrictions recorded in the *Svod Zakonov*.[151] Indeed, a study by the Russian Ministry of Internal Affairs shows the following distribution of actual land repartitioning after the emancipation in 73,000 rural societies (Atkinson, 1983, p. 74).

Table 5-4 Frequency of Land Redistribution

Never redivided their land	48 percent
No redistribution in more than 40 years	3 percent
No redistribution in more than 15–25 years	13 percent
No redistribution in more than 10 years	15 percent
Periodic repartition	21 percent

Source: Ibid., based on text.

Atkinson (ibid., p. 74) cautions that the aforementioned survey does not include a comparison with the pre-emancipation frequency of land redistribution. Moreover, communes had been customarily redistributing after each census, and no population census took place in 1858–1897.

It follows from Atkinson (ibid.) that turn-of-the-century Russia saw controversy over the de facto characteristics of the village commune. Kachorovsky points to near

[151] Gregory (1994), p. 52. *The Svod Zakonov Rossijskoi Imperii* was the legal code of Imperial Russia. Presumably, the state's incentive and power to tax and apply social control would be unequally distributed (inspired by Migdal, 1988, pp. 1–9, and Sztern, 1994). Consequently, peripheral regions that were far from political centers, newly colonized, or "protected" by topography, although communally cultivated, would not be formally induced through a collectively assigned fiscal burden to enforce the obligations and rights attendant to repartition.

ubiquity of redistributions during the 1880s, followed a decade later by peasant resistance to the procedure due to shrinking land allotments amid population growth. This notwithstanding, redistribution was practiced among peasant households that had small land allotments (ibid). While the Ministry of Internal Affairs survey advised that 48 percent of the communes never really redivided their land (Table 5-4), a survey by the Free Economic Society in 1910 among ten central agricultural and mid-Volga provinces disclosed that 60 percent of the communes had redivided their land in 1895–1906, even though the 1893 statute imposed a twelve-year moratorium on this practice (ibid., p. 75).

As the Ministry of Internal Affairs assumed that the commune had lost its vitality when it conducted this survey, its aforementioned findings may be biased on this account. Table 5–4 implies that even though joint responsibility for taxes and dues was engraved in formal law, land redistribution was not ubiquitous de facto. Thus, as Tian Shanskaya indicates, in cases of accumulated tax arrears among poorer households, the redistribution of chattels substituted for land reapportionment—an outcome that additionally vindicates Gregory's findings. The data on the actual frequency of repartitions are highly self-contradictory. A Free Economic Society inquiry in 1910 and 1911 concerning ten central agricultural and mid-Volga provinces found that only 8 percent of 400 communes did not redistribute their land (ibid., p. 75). Roughly 60 percent did redivide their land in 1895–1906, i.e., after the introduction of 1893 law that prohibited land repartition within a twelve-year interval. If so, the practice was widespread and the government, attempting to intensify land use, had to legislate against overly frequent land redistributions. Obviously, there was a discrepancy between de jure and de facto practice. Notably, although the formal law accepted for taxation purposes the tenure of the obshchina including its egalitarian value system, it did not prohibit the skipping of repartitions. On the contrary: periodic land redistributions were gradually outlawed (ibid., p. 30, and Gerschenkron, 1968), increasing the de facto stability of household ownership (Löwe, 1990; Bideleux, 1990). Moreover, forgone repartitions, i.e.. de facto hereditary land ownership, was gradually applied de jure through the implementation of the 1893 and June 14, 1910, statutes. Under the latter act, lands of villages that had not redistributed since the original allotment in 1861 were placed under hereditary tenure automatically and in their entirety (Atkinson, 1983, p. 76). The assumed informal substitution of chattels for land in repartition agreements, however, probably could be enforced through social sanctions only. Given the industrialization-induced increase in the mobility of the rural population—a trend that the commune assemblies presumably tolerated due to population pressure[152]—

[152] Atkinson (1983), p. 74, verifies this assumption, maintaining that despite the formal mobility barrier ostensibly imposed by the obshchina system, "Communes were not unwilling to release members when there were opportunities for more profitable employment elsewhere," as their willingness to do this could spare them from impoverishment.

the assumed habitual exchange system, based on personal relations, became increasingly burdened with transaction costs. This led to greater adamancy in the demand for an adjustment of formal law (applied from Eggertsson, 1990) that would institutionalize household as well as individual ownership and "emancipate" the peasants from the commune.

If due to rising mobility, i.e., rising elasticity of collectivism, the rural sector was not overpopulated in either the Leninist nor the Malthusian sense and industrialization did not impoverish the rural economy in relative (international comparison) terms, Gerschenkron's emphasis on formal institutional constraints that gravely impeded development may be modified in favor of the interpretation offered by Gregory (1982, 1994).

As for the "great famine," Bideleux (1990) concludes (below) that the excess of 280,000 deaths in 1892 relative to the average mortality rate in 1861–1890 (Bideleux, 1990, Statistical Appendix, p. 216) cannot be explained by the crop failures of 1891–1892, which ostensibly dealt a *coup de grace* to the already exhausted rural population. Instead, he traces the heightened mortality to cholera epidemics that occurred in 1892 according to a periodically repeating pattern. The sixteen provinces that were struck by crop failures, Bideleux reports, accounted for barely one-third of cholera deaths recorded in 1892. Thus, the remaining two-thirds of deaths from cholera cannot be explained by a causal relationship between the crop failures and cholera, even though some scholars do put forward this theory. Importantly, cholera is water-borne and could have spread from Asia via the slow-moving waters of the Volga River. It has also been argued that the diffusion of the disease should be attributed to ignorance, poor education among the peasants, and deficient public sanitation in regard to water supplies, and not to a shortage of food (ibid., p. 207).

Thus, the evidence reported by Bideleux of sufficient and rising food production in the Russian countryside relative to other European countries—the crop failures notwithstanding—and increased labor mobility lend further support to Gregory's (1982, 1994) conclusions concerning a rising rather than a declining standard of living among the Russian peasantry before and during the industrialization decade.

Gregory (1994) derives the existence of "informal habits" from a Neoclassical model based on the assumption that economic agents, including peasants, act as utility maximizers[153] that seek profit, that is, possibilities of survival, by downing barriers to economic activity imposed on them by formal restrictions or institutionalized custom. He suggests that "side payments" (Gregory, 1994, pp. 50–52) or their alternative—compensation in the form of draft animals or a share of the

[153] Gregory, 1994 p. 50. The assumption according to Gregory contradicts the position of Chayanov (1925).

crop—substituted for the reassignment of land parcels at repartition times, leaving the long-term investment incentives unaffected by formal restrictions. Although the direct evidence of rationalist peasant response to population increase and shrinking per-capita land allotment (Atkinson, 1983, p. 30) is speculative and anecdotal at the very best, the quantitative indicators of structural transformation in favor of nascent industrial sectors and migration to peripheral regions indicate that the redistribution practice that related household land endowment to the number of adult males / work teams (*tiaglo*) per household (Worobec, 1995, p. 22) was handled flexibly by the peasants, implying that movable capital compensation for land rotation was in place (Kingston-Mann, 1991, pp. 35, 37, 45).

Thus, an egalitarian practice of chattel redistribution substituted for the ubiquitous redistribution of land rights—the equity-maintaining repartitioning of immobile assets and fixed investments—within the obshchina. Informally practiced compensation habits of these kinds, Gregory concludes, may have affected income redistribution within the commune without affecting the productivity of land and labor employed in agricultural production. In the long run, then, the equity-oriented obshchina spirit would not impair the growth of agricultural output. Gregory's argument is corroborated empirically by Nafziger's (2010) studies on peasant response to mortality shocks and changes in the land-to-labor ratio.

Bideleux (1990) vs. Gerschenkron (1962, 1968)—Mobility Barrier, Agrarian Property Rights, and Productivity

The possibility of questioning the assumption of peasant immiseration during and as a result of the industrialization is very valuable if one wishes to make room for a conceptualization of the character of collectivism brought about by the infusion of Western technology. The objective of such a conceptualization is to formulate hypotheses on the institutional origin of the transfer of land rights from rulers' patrimony (*votchina*) (Pipes 1995, p. 70)—to subjects, as was codified in Stolypin's 1906 land reform. Did the reform merely emulate the agrarian structures of Bismarckian Germany in a quest to preserve the stability of the autocratic dictatorship? (Ascher, 2001, p. 2) Alternatively, did the individualization of land rights in Russia originate in changes in relative scarcities that were caused by the interaction of the post-serfdom still compulsorily collectivist agrarian institutions and the railroad technology, introducing rising predictability into transactions and thereby reducing the risk to subsistence? If the latter is the case, the Russian peasantry must be understood as having transitioned from obeying authority within a coercive collectivist hierarchy to individual household rationalism spontaneously,

gradually, organically, and in tandem with the use of railroads. The legacy of the pre-revolution Late Tsarist institutions must then be understood as individualistic and not, as Western scholars commonly assume, collectivistic. My foregoing deduction (the previous sequence) from the Neoclassical model has explanatory value provided the peasants actually were utility maximizers, as Neoclassical doctrines assume as a core proposition.

Even if the data-based calculations are valid, as presumably they are, they reflect a doctrinal mindset. Therefore, an additional source confirming the findings may provide at least the minimum necessary extent of "theoretical objectivization." It is with this in mind that I present the empirical findings of Bideleux (1990, pp. 196–217). Bideleux argues effectively against the proposition of the peasant population's severe impoverishment due to the first wave of industrialization in the last decade of the nineteenth century. As proponents of Gerschenkron's agrarian-crisis thesis suggest, the immiseration culminated in 1891 and 1892 in a disastrous famine that, according to analysts inspired by the Malthusian tradition, provided an additional and justifiable reason for the occurrence of a Malthusian crisis. Such conditions would intensify rural collectivism. According to the Soviet and Leninist tradition that piggybacked on the "agrarian crisis" hypothesis, the crop failures and the resulting famine were of political rather than economic origin (ibid., p. 198). The assumption of an institutionally determined retention of labor by the rural economy is the core premise of the "dual economy" model. If agricultural productivity increased amid mobility barriers, the rural sector would generate a surfeit of labor relative to the needs of agriculture, i.e., a "reserve army" potentially available for capitalist exploitation. Only a challenge to the traditional institutions could unleash the productive forces of capitalism. Bideleux (1990) counters this position as well.

The Gerschenkronian analysis, compatible with the Malthusian tradition,[154] assigns the main blame for the peasantry's immiseration and backwardness to population increase, institutionally determined immobility, and, as a result, overpopulation in the rural sector. This, according to the Gerschenkronian conception championed by Atkinson (1983), among others, led to falling per-capita land allotments, intensified the exploitation of soil, and rendered technological improvements in agricultural production inadequate—the last-mentioned outcome attributed to the conditions of poverty and unstable ownership that inhered to the communal land-tenure system. Strip farming, additionally induced by periodic repartitions, impeded the rationalization of land use and supposedly thwarted the requisite increases in food supply. These factors contributed to the incidence of Malthusian positive control—in this case, death from starvation. Thus, population increase is assumed to have

[154] Ibid. The analysis inspired by Malthusian tradition is represented by both Soviet and selected Western scholars and was presumably adopted by Atkinson (1983), referenced above.

outpaced agricultural production, making the countryside overpopulated in the Malthusian sense.

Let us add to the foregoing by noting that the immobility of rural labor would have caused a shortage of skilled labor. Against this background craftsman and landsman worker cooperatives (*zemliaki artels*) (Troyat, 1961, pp. 98, 99; Johnson, 1979, pp. 68, 69) sluggishly increasing participation in industrial settings- would have subjected the urban industrial labor force to exploitation, solely in the short run , a phenomenon that industrialization would have intensified. Furthermore, insofar as these workers had an alternative source of subsistence, the restriction on labor supply could have rendered industrial wages susceptible to upward pressure.

Given the allegedly poverty-stricken countryside, the insufficient competition for unskilled labor would have denied employers the necessary incentive to offer wage increases. With the possibility of substituting capital for working hands taken into account, the mobility impediment might indeed explain general impoverishment within a "dual economy" and, in turn, the crisis. The country-bound peasantry, which as a potential "reserve army" due to rural immiseration could have abetted capitalist exploitation of the urban workforce, would have rendered the rural sector definable as overpopulated in both the Malthusian and the Leninist senses. Moreover, even if the rural sector was not overpopulated in the Malthusian sense, it would have been perceived as such in the Leninist sense due to the irrationality of labor-force allocation caused by the mobility impediments, which would have caused the crisis and necessitated political corrective measures.[155] The available Soviet literature, based on Tsarist-period statistics that support the Leninist as opposed to the Malthusian overpopulation concept, conforms to Bideleux' estimates in Bartlett, the Western source.

According to both the former and the latter, grain and potato output grew faster than the population in 1860–1890:

[155] Bideleux, R. (1990), p. 198. In Bartlett emphasizes the difference between the Malthusian concept of overpopulation and the Leninist one. Presumably, Gerschenkron's emphasis on the adverse effects on economic development of institutionally determined labor-mobility hindrances incorporates the concept of rural overpopulation in the Malthusian as well as the Leninist sense.

Table 5-5 Net grain and potato increase, European Russia, 1860–1890

Bideleux: A.S. Nifontov Zernovoe proizvodstvo Rossii vo vtoroi polovine XIX veka

	1860s	1870s	1880s	1890s	Annual pct increase
European Russian population, millions	63.7	69.8	81.7	94.2	-Total 1.3 - Rural 1.2
Net grain+potato output (million chetverts, grain equivalent)	158	187	228	290.5	2.00
—per inhabitant	2.48	2.68	2.79	3.08	
—per rural inhabitant	2.75	3.00	3.18	3.55	

Source: Bideleux (1990), p. 199.

The Marxist-Leninist allegations concerning the post-emancipation immiseration of the peasantry (poverty intensified by industrialization, providing just cause for the eruption of a crisis) do not, in principle, contradict the acknowledged increase in per-capita agricultural output and income amid population growth. Bideleux's (1990) estimates support Gregory's in their refutation of the peasant immiseration hypothesis.

The Ideologically Inspired Concept of Relative Poverty in Soviet Sources

The Soviet concept of relative poverty, derived from the Marxist-Leninist one, refers to an increase in differentiation within the rural class that impoverishes the poorly skilled relative to the rural entrepreneurship strata within the peasant community (ibid., p. 200). Such a differentiation is said to be independent of the increase or decrease in per-capita agricultural output and may be interpreted as the result of skill inequalities, i.e., differences in peasants' relative industriousness that are subsequently reflected in income inequalities. Rising entrepreneurial skills combine with growing per-capita income, the latter providing certain farmers with opportunities to accumulate non-agricultural earnings and wealth—resulting, according to Leninist thinking, in class differentiation. Therefore, the critique of the Tsarist industrialization in Soviet sources concerns primarily the potential assault on the principles of equity and the viability of the commune, i.e., the prospect of the impoverishment of some that would eventually lead to the impoverishment of many. The alleged class differentiation doomed the peasants to misery relative to their wealthier fellows, the kulaks, as well as to the landed nobles. This, along with the

exploitation of the former by the latter two social strata, provides the Leninism-inspired sources with their mainstream analytical framework (e.g., Dubrovskij, 1963).

Unfortunately for the Leninist paradigm, the empirical evidence does not sustain the fears of *increasingly differentiated* opportunities to acquire means of production within the obshchina. The characteristic value system of the obshchina, probably manifested in the redistribution of chattels, actually assured the property interests of the majority, as noted.[156]

Wage Labor and Migration as Buffers against Impoverishment

Paradoxically, data conveying information that one may use to refute the hypothesis about the impoverishing effect of the Tsarist economy‘s “feudal institutions,” showing an increase in de facto labor mobility during the 1861–1910 period, are also provided by Soviet historians, additionally verifying the assumptions that Western sources have expressed on this issue.[157]

[156] Bideleux, R. (1990), p. 200. The average size of an average peasant household allotment in European Russia was 11.1 hectares / 27.4 acres. In 1877, only 4.4 percent of peasant allotments were smaller than 2.2 hectares / 5.4 acres. The percentage share of the smaller allotments rose to 4.7 by 1905. The share of farms that were smaller than 2.0 hectares was 1/3–2/3 in France, Germany, and southern and Eastern Europe. In Japan, 2/3 of all farms were smaller than 1.0 hectare. By international comparison, then, the distribution of access to agricultural means of production seems to have been quite equal in Tsarist Russia. Moreover, the hired agricultural labor force, presumably consisting of landless peasants, was only 5 percent of total agricultural labor at the turn of the century.

[157] Ibid., p. 199. Bideleux confirms the Gregory’s hypotheses (1994 p. 51) about an increase in labor mobility during the post-Emancipation era. The fact that Soviet sources, subjected to censorship, would contain information that could be interpreted in favor of the commune village as an “economically rational” institution is hardly surprising. The Marxism-inspired pre-revolutionary Russian intelligentsia, as well as the Populists, saw the “folklore-based” collective land-tenure system as a possible shortcut, at an interim bourgeois stage, to full-fledged socialism. Moreover, the Leninist concept of overpopulation notwithstanding, the issue on which both the Bolshevik leader and Count Witte actually agreed was the need to preserve the commune. While the former hoped for the commune to become a vehicle of the socialist revolution, the latter, until the upheaval of 1905, expressed the Tsarist government’s expectations of the obshchina system as an assurance against such a development. It may be added that history proved Lenin right in this respect; the commune did become a very convenient forum for Socialist Revolutionary agitation. The reflection on the Marxists’ position is based on Gerschenkron (1962), pp. 152–187; Lenin’s and Witte’s view of the obshchina and its role in the upheaval, among other topics, are analyzed by Ascher (1988), Part I: Russia in Disarray.

The empirical findings in the following table provide grounds for a challenge to Gerschenkron's assumptions about the ostensible labor-mobility barrier inherent in the post-emancipation Tsarist economy.

Table 5-6 Internal Passports Issued, 1861–1910

	1881-70	1871-80	1881-90	1891–1900	1901–10	1906–10
Millions	1.3	3.7	4.9	7.0	8.9	9.4

Bideleux: A.G. Rashin, Formirovanie rabochego klassa Rossii (M., 1958).

Source: Bideleux, R. (1990), p. 199.

The 1897 census defines roughly 13.4 million people as *meshchanie* (townspeople), of whom 5.9 million (44.4 percent) shared their livelihood with inhabitants of rural areas and shared customs with their peasant neighbors. Moreover, numerous rural villages had been defined as towns. In, addition, 1.5 million inhabitants of urban areas described their vocation as agriculture or animal husbandry. Thus, Moon (1996) proposes that Bechasnov's estimations should be accepted and that half of the townspeople were in fact rural. The table below reproduces the composition of the rural population in European Russia according to Bechasnov (Moon, 1996, pp. 141–153).

Table 5-7 Rural Population according to Bechasnov

Social Estate	Number (thousands)	Percent of total population
Peasantry	96897	77.12
Cossacks	2929	2.33
Townspeople (half)	6693	5.33
Aliens	8298	6.60
Total	114817	91.39

Source: Moon, 1996, pp. 141-153

Given the total population of European Russia according to the 1897 census (125.6 million), the urban population was the residual (approximately 10.8 million). According to Bideleux's data in the foregoing table, internal passports issued to the rural population in 1891–1910 covered only 6.9 percent of this population on average. Nevertheless, it is the dynamics of the urbanization process that should receive the main attention because they conduce to the indication of a mobility barrier.

Valuable data that allow the argument in favor of dynamically rising labor mobility due to industrialization and railroad construction are provided by Kahan (1989, p. 4, Table 1.2), reproduced below.

Table 5-8 Passports of Different Time Durations, 1861–1900 (thousands)

Year	1-3 months	6 months	Yearly	Over 1 year	Total
1861–1870	1,869.6	5,661.1	5,332.9	59.2	12,913
1871–1880	17,258.5	10,169.8	9,414.0	87.1	36,929
1881–1890	24,366.7	13,118.9	11,889.4	91.2	49,466
1891-1900	20,539.8	11,101.6	37,880.1	1,844.7	71,366

The declining issuance of 1–3 month passports and the dramatic increase in issuance to terms of more than a year in the decade of the industrialization spurt indicates atrophy in ties to the village and the rising propensity of long-term migration. This, in turn, suggests growing individualism in households' decision-making on the rising marginal utility of wage labor and the unfavorable tradeoff with subsistence ethics of the household that had been anchored in the customary reliance on agricultural income and land redistribution in accordance with the number of males per household. Thus, the mutually enforcing combination of railroad construction and population increase, coupled with general industrialization, eroded the mobility barrier that rural custom, structured by the legacy of serfdom, had imposed. These data allow Gerschenkron's proposals concerning the existence of a stable and constant mobility barrier during the post-emancipation period to be challenged.

Supplementing these statistics, the 1897 census reports that 15 percent of the Russian population changed residence permanently or on a long-term basis during the post-emancipation period—a "migration wave" by Russian standards.[158] *Between 1860 and 1913, migration from rural to urban centers gave Russia's "industrial proletariat" an annual growth rate of 2.5 percent*. This "proletariat" grew predominantly due to migration. It had no natural increase, as the peasant laborers kept their families in the village and repatriated their urban incomes to them (Johnson, 1979, p. 41). Industrial output grew by 5 percent per year during the same period. Data on rail passenger traffic (see table below) lend additional support to the claim that labor mobility *increased* during this time (Bideleux, 1990, p. 200) due to growing population and improved transport.

[158] Bideleux, R., p. 199. The United States, however, boasted a very impressive level of mobility at this time, twice that of Russia.

Table 5-9 Peasant Mobility by Rail

Year	Rail passenger traffic per year (millions of people)
1871	21
1891	48
1912	245

Source: Bideleux (1990), p. 200.

Considering the annual growth of the urban labor force—observed by two mutually independent sources—and the evidence of the generally increased mobility of the population, the rural *push* and urban *pull* assumption presented in the foregoing developmental scheme is justifiable.

How Coercive was the Enforcement of Collectivist Custom in the Post-Emancipation Commune?

The pre-emancipation commune, the legacy of post-emancipation rural life, penalized peasants who wished to defect by saddling them with obligations and invoking informal sanctions such as damage to reputation and creditworthiness (Mironov, 2000, p. 306). Given the level of mutual dependence that the precarity of Russian agricultural conditions imposed on daily life in the peasant commune, the threat of ostracism, hostility, and neighbors' distrust were effective means of deterrence and enforcement of compliance. Deviance from agreed-upon norms posed real dangers to individuals' and households' subsistence and survival (ibid.). Formal sanctions that were applied in the rare cases of breach of communal customary agreements on obligations included "fines, flogging, confiscation of property and sale, detention, expulsion from the commune, recruitment into the army, exile, and imprisonment" (ibid.). In the infrequent cases of theft of draft animals or indispensable agricultural implements, the accused could be exposed to *samosud*, an extrajudicial compulsory collectivist spree of peasant violence that more often than not ended with the alleged offender's violent death (ibid.).

In its ruling structure, the commune emulated in microcosm the macro superstructure of the Russian Empire (Mironov, 2000). The elder's position was analogous to that of the Tsar. The council of the eldest (the *stariki*) emulated the Boyar Council. The village assembly (the *skhod*) constituted the equivalent of the *Zemskij Sobor* and the patriarchs mirrored the ruling elites (ibid., p. 314). Mironov (2000) defines the pre-emancipation communal structure as a "patriarchal egalitarian democracy" with a clear hierarchy of authority that subordinated to the patriarch's authority women, the young, and men who were not *bolshaks* (heads of household) or who belonged to the minority. Example of minority were peasant

outsiders to the village *postoronnie* –who during the serfdom history belonged to other villages and landlords, unlike the *pripisnoe* –registered as the belonging to the village stable members, traditional particular village population, (Penza region, rural self government-*zemstvo* statistics collection 1913). Following the 1861 emancipation, serf owners' instructions were replaced with government regulations and decrees, codifying the custom that structured peasant life into written law (ibid. p. 328). The emancipation statutes restricted the village assembly's prerogatives but allowed it to continue convening in order to manage "land repartitions, allotment of taxes and expulsion of members from the commune. Peasants elected their police subject to communal and crown control. The laws of 1861 empowered the commune to serve as a first-instance "cantonal court" (ibid., p. 330). The post-emancipation commune became bureaucratized, the village elder (*starosta*) and the tax collector subordinated to state administration at the cantonal (*volost*) and district (*uezd*) levels (ibid.). In delineating the hierarchies of coercion, it is important to note that the peasant eldest, the *stariki*, were punished for peasant defections through arrests and fines. It was the disputes that resulted from this that ultimately made the commune the subject of state laws (ibid., p. 332).

In spite of bureaucratization, the traditional communal village court system—family courts, commune village courts, courts of the eldest (*starikov*), courts of neighbors, courts of village elders (*sud starosty*) and village assembly (*skhod*) court—continued to serve after the emancipation (ibid., p. 336). The communes' policing functions, in turn, were broadened with responsibilities previously assigned to serf owners. Types of penalties remained in effect roughly in accordance with tradition, "ranging from admonition, arrest, [and] selling of tax delinquents' property" (ibid., p. 337). Nonconformists could still be exiled to Siberia (ibid.). While the scope of this dissertation does not allow deeper analysis of this issue, I suggest that a regression for all of Russia on the occurrence of *samosud* (extrajudicial violent penal mob parties) as related to distance to railroads may disclose a positively correlated frequency. It is plausible to formulate a testable hypothesis: the closer to the railroads (the shorter the distance in kilometers), the more cantonal and imperial legality-compliant interaction there was, and the less the structure of rural ancient custom persisted. The frequency of *samosud*, as adduced from police records, would be explained by physical and cognitive distance to the railroads, to the cantonal court, and to the imperial court.

Peasant conceptions of the legitimacy of mutual help/rescue (*pomoch*) (Worobec, 1995, pp. 23, 24; Mironov, 2000, p. 338)—indispensable for the fulfillment of the survival obligation the event of fire, floods illness, other forms of breadwinner disability, and other calamities striking individuals and groups—in itself constituted a concealed system of penal sanction and rewards. Reliable, foreseeable, thrifty, trustworthy entrepreneurial peasants, heads of households who as a rule did not shirk their obligations, were assisted when temporarily disabled or stricken by

calamity. Those whose reputations were impugned were allowed to fail, chased away, fined, jailed, dispossessed, and excluded from the commune's mutual-insurance frameworks (Worobec, 1995, p. 24). These attitudes in themselves shed light on the coercive enforcement mechanism that structured post-emancipation village life. Moreover, mutual insurance and *pomoch* were subject to individual utility evaluations rather than blind obedience of custom. It was of ultimate importance for assistance that the calamity-stricken household be temporarily disabled and could be counted on even while in need of neighbors' assistance (ibid.).

Such communal cohesion mechanisms weakened, we assume, for two mutually contingent reasons: population increase and access to railroads, which eroded the effectiveness of coercive sanctions as a function of the probability of calamities, conflict, and mutual dependence in the handling of individual and household challenges to survival.

The peasant morality exposes the very long-term rationality of custom itself, subject to natural selection and adaptation of rule systems (Vanberg, 1994; Veblen, 1931; Hodgson 2004), in which the "collective memory" of famines (North, 1993) assumes the custom perpetuating function. Such an interpretation of custom is supported by Vanberg (1994), who stresses that compliance with written and unwritten rules is the result of a perceived higher long-term payoff to rule-following than to noncompliance. Peasant experience and wisdom is encapsulated in the following adages: "He who disregards tradition cannot live with others" and "What the mir ordains is what God has decreed" (Mironov, 2000, p. 322). Thus the rejection of custom embodied in defection triggered severe ostracizing formal and informal sanctions against the offender as a means of coercive enforcement. It is important to emphasize that labor mobility had been allowed through the de facto implementation of the *teleological*, not the *semantic*, interpretation of custom by the village assembly, resulting in a two-thirds majority vote in favor of issuing the requisite internal passport or passports at the time of population increase (Atkinson 1983 p. 74). *Peasant mobility*, I posit, occurred not in defiance of custom but precisely in adherence. The Gerschenkronian conceptualizations of peasant custom and mobility view the informal legal restrictions as rigid, while Gregory seemingly relates to side payments—"informal habits of mutual beneficence"—as extra-customary, which they are not. The custom itself was flexible, adjusting to changing scarcity relations due to population increase and allowing migration and seasonal wage labor. The visible structural changes illuminated in Tables 3 and 4 above indicate that the mobility barrier to peasant labor was weak if not nil.

To sum up, it is clear from Gregory's tables that the communal mechanisms of coercion that were employed to enforce *krugovaya poruka*—mutual responsibility for taxes and dues, resulting land redistributions occasioning endowment congruent with the fiscal obligations of adult labor teams—which, according to Gerschenkron,

hindered the mobility of labor from the rural to the urban sector, must have been weak and elastically adaptable to the earning opportunities intrinsic to the industrialization that railroad construction was spearheading. This observation is important and is supported by Burds (1998) and Nafziger (2010). Detailed discussion on the approach in this dissertation to Nafziger's explorations of the economic rationality behind factor flexibility within the communes is found in Chapter 9. Gregory's data indicate that the communes' labor mobility adapted to the land-to-labor ratio, on the one hand, and to households' living standards aspirations, on the other. From Burds (1998), we learn that adult family members were not hindered by the elder structures in leaving the commune provided their *otkhodnik* (wage-labor) income be repatriated for the upkeep and tax payments of kin who remained in the commune. Defection on the obligation to repatriate earnings to the communal pool resulted in criminal charges against wage-labor parties (Burds, 1998, pp. 29, 211–215; Johnson, 1979, p. 30).

Burds' findings for the interval between the emancipation and the Stolypin land reform (1861–1910) disclose the growing proportion of internal passports issued to peasants advising on the actual absence of mobility barrier and rising proportion of the peasant population participating in otkhod—wage labor—and migration (Burds, 1998, p. 23, Table 1.3.). In decisions on issuing internal passports, the village assembly of heads of household was the enforcer of the customary restrictions (Gerschenkron, 1962, pp. 120, 121). Burds, supplementing Gregory, however, allows us to refute Gerschenkron's and Atkinson's static conceptualization of the effect of custom on actual peasant choices, decisions, and mobility norms.

Membership in commitment devices is ultimately explained by the benefits of inclusion (applied from Greif, 2006, pp. 100–103). It is important to call attention to the perceptible increase in criminal cases that were brought before the circuit courts, district assemblies, land captains, and volost' courts (Frank, 1999, p. 56, Table 2.1) during the decade of peak industrialization and railroad construction, as is reported for Riazan province in 1892–1908 (Frank, 1999). The bureaucratization of the commune, we assume, resulted in an increase in documenting and recording criminal cases. Nevertheless, *the reduction of mutual dependency due to greater use of railroads* and dwindling distances of communes from railroad lines may be expected to have attenuated the deterrent potency of the traditional sanctions depicted above. This, we posit, resulted in an upsurge of criminal as well as innovative activity. Frank (1999, p. 77, Graph 2.4) reports that rural felony convictions peaked simultaneously with the Stolypin reform and the crumbling of the commune, i.e., with the erosion of coercion and enforcement of the compulsory collectivist custom. It is thus possible to formulate a testable hypothesis—The frequency of criminal cases is explainable by distance from railroads—for future research.

Formal Restrictions and the Head of Household's Decision Matrix

The formal restrictions that existed in principle empowered commune assemblies and heads of households to retain labor in the villages. In response to the increase in population, however, the motivation to enforce such ability presumably weakened. Generalizing from this example, one may depict formal laws as providing merely an incentive for a certain action; whether this action will actually take place depends on the motivation to undertake it when the exigency arises.[159]

The obvious conclusion is that compliance with formal and customary restrictions was attenuated by considerations of the village elders' assembly, which were informed by rational subsistence risks pertaining to time and region. It was in this assembly, which made its decisions by a two-thirds majority vote (Worobec, 1995, p. 3), that entrepreneurs among heads of household (*bolshaki*) effected their cooperation and coordination. Although the village administration—a legacy of serfdom—was variously composed, most such panels were headed by a headman (*burmistr*), a tax collector (*tseloval'nik*), and a *zemskii* (clerk), who may have been a priestly assistant from the parish church. The village administration consisted often of elders (*starosty*), foremen (*starchina*), selectmen (*vybornye*), overseers (*smotriteli*), and constables (*sotskie, pyatidesiatskie, desiatskie*). Its core was the village assembly (*skhod*), which elected the remaining functionaries unless the landlords performed this duty, as had been the case in serfdom times (Moon, 1999, p. 202).

Viewed through New Institutional Economics lenses, the component of individual motivation in village assembly heads' decisions may be conceived, in terms of its quality and time horizon, as ontologically different from the direct effect of the formal and customary legal structure. Consequently, the acknowledgment of motive as an additional condition for a human action makes motive the determining explanatory dimension in each case specified in the matrix below. The cases, aggregated diachronically, follow an ex post identifiable pattern that may disclose a collective phenomenon of knowledge or memory that is definable and useful for an ex ante analysis focusing on informal institutions, such as "habits of thought" (Veblen, 1931, p. 188), that determine behavior, and vice versa. The latter may reveal the long-term collectively defined objective of a custom. Such a perspective, however, is by necessity insufficient because custom predates individually motivated interaction.[160] Thus, I suggest the long-term objective of the repartition

[159] This statement is inspired by Goldhagen's (1996, p. 18) analytical frame.

[160] Archer (1995), p. 76. The Critical Realist school shares this axiom.

commune, which was to secure its members' social and material well-being. Applying Vanberg (1994) and Veblen (1931) in combination, I assume the long-term rationality of custom itself, manifested in the natural selection and adaptation of rule systems to the conditions of life of whole populations. From this perspective, an increase in the population of an obshchina would give its assemblies a long-term customary motive to insure against the historically estimated probability of Malthusian impoverishment by allowing those willing to migrate to do so. The motive in this case may be understood as the result of an individually perceived present necessity shaped and molded by the tacit long-term objective of the custom. The growing flexibility of the commune, marching in tandem with population increase and railroad construction and abetted by the institutionalization of informal cooperation, itself constituted insurance against a mechanism that would adjust impoverishment to novel scarcity conditions of life. Rationality of custom and ultimately, in tandem with modernization, that of individual is a theoretical expectation in this dissertation, not the proof of the phenomenon. Chapter 9, however, corroborates by induction that the nineteenth-century Russian peasant was hedonistically and rationally motivated to evaluate the marginal utility of membership in the commune as against that of leaving it.

A decision by village elders to "open the commune borders," however, may also be explained in terms of an emerging deviant innovative spirit[161] created by the need to ensure survival.

Gerschenkron (1968, p 186) summarizes two institutions that were constitutive of the commune: periodic repartitions and joint responsibility (*krugovaya poruka*) of commune members for government taxes and dues. In practice, the method of land allocation was variegated. Village assemblies allocated land to households according to the number of census "souls" (male household members, irrespective of age), the number of workers per household, and the number of eaters per household—all household members. Worobec (1995, pp. 22–26) specifies the *tiaglo*—married couple—as the labor team that constituted the basis for land allocation.

Impact of the 1861 Emancipation Act

The Tsarist Russian obshchina was characterized by egalitarianism (ibid.). In regard to the mobility barrier created by joint responsibility for taxes and dues, two articles

[161] This assumption is inspired by Gerschenkron (1962), Essay 3.

in the General Statute of the 1861 Emancipation Act deserve attention. The first is Article 36:

> Each member of a village commune can demand that out of the landholdings acquired as communal property a quantity of land corresponding to his contribution to the acquisition of this land be separated out onto his individual ownership. If such a separation should appear impractical or impossible, the commune has the right to satisfy the peasant wishing to leave the commune by a sum of money arrived at by agreement or by an official evaluation (Gerschenkron, 1968, p. 186).

This article prejudicates the acceptance of chattel reapportionment—monetary side-payments—as substitutes for the reapportionment of immobiliers stemming from joint fiscal liability (*krugovaya poruka*). Such a substitution would attenuate the mobility barrier that Gerschenkron emphasizes and vindicate Gregory's proposal about stable de facto use rights in land. Theoretically, the population increase in the second half of the nineteenth century would compel rational heads of household to allow adult family members to secede from the household and the commune, thereby compensating the outgoing party for the monetary value of his contribution to communal land. This swap would facilitate the urbanization process as well as migration to sparsely populated regions, e.g., Siberia.

The redemption procedure encapsulated in Article 165 of the Emancipation Act of 1861, however, embodies the mobility barrier—temporary and technology-contingent—that actually existed:

> Until the redemption loan is repaid, the separation of land to individual householders out of lands acquired by the commune is not permissible except with the consent of the commune. However, if a householder desirous of separation should pay to the District Treasury the whole redemption debt falling on his land, the commune is obliged to separate out to a peasant who has made such payment a corresponding amount of land, if possible in one locality, that is consolidated at the discretion of the commune. Until the separation takes place, the peasant will continue to use the land he acquired as part of communal lands (Gerschenkron, 1968, p. 187).

This article anticipates the Stolypin reform by allowing, in principle, individual household land to be separated from the commune as the result of a down payment on the redemption debt. The railroads allowed diversification in sources of income. This rendered income streams stable and predictable and elevated real income due to non-agricultural seasonal employment (Johnson, 1979), which, in turn, enhanced the transition to individualism,[162] the accumulation of savings, and withdrawal from

[162] Frierson (1990) on the enhancement of the transition from extended to nuclear households through access to non-agricultural income.

the communal land allotment redistribution and reapportionment system—which freed adult family members in the next generation to leave the commune for industrial employment. The population increase, interacting with the railroads and mutually enforcing vis-à-vis them, should be identified as the factor that weakened the mobility barriers imposed by formal statute.

The General Statute of the 1861 Emancipation Act allowed peasants to abandon the mir provided they:

1. irrevocably waived their right to the communal allotment and to the use of the commons;
2. discharged all tax payments to central and local authorities, including arrears pertaining to the current calendar year—not only for themselves but for their households as a whole;
3. obtained their parents' consent.

The third point clearly marks the extent of the authority of the head of household (*bolshak*) and the patriarchal head of household (*bolshukha*) in determining the outcome (Gerschenkron, 1962, p. 120; idem, 1968, p. 194).

All three conditions of separation indicate the crucial role of the railroads. The more stable and predictable the access to urban economies was, the lesser dependent the peasants would be on the social and economic safety provided by the commune, the higher the probability of tax arrears repayments, and the weaker the mobility barrier embodied in formal law.

Article 173 of the Redemption Act specifies the mobility barrier, on the one hand, and the extent of elders' authority in controlling individual peasants' movements, on the other:

> When land is acquired from the pomeshchik by the village commune as a whole, the single members of said commune have the right to be dismissed from the commune upon payment of one-half of the principal debt on state redemption loan, falling upon the holding of the respective member, *provided that the village commune guarantees payment of the other half of the debt*.

Thus the authority of the commune elder extended to the control of migration from the commune due to the commune's role as the guarantor of individual peasant householders' debts to the Tsarist state. The more stable peasant income from non-agricultural employment through access to urban economies would be, the more likely it would be that the elders would guarantee debt and the weaker the mobility barrier would become.

To sum up, railroad construction—the core of Tsarist industrialization—abetted an increase population pressure on available land under cultivation and attenuated

peasants' bonds to commune land by offering alternative sources of income. From a dynamic perspective, state-led industrialization eroded the barriers that the Tsarist rural institutions had erected—challenging Gerschenkron's emphasis on the barrier to labor mobility created by the continuity of the commune.

After the emancipation, the authority of the commune elders replaced that of the landlords. Now, for example, the mir could compel a head of household who had amassed tax arrears to accept a wage-paying job away from the commune (*otkhod*) and submit his earnings to the mir in order to repay the accumulated tax debt (Gerschenkron, 1968, p 195). Until 1894, when the Passport Law went into effect, a statement from the elected head of the mir had been necessary for participation in outside wage labor (ibid.). The Passport Act extended passport validity from one year to five years. Even this extension, however, as well as the issue of a passport ab initio, required the consent of the head of the household (ibid., p. 196.).

Authority over the mir in the hierarchy was wielded by the Tsarist government bureaucracy. Thus, a government official ratified the decisions of the mir pertaining to passport issues (ibid.). In effect, then, the mobility barrier, if any, was imposed by the Tsarist government, which consolidated the mir's taxpaying capacity, and not by the pre-modern insurance unit, the mir. Ultimately and as a paradox in Russian industrialization, it was the substitution of state for private entrepreneurship, encapsulated in the autocracy's historical goal (since the pre-serfdom era) of controlling population movements (Blum, 1961, pp. 110, 219), that might have hindered peasant mobility, the pace of industrialization, and, to a lesser degree the peasant mir per se.

The fundamental norm that inspired communal asset management was "maximal use of the land" (Petrovich, 1968, p. 217). As mentioned above, Worobec (1995) points out, for example, that the mutual-help mechanisms (pomoch) were not expressions of altruism and ethical collectivism. Land redistribution to widows who did not belong to a productive labor unit (*tiaglo*) were restricted. Households that were disabled or not thrifty enough to participate in tax payments were dissolved and their members were expelled and exiled (Worobec, 1995, pp. 23, 24).

In conclusion, the commune assembly's decision was a function of a multidimensional determinant. The matrix below captures the aspects commented on above, each adding an explanatory level to the riddle of decision and action that must be solved to understand the Russian village commune system. The analytical dimensions that structure the matrix are applied from North's definitions of formal and informal institutions (North, 1990, pp. 78, 64, respectively). However, I deem these dimensions insufficient to explain individual motives of decisions and actions. Incorporating into the analysis the Critically Realist school, I posit that not all aspects of a decision in a modernizing society are functions of pre-structuring (Archer, 1995, p. 76). The conceptualization of provision of choices that are

coherent with the cost matrixes of "shared mental models" and "historical opportunity" (North, 2005, p. 21) leave a crucial dimension of decision making unexplained. Albeit applied to a different set of historical questions, Goldhagen (1996) focuses on the "individual motive" as the ultimate explanation of ad hoc decisions and actions. This dimension, I assume, is generalizable to every decision of a social being. Thus, even in situations that are institutionally preconditioned there exists an element of choice that may result in divergent action from the one deducible and inferred from formal (state-stipulated) and informal (custom-determined) institutions.

The communal assembly of elders was institutionally preconditioned to hinder migration against the background of shrinking per-capita land allotments and additional complementary factors such as the otkhodnik's good reputation (Burds, 1998, p. 188). Still, a passport application for the purpose of urban employment might result in a passport issue decision divergent from the one set forth in formal law and custom. Goldhagen emphasizes the omnipresent element of choice, which makes every decision and action at least potentially rational and endowed with personal responsibility (Sheshinski, 2010, p. 3; Gintis, 2009, pp. 1, 2). Moreover, against the background of population increase, the teleological contents of customary restrictions meant to ensure individual and group survival (applied AEI in combination with NIE) would allow those willing to migrate to do so.

Figure 5-1 NIE Matrix on the Complementarity of Theories

Collective—C, C'/ Individual—I, Action determining Factors	**C Formal restriction**	**C' Informal restriction**	**I Motive**
C Formal restrictions ∑(C)=*ƒ*(A.,B.,D)=›	A. Gerschenkron's model: mobility barrier State action—formally institutionalizing custom	B. Gregory's frame: "informal habits" *Utility maximization* in response to formal restrictions.	D. Goldhagen's frame: state-supported human action, legal individual action.
C' Informal restrictions ∑(C')=*ƒ*(E.,F.,G)=›	E. North's model: institutional Δ in response to population increase, combining custom, culture, and state action.	F. Long-term informal objective of the collective, restricting the scope of what would be perceived as a necessity	G. Goldhagen' frame: determinant of human action not supported by the state. Socially sanctioned individual action
I Motives ∑(I)=*ƒ*(H.,J.,K.)=›	H. Goldhagen's frame: determining factor of individual human action supported by formal law.	J. Goldhagen's frame: determining factor of individual human action, obtaining legitimacy through a cultural pattern.	K. Gerschenkron's model: assumption of a deviant innovative decision
∑ (CCI) => *ƒ*(inst.det. incentive, motive)	∑ C—collective and individual determinants of individual action in political unit.	∑ C'—collective and individual determinants of individual action in social unit.	∑ I—individually perceived determinants of individual action.

Source: Sylvia Sztern (My own matrix). Gerschenkron (1962, 1968), Gregory (1994), Guldhagen (1996), North (1990)

Rationality of the Nineteenth-Century Russian Peasant

The economic disincentives to the departure of adult family members from the commune, embedded in the tiaglo-contingent distribution of land allotments as interpreted by Gerschenkron (1962, 1968) and Atkinson (1983), are presumed to have created a barrier to labor mobility. In this aspect of the analysis, Gerschenkron and Atkinson conform to Gregory by imputing full economic rationality, i.e., Neoclassical utility maximization, to the Tsarist Russian peasant constituency. Assuming that the peasantry of European Russia reached such a stage of rationality by the concluding decade of the nineteenth century, labor mobility and migration may be reexamined within a Neoclassical utility maximization model. Such a hypothesis, which I set out to prove empirically in Chapter 9, is justified in view of the use of railroads in 1843–1890 and the increasing participation in the emerging anonymous extra-village exchange, i.e., market economy (Martens, 2004, p.162; Metzer, 1972, p. 80; Burds, 1998, p. 23) by the peasantry of European Russia as migrants and wage laborers. It is further justified by the plurality of institutional selection adaptations and the widened span of the individual choice spectrum that were congruent with this novel means of transport (Sheshinski, 2010, p. 3; Gintis, 2007, pp. 1, 2).

By inference, then, an additional condition needs to be met for migration hindrance to occur: the present value of lifetime extra earnings from the increase in land allotment should exceed the discounted value of lifetime earnings outside the commune.

The observed migration of labor from the rural to the urban sector suggests that, among other factors, the rationalist payoff conditions to the customary mobility barrier had not been met, making the formal mobility restrictions questionable in their explanatory value. Furthermore, the village elders' economic incentive to "penalize" successful, income-generating households through land redistribution is assumed to be weak when analyzed from a Neoclassical perspective. The collectively assigned tax obligation would create a free-rider problem, which the elected assembly would recognize and try to neutralize by agreeing on compensatory side payments—reapportionment of mobiliers—rather than the customary land repartition. Generally, the commune, understood within the Neoclassical model, is assumed to be a more flexible unit than may seem plausible if one fixates on its formal restrictions as definitive devices for the prediction of its economic performance. An attempt to inductively prove the evolving peasant rationality that was manifest at the turn of the century is made in Chapter 9. Here I consider the emerging Neoclassical rationality solely as an aspect of—a cell in—the decision-making matrix presented above, which is assumed by the Gerschenkronians, in self-contradiction, as well as by the revisionist schools.

As to the ostensible burden of oppressive taxation, Gregory argues that the post-emancipation redistribution of land ownership between peasantry and gentry shifted in favor of the former. Changes in land prices correlated positively with changes in-agricultural produce prices. Gregory interprets the increase in land prices, which exceeded redemption payments by 1879, as evidence of rising demand, which, in turn, implies rising net income, the latter supported by the data. Rising prices and incomes in agriculture, Gregory concludes, are incompatible with the impoverishment-and-oppressive-taxation hypothesis. Furthermore, he says, the accumulation of tax arrears is evidence of "countercyclical household policies." Such policies were rationalist in character. That is, households priced themselves for the income loss occasioned by the decrease in agricultural-produce prices that eventually occurred by delaying payments of direct taxes, leaving their net income unchanged. That direct taxes accounted for barely 6 percent of peasant income at the turn of the century is an additional reason to question the oppressive-taxation assumption (Gregory, 1994, pp. 52–54; Simms, 1977, p. 382__).

Gregory refutes the dual-economy, the hunger-export, and, more generally, the agrarian-crises hypotheses, suggesting instead that peasant households and the householders' assembly engaged more and more, spontaneously, in rationalist, individualist calculations. Thus, postulates based on empirical material and deductions from a Neoclassical model premised on the assumption of agents' utility-maximizing behavior (Gregory, 1982) cast reasonable doubt on the existence of labor-mobility barriers and grave impoverishment in the Tsarist peasant economy in the last decade of the nineteenth century (Gerschenkron, 1962, in idem, 1968; Atkinson, 1983).

Moreover, the very applicability of the Neoclassical paradigm begs two questions: How collectivist and authoritarian was the Russian countryside after the industrialization spurt of the 1890s? and: Is Gerschenkron's conception of the stable continuity of Russia's de facto agrarian institutions legitimate in respect of the closing decades of Tsarism? Before these questions can be conclusively answered, additional investigation of Gerschenkron's hypothesis on the peasant mobility barrier is necessary.

As for the decisions and actions of individual peasants, 20–25 million people are said to have colonized Siberia and the southern steppes in the late nineteenth century and the first decade of the twentieth (Bideleux, 1990, p. 199). This flow undoubtedly supports Gregory's (1994) hypothesis of migration from cultivated to peripheral regions in search of means of subsistence. If so, that the observed migration wave may have been a response to a temporal or anticipated reduction in the standard of living—an ever-present circumstance in the collective memory of the peasantry (applied North, 1993)—that from a dynamic perspective helped to protect the peasant population from impoverishment. The adverse economic effect of the rural

overpopulation, I suggest, was at least partly neutralized by the increasing mobility of labor. The barrier imposed by formal restrictions was destroyed by the long-term objective of informal constraints that were manifested in the motivation to ensure survival.

Returning to the foregoing developmental figure, I believe it necessary to justify the "intensification of land use" hypothesis. This aspect of countering Atkinson's (1983, pp. 32, 33) severe impoverishment assumption is instrumental for analysis of the causes of the crisis. The scheme perceives the nation as the analytical unit and categorizes the industrialization process with regard to its function as a means of increasing subsistence and an effort to intensify resource use in response to population growth. The decision to embark on rapid industrialization in the 1890s was taken by the imperial government. Following Gerschenkron's (1962, pp. 120, 121) thinking, one may state that the process lacked complementary correspondence within the rural economy. The volatile ownership structure is said by Gerschenkron to have disincentivized technological improvements in *land cultivation*, which were economically impossible to begin with due to deteriorating material conditions, crimping domestic demand for industrial produce.

Peasant Allotment, Private Land, and Productivity Increase in Rural Russia; Indications of Innovative Investment in Agriculture

Bearing in mind Gerschenkron's (1968, p. 187) proposal on the investment disincentive and the economic deficiency assumption, the observation that yields (measured in tons of grain per hectare) increased in post-emancipation European Russia comes as a surprise. According to Bideleux's estimates, the increase was slower in communal land than in privately held land at about a ten-year lag. By international comparison, however, land that was allotted to peasants notwithstanding *formally* collective ownership delivered steadily growing yields over time, allowing the productivity gap relative to privately held land in Europe, Japan, America, and Australia to narrow.[163] The following table provides the evidence.

[163] Bideleux. (1990), p. 201. Bideleux traces this productivity gap to several determinants: 1) the continental climate in the communally cultivated regions, which verifies the Slavophiles' hypothesis about the communes "organic" origins and refutes the "state school" assumption; 2) relatively scanty education among the Russian peasants; and 3) the landed gentry's ability to retain the most fertile soil while selling off the less-productive land to the peasants, as guaranteed

Table 5–10 Annual Yields of European and Major World Grain Producers, 1860–1913

	Annual Grain yields (ton/hectare)						Compound annual rates of increase, percent	
European Russia	1860s	1870s	1880s	1890s	1900s	1911–13	1860s with 1911–13	1880s with 1911–13
Peasant communal allotments (+6 percent)(W)	**0.44**	**0.47**	**0.51**	**0.59**	**0.71**	**0.86**	**1.52**	**1.76**
				(0.63)	**(0.76)**	**(0.91)**		
Private land	**0.50**	**0.56**	**0.63**	**0.71**	**0.89**	**1.23**	**2.0**	**2.6**
(+6 percent)(W)				**(0.76)**	**(0.94)**	**(1.30)**		
Italy	(0.86)	(1.02)	(0.86)	0.84	1.10	1.24	(0.8)	(1.4)
Spain	(0.61)	-	-	**0.63m**	0.96	0.96	(1.0)	-
Portugal	-	-	-	**0.65m**	(0.65)	0.60e	-	-
Greece	-	-	-	0.75m	(0.80)	0.89f	-	-
Bulgaria	-	-	-	(0.89)	0.97	1.11	-	-
Romania	0.93	0.84a	0.95b	0.96	1.07	1.29	0.7	1.2
Serbia	-	-	-	(1.10)	0.96	1.12	-	-
Hungary	-	-	1.06	1.25	1.25	1.41	-	1.1
Austria	-	0.98	0,97	1.05	1.19	1.36	-	1.4
Germany	1.13	1.20	1.28	1.48	1.73	1.94	1.2	1.6
France	1.06	1.06	1.15	1.17	1.26	1.29	0.4	0.4
Ireland	1.53	1.68	1.74	1.92	2.12	2.24	0.8	1.0
Denmark	-	1.52d	1.60	1.71	1.85	2.01	-	0.9
Sweden	1.33	1.37	1.36	1.39	1.45	1.68	0.5	0.8
Neth.	1.54	1.55	1.62	1.75	2.02	2.08	0.65	0.95
Belgium	-	-	-	1.8	2.30	2.35	-	-
Britain	-	-	1.91c	1.95	1.98	1.88	-	0.0
Japan	-	-	1.74	1.80	2.02	2.22	-	0.9
USA	**1.23h**	1.29	1.32	1.31	1.38	**1.30**	0.1	0.0
Canada	-	-	-	1.16m	(1.27)	1.33	-	-
Argentina	-	-	-	1.07	0.98	0.98	-	-
Australia	0.83	0.83	0.68	0.61	0.74	0.79	0.0	0.3

Notes: a. 1870–76; b. 1886–89; c. 1884–89; d. 1875–79; e. 1918–22, f. 1911, 1914, 1915; g. 1911–15, h. 1865–69; (m) 1892–95. Brackets denote tentative estimates. Wheatcroft suggests that the Central Statistical Committee data understated grain yields by 6–7 percent (Bideleux, 1990). The computations are based on Soviet as well as Western sources.

Source: Bideleux (1990), p. 210.

under the provisions of the Emancipation and Redemption acts—a legal inequity emphasized by Gerschenkron (1968).

Countering Gerschenkron's proposal, Bideleux infers from the increasing productivity of land between 1860 and 1913 that "technical advances must have taken place" (ibid.; idem, 1990, p. 202). The increasing productivity of communally cultivated peasant land during this period, the narrowing of the productivity gap relative to some privately cultivated areas elsewhere, and the productivity lag behind traditionally privately cultivated land in Russia may be explained in a way that calls attention to the incentive function of ownership rights (Sztern , 1992, p. 9).

Due to repartitions forgone of regionally varied land, the emerging *de facto hereditary household property right* may, on average, have provided stronger incentives for productivity increases that facilitated innovative investment relative to the collectively assigned use rights of the serfs and of the newly (post-1861) emancipated peasants. Moreover, the formal legal structure gradually adjusted and even promoted a holding establishment that resembled a family farm within the formal boundaries of the obshchina system (Leonard, 1990, p. 121). In 1906, this informal transition toward hereditary household ownership would culminate in formal acknowledgment of individual ownership. The rising productivity of communally held land, observed in the table above, expresses the increase in innovative investment in agriculture and may be interpreted as reflecting a shift in the incentive function due to the informal privatization process that developed tacitly amid cultivated holdings that were formally communal.

Comparing peasant land yields diachronically, I find that the increase in land yields was most pronounced in 1880–1900 (a time that included the first industrialization spurt, 1890–1900) and in 1900–1913 (overlapping the second industrialization, 1907–1913), suggesting the intensification of land use[164] and implying the evolution of complementarity of demand between the industrial and the agrarian sectors. *Both sectors responded to the increase in population.*

> Technical advances, although assessed by Bideleux (1990) as small in scale, included newish crops (potatoes, maize, new wheats, sunflower, tobacco), improved livestock breeds […], increasing specialization with cattle and sheep rearing, iron parts for wooden ploughs, carts, wheelbarrows, spades, forks, hoes and seed drills […], cheaper and mass produced scythes, iron horse shoes, harrows, galvanized iron buckets, storage jars and bottles, wheels, axes, nails, screws, bolts, fencing (barbed wire), roofing iron, bricks, cement, fossil fuels, rope and sacking (Bideleux, 1990, p. 202).

Between 1890 (the beginning of the first industrialization) and 1913, agricultural equipment stock is said to have trebled. In the wake of the great spurt, "Agriculture

[164] The concept in this context does not allude to destructive overexploitation of the soil; on the contrary, it is assumed that the land became intensively cultivated in a manner oriented to the long term.

consumed more of Russia‘s booming iron output than the concurrent railway-building bonanza did” (ibid.).

Thus, the transfer of labor from agriculture to industry may be construed as a response to the rising demand for labor in the latter sector. The demand for industrial produce in agriculture presumably did create a small domestic market for industry. The complementarity of demand and the migration of labor from the rural sector to the urban in response to industrialization induced push and pull factors, and the general intensification of resource use through large- and small-scale technological progress (that is, the industrialization process itself, instigated for political reasons in response to the population increase) followed the assumed causal scheme described above. Gregory (1982, 1994) and Bideleux (1990) appear to justify this reading of the events.

The reported annual grain output per inhabitant in the period immediately preceding the 1890 industrialization indicates that the Russian peasants could not have been so impoverished as to verge on famine unless their counterparts in other European countries were in much the same state.[165] The data on Russia‘s annual grain and potato output per inhabitant for the period including the industrialization decades and one of the years of the ostensible famine (1891–1892) compare rather favorably with corresponding estimates in most European countries, which were not found to be severely impoverished and on the verge of a Malthusian catastrophe.[166]

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[165] Ibid., p. 203. Annual Grain Output per Inhabitant, Russia and Other European Countries 1885–1889 (hectolitres):

Russia	Italy	Austria-Hungary	Germany	France	Netherlands	Sweden	Denmark
6.75	2.67	6.22	5.36	6.66	3.08	7.49	14.04

Source: Bideleux (1990), from Chuprov and Posnikov, eds., *Vliianie urozhaev i khlebnikh tsen na nektoriia storony russkogo narodnogo khoziaistva, I* (St. Petersburg, 1897).

[166] Ibid., pp. 203, 204 The following table, calculated by Bideleux and reproduced here, may provide an illustration: *Annual Grain and Potato Output per Inhabitant, Russia and Other Countries, 1892–1913*. The data represent kilogram-grain equivalents. As potatoes are 78 percent water and contain only one quarter as many calories per kilogram as grain, four kilograms of potatoes are treated as equivalent to one kilogram of grain.

	Russia	Europe excl. Russia	Southern Europe	Italy	Portugal	Greece	Spain	Japan	Austria-Hungary	Bulgaria
1892–95	534	415	260	221	174	209	350	225	507	-
1909–13	555	411	276	274	160a	130b	400	240	508	545

	Serbia	Romania	Denmark	France	Germany	Ireland	U.S.A.	Canada	Argentina
1892–95	-	780	1006	555	479	526	1291	1043	-
1909–13	470	880	852	514	595	633	1160c	1693c	1540

The aforementioned postulates of Atkinson (1983) and Gerschenkron (1968) imply a generally valid inverse relation between the degree of formal communal land tenure (the obshchina-specific repartition practice) and land productivity, the increase in the latter constrained by the scarcity of savings and the institutionally imposed disincentive to innovative investments. Although convincing, such an argument cannot be supported by the findings of Bideleux (1990) in reference to regional data on Russia. The following estimates, reproduced below from the source, may provide a basis for challenging these assumptions.

a. 1918–22; b. 1925–29; c. 1911–13

Source: Bideleux (1990), p. 204. Bideleux acknowledges that in 1891, at the beginning of the alleged famine, "Grain and potato output were respectively 19.5 percent and 3 percent below the 1881–1890 average […]. In 1892, grain and potato output were respectively 93 percent and 155 percent of the 1881–1890 average." Furthermore, the changes in livestock holdings between 1888 and 1892 (ibid., Table 12.7, p. 205) indicate that livestock itself constituted a buffer against starvation. The slaughtering of farm animals, especially pigs, in 1888–1892 made coarse grain and meat available for human consumption. On the aggregate and notwithstanding the changes in livestock holdings, 44 million farm animals are said to have survived the "famine years" in the twenty-two provinces affected by the crop failures, an area populated by approximately as many people. Consequently, Bideleux finds it questionable that the people died of starvation while the animals were fed and survived.

Table 5-11 A Regional Changes in Grain Yields and Degree of Communal Land Tenure, European Russia, 1861–1913 (Selected Regions)

Region / province	Regional changes in 1861-1870 to 1891–1900 (seed yields)	Δ in yields between 1883–1887 to 1909–13 (yields / hectare)	Communal land as pct. of peasant land allotment	Communal tenure as pct. of all peasant households
North	+22%	-	-	-
Archangel	-	+27%	96%	98%
Vologda	-	+17%	99%	97%
Olonets	-	+22%	100%	97%
+37%		-	-	-
Petersburg	-	*+28%*	*99*	*100*
Novgorod	-	*+18%*	*100*	*100*
Pskov	-	*+24%*	*100*	*100*
Baltic	+11%	-	-	-
Courland	-	*+23%*	*N*	*N*
Lifland	-	*+16%*	*N*	*N*
Estland	-	*+30%*	*N*	*N*
West	+38%	-	-	-
Vilno	-	+59%	1	N
Minsk	-	+67%	N	N
Grodno	-	+70%	N	N
Kovno	-	+49%	N	N
Vitebsk	-	+28%	45	53
Mogilev	-	+51%	79	81
Smolensk	-	+38%	99	99
Central Podzols	+26%	-	-	-
Moscow	-	+24%	100	100
Vladimir	-	+23%	98	97
Kaluga	-	*+26%*	*100*	*100*
Kostroma	-	*+26%*	*100*	*100*
Nizhni-Novgorod	-	+14%	100	100
Tver	-	*+19%*	*99*	*99*
Jaroslavl	-	+5%	*99*	*100*
Left-bank Ukraine	+63%	-	-	-
Kharkov	-	*+93%*	*94*	*93*
Chernigov	-	+64%	54	52
Poltava	-	*+76%*	*15*	*18*
Right-bank Ukraine	54%	-	-	-
Kiev	-	+69%	7	9
Podolia	-	+79%	N	N
Volhynia	-	+70%	3	2
South	+76%	-	-	-
Bessarabia	-	+54%	41	28
Don Oblast'	-	+47%	100	100
Ekaterinoslav	-	*+120%*	*99*	*99*
Tauride	-	+84%	79	92
Kherson	-	+95%	87	93
Southeast	+18%	-	-	-
Astrahan	-	+24%(+44%)*	100%	100%
Orenburg	-	-18%(+1%)*	100%	100%
Ufa	-	+25%(+48)*	99%	98%
Total European Russia	+41%	+40%	83	77

n=negligible

Source: Bideleux (1990), pp. 212, 213. * omitting the 1911 harvest (which was worse than that in 1891).

The increases in grain yields per hectare between 1883–1887 and 1909–1913 in the communally cultivated northwest region were hardly different from those in the non-communal Baltic region. The most pronounced increase in grain yields per hectare during this period took place in the communal Ekaterinoslav area (southern

region), while in roughly equally communal Jaroslavl (Central Podzols region) the increase per hectare was the lowest. In this context, it must be borne in mind that the data on de facto collectivism in both regions that are formally characterized as having communal holdings are insufficient. The de facto frequency of land redistributions, explained by the technological proprieties of each region, may render the actual degree of communality in land holding different in Ekaterinoslav than in Jaroslavl—which would explain the differences in the land productivity data.

The changes in per-hectare yields varied between the non-communal Baltic area and the West region, the increase in the former area being approximately half that in the latter. If so, the assumption of a generally valid inverse relation between the formally communal land-tenure system and land productivity cannot be verified. By implication, the tenure system in itself, as well as the land productivity that it should have brought about, ultimately are dependent variables relative to conditions of life (Veblen, 1931, p. 188), such as soil quality, climatic conditions, access to groundwater, and last but not least, the available railroad technology that would influence the region-specific level of agricultural technology, e.g., differences in the use of fertilizers.

The Gerschenkronian hypothesis of the impoverishment of the rural population due to the communal land-tenure system may be reexamined by testing it in an additional respect. If collective ownership within the obshchina system indeed resulted in a Malthusian-overpopulated countryside and impeded investment and depressed the standard of living, one would expect per-capita property and output value to be lower, generally, in regions that had higher shares of communally held allotment land or higher shares of households belonging to communes. Below I reproduce data on per-capita property and output on peasant farms by region and the share of communal land tenure in these regions during the post-emancipation era by combining selected estimates from the two last columns of Table 5–11 A above (Bideleux, 1990, pp. 212, 213) with statistics on per-capita regional property holdings in the 1880s.

Table 5-12 Per-Capita Property and Per-Capita Output on Peasant Farms, by Region, European Russia, 1880s and Degree of Communal Land Tenure, European Russia 1861–1913

	Proper **Land** (des.)	ty, c. **Arable** (des)	1890 **Cattle** (head)	Value Grain	of **Fruit and veg.**	output, **Live-stock prod.**	1883 **Indust-ries**	–87 **Misc.**	Rubles **Total**	per an. **Grain % of total**	Com. **Com.t % of allt.l**	L.T **Com.t % of peas.h**
South-ern steppe	2.95	1.53	0.84	24.49	4.65	12.60	5.20	18.71	65.65	37	84%	85%
South West	*1.07*	*0.74*	*0.71*	*13.59*	*4.72*	*10.75*	*10.40*	*12.43*	*51.89*	*26*	*16%*	*16%*
Centr. Chern	1.35	1.00	0.52	17.26	3.58	7.90	9.55	12.69	50.98	34	75%	78%
South East	***3.17***	***1.74***	*0.95*	*20.44*	*1.45*	*14.35*	*5.50*	*16.12*	*57.86*	*35*	*98%*	*99%*
West	1.66	0.87	0.68	16.04	2.00	10.30	10.03	15.92	54.29	30	41%	42%
Semi Ind.	1.30	0.89	0.40	17.02	1.56	6.00	11.05	14.64	50.28	34	95%	96%
East	2.06	1.29	0.67	17.48	1.24	10.05	10.20	15.21	54.18	32	100%	100%
Baltic	*1.77*	*0.54*	*0.50*	*18.64*	*1.20*	*7.50*	*11.20*	*17.65*	*56.19*	*33*	*0%*	*0%*
Indust	*1.96*	*0.92*	*0.55*	*19.86*	*1.85*	*8.21*	*14.00*	*17.54*	*61.46*	*32*	*99%*	*99%*
Cap. Gub.	1.62	0.70	0.31	19.01	2.24	4.65	17.60	16.46	59.96	32	100%	100%
North	2.68	0.70	0.70	16.33	1.96	10.50	10.20	19.89	58.88	28	99%	98%
Eur. Russia	1.96	1.10	-	18.12	2.63	9.99	9.47	15.42	55.63	33	73%	74%

Source: Bideleux (1990), pp. 212, 213, 214. The last two columns, averaging the percentage shares of communal land tenure for each region, are calculated from the total of the table on pp. 212– 213. Table 5-11 A in this dissertation is part of the table presented by the source. The regions are defined according to Table 5-12 below, available in original form in ibid., p. 214. Example: North: Novgorod, Olonets—names of averaged regions.

Per-capita land and arable land areas, measured in desyatinas (each of which roughly equal to 2.70 acres or 10,925 square meters), were largest in the roughly communally cultivated region of the Southeast and smallest in the Baltic region, where cultivation took place in privately owned family farms. Per-capita endowments of land and arable land were relatively high even in the Southern Steppes region, which was 85 percent communally held, and relatively low in the mostly privately held Southwest. A possible explanation for the observed positive correlation between per-capita land endowment and degree of communal land tenure in these regions would be that the communes were established in areas where land was abundant but another resource, e.g., groundwater, was scarce (Atkinson, 1983, p. 4), rendering communal land cultivation rational. The latter exemplifies the hypothesis underpinning this thesis: the greater the risk to survival, the stronger is the mutual dependency on cooperation. Access to vital resource inspired communal management as means of containing conflict and ensuring egalitarian survival probability. This type of egalitarianism, I believe, was a material forerunner to the demand for equality before the law.

Serfdom and its Relevance

An additional and purely institutional explanation exists: the regions that had high land-to-labor ratios had also been the core the serf economy in the pre-emancipation era. Following Hochs' (1986) analysis, one may argue that communal landholding reduced the surveillance costs of the bailiffs of the estate. Thus, the positive correlation between ample land endowment and the high percent share of communal tenure indicates a strong legacy and viability of the institutions of serfdom.

Considering the perspectives reflected in the matrix above, one might assume that in areas where land was abundant, household elders would be less motivated to coercively retain labor in the villages in excess of the needs of agriculture. With mobility on the rise, the per-capita land endowment of those remaining in the commune would be quite high permanently, notwithstanding the population increase.[167] If so, these areas would become overpopulated neither in the Leninist nor in the Malthusian sense. The eastern regions had long belonged to the Russian Empire and the obshchina tradition; in the typical manner of Slavonic tribes, they had not been challenged by other cultivation methods.

In the Central Chernozem (Central Black Soil) region, where the communally held household share was somewhat lower than that in the South East region, the per-capita land endowment was less than half as large as in the latter region and per-capita arable land was 0.74 desyatinas smaller. Black soil is generally considered more fertile than other soil and was probably in greater demand for this reason. Therefore, this region could have become overpopulated in both the Malthusian and the Leninist senses. Although the total ruble value of output per capita and per year was considerably lower there than in the whole of European Russia, indicating poverty, the yield-per-hectare data for the region (defined as in Table 5–11-15–2) indicate that land productivity kept increasing between 1883–1887 and 1909–1913, rendering the disincentive to innovative investment and the long-term impoverishment hypothesis debatable. Total output value per capita, measured in rubles per year, was highest in the Southern Steppes, where roughly 85 percent of households belonged to communes, and high in the Industrial region, where 99 percent of households belonged to communes. The same estimate in the mostly non-communally held Southwestern region (where 84 percent of households produced

[167] This assumption can be only partly and superficially supported by data that imply the generally increasing mobility of labor. Whether the migration of labor *from* those regions ever occurred would depend on local labor demand, the possibility of hiring seasonal labor, the opportunity to earn an income outside the region, the techniques employed and the organization of production, and the distribution of duties between men and women. Importantly, only 5 percent of all agricultural labor in 1900 was hired labor (Bideleux, 1990), implying that migration streams headed toward peripheral regions where land was abundant or, alternatively, toward urban industrial centers. This assumption is supported by information on the colonization of the Southern Steppes and rural–urban migration, summarized above.

in privately owned farms) was below that for European Russia as a whole. Taking the per-capita land endowment and the total per-capita and per-year value of output into consideration, an interesting observation may be made: restricted arable land or land endowment does not necessarily imply that the region would be impoverished.

For example, the communally held Capital Gubernia region attained the highest per-capita and per-year industrial output values in the 1880s—a decade before the great spurt augmented the total per-capita value of the region's output—exceeding the estimate for European Russia. Moreover, only 33 percent of total per-capita annual output value in the European part of the empire traced to grain production. Grain exports in 1892–1913, a period that overlapped the industrialization spurts, constituted 13.5 percent of total grain production on average.[168] If one assumes that the share of the total annual per-capita output value attributed to grain production did not change much between the 1880s and 1892–1913, one may estimate the per-capita output value of grain exports at 4.46 percent, hardly worthy of the conceited description of severely impoverishing "hunger exports."

If labor had been truly free to choose between industrial and agricultural production (the latter including peripheral areas that had abundant land, the landless "rural proletariat" constituting only 5 percent of the rural labor force) and assuming that (1) migration streams generally would not tend toward lower per-capita income and (2) the wage in urban industry would equal the value of marginal product of labor, the wage could not fall below the value of income of an additional adult in agriculture. Since migration from the rural to the urban sector actually took place, the agricultural sector could not have been severely overpopulated in the Leninist sense. Whether the newly established industrial sector could have absorbed more labor and maintain rising productivity is moot (Bideleux, 1990, p. 199).

Gregory (1982, 1994), the main source for the counterargument to the Gerschenkronian analysis, which emphasizes an institutionalized mobility barrier as the reason for the rural crisis, clearly argues that the Tsarist economy performed fairly well by international standards, displaying long-term growth potential *despite* the formal impediments imposed upon it by the institutionalized collective ownership that prevailed in much of the rural sector and low per-capita income, relative to other countries, due to population increase.

An additional aspect, taken into account below, is the changing properties of the obshchina over time against the background of Russia's specific climatic conditions and available technology. Following Gerschenkron's conception, which corresponds to the view of the Westernizer Boris Chicherin (1828–1904), the obshchina was the product of Tsarist state coercion rather than what the Slavophiles

[168] Bideleux (1990), p. 215 (average percent share calculated from Table 12.12, Grain Exports and Imports of Some European Countries, 1892–1913).

would call an organic unit and what NIE would characterize as a mutual-insurance and risk-diversification unit.[169] The latter was embedded in increasingly voluntary cooperative practice that originated in chosen adherence to custom by individual households on the basis of a long-term rational calculus constituting the village commune (applying Vanberg, 1994, p. c55).

Conclusions

The ostensible relative decline in living standards among most of the rural population in 1860–1905 (intensified by the 1890 industrialization) remains unsupported (Löwe, 1990, p. 181). The urban labor force could not have been severely exploited materially and thus driven to taking up arms in the 1905 upheaval. Relative to the serfdom era, material equity—defined in this context as per-capita access to means of subsistence—had been improving, the rural sector included, despite the increase in population. The discrepancy between Gerschenkron's and Gregory's understandings of the effects of the commune village system suggests weak verification of Gerschenkron's deduction from the direction of formal legal restrictions and strong verification of the deduction from the perspective of Neoclassical rationalism. The former deduction historically legitimized substitution of personalized hierarchies of coercion embedded in formal legal structures analytical emphasis for the rationalist-individualist utility maximizing calculus that had actually been taking place within the peasant constituency during the post-emancipation era. Consequently, Gregory's application of Neoclassical theory to the historical fact assumes higher explanatory value. The village commune structure inherited from the serfdom era, in which assemblies of elders interacting with state bureaucracy replaces the function of the landed gentry (*pomeshchik*) in managing land and maintaining order, underwent a metamorphosis that resulted in the granting of de facto hereditary household use rights in land. In Chapter 6, it will be my task, on the one hand, to design a theoretical framework that will allow us to conceptualize this transition and, on the other hand, to dwell on the role of the primary force behind the industrialization, the railroad technology. My thesis does not disprove Gerschenkron's analysis; on the contrary, it demonstrates its validity. I do propose, however, that the typology of the Gerschenkronian school overlooks the micro-level changes that took place in the course of the industrialization process. Nafziger (2006) shows that the village

[169] See Moon (1999), p. 214; Mironov (2000), p. 297; and Kingston-Mann (1991), p. 45, on compensation for individual households' land investments at times of repartitioning that recognized aspects of individual property rights in land. On the flexibility of the Russian village commune, see Nafziger (2006), Summary.

commune was a more flexible structure than the Gerschenkronians assume. I propose that the explanation for this flexibility lies in the interaction of the landholding system with the railroad technology. In reference to Chapter 4 and in Chapters 6, 7, and 8b below, I will investigate the structure of state expenditure to verify the assumption about the atrophying of hierarchical social structures and the strengthening of egalitarian (horizontal) ones. Did the industrialization expand the scope within which individualistic identities and voluntary associations could form?

In sum, land productivity increased during the post-emancipation era and the innovations introduced in 1860–1913 deserve the credit. Thus, the upturn in land productivity was the economic result of increases in knowledge combined with growing investment in agricultural equipment, intensified by the industrialization spurt of the 1890s. The escalating productivity of agriculture was also manifested in rising grain and potato output per inhabitant and per year in 1892–1913, during which time an increase in labor mobility is also observed. The migration oriented itself to industrial centers and peripheral regions, the latter providing additional land endowment. All factors considered, the assumptions of severe impoverishment and Malthusian overpopulation in the Russian countryside can be refuted. To determine whether the agricultural sector was overpopulated in the Leninist sense by international comparison, I reexamined the annual grain yields of European and major world producers in 1860–1913 and found increases in the productivity of Russian land, agricultural output per inhabitant (implying an increase in labor productivity), and per-capita income in agriculture. In this context, it is of interest to emphasize the 5 percent annual growth rate of industrial output during the period between the emancipation and the year preceding World War I[170] and the migration wave.

[170] Ibid.. p. 199 (data from Goldsmith, “The Economic Growth of Tsarist Russia, 1860–1913”).

Chapter 6 - The Railroads and the Metamorphoses of the Mir-Westernizer and Slavophile Conceptions Revisited

Introduction

In this chapter I fit the Russian peasant custom and its change into a paradigm of developmental stages. According to the paradigm, general institutional conditions will determine whether a peasant will be a rational maximizer of utility—in this case, a minimizer of the risk of going under in a premodern economy (Shanin, 1985, Vol. 1, p. xi; Scott, 1976, p. 4)—or an obedient worshipper of patriarchal authority that embodies the tacit knowledge reservoir (Hodgson, 1999, p. 247; Rizello, 1999, p. 33, reference to Hayek, 1967b) of previous generations, as encapsulated in institutions. The discussion that follows links the prevalent level of Tsarist peasant collectivism and authority obedience to the level of industrialization—and institutional modernization—in Russian society at large.

Scott (1976), in his Neoclassical utility maximization assumption, presupposes individual access to information that allows choice. Such an assumption is contingent upon the evolved cognitive spectra of action of the individual peasant vis-à-vis the household, the commune, and the community. My analysis begins prior to Tsarist industrialization, at the advent of the railroads during serfdom. Inspired by Martens (2004) I select the level of peasant individual cognitive mastery over his physical and the natural environment (North, 2005, p. 87) as an exogenous explanatory variable. The developmental stages are identified and defined by the level of mutual dependency and dependency on the experience and authority of the elder—the superior on the hierarchy—as the source of information that allows the peasant to choose among Evolutionary Stable Strategies of Survival. Our peasant is born into an environment structured by prior custom, in which ceremonial and historical matter-of-fact knowledge is accumulated by and stored in inherited institutions that operate under patriarchal authority. Peasant learning entails the

worship and obedience of the patriarchal sources of wisdom. Such knowledge is challenged when the peasant acquires literacy and other skills, as he may according to our analysis by using the railroads. Industrialization, with railroad construction at its core, has elevated the Russian peasantry to novel and unprecedented developmental stage of cognitive mastery of its environment. As the advent of railroads allows individuals to diversify their existential risks, the level of mutual and hierarchical dependence declines. The emerging choice allows peasants to transition to individualism and rationalism in a developmental stage congruent with modernization.

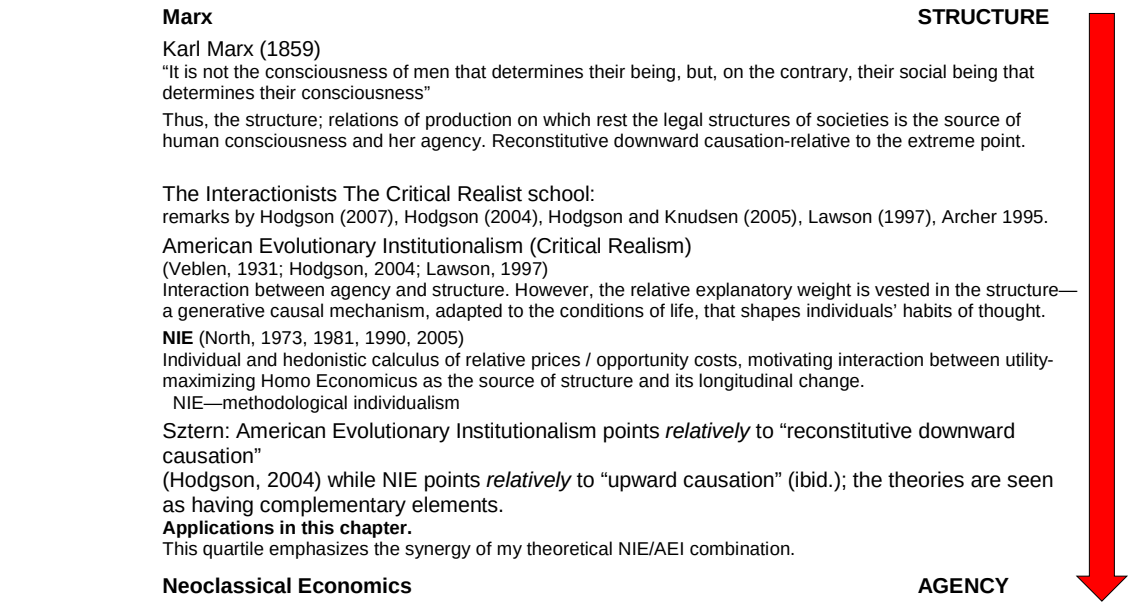
Was it the delay in Russia's industrialization relative to its European counterparts—a matter explained by the geographical dispersion of its natural resources, which made its modernization dependent on railroad construction (Baykov, 1954, p. _143____)—to blame or credit for the greater persistence of peasant collectivism in that country than elsewhere? Although Gerschenkron emphasizes Russia's geopolitical vulnerability rather than the geographical dispersion of its production factors across the imperial territory, such a dispersion could have affected the Tsarist government's perception of strategic comparative disadvantages, making railroad construction imperative for a strategic purpose in addition to the debacle that it had experienced in the Crimean War. This interpretation is consistent with Gerschenkron's theory of relative backwardness, discussed in previous chapters. As stated in Chapter 4, state activity in the Russian case promoted but also impeded the transition to modernity.

I argue that Russia's techno-economic backwardness traced to its institutional backwardness and not the other way around. To establish the direction of causality, the following questions need to be addressed:

- Was Russia's state-structured peasant collectivism partly responsible for the empire's slow transition to modernity in the nineteenth century, as Gerschenkron (1968, 1962) proposes?
- To what extent and from what time perspective do relative resource scarcities (North, 1973, p. 29) matter in determining a population's "habits of thought" (Veblen, 1931, p. 188) and the institutional structures that grow atop them?
- In the Russian case, did the "double weight of the past" (Hodgson, 2004, p. 168, quoting Veblen) of the informal institutions (North, 1990, p. 64), inherited from the serfdom era, matter in determining the pace of the nineteenth-century transition to modernity?
- What impact did these institutions have on nineteenth-century peasant custom?

To investigate these points, in this chapter I apply the integrated NIE/AEI framework set forth in Chapter 3 and propose (in the condensed diachronic flow chart below) that serfdom in the 1597–1861 period was reinforced and solidified in the *obshchina*, the village commune (Mironov, 2000, p. 297; North, 1990, p. 78). This institutional mechanism not only sowed the seeds of its own eradication but also, by interacting with state-led spurts of industrialization, created relatively persistent long-term vehicles for the destruction of totalitarian, autocratic governance in Russia, even as it atrophied in so doing. In effect, the January 9, 1905, petition to the Tsar, expressing peasant demands for universal suffrage, equality before the law, and a constitution, heralded the end of the patrimonial state and the dawn of gradually increasing peasant individualism. The latter process may be inferred, however indirectly and inconclusively, from the changing images of the peasant in the ranks of the Russian intelligentsia (Frierson, 1993, pp. 76, 151). Viewed from this perspective, Stolypin's land reform in 1906 should be seen as the ex post codification of the ongoing voluntary individualization of landholding rights (Klimin, 2002, p. 11, contrary to Pallot's proposal, 1999, p. 159) during and due to the industrialization spurts in 1890 and 1907 (Gerschenkron, 1962, p. 124).

Figure 6-1 Diachronic flow chart



Collectivism versus Individualism

Before proceeding, I think it useful to define collectivism versus individualism for the purpose of this discourse. In general, the application of an exclusionary NIE perspective to explain a consensual or commonly pursued action is evidence of ongoing individualism rather than of collectivism, because the rational utility maximizing calculus under the theoretical assumptions of NIE is carried out on an individual basis.

In the analysis below, an action taken collectively is seen as emanating from collective intentionality—"we-attitudes" that are shared—and must therefore be understood as social (Tuomela, 2002, pp. 2, 18, 22). Thus, collective action in this discourse is tantamount to social action. As the aim of the chapter is to explain a social action, however, below I view elements of collective action motivated by "I-intentionality" (ibid., p. 2) as necessary but insufficient aspects of social action.

The concept of "collectivism" in this chapter implies neither an irrational collectivist "mentality" on the part of the Russian peasant nor the homogeneous continuity of collectivism in Russia (Ofer, personal communication, 1997), as Western scholars often conceptualize it. By combining NIE and AEI, the discourse seeks to explain the changing degrees and quality of collectivism over time in view of changing conditions of life[171] that encapsulate changing relative scarcities (North, 1973, p. 29).

I suggest that the Russian peasant calculated the maximum probability of his survival in both the long (Vanberg, 1994, p. 55) and the short terms. Ultimately, the discussion that follows will portray him as increasingly rational and individualistic within the limits of the shaping and molding of individual preferences by the institutional structure, i.e., the "reconstitutive downward causation" process delineated by Hodgson (2004, p. 105). The inclusion of AEI in the model focuses attention on this latter process.

By applying the combined model, I perceive the rational utility maximizing calculus and its binary, the calculus that minimizes the risk of going under (Scott, 1976, p. 4), as implemented with growing frequency within the structural boundaries of an individual's birth.[172] These boundaries affect the pace of marginal adjustment of

[171] Veblen (1931), p. 188. The term "environment" implies conditions of life.

[172] Hodgson (2004), p. 10. Introducing reconstitutive downward causation, Hodgson implies the temporal priority of structures over any given individual.

prevalent "habits of thought"[173] to changes in riskiness, relative opportunity costs or, in Veblenian parlance; "conditions of life."

Compulsory vs. Voluntary Collectivism: Pre-Modern Risk Insurance

Seen through the prism of Western scholarship, Russian historical institutions are burdened with a legacy of collectivism. Explaining this view of the matter is to additionally clarify the foregoing cluster of theories while focusing on two distinguishable types of collectivism, between which I propose that the Tsarist Russian village commune fluctuated in metamorphosis as it emerged from serfdom during the nineteenth century. The common denominator of these types of collectivism is risk insurance through sharing while participating in the redivision of use of and proprietary rights to assets within the extended family and the obshchina structure.[174] The dimension that distinguishes among these types answers the question about the origins of the impulse that entails subconscious imitation of collectivist sharing structured by a hierarchy of authority,[175] versus a rationalist decisions in the neoclassical sense, i.e., an independent or strategic one (Scott, 1976, p. 4; Rizello, 1999, pp. 4, 5), to share as a way to mitigate the individual household's risk. I denote these types as the vertical-hierarchical and the horizontal-egalitarian types of collectivist and cooperative, respectively, risk management. This distinction is analogous to the Hayekian distinction between "cosmos" and "taxis" or Polanyi's distinction between the polycentric and the monocentric (Rizello, 1999, p. 33) in this paradigm.

In the premodern historical environment, surplus allocation for the upkeep of the patriarchs, in accordance with the community norms of respect (Mironov, 2000, p. 286), is conceived in my model as a risk insurance premium (applied North, 1981, p. 11). Retired patriarchs' income is provided by those less endowed with historical experience and knowledge in handling the new-generation labor teams that dealt with agricultural crises (Hoch, 1986, p. 105). The example of strategies such as

[173] Ibid.; Veblen (1931), p. 188; North (1981), p. 9; Archer (1995), pp. 76, 77. Initial structural conditions determine the pace of adaptation.

[174] The New Institutional explanation that links cooperation and the formation of premodern collectives to risk insurance in precarious environments, noted for high probability of crop failure, is provided by Eggertsson (1990), pp. 303, 304. Eggertsson does not distinguish among types of collectivism subject to the history-specific scope of rationalist choice and decision-making (Moon, 1999, p. 216). On the need to explain rationalist decision-making, see Hodgson (2001), p. 23, and idem (2004), pp. 132, 133.

[175] See Rizello (1999), p. 30, and Hoch, (1986), p. 117, in reference to egalitarian redistribution imposed by landlords.

"crust seeking,"[176] advised by the elderly, is anecdotally presented below.[177] Such a vertical-hierarchical collectivism is characterized by compliance to authority as risk insurance amid precarious, life-threatening uncertainty, i.e., an environment characterized by low predictability.[178] Eighteenth-century and early nineteenth-century Russian agriculture was such an environment (Chubarov, 2001, p. 4). I assume that the reservoir of life-preserving tacit knowledge (Hodgson, 1999, p. 247) is asymmetrically distributed between ruler and subjects.[179] In my history-specific model, the knowledge used to manage the risk of calamity is distributed between the elder structure, led by the chieftain in a *zadruga*, the patriarch in an extended family, the landlord, and, after emancipation, the bureaucratized assembly of elders. Ultimately, the risk-mitigating knowledge is asymmetrically ascribed to the Tsar as an institution, i.e., the personally anointed prophetic mediator between God and human (De Madariaga, 1998, pp. 43, 79; Blum, 1961, p. 25; Hoch, 1986, p. 117; Mironov, 2000, p. 328, inspired by Raeff, 1966, in 1994 ed., pp. 98, 103, 107). Upon this structure has been laid an evolutionary stable projection[180] of divine wisdom, i.e., the accumulated experience of generations (Bakunin, 1970, p. 24; Hodgson, 2004, p. 136). For the subconscious mitigation of their risk, the profane subjects, the peasantry complied and obeyed the patriarch, concurrently sustaining him.

I suggest that peasant compliance, ultimately manifested in the relative absence of revolt against the authority of the ruler as such,[181] is explained by the cognitive economics, related to anxiety economics (Martens, 2004, p. 104; Lawson, 1997, pp. 181, 182), among the relatively less informed strata—the peasant household members.

Through my history-specific prism, I propose that the population increase in the eighteenth century (Kahan, 1985, p. 8) should be explained by the insurance that the commune provided serfs against the effects of calamities such as climatic catastrophes, crop failures, and epidemics. Aid under conditions of calamity was

[176] Engelgardt (1993), p. 28, in reference to redistributive famine relief.

[177] For additional examples see Hoch (1986), p. 33 on healing, pp. 37–38 on landlord credit, and p. 64 on agricultural hazards.

[178] Lawson (1997), pp. 181, 182, in reference to Giddens.

[179] Hodgson (2004) p. 105. In the above model, the person of the ruler is assumed to be a repository of [past] knowledge" i.e., a personalized institution, embodying the historical experiences of the collective. The distribution of knowledge, encapsulated in his experience between the authority of the ruler-patriarch and the profane peasant subjects in my history-specific model, will perforce be asymmetrical (inspired by Martens, 2004, pp. 4, 51, 104).

[180] Boyer and Orlean (1993), p. 22, provided the inspiration.

[181] Pipes (1995), pp. 155, 156. The 1773 Pugachev revolt of 1773 was characterized by the veneration of the true Tsar, Peter III, as a mobilizing force, and challenged the perceived imposter to the throne, rather than rejecting Tsarist authority per se.

coordinated and consolidated by historical agricultural experience within the compulsively collectivist patriarchal elder structures of the commune. These institutions symbiotically shared their managing and risk-mitigating powers with the bailiffs of the estate, i.e., the institution of the landlord (Hoch, 1986), pp. 117, 118). Evidence of such a process may be found in the reliance on the landlord as the lender of last resort in the initial post-emancipation decades, subject to reconstitutive downwards causation.[182]

In my simplified model below,[183] I assume the concurrence of two processes in response to population growth: decline in Ricardian-marginal productivity of land and labor factors, necessitating conquest of and migration to newly colonized regions (conforming to the extensive growth formula) and a process encapsulated in the Boserupian 1965 urge to innovate and implement novel technology for the intensification of resource use. The latter process stimulates proto-industrialization and industrialization in response to a population increase.

Although conquest may intensify obedience to authority, the urge to migrate and implement novel technology renders the knowledge reservoir vested in the patriarchal authority, rooted in historical experience, obsolete and challengeable by the knowledge horizontally acquired by heads of successively smaller kinship units, heralding the dissolution of the extended family. Through Veblenian idle curiosity and Hayekian learning-by-doing, discontinuous strategies of knowledge acquisition adapt to novel conditions of life (Veblen, 1931, p. 188) until atrophy besets the patriarchal capacity to insure against the hazards of calamities in an environment of low probability of prediction.

I suggest that in tandem with population growth—which, in accordance with Boserupian predictions, stimulates the application of novel technology—the emerging choice among multiple strategies will bring about a relative increase in voluntary rationalist cooperation (Sheshinski, 2010, p. 3; Gintis, 2009, pp. 1, 2) and a corresponding decline in compliance with authority as a risk-insurance strategy. In the course of this process, serfdom loses its raison d'être.

Thus, in tandem with population growth, technological progress (specifically railroads), interacting with the transition to anonymous trade in integrated and specialized commodity markets (Martens, 2004, pp. 104, 105, 193; Metzer, 1972, p. 82; Smith, 1998, p. 19), allows boundedly rational cooperative contracts to be concluded among units that are increasingly endowed with property rights.

While the Veblenian, Hodgsonian, and Lawsonian explanatory frameworks are the most effective up to the bounded rationality equilibrium point, I deem it legitimate

[182] Documented by Engelgardt (1993) in Frierson (1993), p. 39; see also Hodgson (2004), p. 105.

[183] Strongly inspired by Hesse (1993), pp. 47–61.

to resort to a New Institutional Economics (NIE) rationalist cost-benefit analysis that concerns risk reduction through horizontal cooperation. I undertake this analysis with a modification suggested by Ostrom (1990, p. 37) that establishes a context-specific conception of "boundedly rational" choice. According to this modification, "internal norms," in the late Tsarist Russian case, convey intergenerational "inequality aversion" including the unequal exposure to risk and "strong reciprocity" preconditioned by the Greek Orthodoxy / Old Believers and other sects' ethical predisposition for "conditional altruist cooperation" (Gintis, 2009, p. 56) due to the historical habit of resource redivision (applied Veblen, 1931, p. 188). Thus, applying my NIE/AEI combination to the case of the Tsarist Russian historical experience, I find that the reservoir of tacit knowledge,[184] encapsulated in " internal norms," passes the test of equilibrium substitution for the institution of personalized authority that existed in the serfdom era, while leaving room for voluntary cooperation—either fully horizontal or ceding a varying share of the risk-handling capacity to a rationally selected entrepreneur (Ostrom, 1990, p. 40; Coase, 1937).

Cooperation and Mutual Assistance through Peasant Collectivism

Khozhdenie v Kusochki—"crust-seeking" (Mironov, 2000, Vol. 1, Chapter 5, p. 324). Alexandr Nikaelovich Engelgardt's *Letters from the Country, 1872–1887* (Frierson trans. and ed., 1993) is an invaluable primary source on peasant customs in the decade preceding the industrialization spurts of 1890 and 1907 (Gerschenkron, 1962, in Sztern, 1997). Living among peasants during his political exile (Engelgardt, 1993, p. 3) at his landed-gentry estate in Batishchevo (Smolensk Province), Engelgardt observed the practice of redistributing baked bread at times of harvest failure or to indigent households:

> On my place, the old woman simply gives out [to fellow peasants who temporarily run out of bread and or seed crop, becoming vulnerable to famine] "crusts" in the dining hall, just as crusts are given out in every peasant household where there is bread—as long as a peasant has his own grain or grain he has bought, he will give out crusts to the last loaf. I did not offer any instructions, I did not know anything about these crusts. The old woman herself decided that "we" must give out crusts, and she does so (ibid., p. 29).

Interpreted through a NIE and Neoclassical prism, the "crust-giving" custom was a reciprocity-based a premodern insurance system against famine (Eggertsson, 1990, pp. 33, 304). Following Vanberg (1994, p. 55), I infer that the individual household

[184] Hodgson (1999), p. 247, competence-based theory of the firm, facilitating the integration of contractual conceptions.

must have gained more in the long run by adhering to this custom than by eschewing the communal redistribution system. The eventual social sanction enforced this long-term rational calculus even more (ibid.).

The question, however, is whether the individual peasant household really had a choice[185] in calculating its long- and short-run opportunity costs. A Critical Realist (CR) interpretation would advise that the household, and the individual peasant within it, had been born into and conditioned by a crust-seeking structure (applied Archer, 1995, pp. 76, 77) derived from the collective memory reservoir of relative poverty and recurrent famines (Kahan, 1985, p. 11). "Habits of thought" that had survived from generation to generation were inputs for the institutional structure of the present. The custom itself was a pool of experience and knowledge (Hodgson, 2004, p. 168). Routine compliance with the custom by submitting to elders' authority economized on the household's cognitive capacity, saving energy and lending an evolutionary advantage not only to the household but also to the entire commune (Martens, 2004, p. 145). Generally speaking, assuming that the group is necessary for the individual's survival, this type of cooperative behavior, following the AEI framework, ultimately traces to individual selection (see also Vromen, 2001, p. 194). Insofar as the custom survives the evolutionary transition to rationalism, we may apply the NIE prisoner's dilemma and find that the sanction of social pressure (i.e., denial of insurance) leads to the optimal choice of adherence to custom.

It is the purpose of this chapter to argue that the NIE and AEI ways of interpreting the phenomenon of "crust-giving" are not alternative but complementary.

The rational utility maximizer assumption that underlies the NIE and Neoclassical approaches emphasizes, albeit in an oversimplified manner, the conscious survival calculus that is performed on an individual basis (North, 1973, p. 29; 1981, p. 9; 1990, p. 38; 2005, p. 47). The evolutionary approach focuses on subconscious determining mechanisms, such as moral sentiments, that bring about the life-preserving result.[186] While NIE emphasizes the economic motivation to follow the customary way of life, evolutionary institutionalism, set within a historically determined cultural context, calls attention to the social sanction and reward mechanism as a motivating factor.The result is an integrated socioeconomic perspective (Greif, 2006, p. 101).

I argue that both systems of problem-solving, the conscious and the subconscious (Rizello, 1999, p. 25), are activated in a process of structure legitimization through

[185] Workshop on Institutional Economics, University of Hertfordshire, discussions.

[186] Hodgson, G.M. (2004), p. 361. Hodgson's conception of tacit knowledge implies the unconscious dimensions of learning. See Smith (2000), p. 3, and Vromen (2001), pp. 187, 188: Robbins vs. Metcalfe.

which the custom is imprecisely replicated (Hodgson and Knudsen, 2005, p. 10) and, for this reason, gradually changes on the margin (adapts to changing conditions) or is transformed (in a cumulative re-evaluation) (Lawson, 2003, p. 192).

Before addressing the core subject of the chapter, the transformation of the structure of property rights in late Tsarist Russia, I present additional examples of cooperative behavior in the post-emancipation village commune.

***Pomoch*—mutual aid**. Mironov (2000, p. 338) and Engelgardt,[187] among other sources, speak of pomoch, a form of customary aid to the needy that was codified in law in 1860. Until the codification, this obligation was considered a moral one, deeply rooted in the communal peasant practice (Mironov, 2000, p. 338), rarely shirked, and addressed by social sanction in the rare cases of its transgression.[188] Pomoch included rebuilding homes that had been stricken by fire, completing agricultural work, paying hospital bills, organizing and subsidizing funerals, and more.[189] Although this type of mutual aid was sometimes spontaneous, decisions to aid calamity-stricken households were routinely made by village assemblies as well.[190]

This type of institution, founded on the moral sentiment that this analysis emphasizes, is essential for the survival of a group and, ultimately, the individual within it, and may be explained within a Darwinian evolutionary framework as well as by Adam Smith (2000) in an analysis of the subconscious psychological mechanisms that underlie the methodological individualism of Classical economics. Neoclassical analysis, in contrast, would explain this reciprocal practice as the minimization, by rational utility maximizing heads of household, of the risk. Funeral services, after all, do not save a person from death or prohibitive costs resulting from calamities and tragedies (Scott, 1976, p. 4). North (2005), implicitly acknowledging AEI and extending the traditional NIE approach in evolutionary directions,[191] would identify pomoch as an institution designed to deal with the hardships of the physical environment. Its codification in law, however, heralded two transitions: from personalized to impersonalized institutions[192] and from the stage of uncertainty

[187] See Frierson (1993), p. 55, concerning this particular type of help—pomoch—that a peasant extends to a wealthier peasant or a landlord "out of respect."

[188] Ibid.

[189] Ibid.

[190] Ibid.

[191] North (May 12, 2005), discussion at the University of Hertfordshire. He did not fully verify my supposition.

[192] See Mironov (2000), p. 286, on the transition from community to society.

generated by the physical environment to that in which it is the human environment that brings uncertainty about (North, 2005, p. 127).

As suggested above, combining Darwinian evolutionary approaches with NIE and selected sources in Neoclassical analysis brings the integrated framework closer to a holistic state.

As argued in Chapter 3, NIE, with its roots in hedonistic psychology and its emphasis on rationalist incentive structure, cannot be excluded from the model. Neither can one ignore the Critical Realist American Evolutionary Institutionalist (AEI) theory because human beings act in a cultural context that emphasizes the role of structures in molding individual preferences and goals, providing social motivation (Greif, 2006, p. 101) for their actions. The pomoch institution, a mutual household insurance arrangement in the face of calamity, offered the possibility of aid to temporally disabled households that were otherwise thrifty and fully able to reciprocate (Worobec, 1995). We may infer from Worobec's findings that NIE framework is applicable; peasants engaging in pomoch may be understood as cooperating in rationalist calamity insurance.

***Bratchiny*—communal feasts.** Celebrations related to Christian and local religious festivals, centering on offerings and giving of vows to various saints, were ritual vestiges of the villages' pagan past. Some feasts were organized for different age groups; others brought the entire village to the communal table. The eating and drinking was accompanied by door-to-door singing parties and the *khorovod*, a round dance. Peasants donated food, money, and specially brewed beer to these celebrations (Mironov, 2000, pp. 324, 325).

Obviously, like the wedding parties and the dowry (the *kladka* described by Hoch, 1986, p. 95), the bratchiny—etymology: *brat*=brother, literally, expressions of brotherhood—were in part premodern mechanisms of wealth redistribution that had a leveling effect (ibid., pp. 325, 326, 327; Hoch, 1986, p. 96), feeding the poor and insuring the well-to-do against future calamities such as hunger. They also deterred internal conflict (ibid.; Eggertsson, 1990, p. 291) and dissuaded serf owners from encroaching on peasant communities given the genuine coherence and continuity that they radiated.[193]

Evolutionary Institutionalist thinking interprets vows to and praise of saints, as well as togetherness per se, as having an anxiety-mitigating effect (Lawson, 1997, p. 181); as such, they gave the serfs an evolutionary institutional advantage (Martens,

[193] Kolchin (1987), p. 269, emphasizes the collective nature of the Russian serfs' resistance as against that of the American slaves.

2004, p. 145) over their owners and, after the Emancipation, over the state's aspirations to control and exploit the peasantry.[194]

***Krugovaya poruka*—collective responsibility, the land repartition practice, and peasants attitude towards landedness.** From medieval times, the Russian land-tenure system in entire village communities rested on the principle of collective responsibility for obligations to the state—*krugovaya poruka* as state-centered Westernizers express it (Moon, 1999, p. 207; Worobec, 1995, p. 23). During the serfdom era, collective responsibility was enforced by landlords and included seigniorial obligations (ibid.). The state peasant category, like the seigniorial serf population, was collectively responsible for taxes and dues. Collective responsibility was thought instrumental for the reduction of landlord and state surveillance costs (North, 1990, pp. 90, 95) and, after the 1861 Emancipation, expanded to include redemption payments to the state.[195]

The Westernizers' school, represented by Boris Chicherin (1828–1904), finds a causal relation between top-down collective responsibility for obligations to landlord and state and the periodic land-redistribution practice in nineteenth-century repartitional Tsarist Russian village communes (Worobec, 1995, pp. 17, 21, 22). Since the commune apportioned its obligations among households on an egalitarian basis,[196] the amount of land awarded, a measure related to the household's ability to cultivate it, had to be distributed in accordance with the tax burden per household (Moon, 1999, pp. 165, 208; Worobec, 1995, pp. 22, 23). This, in turn, was determined in many communes by the number of tyagla (sing.: tyaglo)—labor teams composed of husband and wife plus one horse per household.[197]

Until the late seventeenth century, every household in a commune was entitled to a share of communal land in exchange for the commensurate fulfillment of communal

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[194] See Kolchin (1987), p. 269, and Moon (1999), pp. 242, 243, on peasant revolts. Although most such revolts were perpetrated by border-region Cossacks who demanded autonomy, the Razin and Pugachev revolts engaged conspicuous peasant populations that protested infringements by the Tsarist state on, for example, the relative autonomy that had been granted through *obrok*—quitrent—as opposed to *barshchina*—corvée labor obligations and the curtailment of peasant prerogatives by means of conscription and tax increases.

[195] See Gerschenkron (1962), p. 131, on the commune's joint responsibility for tax payments; Worobec (1995), p. 3, on the paid share of redemption payments that burdened the collectively liable village; pp. 20, 24, 40; Pallot (1982), p. 5.

[196] Through the vehicle of the poll or "soul" tax, the *podushnaya podat*', introduced in 1724. It most probably contributed to the motivation behind egalitarian land redistribution (Keren, 2006, personal communication).

[197] Moon (1999), p. 211; Worobec (1995), p. 22; Hoch (1986), p. 61, Table 12. Although mean household size had been declining from the last quarter of the eighteenth century, it is evident from the table that the prevailing family structure was the extended multigenerational household, at least until the last decades of the nineteenth century.

obligations (Moon, 1999, p. 211; Worobec, 1995, p. 22). Disabled peasants often remained landless due to inability to work; widows who were not considered a tyaglo frequently joined them (ibid., pp. 22, 23). Thus, the egalitarian principle was linked to the ability to work and participate in meeting tax obligations and, after the emancipation, redemption payments.

In the eighteenth and nineteenth centuries, communal land was periodically redivided to take account not only of household divisions but also of changes in the number of tyagla among existing households (ibid). Thus, as the population increased and the land/labor ratio fell repartitions grew in frequency and land tenure became increasingly unstable (Gerschenkron, 1962, p. 122).

Contrary to the Slavophile and, later, the Populist belief in the communal and egalitarian spirit of the Slavonic people—depicting the obshchina as a primordial Russian institution—the Russian peasantry of the fifteenth and sixteenth centuries is said to have held its land, including house and garden plots, arable land, and even meadows, in individual household hereditary tenure, allowing differentiation (Moon, 1999, p. 212). During the serfdom era, attempts to hinder stratification among the Russian peasantry by enforcing egalitarian practices in land and wealth redistribution were effectuated through the seigniorial system (Hoch, 1986, pp. 94, 95, 96) and, in this sense, may be seen as initially involuntary. By the late nineteenth century, in contrast, only the farmstead (*usadba*) was held in hereditary tenure; arable land was periodically repartitioned (Worobec, 1995, p. 20). Thus, state-induced collectivism increasingly encroached on what the Westernizers termed a landholding system initially predicated on the individual peasant. Communes throughout European Russia increasingly set aside 50–60 desyatinas of arable land for welfare functions such as aiding poor households and landless widows, hiring doctors and other rural employees, and repairing churches, bridges, and roads (ibid., p. 21). This process may have been the result of the combination of population increase and onerous redemption payments, which increased perceived risks to the peasantry's subsistence. It may also have been the consequence of growing collectivism, manifested in the shaping and molding of peasant preferences by the Tsarist taxation system, i.e., the Hodgsonian process of reconstitutive downward causation.

In support of the latter thesis, I should note that on black peasant land (Blum, 1961, p. 95; Moon, 1999, p. 219)—areas excluded from the allotment land redistributed for rotation among households—hereditary tenure persisted until 1829, at which time the state compelled the villages to enhance poorer households' taxpaying capacity by introducing repartition and equalization. The wealthier households opposed these reforms (ibid.), showing that they objected because of their individualism rather than voluntary communal spirit among the Russian peasantry. In all land excluding black peasant land, communal and repartitional tenure spread

from the center to border regions, starting with the intensification of redistribution during the eighteenth and nineteenth centuries through the atrophy of this practice from the late nineteenth century to the codification of individualized landholding in Stolypin's 1906 reform. This revealed the state's growing extractive pressure as the cause of this process (ibid.) and demonstrated a causal relation between collective responsibility for tax payments and the land-tenure system (Worobec, 1995, p. 17).

By comparing the land-redistribution practice of Russia's peasant villages with prevalent landholding systems in the areas that the empire had annexed in the late seventeenth and eighteenth centuries—Ukraine, Belarus, Lithuania, and the other Baltic provinces, where the land had been held in individual hereditary tenure—we see that the egalitarian practice in Russia's equalizing repartitional commune may have been related to the imposition of the egalitarian poll tax/soul tax, the *podushnaya podat*'. This tax, first collected in 1724 under Peter the Great (Hughes, 1998, p. 137), was introduced in the "new" areas in the late eighteenth century, half a century later than in Russia (Moon, 1999, p. 214).

Communal and repartitional tenure also spread from seigneurial barshchina (corvée labor estates) to obrok, money-dues estates (ibid., p. 212). Moon traces the later repartition and equalization movement to the approximate equality of able-bodied men in their capacity to work. Thus, equalization in the provision of land for subsistence allowed surpluses to be transferred from the peasant household to the demesne (ibid., p. 218). On obrok estates, well-off households could be charged higher dues and the seignior would have less of an incentive to equalize households' land endowments (ibid.).

Following the reconstitutive downward causation logic (Hodgson, 2004, p. 105), the patrimonial state structure (Pipes, 1995, p. 70), inherited within the informal institutions (North, 1990, p. 64), combined with the seigniorial system to maximize the state's and the landholding gentry's tax revenue and to minimize its surveillance costs (ibid., p. 90). By imposing sanctions for non-compliance and selecting collectivist-minded individuals, the state and the gentry authorities that lurked behind the collective-responsibility schemes fostered Russian peasant collectivism (Veblen, 1931, p. 188) and transformed these schemes into an evolutionarily superior strategy. As the Regulationist school posits, the rewards of any survival strategy are related to the number of individuals who followed it previously. The self-re-enforcing mechanism that this creates—collective responsibility, in this case—delivers a superior outcome in the individual household's cost/benefit calculus. Through the extractive objectives of the Tsarist state and the landlord that had authoritatively established and encouraged krugovaya poruka—collective responsibility for taxes and dues—the Russian peasantry's "habits of thought" were shaped and replicated in a communal collectivist spirit that outlived serfdom.

The combination of the egalitarianism-enforcing poll tax, the collective responsibility for obligations to landlord and state (krugovaya poruka), and the periodic redistribution of land (which equalized the tax burden) abetted the emergence of egalitarian ideas among the Russian peasantry (Worobec, 1995, pp. 26, 27, 29, 40)—a peasantry that had been diffused by migration from the center of the empire to regions as far away as Siberia (Moon, 1999, pp. 64, 213). However, this evolutionary perspective (considering the initially high land/labor ratios in the empire as a whole as having induced the gradual tying of labor to land [Kolchin, 1987, p. 2] and imposed collective responsibility for obligations), combined with the insinuation that both the state and the seignior applied a rational, utility-maximizing calculus, offers only a partial explanation.

Even if wealthier peasants initially adhered to the collective responsibility formula involuntarily, the NIE perspective suggests that egalitarian redistribution reduced the risk of conflict within the peasant village commune. Given the initially high land/labor ratios, the opportunity cost of labor employed in conflict must have been higher than that of labor employed in tilling the soil (Eggertsson, 1990, p. 291). It being axiomatic that informal institutional structures change very slowly (North, 1990, p. 64), the egalitarian land- redistribution custom may have outlived the initial abundance of land relative to labor. Moreover, the prevention of intra-commune conflict or the preservation of social harmony (Ma, 2006, p. 11) amplified the voluntarily cooperative bargaining power (NIE, North, 1973, p. 29) of heads of household vis-à-vis the commune assembly, which was increasingly infiltrated by the seigniorial system, and ultimately vis-à-vis the landlord and the Tsarist state. From an evolutionary perspective, the peasant community must have regarded the historical preconditioning antagonism and distrust between itself and the Tsarist state, which kept the Tsarist gendarmes away by maintaining social harmony (Ma, 2006, p. 11), as a superior survival strategy.[198]

Another way to explain the peasant communal spirit, the periodic land redistribution, the three-field system that made it necessary to coordinate agricultural tasks, strip farming that mitigated the effects of uneven soil quality, and a form of mutual assistance (pomoch) that implied a long-term rational calculus (Vanberg, 1994, p. 55) by the peasantry is to understand this practice as a premodern case of risk-sharing (Moon, 1999, p. 226; Pallot, 1999, p. 75).

Thus, NIE complements evolutionary approaches in explaining the viability and, as I argue below, the universality of the type of collectivist practice that emanated from the collective-responsibility formula.

[198] Frank, S. (1999), p. 7, on the autocolonization condition of the Tsarist Russian peasant estate (*soslovie*) and Engelgardt (1993), p. 44, on peasant distrust of the imperial legal system. See also below on peasants' attitudes toward the Tsarist legal system.

Moreover, given the manpower advantage of the Russian peasantry over the Tsarist bureaucracy (Kolchin, 1987, p. 366, Table 11; Mironov, 2000, p. 247), one cannot discredit the Slavophile understanding of the obshchina as an organic institution voluntarily based on egalitarianism and collective resource management. Since the Russian peasants practiced krugovaya poruka and egalitarian redistribution in additional other contexts,[199] and given evidence of the existence of communes that continued their serfdom practice of repartitioning all land, including the garden plots, even after the emancipation (Worobec, 1995, p. 20), the implication of the reconstitutive downward causation process provides a necessary but insufficient explanation of the occurrence of collectivism in the landholding system, one that may conclusively be explained by the Russian peasant's living conditions during serfdom (Veblen, 1931, p. 188).

It is plausible to assume a degree of initial, environment-induced voluntarism in applying the mutual-aid collectivist practice[200]—as would happen if adverse climatic conditions led to a short growing season (Chubarov, 2001, p. 4)—that would credit the NIE explanations of the particular cooperative collectivist peasant custom. Thus, by combining the AEI approach (Hodgson, 2004, and Veblen, 1931) with NIE, the aspects of the obshchina delineated by the Westernizers' and Slavophile schools may be disclosed and reconciled.

The two theories combined, NIE and AEI, imply that that the obshchina, especially during the serfdom era, had been the consequence of an authoritarian hierarchy of coercion, itself an institutional response to the conditions of life as conceived by Veblen (1931). In the post-serfdom structure, the rational calculus of heads of household prevailed over obedience. The Slavophile notion of the obshchina as an organic institution that had structured the life of the Russian peasant since time immemorial cannot be refuted even though the Tsarist state, viewed from an NIE perspective, sought to lower the transaction costs of autocratic rule by legally enforcing the collectivist mechanisms of this structure. Thus, an understanding of the perspectives as reinforcing rather than the alternative is warranted and congruent with Critical Realism, while exclusive reliance on the rational-calculus explanation is not so given the implausibility of atomism in the real world (Lawson, 1997, p. 129). In the context of the dependence on experience, as encapsulated in the institutionalized patriarchal authority under the precarious conditions of premodern Russian agriculture (Hodgson, 2004, pp. 105, 185; Lawson, 1997, p. 182; Veblen,

[199] See ibid., p. 338, on pomoch and toloka as the egalitarian redistribution of risk of death. See below on peasant art'eli.

[200] Moon (1999), p. 338. Pomoch was sometimes spontaneous and at other times obligatory through a democratic decision of the village assembly. Worobec (1995), p. 40, finds that assistance was sometimes determined voluntarily by mutual dependence, e.g., when calamities affected individual households; the sanction for non-compliance was exclusion from the communal mutual-help insurance mechanisms.

1931, p. 188), the manifestation of hedonistic individualist rationalism, as NIE assumes, and its rising explanatory weight at a time of technological change need to be explained. Peasant "procedural rationality" as an aspect of "bounded rationality" (Rizello, 1999, p. 48) must be conceptualized within the temporal priority of structure (Archer, 1995, p. 76).

Redistribution of movable capital. It may be adduced from Gregory (1994, p. 52) that the redistribution of movable capital, replaced and compensated for by "side payments" (Gregory) for refraining from land repartitions, rendered the land-tenure system more stable in practice than Gerschenkron would have it. Although Gregory offers no conclusive proof for this thesis, he implies an individual household property consciousness on the part of the peasantry, a phenomenon that cannot but have historical roots and that contradicts the accepted understanding of the Russian peasant as unconscious of property (Crisp, 1989, p. 36). This suggests voluntary intra-village cooperation by individual households in view of the land-tenure restrictions that had been imposed from above historically and up to the decades preceding Stolypin's 1906 land reform.

The occurrence of voluntary cooperation in movable capital redistribution implies that the Russian peasant community addressed the "hardships of the human environment" in the same manner as it had historically addressed the "hardships of the physical environment."[201] The habits of mutual assistance and insurance must be understood as the result of a combination of rational short- and long-term calculus (NIE) and the predisposition to specific strategies that would resolve historical labor-shortage problems (AEI), fostered by the collectivist practice that had been authoritatively imposed during serfdom.[202]

Generally speaking, my thesis proposes that the more voluntarism there is, the more individual rational deliberation and the less subservience to coercive authority one encounters. The stronger the genuine cooperation is, the less shirking takes place, the weaker the freeloader problem becomes, and the stronger is the subversive capacity of the cooperative, in this case the agrarian collective (Barzel, 2002, p. 61). Thus, I maintain that the collective as formed in the manner conceived by the Westernizers—by the Tsarist state's endorsement of the organic obshchina practice (as the Slavophiles, referring to the Regulationist concept, propose that it is)—"translated" (Boyer and Orlean, 1993, p. 22) the redistribution mechanism into subversive cooperation. This resulted in the formation of a "commitment device" (Greif, 2006, p. 101) that challenged autocratic rule in the rural and, subsequently, the urban institutional environment.

[201] The quoted remarks are North's (2005), pp. 100, 101.

[202] Hodgson (2004), p. 105, on the shaping of individuals' "habits of thoughts" by reconstitutive downward causation.

The Serfdom Commune Legacy in Nineteenth-Century Rural Custom[203]

In this subchapter, reconstitutive downward causation (Hodgson, 2004, p. 105) is discussed as the source of collectivism versus individualism in property and labor relations in the peasant community. Through this process, the hierarchies of coercion and dependency on the patriarch and the landlord for the internalization of risks to living standards and life shaped under serfdom welded the village commune *mir*, paradoxically, into a collective action unit (Barzel, 2002, p. 61) that constituted a vehicle of subversion and credible threat from below (Greif, 2006, p. 101) to the autocratic authority of the Tsarist government. Post-emancipation obshchinas, increasingly consolidated voluntarily and demanding landholding reforms congruent with the peasant transition from community to society (Mironov, 2000, pp. 286, 287) allowed by the railroads, resulted in the codification of landholding individualization in Stolypin's 1906 reform.

The Obshchina in the Serfdom Era

Serfdom, introduced in Tsarist Russia in 1597,[204] shared basic commonalities with other forms of institutionalized bondage such as American slavery (Kolchin, 1987, p. 1). The patriarchal system[205] was the playground of the exploitative instinct (Hoch, 1986, p. 91, applied from Veblen, 1931, p. 8) and the "habits of thought" that were fostered in two hierarchies of coercion: within the serf community and between landlord and serfs (Hoch, 1986, p. 91). Through natural selection and adaptation, the institutions (Veblen, 1931, p. 188) of the *pomeshchik*—the Tsarist serviceman—and, ultimately, of the autocracy preconditioned the peasant to submission.

The dominant characteristic of the incentive structure of unfree labor systems, in which corporal punishment is applied for undersupply of skill and labor and for transgressions of rules of conduct defined and enforced by the master, is fear.[206] It follows that the bondsman's survival strategy, institutionalized through custom in

[203] Archer (1995), pp. 76, 77.

[204] Blum J. (1961), p. 30, on the restriction of unmonitored peasant movement, and pp. 254, 256, 275, and 276 on the gradual curtailment of peasants' right to move and the effective introduction of serfdom.

[205] Hoch (1986), pp. 117, 118. As egalitarianism lowered landlords' surveillance costs (North, 1990, p. 90) while enhancing village cohesion, both the peasant patriarchs and the bailiffs of the estate had an interest in carrying out redistribution in a way that would have a leveling effect.

[206] Sztern (1994), unpublished doctoral course paper, Department of Philosophy, Lund University; Hoch (1986), p. 164.

the long term (Vanberg, 1994, p. 55), is risk-aversive[207] and guided by his assessment of the probability of direct danger to life posed by the omnipresent expectation and occurrence of corporal punishment. Hypothetically, the frequency as well as the predictability of the corporal-punishment sanction, applied by the serf owner, should have affected the extent of innovation in the serf socio-economy relative to the serfs' adherence to routine and custom.[208] In this supposition, I generalize from Poznanski's and Winicki's analysis (Poznanski, 1985, p. 45; Winicki, 1988, p. 18____) of the reasons for the absence of innovating risk-taking in the Soviet five-year production plans. The institutionalization of the draconian penal system aimed at disciplining the managing boards of the Soviet state-owned enterprise discouraged industrial risk-taking due to the fear of under-fulfillment. Considering the innovation-enhancing long learning curves in the mix of experimentation on new processes/products, the quantitatively defined targets of the plan were met due to compliance to customary routine in all aspects of production.

Generalizing a model derived from the Soviet-type economy (Winicki, ibid.) and applying it to the serf community, one may define the socioeconomic degree of innovation as a function of the frequency of corporal punishment or of a prohibitive penalty for non-fulfillment. Thus, obedience to authority as a risk-management system is not cost-free; it imposes paternalistic penalties for non-compliance that discourage experimentation with novelties and risk-taking. The Tsarist railroads, by entailing the transition to rationalism, limited the costs of coercion in the service of the risk-reducing authority.

Moreover, the frequency and predictability of corporal punishment should, again hypothetically, affect the *voluntary* elements of the extent of collectivism and egalitarianism in the village commune. This hypothesis is justified by NIE's disclosure (Eggertsson, 1990, pp. 291, 303, 304) of the function of the egalitarian and collectivist peasant practice in preserving internal harmony and cohesion (Ma, 2006, p. 11). This function was observed in the rural community as late as the nineteenth century[209] and may have been perceived historically as crucial for individual survival amid the reality of corporal abuse that attended to serfdom.

[207] Poznanski (1985), p. 19; on the inclination to follow routine: Hoch (1986), p. 164.

[208] Here I apply, analogously, Winicki's argument (1988, pp. 17, 18) that producers in the Soviet era chose a risk-aversive strategy due to heavy penalties for failure to meet quotas in the quantitatively defined five-year plans.

[209] See Atkinson (1983), p. 21, for the Slavophile view of the peasant commune.

Serfdom—Cohesion vs. Atomization in the Long-Term Post-Emancipation Imprint

I argue in this subchapter that through reconstitutive downward causation (Hodgson, 2004, p. 105) the characteristic institutional system of serfdom, including the corporal punishment sanction, affected the prevalent "habits of thought" of the Tsarist Russian peasantry at the time of and long after the Emancipation Act of 1861. Here Gerschenkron's assessment of the detrimental effect of collective responsibility—krugovaya poruka—and the egalitarian land-redistribution practice adopted by the peasantry and enforced by the Tsarist state, rendering ownership unpredictable and thereby distorting the incentive structure, needs additional qualifications.

The crucial question is this: Was the peasants' involuntary and voluntary collectivism *in itself* to blame for their suboptimal agricultural performance, or should the blame be assigned to the heavy weight (Hodgson, 2004, in reference to Veblen, p. 168) of the institutions of serfdom, including the risk-survival strategies that the peasants invoked due to the threat or reality of corporal punishment in that era of unfree labor?

Communal Tenure and Innovation

Contrary to Gerschenkron's analysis, Kingston-Mann (1991, p. 38) finds communal tenure compatible with innovative behavior. Individual potential innovators depended on the acceptance and the related "social pressure" of the commune to engage the majority of heads of household in the implementation of the novel ideas. Once applied, this pressure abetted an extent of innovation diffusion that the hereditary household tenure system could not have allowed (ibid., p. 43).

Kingston-Mann repeatedly suggests, as does Pallot (1999, p. 75, inspired by Scott, 1976), that the main function of the nineteenth-century commune was internalizing the risk of death and or immiseration by dispersing and sharing it.[210] The exploitative characteristic of the system vis-à-vis individual property rights, via the over-hierarchization of patriarchal structures in which these rights were redistributed from the younger to the older generation,[211] had been extended during the serfdom era to include the landlord. This obviously amplified the perceived risk of death, which presumably was additionally aggravated by the phenomenon of corporal punishment that permeated serfdom as a "total institution" (Hoch, 1986, p.

[210] See Moon (1999), pp. 222, 223, for examples of the role of risk-sharing cooperation in enhancing the commune.

[211] See Hoch (1998), p. 207, on oppressive dependencies within "familism" networks.

184). Thus, I infer from Kingston-Mann that under conditions of serfdom beyond those of the post-emancipation nineteenth century, the village commune contributed to the adoption and diffusion of innovation within a risk-aversive environment of high risk of impoverishment and death.

Assuming the application of Winicki's (1988) and Poznanski's (1985) Soviet-type economy model—the predisposition to risk aversion that corporal punishment instilled in the peasantry under serfdom—the reconstitutive downward causation process (Hodgson, 2004, p. 105) would revitalize and perpetuate peasant dependence on the commune as an insulating barrier to additional encroachment of the peasantry by the landlord and the Tsarist gendarmes (Mironov, 2000, p. 297)—a risk-internalization unit[212] that the Emancipation Act of 1861 could not attenuate in the short run.

Gerschenkron's description (1962, 1968) of the state-supported perpetuation of the repartitional commune as an impediment to increases in innovation and productivity cannot be rejected insofar as it focuses on the formal institutional dimension (North, 1990, p. 78). Under the institutional conditions of serfdom, however, the reconstitution of habits of thought after the emancipation[213] and the formal and informal (North, 1990, pp. 64, 78) aspects of the risk-sharing custom (including the three-field system, the land-redistribution practice, and foremost the collective land-management mechanism established through the village assembly[214]) may have had a net enhancing effect on innovation (Kingston-Mann, 1991, pp. 39–41). Kingston-Mann's account of the cultivation of grass including clover (ibid., p. 38), by the collective, coordinated by the village commune assembly (ibid., p. 35); the use of fertilizers in pre- and post-emancipation agriculture[215]—a risk-taking innovation that, due to individual peasants' conservative attitudes, would have been rejected from the outset (Engelgardt, 1993, p. 64)—serves as a case in point. Agricultural innovation had been infused into the communes by *zemstvo* agronomists who belonged to the so-called "third element," i.e., professionals (Bucher, 2008, pp. 75, 76). These organizations included members of the peasant estate, whose share declined from roughly half following the 1890 legislation (Atkinson, 1983, p. 29). The latter class was of reconstitutive importance during the post-emancipation period. Within these institutions, the most conservative of peasant household heads became exposed to the progressive element among the urban professionals. The

[212] Kolchin (1987), p. 195, relates to the traditional autonomy of the Tsarist Russian serf commune in confronting external intruders and compares this with the living conditions of the American slaves. See also Pallot (1999), p. 75.

[213] Veblen (1931), p. 188; North (2005), p. 50, on culture as a repository of knowledge.

[214] See Moon (1999), pp. 211, 212, on land management and p. 227 on compulsory peasant compliance with decisions of the village assembly.

[215] Kingston-Mann (1991), p.41: fertilizer use as an obligation to meet commune requirements.

source of innovation was usually extra-rural but its diffusion was abetted by the communal mechanisms of cooperation (Kingston-Mann, 1991, p. 37).

An additional comment warranted by Kingston-Mann's study concerns the genuine and actual level of collectivism in the nineteenth-century commune as a legacy of the serfdom era (Hodgson, 2004, p. 14). As Kingston-Mann explains, elements of collectivism and, more conspicuously, of individualism intermingled within the flexible village-commune structure.[216] Thus, as stated above, individual households owned garden plots or farmsteads (*usadba*) and the "women's box"[217] was traditionally the strictly-held property of individual married peasant women. Sophisticated reward mechanisms for individual labor and investment had been developed to compensate and provide these peasants with an additional incentive to supply labor and skills, increasing the value of their land allotment subject to its periodic redistribution (Kingston-Mann, 1991, pp. 44, 45).

Legacy of Serfdom and Kinship

Serfdom left decisive imprints on nineteenth-century custom in its attention to family structure. According to Blum (1961), the pattern of early and universal marriage (Worobec, 1995, p. 42; Hoch, 1986, p. 77) and the custom of clustering in extended, multigenerational family units (ibid.) had been prevalent among Russian peasants from the pre-serfdom era of *podseka*—slash-burn tillage—among the Slavonic tribes, which had formed *zadruga* (kinship)-based extended family communes that constituted labor teams (Blum, 1961, pp. 22, 25; Weber, 1981, p. 12). This survival strategy constituted an adaptation to the initially high land/labor ratios. Serfdom, however, additionally bolstered the long-term legitimacy of these structures as perceived by both the serf owner and the peasants (Vanberg, 1994, p. 55).

Universal early marriage—an inter-household contract of wealth, labor, and rights to the communally distributed allotment of land rather than the romantic formation of a couple—increased the total number of tyagla (labor units) that worked on an estate in a way that benefited the landlord. By periodically redistributing land commensurate with the number of tyagla per household, this system assured each extended household enough land to survive and meet its tax obligations to the landlord. It also established the tyagla as a mutual-insurance unit that guaranteed

[216] This argument is congruent with Nafziger (2006).

[217] Worobec (1995), p. 63: net income from the sale of mushrooms, fruits, and knitwear was a wife's private property. Kingston-Mann (1991), p. 35, refers to the "woman's box" as an inalienable right to the products of her labor, such as poultry raising and weaving. See Engelgardt (1993), p. 164, on work performed by women not for the household but for the accumulation of their own resources in terms of individual property.

individual household members' survival, amplified the power of the patriarch (bolshak), and strengthened the hierarchical symbiosis of exploitation that seized the surpluses generated by the sons for the upkeep of the parents' generation, which had retired from working the land, and divided them between bolshak and landlord.[218]

Legitimacy of the Malthusian Trap Assumption

This legacy resulted in structural preconditions (Archer, 1995, p. 76) that, during the nineteenth-century population increase that it animated, could have snared the Russian countryside in a Malthusian trap. Following Gerschenkron (1962, 1968) and Pallot (1999, p. 75, on the commune as a risk internalization unit), the overpopulation of the countryside occasioned by these preconditions would necessitate and perpetuate intensified collectivism and wealth redistribution.[219] The mutual-assistance and -insurance function of the serfdom-enhanced extended family would gather strength in tandem with population increase. Thus, in an inference from Gerschenkron's argument, the effect of collectivist mechanisms of cooperation would trigger the long-term vicious cycle of collectivism, causing population to increase at the rate exceeding food production. This would entail a high probability of death, in turn breeding poverty and an even greater risk of death. Had such a chain of causality remained unchallenged, the Gerschenkronian and materialist explanation of the 1905 revolution would gain additional credibility. In other words, paradoxically, collectivism in terms of mutual household insurance raised life expectancy at birth. However, the demographic transition that would adjust fertility habits failed to take place in the short run. The resulting rate of population increase (Kahan, 1985, p. 16, and Table 15 below), driven by constant technology improvements, land endowments, and the allocation of bonded labor to the demesne, would outpace food production, raising the probability of malnutrition, sensitivity to epidemics such as water-borne cholera (Bideleux, 1990, p. 207), and, therefore, death. Those conditions would spur a compensatory mechanism that would mutually ensure against impoverishment. This, coupled with excess

[218] Hoch (1986), p. 119, on the exploitative distribution of income from younger to older generation that had been encouraged by the bailiffs of the estate and the patriarchs in concert.

[219] Hoch (1986), p. 95. The practice of *kladka*—"bride-price"—attenuated the redistribution of wealth somewhat by having the groom's family compensate a bride's household for the loss of a worker and a tyaglo in the coin of an additional land endowment due to the formation of a new tyaglo. Thus, movable capital was redistributed from the groom's household to the bride's while the land, in principle, moved in the opposite direction. While dowries had been customary in the relatively more individualistic obrok regions and were observed in Western custom—keeping wealth in the household—kladka was customary in the barshchina regions under serfdom as a way of redistributing wealth and insuring the individual against poverty and its consequent inability to pay tax.

childrearing (Atkinson, 1983, Table 2, p. 31, and Appendix, pp. 383, 384) as old-age insurance (Hesse, 1993, p. 52), would unleash a Malthusian vicious cycle.

Changing Types of Collectivism

In this subchapter it is shown with emphasis that neither the particular combination of risk nor the type of collectivism was diachronically constant over time. Historically, cooperation was meant to insure against a different set of risks. In the course of the nineteenth century, the population increase that reduced the land/labor ratio perforce necessitated more intensive resource use in regard to land. During the eighteenth and early nineteenth century, the high land/labor ratio enhanced egalitarian land redistribution, internal cohesion, cooperation, and harmony, the purpose of which was to lower the aggregate opportunity cost of labor employed in conflict instead of agriculture while enforcing commune autonomy vis-à-vis the landed gentry, the pomeshchiks (Eggertsson, 1990, pp. 291, 303, 304; Ma, 2006, p. 11).

Cooperation in the Late Post-Emancipation Era

Cooperation amid rising population in the late nineteenth-century post-emancipation era concerned itself with growing numbers of dependents (elderly and minor children) per farming team (tyaglo) and shrinking per-capita land allotments (Gerschenkron. 1962, p. 120; Atkinson, 1983, p. 30), which made mutual insurance against immiseration crucially important. Mutual assistance and cooperation persisted but changed in character, in tandem with the growing availability of railroad technology and the bureaucratization of the commune assembly in the second half of the nineteenth century.[220] While eighteenth-century agriculture had been burdened with the precarity of the physical and the human environment (North, 2005, p. 7), enforcing obedience to the landlord and the patriarchal elder authority (Lawson, 1997, pp. 181, 182) as a risk-reduction strategy, the industrial spurt of 1890 allowed heads of household to subject the worth of cooperation to rationalist evaluation among many options. This took place within the framework of a relatively more predictable institutional environment and a novel technology, both of which facilitated by the systematization of government (Yaney, 1973, p. 230). During the last quarter of the nineteenth century, the character of collectivism changed from a hierarchy of coercion to voluntary cooperation.

[220] See Westwood (1964), p. 31, and Mironov (2000), p. 334, on the bureaucratization of the post-emancipation commune.

The exploitation of serf by serf and peasant by peasant via the customary clan hierarchy, additionally legitimized by serfdom's patriarchal structures, continued into the post-emancipation and industrialization era.[221] The same hierarchies of patriarchal coercion set police measures in motion by invoking internal passport restrictions that redistributed the supplementary incomes of the *otkhodniks*—wage laborers—from the young generation to the older (Burds, 1998, pp. 57, 58; Hoch, 1986, p. 119). Such an expropriation must have stirred strong individualistic sentiments among the young peasantry, creating a countervailing force that kept the Malthusian trap from snapping shut. Moreover, the reliance on peasant "informers" and the prohibitive intensity of estate management coercion during serfdom (Hoch, 1986, pp. 160, 167) thwarted the formation of genuine internal relations, congruent with Lawson's conceptualization (Lawson, 1997, p. 166), by fomenting a deep mutual distrust that also hindered the coalescence of class solidarity and cohesion within the peasant community at large.

Peasant Collectivism vs. Marxist Class Cohesion

Peasant pre- and especially Post Emancipation collectivismhad been structured rather strongly on *zemliachestvo*, peasant cultural micro-collectives from the same province (Johnson, 1979, p. 68), and *pomestie*, state service as a quid pro quo for title to land. Both were geographically and institutionally restricted affinities that originated in compliance with a common landlord authority and reciprocal aid, rather than an abstract peasant class structured by a shared ideology. The assessment of mutual dependence versus individualist prerogatives caused the character of the village commune structure to vary over time. The phenomenon of "peasant informers" during serfdom bred individualism in its most atomized forms and explains the dearth of violent revolt during the serfdom era.[222] Peasant intra-village cooperation was a bilateral (coordinated through the village assemblies) and heterogeneous risk-insurance strategy rather than a matter of homogenous stratification, independent of regional conditions, within the peasant estate. An additional short-term impact of serfdom on post-emancipation institutional structures was the risk aversion flowing from the younger generation's initial

[221] Hoch (ibid., pp. 132, 133) implies that the commune embodied aspects of intergenerational exploitation and conflict. See Worobec (1995), pp. 140, 151, on the punitive and oppressive attitude toward women, who were seen foremost as an addition to household labor in double-standard patriarchal societies such as Russia's.

[222] Hoch (1986), p. 163, notes the violent revolt in 1841 as an exception. See p. 175, Table 35, on passive resistance as reflected in the incidence of labor offenses, and pp. 187, 188 on the absence of class cohesion.

economic dependence on its elders[223] and the elders' vested interests in the hierarchies established by the patrimonial state, all of which permeated by traditional thinking. Patriarchs protected their privilege while the Tsarist bureaucracy, having replaced the landlords, reduced its transaction costs by ruling via the authority of the bolshak.[224]

Inter-Generational Shift of Power to the Young Generation

It also deserves emphasis, however, that from the middle of the nineteenth century, *otkhodnichestvo*—wage labor in city centers—abetted increased literacy, which mitigated sons' dependency on fathers in the long run. This shifted the balance of power in favor of the former and forced the latter to apply the majority rule of the skhod, the village commune assembly, to diffuse innovation (Kingston-Mann, 1991, p. 43; Burds, 1998, pp. 151, 176, 177). Indeed, following Hodgson's reconstitutive downward causation argument and North's assumption of very slow change among informal institutions, the tension between the vestigial patriarchal authority and the growing rationalist individualism would turn the village commune into a vehicle of innovation diffusion rather than an obstacle to such development. This process would include not only novel agricultural techniques but also the importation of subversive ideology from urban centers. Paradoxically, patriarch-entrepreneurs could overcome minority opposition in the skhod ruling, becoming triggers of institutional challenge to their very authority.[225]

An analogous argument may be applied to further our understanding the long-term institutional effect of the egalitarian ethos as fostered during serfdom.[226] In an attempt to secure its broad and stable tax base, the pomestie system[227] in effect during that era underwent institutionalization, i.e., transformed the redistribution of wealth via the kladka (bride price) and land redistribution into custom. This ensured that the collectively assigned tax obligation would prevent households from

[223] See Burds (1998), p. 45, on the volost court ruling in 1860. Hoch (1986), p. 109, says that extended family households headed by patriarchs enjoyed higher capital/worker ratios than did others. The higher dependency ratio that this allowed embodied a tradeoff between risk internalization and the leveling mechanism powered by egalitarian redistribution.

[224] Hoch (1986), p. 119; Burds (1998), p. 43; Leonard (1990), p. 136. The emancipation, triggered by surveillance costs (North, 1990, p. 90, transferred these costs from the landlords to the *mir*.

[225] Ibid. and Boyer and Orlean (1993), p. 22, on the "external invasion" of urban ideology.

[226] Hoch (1986), p. 117; Worobec (1995), p. 20; and Atkinson (1983), p. 9, on egalitarian redistribution as the outcome of practical considerations.

[227] Before the 1785 Charter to the Nobility, land and serfs had been allotted to the landed nobility—the pomeshchiki—by the Tsar on condition of state service. See Blum (1961), p. 182, and Pipes (1995), p. 52.

defaulting on their obligations, i.e., each household would control sufficient means to pay its share of taxes and dues (Hoch, 1986, p. 95). The resulting leveling effect, which prevented class stratification and limited the ultimate destitution and proletarianization of the peasantry, ensured a stability that, in the short run, suited the landowner and the post-emancipation Tsarist state even though it was incongruent with voluntarism-based incentive structures (Poznanski, 1992, p. 72). Low but stable levels of productivity[228] could be maintained by applying the disciplinary measures that serfdom allowed—a condition that seemingly became self-enforcing (Hoch, 1986, pp. 117, 118).

Diffusion of Egalitarianism and Subversion

Fostering egalitarianism within the bounds of an institution that had its own effective diffusion mechanisms such as the obshchina (Hodgson, 2004), however, had the opposite long-term results of those intended. It stimulated material egalitarianism in conjunction with a libertarian ideology that the peasant world imported via occasional interaction with landlords during serfdom[229] and in the post-emancipation industrialization spurts. This easily "translated" (Boyer and Orlean, 1993, p. 22) into a demand for equality under the law, something incongruent with serfdom, autocracy, and the power hierarchies that these systems supported. Thus, by fostering material egalitarianism, serfdom may be said to have created the mechanisms of its own abolition.

The Commune: Vehicle of Organized Subversion after the Emancipation

Moreover, the less serfdom could depend on economic incentives for the growth of its aggregate output as it strove to curb stratification and differentiation, ensuring a stable tax base, the more the system had to rely on discipline alone, breeding fear and antagonism toward its beneficiaries, the pomeshchiki.[230] During the serfdom-era peasant uprising that the Tsarist system had most dreaded, the Pugachev rebellion of 1773–1774, the leaders' call to "kill the pomeshchiki" (Kolchin, 1987,

[228] Inferred from Martens (2004), p. 187, and Kahan (1985), p. 13.

[229] In the case of resident as opposed to absentee landlords—pomeshchiks, carrying on in the Decembrist spirit—see Figes (2002), p. 72.

[230] See also Leonard (1990), p. 121.

p. 246) is unlikely to have fallen on deaf ears as far as the peasant-warriors were concerned.

Peasant resistance to serfdom and its attendant exploitation escalated steadily—from "silent sabotage" to flight toward border regions, petitions, and recurrent *volneniia Krest'an*—peasant unrest—up to outright war (ibid., pp. 243–244). With each escalation, the instances and costs of surveillance to the Tsarist state and the seigniorial system grew (Leonard, 1990, p. 121). Kolchin's comparison of the peasants' resistance patterns with those of the American slaves (Kolchin, 1987, p. 253) emphasizes the differentiating role of the Russian serfs' communal organization, additionally invigorated by the institutions of serfdom, as against the slaves' largely individual, atomized doings. It was this that made the Russian serfs' threat from below increasingly credible (Greif, 2006, p. 441) and, in selected cases, effective.

Importantly, the post-emancipation Tsarist state's motive for the transfer of landlords' rights and obligations (e.g., the collection of taxes) to the obshchina, additionally empowering the latter, still envisaged the village commune and its array of leveling mechanisms as a guarantor of political stability (Gerschenkron, 1962), pp. 131, 132). During the 1905 revolution, however, the Tsarist government realized that this unit of agrarian collective action (Kolchin, 1987, p. 441) had become a vehicle of revolutionary subversion that was making the demand for a constitution and equality before the law effective. This outcome could easily have been predicted had the obshchina's mobilizing and coordinating role in the peasant resistance to serfdom, strengthened by serfdom itself, been given due attention (ibid. and Hodgson, 2004, p. 105).

Although the landlord had de jure power to further restrict the peasants' freedom of movement, the free movement of the peasantry had been a universal phenomenon in old Russia until the end of the sixteenth century (Chicherin, 1858, cited by Blum, 1961, p. 249). According to legislation enacted in 1724, a serf who wished to leave his village needed a permit from his lord, the lord's agent, or the local priest (ibid., [Blum1961, p. 452). Any walking distance that exceeded 30 versts from home, or any time period exceeding six months, necessitated a government passport, for which the serf had to pay (ibid.). Serfs found away from home without this document were treated—and punished—as fugitives. The formal juridical legacy of the serfdom era, the legislation hindering the peasants' freedom of movement, survived the implementation of the Emancipation Act of 1861. This is well commented upon by Gerschenkron (1962, 1968), who notes that the legal requirement of permission from the head of household and the commune assembly to engage in seasonal wage labor—*otkhod* or urban migration—posed another de jure obstacle to labor mobility (Gerschenkron, 1968, p. 195).

Unintended Consolidation

It is not implausible to assume, however, that the severe restrictions on peasant freedom of movement that characterized serfdom contributed, through the Hodgsonian process of reconstitutive downward causation, to *zemliachestva* (Worobec, 1995, p. 33)—cultivation of strong rural ties, regional loyalties, and associations among migrant workers of peasant origin (Johnson, 1979, pp. 68, 69). The zemliachestvo networks must have greatly facilitated the rural urban information flows, enhancing cognitive economics (Martens, 2004, pp. 4, 51, 104) and increasing the cumulative probability of success of any decision to migrate and assimilate into the urban factory environment, intensifying the peasants' rural-to-urban migration during the industrialization spurts of 1890 and 1907 (ibid.). Also, by facilitating the import and diffusion of urban ideology and tastes to the rural community (Smurova, 2003, p. 100), they irreversibly transformed this community into a unit of subversion that challenged the autocratic order itself (Pipes, 1995, p. 314).

Thus, the legacy (in the Hodgsonian sense of the concept) of the institutions that implied the concept of organizations as institutions of serfdom, such as landsman ties (Johnson, 1979, p. 69), had the unintended consequence of facilitating and, thereby, amplifying the peasants' de facto freedom of movement before and after the emancipation. The unintended consequence of the peasantry's collective-action institutions (Kolchin, 1987, p. 269), inherited from the serfdom era and embedding the authority vested in the village commune, evolved into an effective "bottom-up" threat to the stability of the Tsarist state. This became manifest in the course of the 1905 revolution, heralding the gradual democratization of Tsarist Russia.

Structural Preconditions—Peasant Collectivism versus Individualism in Property Relations[231]

Here I focus on conditions of life (Veblen 1931, p. 188) (the subject of AEI) that embody perceived relative scarcities (the subject of NIE) as the ultimate explanation of institutional structures. Two questions are asked: Why is the sole conception of the village commune among the Westernizers, led by Chicherin, implausible? and: Is it necessary to view the obshchina not solely as an expression of peasant compliance with the state-imposed institutions but also as an organic rational response to the time- and place-specific perceived risk of death?

[231] Archer (1995), p. 76.

Natural Calamities and the Origins of the Commune

Using Kahan's (1985) data on natural calamities that directly affected grain yields and, therefore, the peasantry's food supply during the eighteenth century, I infer that the perceived risk of death at that time and place must have been exceptionally high. As the table below shows, life-threatening calamities befell the rural population more than once every ten years, meaning that an adult would experience at least five of them on average.

Tabel 6-1 Natural Calamities Affecting Grain Yields in Eighteenth-Century Russia

Year	Type of calamity	Location	Intensity
1704	Cold winter	Moscow and Central Russia	Relatively mild; killed the winter crop; grain supplies brought from southern provinces
1709	Severe winter and spring floods	Most of Russia	Severe; coincided with plague epidemic
1716	Excessive rainfall and floods	Moscow Province	Relatively mild; casualties more from floods than from starvation
1721-24	Excessive rainfalls and cold	Moscow, Smolensk, and most of central Russia	Crop failures for four successive years in a large area. Famine conditions, food shortages, high grain prices, human casualties
1729	Extremely cold winter	All of Russia	Interrupted communications, winter kill
1732–36	Early frosts	All of Russia, especially Nizhnii Novogorod province and Ukraine	Crop failures for successive years in the upper Volga and Ukraine; famine conditions
1735	Floods	Northern and central Russia	Severe floods and famine
1739	Very cold winter	All of Russia	Winter crops affected, food shortages
1740	Lack of precipitation in the winter; excessive rainfall in the summer	Southern Russia	Winter crops froze; spring crops did not sprout; "very hungry summer"
1747–49	Drought and locusts	All of Russia	Famine in Belgorod province; low yields in many provinces
1757			Low yields
1767	July hail storm followed by drought		Primarily spring grains suffered
1774	Drought	Left-Bank Ukraine	Crop losses and low yields in adjacent provinces
1780	Drought	Central and southern Russia	Low yields crop losses
1781	Low yields	Same	Famine-like conditions due to cumulative effect of previous year
1786	Drought	Central and southern Russia	Crop losses leading to high grain prices and import of grain to St. Petersburg in 1787
1788	Drought	Western and central Russia	

Source: Kahan (1985), p. 13.

Introducing the NIE/AEI theory combination, my thesis emphasizes that the individual household head's ad hoc calculus, envisaged in NIE and stemming from the rationalist assessment of the relative probability of the i-household being stricken by calamity, is a necessary but insufficient explanation for the collective coordinating custom that insured against the effects of crop failures. The application of NIE proposes that a high-uncertainty environment makes cooperative agreements among household heads the utility-maximizing option. Applying this in combination with Veblenian AEI, my thesis proposes that the risk and uncertainty reducing commune, constituted by the collective responsibility custom, should be attributed to the hierarchy of group and individual natural selection and the adaptation of institutions to the precarious, unpredictable, and harsh climatic conditions of life in European Russia. Historically, the hierarchy of dependence of peasants, peasant households, and entire communes on insurance against the effects of natural disasters (which were frequent in this region), tribal chieftains' experience, and the authority of princes, landlords, and patriarchal elders, was an evolutionarily stable strategy (ESS) (inspired by Boyer and Orlean, 1993, p. 22). In tandem with the choice afforded by increased access to railroad technology, this ESS was enforced by the additional mechanism of the rational calculus of household heads and members, paving the way to voluntary, individualistic bilateral and reciprocal insurance agreements. Against this background, the proposition raised by Chicherin and the Westernizers—that the nineteenth-century repartitional commune, which embodied the elements of collectivism outlined above, was *solely* the consequence of the extended hand of the Tsarist government and the seigniorial system for tax extraction purposes—cannot withstand a realistic inquiry that accommodates the truth.[232]

It is in this context that Vanberg's (1994) conception of the "rule-following economic man," the implicit intermediary dimension of my NIE/AEI theory combination, deserves elaboration. Against the background of severely adverse and unpredictable climatic conditions, the collectivist mutual-responsibility norm of which the village commune was constituted should be understood as a long-term mutual-insurance practice applied by entire peasant communities as well as individual peasant households through their retention of village membership. This institution reflects the long-term rationality of a peasant custom (Vanberg, 1994, p. 55) that is assumed to have been evolutionarily selected and, through adaptation, applied in response to the high frequency of natural calamities on the Russian plain (North, 2005, p. 7; Chubarov, 2001, p. 4).

Average adults in eighteenth-century Russia went through a non-anthropogenic famine or famine-like conditions twice in their lives. This must have left a heavy imprint on their "habits of thought" and the institutions emanating from them. It was

[232] Mäki (1990), p. 25. The relevant concept in this source is veristic inquiry.

these institutions, once solidified into established institutional structures, that created the structural conditions (Archer 1995, p. 76) into which nineteenth-century individuals were born (Hodgson, 2004, p. 105). Moreover, given the place-specific historical conditions, the process of natural selection and adaptation of institutions (ibid., p. XV) would, in the Russian case, favor an institutional solution to the very high probability or risk of death by starvation. It is for this reason that, given the frequency of famines, I assign a function of mutual insurance against starvation to the "crusts of bread" redistribution custom noted above. This custom, however, was only one of many elements of collectivist, cooperative, and *redistributive* practice among the peasantry. As stated above, the peasants redistributed wealth through the mechanism of the bride price (Hoch, 1986, p. 97) and did the same with food via the bratchiny (Mironov, 2000, pp. 324, 325). Ever since the population increase and the imposition of *Krepastnoye Pravo* (serfdom) in the seventeenth century, land had been periodically redistributed to adjust for the changing numbers of tyagla and the varying tax burden per household (Gerschenkron, 1962, p. 120; idem, 1968, p. 190; Moon, 1999, p. 220). Even alms received by convicts were redistributed along egalitarian principles (Dostoyevskij, 1977, p. 25) as a manifestation of the general peasant concept of equal right to life.

As Kolchin (1987, p. 52, Table 3) implies, given the decisively high and rising ratio of serfs to landowners (Kahan, 1985, p. 8, Table 1.1) and the flaccidity of the Tsarist bureaucracy, the redistribution practice could not have been superimposed during serfdom by coercion alone. It is instead likely that the obshchina arose as an insurance instrument against the risk of starvation or other calamities (Eggertsson, 1990, pp. 303, 304). Moreover, the Slavophile understanding of the commune as an organic Russian institution that adapts over time to local conditions of life deserves more credit than scholarship has given it.

Serfdom as a Historical Calamity?

In an era of railroads, it is unrealistic to assume the "institutional purity of regions." Nevertheless, a time factor exists in the adaptation to diverse levels of risk in a given region, caused by diverse regional climatic and institutional conditions. Additional factors that determine the diversity of institutions are institutional barriers. The institutions of the Kingdom of Finland and the Polish Kingdom within the Tsarist Empire would have been relatively diverse irrespective of railroads, at least in the short term, due to linguistic and other cultural-historical barriers. Generally, the regional risk-handling strategies that determine the intensity of collectivism adapt to pre-structuring physical and institutionally determined relative scarcities (North, 2005, p. 7), i.e., conditions of life (Veblen, 1931, p. 188). If so, the foregoing table should be amended to add conditions such as longitudinal land-to-labor ratios as noted by Kolchin (1987, p. 2), access to groundwater as advised by Atkinson (1983,

p. 4), susceptibility to epidemics due to sanitary habits as emphasized by Bideleux (1990, p. 207), and the ever-present determining factor in risk levels, available technologies. It is these, along with the extent of cultural insularity, that determine evolutionarily stable survival strategies, i.e., the institutionalized degree of collectivism vs. individualism in the rural structures.

In this context, the determining variable for institutional adaptation and natural selection of institutions (Hodgson, 2004, p. XV; Veblen, 1931, p. 188) is the frequency of natural calamities in European Russia as a whole and during the previous century.

Serfdom, I argue, should be regarded as an *institutional* calamity that befell the peasant population and had a long-term structural impact; as such, it should be seen as a structural precondition (Archer 1995, p. 76) for any inquiry pertaining to the nineteenth century. In the future, it should be subjected to quantitative analysis through variables such as the degree of exploitation during the *previous* century, measured in terms of the share of the burden in the peasant's household budget. These are the aspects that, hypothetically, determine the viability of the mutual-insurance custom. The larger the share of obrok—quitrent—in the household budget, or the share of weekdays devoted to barshchina—day labor—at the landlord's demesne, the higher is the mutual dependency on insurance against impoverishment of households in terms of the precarity of their survival.

Nafziger's proposal (EHES, June 2007) of "the percentage of (former) serfs in the population" as an explanatory variable for the dependent variable, the number of repartitions per commune in 1858–1878 (ibid., Table 5, p. 34), is very perceptive and may capture some of the structural aspects. Ultimately, Nafziger's test of the Gerschenkronian hypothesis advises that the share of serfs in the population is positively correlated with the frequency of repartitions and negatively with yields per acre (ibid., Table 4, p. 23). Despite the weak correlation, this finding conforms to the Gerschenkronian implication. That is, the village commune, structured by serfdom, prevented a pace of productivity growth that would have kept up with population growth, causing peasant poverty to increase in the industrialization era and negatively affecting the pace of industrialization. Nafziger's research indicates, however, that the obshchina was more flexible than Gerschenkron predicted (2006, dissertation, Summary, p. 573).

Chapter 9 focuses on the role of technological innovation, intrinsic to the railroads, in the level of collectivism—defined in the original model (2000) that precurses Chapter 9 as the number of land repartitions over a fifty-year period and, in the tested model, as the share of the relatively individualistic category in total peasant land, adjusted to the data model and explained by distance to the nearest railroad station. Relating Nafziger's findings to mine, I propose that the closer to the nearest railroad station a peasant village was, the less collectivistic its landholdings were.

One may surmise that in regions where the share of former serfs had been relatively large at the outset, peasant mobility and migration, measured as the number of migrant wage workers per household, would be correlated negatively with the distance to the nearest railroad station, positively to the share of former serfs in the peasant population and the number of repartitions per village, and negatively with the yield per acre generated by the increasingly less-commune-bound peasantry. The negative yield correlation would reduce the number of dependents per household and increase the level of individualism in relation to personal dignity (as yet untested) and property (Gaudin, 2007, pp. 103, 104, 108). If this is the case, our findings would supplement Nafziger's. The institutional impact of serfdom, however, transcended the population directly affected. For example, the frequency of corporal punishment in one region may have affected "habits of thought" in adjacent regions where the population was not directly affected. Therefore, I propose to use data on life expectancy at birth in past decades during serfdom to capture the real risk of death *under the prevalent institutional conditions*. The subjectively perceived risk of death is assumed to correlate positively with the real risk of death.

What Brought Serfdom Down?

According to Gerschenkron's analysis (1962, 1968), the durability of serfdom and coercive rural collectivism was eroded by the debacle of the Crimean War and the need, as perceived by the Tsarist state, to modernize the rural economy. The aim of the Emancipation Act of 1861, which unintentionally allowed the transition to voluntary cooperation and subjected repartition frequency to rationalistic calculus, had been to improve Russia's performance on the battlefield. This analysis, focusing on the Critical Realist critique, supplements the NIE perspective, which finds agricultural productivity to be positively correlated with the delineation of property rights in land.

The structural precondition (Nafziger, June 2007, EHES) that shaped power relations between landowners and peasants in the nineteenth century (North, 1973, p. 29), thereby influencing the institutional structures and leading to the abolition of serfdom in 1861, was population growth during the eighteenth century. Data on the growth of the male population follow.

Table 6-2 Population Growth (Males) in Various Regions of Russia

Date	Comparable territory a	North and Northwest b	Central Industrial c	Central Agricultural d	Total "Old Territory" e	Areas of colonization f
1 reviziia 1719	6,345,101	834,484	2,278,535	1,443,349	**6,740,183**	**832,330**
2 reviziia 1744	7,399,546	983,157	2,275,275	1,633,099	7,640,762	1,308,804
Yearly % change	.6	.7	.0	.5	.5	1.8
3 reviziia 1762	8,436,779	1,040,143	2,540,465	1,819,897	9,014,287	1,928,525
Yearly % change	.7	.3	.6	.6	.9	2.2
4 reviziia 1782	10,469,767	1,235,293	2,938,056	2,315,110	10,209,797	2,836,327
Yearly % change	1.1	.9	.7	1.2	.6	1.9
5 reviziia 1795	11,352,774	1,304,398	3,036,913	2,515,612	10,685,352	3,519,486
Yearly % change	.6	.4	.3	.6	.4	1.7
Yearly % increase 1719–95	-	-	-	-	.58	2.0

a. Territory of the first population census.

b. Includes Arkhangelsk, Vologda, St. Petersburg, Novgorod, Olonets, and Pskov Districts.

c. Includes Moscow, Vladimir, Kaluga, Iaoslavl, Kostroma, Nizhnii Novgorod, and Tver.

d. Includes Riazan, Tambov, Orel, Kursk, and Tula.

e. Includes the sum of North and Northwest, Central Industrial, and Central Agricultural. E=a+c+d.

f. Includes Voronezh District, Novorossiia, Lower Volga, the Urals, and Siberia.

e+f All of Russia, the Old Territory and areas of colonization upon the various revisions.

Source: Kabuzan in Kahan (1985), p. 16.

Regional map of Russia: Hosking (1997), " Russia People and Empire" map: x-xi "Expansion of the Russian Empire in the 18th Century."

Thus, despite epidemics, famines, war, the lethal depredations of the penal system, and the colonization of additional cultivated areas, population growth—especially in the Central Agricultural region—caused per-capita land allotments to drop (Kahan, 1985, p. 45). The highest share of planted area among all land allotted to peasants in use rights per male "soul" contracted from 3.50 desyatinas in 1725 to 3.19 in 1763 and 3.04 in 1796 (ibid.). Despite roughly 75 percent population growth in the Central Agricultural region in 1719–1795, planted area per male soul contracted by only 10 percent. This condition is explained by the rising share of the peasantry that was "assigned" to the mines and factories, serfs hired for factory work (Kahan, 1985, p. 83; Anisimov, 1993, pp. 176,]), and collective resettlement (Vladimirskaya, 1997, personal communication) to newly colonized regions where land was abundant.

Deducing from the NIE model, the shrinking per-capita land allotment in densely populated *chernozem* areas increased serfs' economic dependency on landowners (Engelgardt, 1993, pp. 37, 38). Concurrently, the rising peasants-to-nobles ratio, in a population inspired by an egalitarian ideology, amplified the risk of rebellion (Kolchin, 1987, p. 52, Table 3), making such a threat from below credible.[233] This, in turn, raised landlords' surveillance costs (Leonard, 1990, p. 136; North, 1990, pp. 90, 91) and undermined the rationale for serfdom itself, i.e., the initial high land/labor ratio.[234]

Against this background, I suggest that the structural precondition (Archer, 1995, p. 76)—population growth during the eighteenth century, itself probably the result of collectivist mutual insurance and mutual help as well as landlords' mandatory care of their serfs, as Hoch (1986)—abetted the abolition of the unfree labor system between 1861 and 1866. The institutions fostered by serfdom also did their share. The Crimean War may have catalyzed the transition but was not its primary cause.[235]

The Village Commune, Dependence on the Landlord, and Individualism of the Emancipation Era—Factors Explaining Serfdom

According to Heinz-Dietrich Löwe, there is evidence of leveling processes in which the intermediate household stratum expanded on account of small and large farmsteads, the *dvory* (Löwe, 1990, p. 181). This is consistent with the foregoing depiction of the obshchina, the village commune, as a redistributive cooperation network. There is no evidence of a bidirectional "capitalist" differentiation, in which the percent share of both the large and the small strata, especially landless households, grows (ibid.). Thus, as the nineteenth-century Tsarist bureaucrats expected, the collectivist practice of the obshchina and the egalitarian ethos spared the peasantry from immiseration and proletarization.

The following table illustrates the long-term leveling effect of the post-emancipation peasant custom as it interacted with the inherited institutions of serfdom.

[233] See Greif (2006), p. 441, on shirking as a freeloader problem that is overcome by voluntary peasant cooperation.

[234] See Kolchin (1987), p. 2, on the shortage of labor.

[235] Contrary to Gerschenkron (1968), p. 143.

Table 6-3 Long-Term Changes in Household Stratification by Land Ownership, 1765–1900

	Gorodinsk District, Chernigov Gubernia farms, in desyatiny (pct.)					
	Up to 1	1–5	5–15	15–25	Over 25	
1765/68	17.3	8.4	28.4	15.6	30.0	100
1883	10.0	***29.0***	***38.2***	11.9	10.9	100

Source: Löwe (1990), p. 181 (italics and emphasis added).

Löwe concludes that the limited differentiation actually observed must be explained by additional economic/political factors, such as the terms of the emancipation agreement, and not only by the economic forces at work (ibid.). Moreover, landless wage labor seems to have become rarer instead of more common (ibid.), actually indicating decreasing dependency on industrial work alone.

According to Field, stratification in the peasant community due to economic factors alone had been inhibited by the leveling mechanisms inherent in the village commune structure.[236] Field's findings, below, suggest that the weaker the structural serfdom legacy, expressed in terms of its proxy—the percentage in the population of individuals who had been serfs before the emancipation—due to peasant mobility, migration, and the contingent intergenerational structural shifts (i.e., power transfers from fathers to sons), the stronger become individualism and stratification along income and urban vs. rural cultural affinities in the village commune.

The table below illustrates the structure of types of enserfment of the peasant constituency during the 1719–1857 period (percentages).

[236] Field (1990), pp. 143, 160, Table 10.8 A. There is a positive correlation between the percent of ex-serfs in a district and the number of households in the in-between class. This is consistent with my assumption about the uneven post-emancipation survival of the serfdom structures, characterized by the leveling redistribution.

Table 6-4 Longitudinal Ownership of Serf Categories (Percent)

Categories of peasants—percent changes, 1719–1857					
Year	Landlord	State (Tsarist)	Church	Court (Tsarist)	All peasants
1719	55.80%	21.46%	13.84%	8.90%	100.00%
1744	56.46%	23.72%	13.42%	6.41%	100.00%
1762	55.47%	25.46%	12.88%	6.19%	100.00%
1782	53.16%	40.61%		6.23%	100.00%
1795	54.47%	40.79%		4.74%	100.00%
1811	52.44%	42.75%		4.81%	100.00%
1815	51.01%	42.58%		6.41%	100.00%
1833	48.18%	45.53%		6.29%	100.00%
1850	43.53%	50.85%		5.62%	100.00%
1857	41.84%	52.26%		5.90%	100.00%

Presented by Moon (1999), p. 99.

According to Archer's (1995, p. 76) structural preconditions concept, the immediate post-emancipation structure of the peasant community was subject to reconstitutive downward causation (Hodgson, 2004, p. 105) brought on by centuries of serfdom. Bondage at the hands of the landed gentry, the pomeshchiks, was most common in the agricultural black-earth (chernozem) belt (Moon, 1999, p. 70) and entailed barshchina (service labor) on the landlord's demesne. Serfdom at the hands of pomeshchiks had been the most onerous form of bondage in peasant eyes.

In non-black-earth regions, obrok (quitrent) as well as state taxes (ibid.; Mironov, 2000, p. 302) burdened the peasants.

Serfs ("seigniorial peasants"), unlike other members of the peasant estate, were directly bound to the person of the landowner on a hereditary basis and were subject to the landed gentry's administrative and judicial authority (Moon, 1999, p. 66). This peasant category had been subjected to physical, climatic and the manmade institutional hardships (North, 2005, p. 7). Therefore, it is assumed here that this type of bonded labor was motivated by the strongest peasant dependencies on landlords (Engelgardt, 1993, p. 38) as well as mutual responsibility, mutual assistance (Worobec, 1995, p. 24), and work done "out of respect" (Engelgardt, 1993, p. 52), i.e., famine insurance of the "crust seeking" kind (ibid., p. 28). All these strategies inspired the redistribution of landed and movable assets, namely, collectivism. One would expect the structural impact of the railroads to be stronger in these areas than in areas that had been populated by state, i.e., owned by the Tsarist State (Moon, 1999, p. 99) peasants and other peasant categories before the

emancipation. The empirical tests in Chapter 9 concern the Penza region, the northern black-earth area.

Here I address the regional conditions that explain the variation in the percentage of serfs. Viatka province is located in the western *tajga* (forested) regions near the natural barrier, the Ural Mountains, that protected the village population from armed intrusion. Crafts related to hunting are expected to have generated a relatively high share of household income in this region (Figes, 2002, Map 3—European Russia, p. xviii; Gatrell, 1986, p. ix). Landlords in such regions would derive higher revenue from obrok (quitrent) than from barshchina (day labor) (Moon, 1999, p. 76) and the utility of enserfment to the landed nobility would be relatively lower. The percentage of former serfs in the population is the lowest, a dependency ofthe ratio of low-sedentary agricultural land endowments to labor. In 1850–1917, Jaroslav, Kostroma, and Vladimir together constituted the Central Industrial region, located in semi-desert and mixed forests along the Volga River (Figes, 2002, Map 3—European Russia, p. xviii: Gatrell, 1986, p. ix). River-related transportation craft and hauling, identified by Gerschenkron (1970, p. 19) as the preferred and chosen sources of livelihood among the subversive Old Believers (*starovery*) sects, motivated enserfment at the hands of the Tsars for social-control purposes. This, in turn, made it necessary to preserve commune internal harmony by smoothing redistribution among the serfs (Ma, 2006, p. 11). Well-to-do and piously subversive Old Believers peasant entrepreneurs posed a challenge to the autocracy, which was supported by mainstream Greek Orthodoxy. Mainstream Greek Orthodoxy supported the autocracy.

In the tajga Viatka region, the low percentage of former serfs in the population may also be explained by the relatively high independence of the peasantry from landlord protection and famine insurance, as crafts, hunting, gathering and natural barriers to intruders insured against calamities on their own. Semi-desert regions with unpredictable precipitation—Jaroslavl, Kostroma, and Vladimir—were prone to crop failure, making the peasants dependent on the demesnes of technologically more advanced landlords, industrial income as " assigned" and hired labor, and mutual insurance. This abetted enserfment and rendered the share of former serfs relatively high.

The table below indicates a positive correlation between the share of serfs in the population and that of middle households, i.e. the intensity of the leveling effect determined by redistribution. The lower the percentage of former serfs, the higher the individualism expressed in differentiation.

Table 6-5 Percent Distribution of Village Resources for Allotment in Vladimir and Other Provinces, 1905
Intervals in desyatinas, four provinces: Iaroslav, Kostroma, Viatka, Vladimir

	0–1	1-3	3-5	5–10	10–15	15+	Percent of former - serfs
Iaroslav	0.5	4.4	15.9	**65.9**	12.0	1.3	**76.4**
Kostroma	0.6	3.4	8.5	**57.6**	23.3	6.6	**63.7**
Viatka	0.0	0.1	1.9	**12.9**	28.1	56.5	**10.4**
Vladimir	5.9	4.2	7.8	**49.8**	23.3	9.1	**64.3**

Source: Field (1990), Table 10.8, p. 160.

Thus, Viatka province serves as a case in point: It has the lowest percentage of former serfs in the population (10.4 percent as against >50 percent in Iaroslav, Kostroma, and Vladimir provinces) and the highest differentiation (56.5 percent of the households controlled fifteen or more desyatinas of land per household, as against 1.3 percent in Iaroslav, 6.6 percent in Kostroma, and 9.1 percent in Vladimir), indicating weakness in smoothing land repartitions—a reflection of redistributive collectivism. It must be acknowledged, however, that the share of poor households (controlling less than five desyatinas of land per household) is also the lowest among the provinces. Nevertheless, the span between 12.9 percent of households controlling 5–10 desyatinas of land per household and 56.5 percent controlling more than fifteen desyatinas per household is indicative of individualism instead of collectivist land redistribution. Some 98 percent of households' landholdings exceeded 5 desyatinas per household and 2 percent were smaller, indirectly indicating acute dependence on agrarian income, relatively stable living standards, and relatively lower leveling effects, i.e., weaker collectivism.

The table implies, contrary to Gerschenkron's proposition and in support of my argument, that the nineteenth-century obshchina was not a homogeneous and stable structure during the post-emancipation period. Technological change embodied in the construction of railroads, which enhanced peasant mobility and, in turn, migration intensity, inexorably eroded the viability of the structures of serfdom, attenuating their reconstitutive downward causation. Presumably, then, the degree of compulsory collectivism that was constitutive of serfdom, manifested in the leveling effects of the post-emancipation peasant commune, weakened over time and atrophied at the dawn of Stolypin's reform, which constituted an ex post codification of the de facto transition to voluntary cooperation, i.e., individualism. The industrialization spurt in 1890 should be tested for a structural shift from compulsory elder-authority–structured collectivism to rationalistic voluntary cooperation between individualistic householders (*bolshaki*). Such a shift may be measured as the "income-control intensity" (Hesse, 1993, p. 52) of the patriarchs' generation—a proxy for the long-term share of *otkhodniks*, seasonal and urban industrial wage income coercively repatriated to the commune for the support of kin. Field's findings are consistent with Löwe's.

Worobec notes regional differentiation by soil quality. In the infertile non–black-soil regions where land had to be manured, even partial redistributions were less frequent than elsewhere because households wished to protect their investment (Worobec, 1990, p. 96). As land repartitions in these regions had been less frequent, the degree of differentiation could have been higher. In the Central Black Earth area, bordering on the Chernigov region in the southwest Gorodinsk district (Gatrell, 1986, pp. ix, 37), the share of middle households had been the highest (Table 5–4 above). Land in these regions did not require manure, while collectivist redistribution had been the result of declining land-to-labor ratios in an area that historically had been burdened with labor shortages—a typical feature of "seigniorial servitude" in the black-earth belt (Moon, 1999, p. 218). The leveling effect, however, could have been caused by differential obrok payments in those regions (ibid.).

Communalism or Individualism and Strife in the Final Phases of the Commune?

Would it be correct, in the absence of "capitalist" differentiation,[237] to conclude that the communal redistributive action and the accompanying spirit permeated peasant daily life to such a degree that egoism, individualism, and individual entrepreneurship were non-existent? Qualitative anecdotal evidence suggests that individualism within the formally collectivist structure of the village commune actually increased and flourished. As stated above, the peasantry adhered to the principle of individually valuing and remunerating individuals' labor. Labor constituted the rationale for the peasantry's concept of possession and, ultimately, its understanding of property rights (Pipes 1999, p. 87). Labor was usually apportioned and each worker was rewarded commensurate with h/her input and the difficulty of the task performed (Engelgardt in Frierson, 1993, pp. 115, 116, 158, 160). As the following quotation from Engelgardt may illustrate, the meticulous division of labor commensurate with the burden of debt of each member of the labor team, working up debt repayment to the landowner, gives unambiguous evidence of individualism:

> […] To cultivate rye or spring wheat, the peasants would come primarily to divide the land into half desyatinas, quarter desyatinas, or eighths, *corresponding to who borrowed how much money*. There is the most horrible shouting and cursing during this division; it seems as if a brawl is about to break out at any minute […] but as

[237] Löwe (1990), p. 173. As for Lenin's renowned book, The Development of Capitalism in Russia (1974) and its calculations concerning the question of differentiation in the Russian peasantry, this work deserves a separate discourse due to its theoretical and ideological framework and is not discussed in this chapter.

> soon as the division is finished, everyone gets quiet and you will see how accurately all the shares are cut (ibid., p. 116, Italics added).

One presumes that the alignment of land apportionment with the tax burden also had an individualistic aspect. This principle of individualism also guided every egalitarian obshchina formation much as heads of household who had made investments in allotted land were compensated at the time of repartition (Kingston-Mann, 1998; idem, 1990, pp. 44, 45). Mutual compensation arrangements of this type should be regarded as short-term adaptations to technological infusions that allowed individualization and constituted intermediary forms of landed-asset control. The decision-making authority had been vested in the commune assembly of heads of household (the skhod) (Worobec, 1995, p. 21), which resolved repartition disputes by two-thirds majority in accordance with the principle of joint responsibility for taxes and dues (krugovaya poruka) (Gaudin, 2007, p. 17). The assembly was a middle-management organ, positioned between the self-governing commune and the Tsarist government institutions (ibid.). Therefore, compensating investing parties at times of repartitions cannot be understood as substituting for the formation of otrubs (consolidated hereditary household plots) or khutors, in which upon the implementation of the Stolypin reform (1906–1917) the head of household obtained hereditary and exclusive allodial property rights to landed assets (ibid., pp. 43, 44; Pallot, 1982, p. 19).

Worobec (1995, pp. 23–29) and Pallot (1982 p. 14) provide a systematized account of the practice of repartitions. Land was assigned in accordance with the number of husband-and-wife labor teams, assuring the most productive use of this asset and the egalitarian distribution of tax burden per household (Worobec, 1995, p. 23). A general or "basic" repartition"—*korennoi peredel* (Pallot, 1982, p. 14)—pertained to all households and took into consideration variation in soil quality, moisture, and distance from the village (Worobec 1995, p. 24). One of three fields was chosen in a given year; the heads of the labor units then grouped themselves in tens to divide it into strips (ibid.). The soils that were the richest and the closest to farmsteads were divided by lot. The next-best lands were divided the same way (ibid.). Household heads then divided this group of lands in accordance with the number of labor units or the number of "eaters" per household (ibid., p. 25). The strips of arable land assigned to each household were demarcated by passages for plows and animals or by boundary markings (ibid.). Such repartitions took place at intervals of three to twenty-five years. Given unchanged technology, such variation was explained by soil quality, the need to apply manure, and land values. In Northern and Central Russia, heavily manured land allotments were excluded from the redistribution process (ibid.). In 1880, with the decrease in redemption dues and the increase of land values (in response to peasant use of the railroads, as this dissertation explains), repartition adjustments meant to equalize the tax burden became more frequent (ibid.). In view of Atkinson's findings (Atkinson, 1983, p. 74) however, this cannot

be proven as a general trend. The impact of the railroads on the stability of use and property rights in land among the Late Tsarist Russian peasantry is ultimately an empirical question, in which acute regional variation is expected. Not only were soil quality and climatic conditions diverse, but so were incremental population densities and systems of rule in their interaction with ethnicities and cultures in the areas successively conquered by and incorporated into the Tsarist Empire.

Pallot (1982, p. 14) illuminates two additional repartition practices applied by the peasantry: *zhereberka*, "partition by lot," and *pereverstka*, "re-ordering repartition." Here the physical arable land remained the same but title was adjusted to change in the number of labor units or eaters per household. Similarly, Dostoyevskij (1977, p. 25) shows that any remuneration owed to convicts on account of labor performed was remitted individually; only alms for prisoners were redistributed by egalitarian calculus.

The principle of retaining remuneration for labor performed was strongly related to the peasant conception of property (Engelgardt in Frierson, 1993, p. 160; Pipes, 1999, p. 87). As stated above, the usadba—the house and garden plot—had been retained by the household in hereditary tenure at all times. A woman's dowry was her inalienable property (Worobec, 1995, p. 42). In general, too, as Engelgardt lamented in reference to the 1872–1887 period:

> The peasants live in separate households and every household has its own separate farm that it also manages through its own supervision […]. Every year, the independence of peasants' actions grows and grows, so that many tasks that were still done together several years ago by the whole village are now done separately by each household. I think that the peasants will soon divide even the land by household and destroy communal landholding (Engelgardt in Frierson, 1993, p. 87).

Thus, Engelgardt's eyewitness account reports rising individualism among the peasantry even before the 1890 industrialization spurt. The spurt, through intensified otkhodnichestvo—urban wage labor (Johnson, 1979, p. 12)—merely made the younger generation even more independent of the decisions of the patriarch (the bolshak and the commune) (Burds, 1998, p. 29), allowing the more individualistic urban culture to penetrate the rural habitus with greater ease (Smurova, 2003, p. 100). If so, individualism had always been present but had been suppressed by the reinforcement of the hierarchy of exploitation among household heads, the commune, the landlord, and ultimately the Tsarist state in the serfdom era (Hoch, 1986, p. 160) and, before the emancipation, by the state's pitting of serf against serf for information and, ultimately, for control in order to reduce its surveillance costs (North, 1990, p. 91; Leonard, 1990, p. 136).

In his tenth letter, Engelgardt notes the peasants' very strong sense of wealth despite their inexperience in hereditary land tenure:

> I have stated more than once that individualism, egoism, and the urge to exploit are very much developed amongst the peasantry. Envy, the mistrust of each other, scheming against each other, the humiliation of weak before the strong, the arrogance of the strong, the worship of wealth (landed and movable property)—all of this is highly developed in the peasant milieu (Engelgardt in Frierson, 1993, p. 223).

Notably, Engelgardt nurtured populist sentiment, praising the commune and denouncing individualism. The most telling element in his account is based on the peasant distinction between a "real *kulak*" (a "fist," i.e., an individualist, exploiter, and usurer) and a "not-real *kulak*," a peasant-entrepreneur. One who works and amasses a fortune by his own labor, even if employing others as well, and who says "I love the land, I love the work" (ibid., p. 224) is regarded by the peasantry not as a real kulak but as an entrepreneur who deserves respect and admiration (Shanin, 1985, pp. 156, 157). He who works with capital and says "labor loves fools" (ibid.) is taken by the peasantry to be a true kulak and a *miroed*, one unworthy of respect. Thus, peasant hostility gravitated not to individualist agrarian entrepreneurs but to those whom the community perceived as usurers—a way of thinking much in line with Christianity. Moreover, the link between agricultural labor invested and the perception of legitimate property is ubiquitous in Russian peasant conceptions.

Shanin (1985) describes the peasants' differentiation similarly. The "real" kulaks in Engelgardt's account, the usurers who did not live off their own agricultural labor, earned the following derogative epithets from the contemporary peasantry: *skryaga*—niggard, *miroed—mir* eater, *makla*k—go-between, *and vorotila*—a shady wheeler and dealer. A 1903 etymological dictionary defined all these sobriquets as synonyms for "kulak" (ibid., p. 156). Thus, the nineteenth-century peasant did not resent but rather admired those whom he perceived as successful individualist agrarian entrepreneurs. This, as noted above, cannot be said about noble intellectuals of populist inclinations such as Engelgardt, who were bowled over by the rational logic of the village commune obshchina.

Before concluding this overview on peasant collectivism versus individualism, some references to peasant attitudes toward the formal individualization of rights process—Stolypin's land reform—are warranted:

Macey (1990) focuses attention on endemic conflicts among peasants and peasant communities due to ill-defined property rights in land. Before 1906, the courts throughout the empire, *including the peasantry*, were "clogged with lawsuits over property rights" (Macey, 1990, p. 221). Given the morass of faulty titles and lack of written documents concerning what belonged to whom, possession was nine-tenths of the law (ibid.). Macey refutes the notion that the peasants had no sense of individual private property. The commune, he says, was a major arena of conflict over property rights in land, rendering repartition the most difficult point in what North would call the life cycle of the relevant organizations (ibid., p. 222). Macey

depicts the nineteenth-century peasant commune not as an egalitarian social unit but as a hotbed of deep-rooted peasant egoism. Taking into account the "extreme competitiveness, individualism, [and] self-interestedness" (ibid.) of the heads of household, he says, the function of the periodic land redistribution must have been simply conflict resolution (ibid.).

Thus, according to Macey's account, the antagonism and peasant violence that accompanied the implementation of Stolypin's rural transformation project in 1906[238] could not have reflected the defense of the communal organization and spirit, an act that targeted individualism among fellow peasants as such. Rather, the climate of conflict manifested the peasants' historical deep-rooted antipathy to any type of imperial encroachment on their autonomy, risk aversion in view of the rumor-mongering that accompanied major institutional changes in pre-modern communities (Moon, 1999, p. 240), and the previously latent but now unleashed intra- and inter-village conflict over the use of and property rights in land (Macey, 1990, p. 221; Pallot, 1999, p. 166; Frank, 1999, pp. 105, 108).

If so, Stolypin may have been right (Klimin, 2002, p. 11) in assuming that the rural commune had exhausted its life-preserving role and had begun to atrophy in its interaction with industrialization, including railroadization, while peasant individualism—always present but latent due to the prevalent conditions of life—was becoming increasingly manifest. Worobec, for example, cites statisticians who note that after the emancipation, even in black-soil regions (where land redistribution had traditionally been more frequent because the soil did not require costly fertilization), a "significant lobby among peasants" (Worobec, 1990, p. 96) existed that opposed repartition, guarding their right to use land that was becoming scarcer and more valuable due to the interaction of population increase and railroad construction.

Theoretical Interpretation

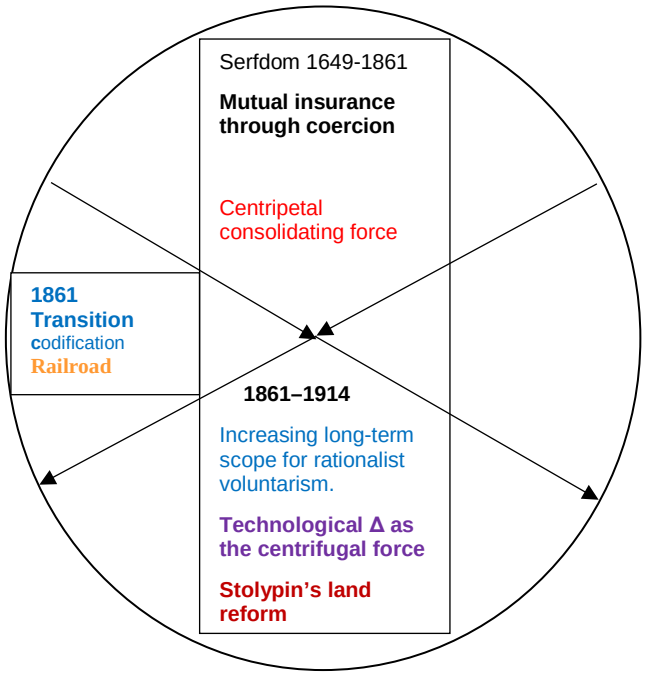
As for theoretical interpretation, AEI explains individualism in terms of individual selection whereas NIE sets out from an individualist and hedonistic understanding of human nature. Within an ahistorical framework, there would be little to explain about individualism, let alone peasant individualism. Both schools, however, prescribe the study of history-specific conditions and past legacies. Thus, according to Chicherin's and the Westernizers' understanding of the commune, serfdom *forced* collectivism and communal practice while suppressing and thwarting individual initiative. From the combined AEI/NIE perspective, serfdom *enforced*

[238] As depicted by Pallot (1990), p. 166.

formally organic peasant institutions (as in the Slavophile understanding of the commune), additionally necessitating and therefore fostering rational reflexive collectivism (Pallot, 1999, p. 157) while exploiting peasant individual initiative for both tax extraction and control purposes, respectively—thereby lowering the surveillance costs incurred by landlords and, ultimately, the state (Hoch, 1986, p. 128; Leonard, 1990, p. 136). Within a time- and place-specific framework, it is obvious that the proportions of collectivism versus individualism, institutionalized over time, are continuous, non-discrete, and mutually exclusive. The foregoing overview implies that micro-level institutions, peasant custom in our case, are functions of a supra-institutional structure as well as physical conditions of life and that these two are partly interdependent. Ultimately, institutions are explainable by relative scarcities or physical conditions of life (Veblen, 1931, p. 188; North, 1973, p. 29; idem, 2005, pp. 100, 101). Against the foregoing account, can any optimal proportion of collectivism versus individualism be derived from the perspective offered by the combination of the schools applied? The discussion that follows will attempt to answer in the affirmative.

According to the combined model, the optimal mix of collectivism and individualism, hierarchy and egalitarianism, and exploitation and workmanship coincides with Stolypin's land reform. An additional push to defend and enforce all property rights aspects may inhibit cooperation and risk-sharing, impairing productivity. Additional collectivism weakens the incentive structure, leading to the same result (Poznanski, 1992, p. 71).

Figure 6–2 The Railroad and the Transformation of the Mir—Summary



Sources: Applied from Migdal (1988); an example of centrifugal forces is given on p. 268. Sheshinski (2010), p. 3; Gintis (2009), pp. 1, 2; Hoch (1986) on the institutionalization of mutual insurance in collective responsibility for taxes and dues and the landlord's role as lender of last resort during the serfdom era.

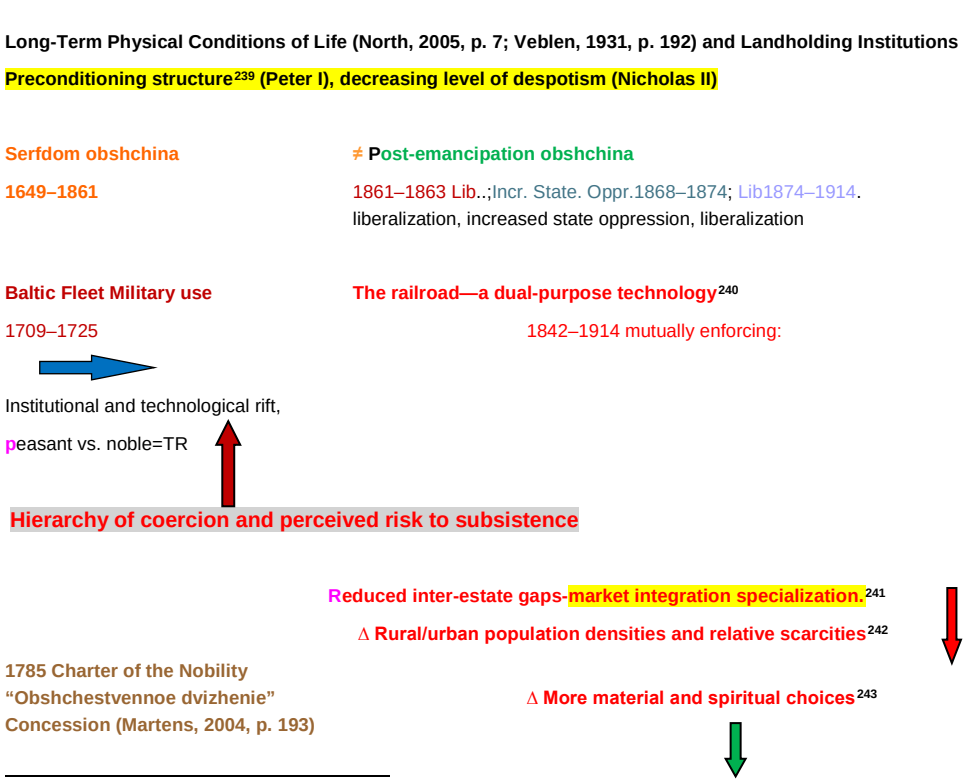
Summarizing Remarks

Congruent with North's NIE (1973), supplemented by the Regulationist paradigm, I contend within a broader AEI framework that the change in conventions in the pre-revolutionary period was ultimately set in motion by population increase, which necessitated the absorption of technological innovations, specifically railroads. This, in turn, paved the way to the transition from anxiety-driven subservient centripetal authority obedience (Lawson, 1997, pp. 180–182) to centrifugal anonymous and rationalist rule compliance that rejected personalized coercion. The institutionally personalized hierarchies of coercion had proved inadequate in military rivalry with Western powers, forcing the initial Tsarist concession—the 1861 emancipation of the serfs—and the subsequent codification of the peasants' emancipation from compulsory collectivism in Stolypin's land reform. The centrifugal challenge paved the way for participatory rules.

In sum, the cost-benefit analysis of the delineation of property rights—i.e., the full exodus from communal structures that aims to reduce transaction costs and enhance the incentive structure, as had been proposed in the 1906 Stolypin reform—must entail the opportunity costs of forgone tacit knowledge, encapsulated in this case in the obshchina, the increasingly voluntary commune village structure (Barzel, 1989, pp. 10, 11; Hodgson, 1999, p. 247). The obshchina was the wheel of subversion that was unintentionally spun off from the serfdom structure that, after the emancipation, was driven by the railroads' techno-cultural revolution, transforming it into a voluntary collective action unit that eroded the heritage of serfdom and would soon reform the autocracy, atrophying in the process (Barzel, 2002, p. 61).

Figure 6–3 summarizes the transformation of the obshchina and its precipitants.

Figure 6–3 The Railroad and the Unintended Metamorphosis of Mir and Autocracy



[239] Archer (1995), p. 76.

[240] Kahan, (1989), p. 28.

[241] Metzer (1972), p. 82; Smurova, (2003), p. 100.

[242] North (1973), p. 29; Burds (1998), p. 23; Atack, Bateman, Haines, (2001).

[243] Burd,. (1998), pp. 204, 205.

Debates over peasant property rights

Patriarchal hierarchy of oppression **Atrophying power of bolshaks**

(heads of household)

Extended household[244] Transition to nuclear household[245]

A state-supportive ecclesiastical hierarchy;

egalitarian rationalist pious subversion (Shevzov, 2004, p. 32; Freeze, 1996, p. 311)

Mainstream Greek Orthodox (Freeze, 1996, p. 311)

Multiplicity of structures and income sources

SR, Old Belief, other sectarians[246]

Higher proportion of coercion **Higher proportion of rational calculus**

Involuntary collectivism **Voluntary collectivism=individualism**[247]

Fostering path dependency

and risk aversion[249]

The formation of collective action units[248]

= upward restriction on state power

Increased level of individual entrepreneurship investment

Increased delineation of individual property rights

Productivity increase (Hesse, 1993, p. 51)

Stolypin's land reform, 1906

1906–1914 Toward public suffrage and constitution (Ascher, 1988, p. 34)

Impersonalized institutions (Raeff, 1984, pp. 82, 83)

'Open access society' (North, 2009, p. 2)

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[244] Hoch (1986), p. 127.

[245] Worobec (1995), pp. 83, 92, 93, 97; Frierson in Bartlett (1990), p. 317.

[246] Examples from Ascher (1988), p. 34; Burds (1998), pp. 204, 205; and Matosian in Vucinich (1968), pp. 81, 85.

[247] Legitimized by Sheshinski (2010), p. 3, and Gintis, (2009), pp. 1, 2.

[248] Barzel (2002), p. 61.

[249] NIE, Hodgson (2004), pp. 14, 105; Poznanski (1985), p. 45; idem (1992), pp. 71–94.

Chapter 7 - Secularization and Pious Subversion-To the Constitution by Rail

Introduction: Railroads and Pious Subversion

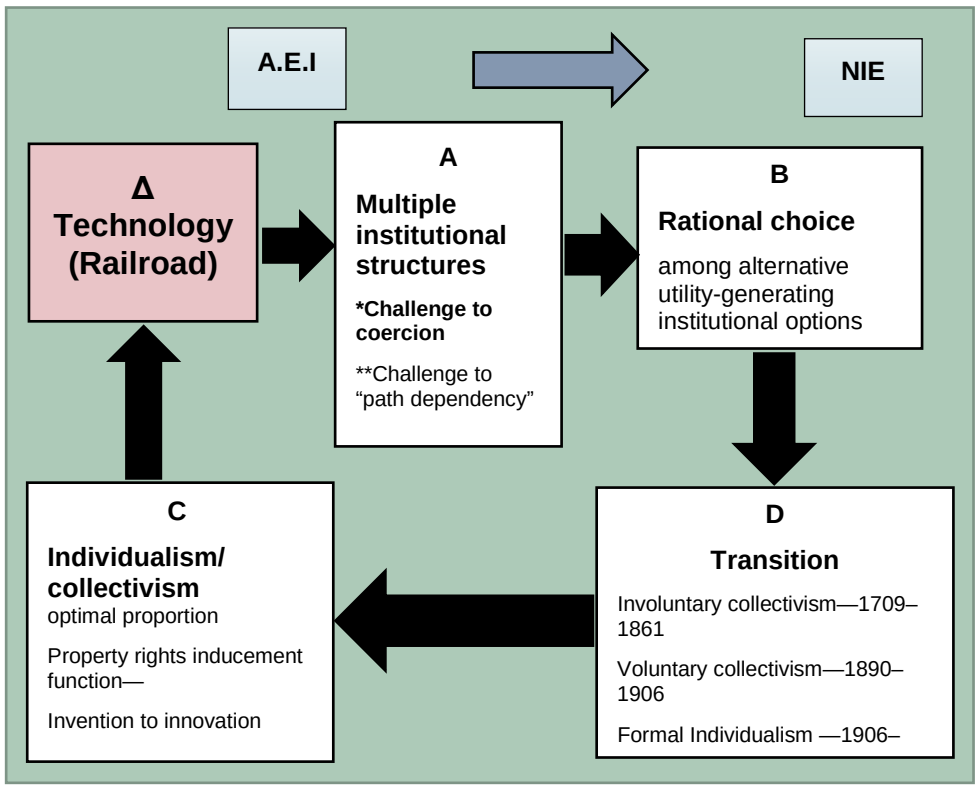
This chapter discusses additional aspects of the institutional change that technological innovation brought about in nineteenth-century Russia. It focuses on three interdependent phenomena: choice, transition to rationalism and democratization ;the transition to rationalistic thinking, had been occasioned by the choice among the pious subversion that had been triggered by peasant flight to the Old Belief, and a form of secularization (Burds, 1998, p. 188) in synergy that forced the mainstream Orthodox Church to democratize in response to the competitive challenge (Worobec, 2001, p. 12l; Freeze, June 1996, p. 311; Shevzov, 2004, p. 36). These factors together gravely subverted the legitimacy of autocratic government in *fin de siècle* Russia. Why did the collectivist custom inherited from the serfdom era not erect a mobility barrier and impoverish the peasantry, as Gerschenkron predicted, due to the state-financed spurts of industrialization in the 1890s and 1907? I propose the following answer: the infusion and proliferation of dual-purpose technology by means of the state-led industrialization process unintentionally introduced *multiple institutional structures* that triggered a transition from authoritarian coercion to rationally structured agrarian collectives, reducing uncertainty and transaction costs. Such processes would strengthen the incentive function of any set of property rights (Barzel, 1989, pp. 7, 9, 65; Poznanski, 1992), pp. 71–94; Hesse, 1993, p. 51; Sahlins, 1989, p. 42).[250] *Under such conditions, Boserupian expectations foresee a faster increase in productivity than in population,* allowing the Malthusian trap to be avoided. Applying Scott (1976, p. 4), rising and predictable peasant living standards caused the mutual dependency frameworks that constituted the collectivist village commune to atrophy, paving the way to individualism. The railroads, in turn, determined the nature of the national-

[250] This passage is inspired by Mokyr (1990), pp. 176, 177.

market formation and specialization that set democratization in motion (Smith, 1998, p. 19; Metzer, 1972, p. 82; Martens, 2004, p. 193; Pipes, 1999, pp. XII, XIII).

To conclude, my thesis fills in the missing dimensions of Gerschenkron's theory. I explain the impact of the railroad technology on the level of rationalism that determines subsistence risk and the peasant community's habits of thought. Figure 7-1 below summarizes the argument that constitutes the theoretical backbone of this chapter.

Figure 7–1 The Role of Technological Change in Value-System Adaptation as Interpreted in My Thesis and the Applicability of the Model



This figure is based on (a) Nelson and Winter (1982), "Bounded Rationality," p. 35; and North, "Path Dependency" (1990), pp. 93, 94, which shows the consequences of "bounded rationality"; (b) Sheshinski (2010), "Rational Choice," p. 3; Gintis (2009), pp. 1, 2; (c) the property rights incentive function: Poznanski (1992), pp. 71–94; aspects of Mokyr (1990), pp. 176, 177; invention innovation: Mokyr (1990), p. 155, collectivism vs. individualism—remuneration for individual householders in the next repartition for investments in land, Kingston-Mann (1991) in Kingston-Mann, Mixter, and Burds (1991), pp. 35, 45, 46.

The question elaborated upon here is how the technological revolution launched in 1890 influenced the religious institutions, namely the Orthodox Church that structured Russian society as an institution that held the Tsarist Empire together.

Freeze (1996, p. 309) emphasizes the crucial role of the Orthodox Church as the basis of the Tsarist autocracy's legitimacy. Apart from backing the military defense of the empire's territorial claims, Greek Orthodoxy was the most reliable pillar of rural collectivism (Burds, 1998, p. 189), which, abetted by the ecclesiastical institutions themselves, lowered the Tsarist regime's surveillance costs (North, 1990, pp. 90, 91; Freeze, 1996, p. 311).

In the second half of the nineteenth century, the dramatic increase in the number of otkhodniks—farmers who augmented their income by performing industrial wage labor (ibid., p. 23, Table 1.3)—implies that railroad construction helped to enhance the mobility of the Russian peasantry. The acceleration of urbanization toward the end of that century suggests the same. The 3.12 percent annual growth rate of the Russian urban population in 1870–1890 (Ljungberg, 2008, p. 33) reflects increasing migration of labor toward urban centers, contradicting Gerschenkron (1968, p. 234), who argues that mobility barriers persisted de facto and de jure until Stolypin's reform (1906), yet vindicating Gregory (1994, p. 52). The growing incidence of migration indicates that the informal habits of mutual beneficence (Gregory, 1994, p. 52) outweighed the formal legal constraints in guiding the decisions of the *skhod*, the communal-village assembly (Worobec, 1995, pp. 6, 7, 17). Thus the de facto ties to the village commune of the post-serfdom peasant of the railroad era were more flexible than those indicated in the formal statutes of 1861–1863. The technological innovation inherent in the railroads did more than make the great Russian peasantry mobile. It also had an individualizing impact on the communal dimensions of village custom that had outlasted serfdom and survived the Emancipation. These dimensions were captured in the institution of the obshchina, the village commune (Volyn, 1970, p. 78)[251] hat characterized Russian agriculture as the heritage of patriarchal and tribal institutions (Burds, 1998, pp. 9, 10; De Madariaga, 1998, p. 79). By the nineteenth century, the repartitional commune, a customary setting in the central black soil (*czernozem*) provinces (Moon, 1999, p. 212), inhered to wealth-redistributing and mutual-aid structures (Engelgardt, 1993, p. 29; Worobec, 1995, p. 24; Mironov, 2000, p. 338; Moon, 1999, p. 216). By reconstituting, enforcing, and fostering commune village cohesion, the Orthodox Church abetted these functions (Worobec, 1995, p. 175; Burds, 1998, p. 188; Hodgson, 2004, pp. 105, 185). The regime considered this institution a labor organization on the one hand and a customary way of life that had been practiced for generations, on the other. Although this way of life, as I argued in the previous chapter, was being transformed by force of changing conditions, it remained a bulwark against revolutionary movements and, for this reason, yet another prop for

[251] *Mir* denotes "the world" and "peace." In the nineteenth century, it defined a community of former serfs or state peasants who, as a rule, were settled in a single village or, at times, in a village that comprised more than one mir or a single mir comprised of several villages.

political stability in the regime's eyes. The regime was wrong; the obshchina became a major vehicle of subversion (Gerschenkron, 1962, p. 133).

The *otchod* process—the practice of wage labor as a side pursuit—intensified in tandem with the development of the railroad network (Westwood, 1964, p. 8; Kahan, 1989, p. 30; Gatrell, 1994, p. 14), making peasant households and individual peasants increasingly independent of each other. Concurrently, the importance of the commune's welfare functions fell into decline, enhancing the migration of individual members and entire nuclear families.[252]

Railroads: The Challenge to Orthodox Enforcement of Mutual Insurance

Increased opportunities for wage labor lowered the dependency ratio and, in turn, the economic significance of the extended family and other forms of rural collectivism (Frierson in Bartlett, 1990, p. 313). Intensified railroad construction gave peasant populations greater access to towns by shortening travel times. This tended to raise the share of non-agricultural income in the peasant budget and, by implication, to reduce family size. By inducing a transition from extended family units toward nuclear ones, railroad-building instigated a full-fledged movement toward the individualization of property and other personal rights. As individualism ascended pursuant to Emancipation and railroad construction, pre-mortem household divisions became more and more frequent (Worobec, 1995, p. 12).[253] The rural-to-urban mobility of nuclear families, in contrast to extended-family counterparts with their higher dependency ratio, reduced migrating households' long-term dependency on the commune (Boyer and Orlean, 1993, p. 22; Johnson, 1979, p. 69). While extended families left behind on the commune became dependent on income repatriation of otkhodniks, nuclear households on the move experienced a proliferation of choices. Although proletarianized peasants—otkhodniks—returned to their native villages when disabled by ill health or old age (Johnson, 1979, p. 38; Burds, 1998, p. 125),[254] the avalanche of rural–urban

[252] See Burds (1998), p. 125, on the commune as a social safety net for migrant family members.

[253] In a pre-mortem division, an extended family unit's assets are partitioned before the death of the head of household.

[254] Paradoxically, the social safety nets that were unfurled by relations between otkhodniks and their villages made migration decisions easier to adopt by making them less risky. They also enhanced cohesion among those who remained in the village because the repatriated wages helped to maintain the institution's social security (Burds, 1998, p. 132). Importantly, however, the repatriation of wages varied inversely to the distance of otkhod employment.

migration (Burds, 1998, p. 23, Table 1.3), implies a net decrease in dependence on communal welfare. The peasantry's rising living standards at this time reinforce this point.[255]

The intensity of the migration streams varied inversely with the distance from industrial and the administrative centers (Burds, 1998, p. 21). The Central Industrial region, comprised of Moscow at its apex and six surrounding provinces, accounted for the largest number and proportion of internal passports issued (ibid.) If so, the railroads obviously abetted more and more migration by reducing distances from periphery to center and among central points, doing so both cognitively (Martens, 2004, p. 83) and in opportunity cost in terms of the returns on forgone agricultural labor and travel expenses (cost in money and in time lost during travel) (Engelgardt, 1993, p. 44).

The table below presents our proxy for the increase in migration intensity: the issuance of internal passports to a growing proportion of villagers in the post-Emancipation decades.

Table 7-1 Peasant Labor Migration as Proportion of Village Population, 1861–1910

	Proportion of peasant population holding passports					
Regions and provinces	1861–70	1871–80	1881–90	1891-1900	1902	1906–10
Nonagricultural/Industrial North and Northwest						
Arkhangel	5.9	13.0	11.3	12.6	14.7	13.8
Vologda	1.8	6.1	6.0	8.2	10.4	10.7
Olonets	3.2	9.1	9.6	12.4	13.4	13.2
St. Petersburg	8.6	17.9	21.8	28.9	27.6	23.0
Novgorod	4.5	11.6	10.5	13.1	13.4	14.2
Pskov	2.0	3.3	3.6	6.2	8.7	10.4
Smolensk	6.3	11.2	10.3	11.2	12.6	13.0
Tver	8.0	14.6	14.4	16.7	22.6	23.0
Central Industrial Region						
Iaroslavl	9.1	17.0	16.4	18.9	24.1	23.1
Moscow	10.0	18.0	20.4	29.9	33.9	34.2
Vladimir	4.8	16.0	16.7	19.1	26.1	24.2
Kostroma	3.9	12.3	13.8	13.1	7.6	20.0
Kaluga	8.8	17.2	18.3	20.5	25.8	25.4
Nizhnii Novgorod	3.1	8.8	9.6	11.0	13.1	12.0
Tula	4.2	8.8	9.9	14.3	20.1	20.0
Riazan	5.4	12.7	14.3	17.5	22.7	20.5
Belorussia						
Vitebsk	3.5	5.0	6.0	8.3	10.8	10.9
Minsk	1.1	2.8	4.6	4.9	10.0	4.1
Mogilev	1.6	4.5	5.0	6.0	6.5	9.1

[255] So indicated by Simms (1977), p. 382, Table 1, who demonstrates an increase in indirect-tax receipts between 1886 and 1899, and by Gregory (1994), pp. 44, 45, Tables 3.1, 3.3.

II Southern Agricultural Ukraine						
Poltava	1.4	4.2	5.9	7.0	8.2	6.3
Kharkov	1.2	3.6	5.9	7.2	9.9	9.2
Chernigov	1.4	4.2	5.7	6.9	8.3	8.0
Kiev	0.6	2.5	6.1	8.5	7.2	7.8
Volynia	0.6	2.0	3.2	3.7	0.5	3.2
Podolia	0.4	1.7	3.6	4.2	3.9	4.1
Kherson	1.2	3.3	4.4	4.8	4.8	5.0
Ekaterinoslav	1.2	2.4	3.7	3.9	6.3	3.2
Taurida	1.4	4.2	4.8	4.9	3.8	5.0
North Caucasus						
Don Oblast	0.1	0.5	1.1	2.3	3.7	4.0
III Central Agricultural Central Chernozem						
Voronezh	1.3	5.7	6.1	7.4	8.5	8.0
Kursk	1.8	5.3	7.0	9.2	11.9	10.0
Orel	2.6	5.3	6.7	9.2	11.6	12.2
Tambov	1.9	4.2	4.7	5.9	8.8	8.2
Volga						
Astrakhan	1.9	10.8	15.9	17.6	8.3	9.0
Saratov	0.9	3.8	5.2	6.1	7.7	6.0
Samara	0.4	1.6	1.5	1.9	4.6	3.4
Penza	2.1	6.1	6.2	7.6	10.6	10.0
Simbirsk	1.4	7.5	9.3	8.6	10.8	10.0
Kazan	1.0	5.3	5.6	6.7	9.2	9.2
Viatka	1.5	5.8	6.1	6.9	8.5	8
Ufa	0.5	1.7	3.2	3.0	3.9	4.3
IV Eastern Agricultural						
Ural						
Perm	0.6	3.2	4.3	6.1	7.5	7.0
Orenburg	1.2	5.6	4.9	4.1	3.9	4.3

Note: The numbers are not cumulative; the flows do not add horizontally because the peasant migrating population at time t and the corresponding population at t1 are not the same.

Source: Burds (1998), Table 1.3, p. 23. See Heywood (2011), p. xxviii; Treadgold (1957), pp. 208–209, 264–265; and maps in the Appendix.

The non-agricultural industrial and central industrial regions, which were the most dependent on urban wage labor, showed a conspicuous increase in the proportion of village population carrying internal passports between 1861–1870 and 1871–1880. It was exactly then that railroad construction in the empire gained momentum. During the 1865–1875 decade, the length of the Russian railway network grew from 3,845 kilometers to 19,029 and the volume of freight doubled (Kahan, 1989, p. 30, Table 1.14).[256] The correlation between the intensity of the urban wage-labor migration, measured in millions of peasant passengers per kilometer, and the annual

[256] Volume of freight is expressed in millions of metric tons per kilometer.

pace of railway construction, measured in kilometers, is unmistakably positive.[257] As for the direction of causality and the endogeneity problem, it is more plausible, given the time range and the short time span—less than half a century—to assume that the railroads, initially built to serve military purposes and enhance bureaucratic control of the imperial population, unintentionally stimulated the peasantry's wage-labor migration than the other way around.[258] Growth of industry, in contrast, was caused by strategic geopolitical considerations exogenous to the consequent parallel increase in the population of wage-earning peasants.

Between 1861–1870 and 1906–1910, the proportion of the village population that had been issued with internal passports increased threefold in Moscow. It is especially interesting to note that Penza Province, located in the Central Volga region, an agricultural area, displays a similar proportion of passport-carrying peasants and a similar growth pattern to that in the industrial regions, indicating inadequate agricultural productivity. In Penza Province, to which the railroad had been extended in 1874, the proportion of village population carrying internal passports tripled between 1861–1870 and 1871–1880. In several other Volga region provinces, this population quadrupled. By implication, this indicates greater dependency on wage labor in Penza than in other *chernozem* (black earth) agricultural regions. I assume that the proximity of this province to the Volga River and the canal system stimulated custar– crafts proto industrial production and other industries, allowing industrial income sources on a local basis to develop and making further use of internal passports superfluous. The markedly steep increase in the number of peasants who carried internal passports in Penza at precisely the time, coinciding with the advent of the railroad in the area, points to the crucial role of the railroads in the intensity of the peasantry's migration and travel to wage labor. Although the proximity of this province to the Volga River and canal system contributed to the peasantry's growing wage-labor mobility, the Penza statistics leave no doubt that the contribution of the newly constructed railroad was decidedly greater.

These statistics (Burds, 1998, p. 23) also challenge the hypothesis, advanced by Nefedov and other Soviet historians, that the central provinces were stricken by a Malthusian crisis during the industrialization decades. Plainly, Gerschenkron (1962, p. 120) overestimates the effect of control by habit and custom, as well as the weight of the Tsarist legal restrictions, on the commune village assembly's boundedly rational calculus (Nelson and Winter, 1982, pp. 66, 67) and underestimates the effect of population increase on the outcome of such a calculus. The growing weight of rational calculus in itself indicates that the railroads metamorphosed the commune

[257] Adduced from ibid

[258] L.J. Borodkin, personal communication, Moscow (2008).

in the direction of voluntary rationalist cooperation rather than the perpetuation of patriarchal obedience networks. Gerschenkron derives his theory on low labor mobility from the rationally expected outcome of the land-rotation custom known as *peredely*, the redistribution of land commensurate with the number of labor teams per household (Gaudin, 1998, pp. 38, 39; Worobec, 1995, p. 22). According to Gerschenkron this rule, entailing the consent of the head of household and a two-thirds majority of members of the village assembly for the migration of *single* adult son to wage labor (Gerschenkron, 1962, p. 120; Burds, 1998, pp. 12, 18, 19), chained peasants' labor to the land. Our source assumes thus a rational decision-making process used in the application of the formal rule system (Gerschenkron, 1962, p. 120). Following a NIE assumption the industrious *bolshak* (paterfamilias) and the *skhod* (communal-village assembly of entrepreneurial patriarchal heads of household) would apply a rational survival calculus amid population increase, the resulting contraction of the per-capita land allotment (Atkinson, 1983, p. 97) which would produce an increase in the number of wage-labor passports issued. Although the individual bolshak's and the assembly's interests may differ, each dispute resolution by the assembly constituted a judicially legitimizing future resolutions legal case. Population increase entailing shrinking land allotment at the next repartition could therefore reduce the opportunity cost of labor employed in urban wage work and motivate increasingly flexible patriarchal rules compliance, on the part of the single bolshak- head of household and in the extension the assembly and vice versa (applied Burbank, 2004, p.47) In fact, the number of passports issued grew more often than not in all forty-three provinces of European Russia (Burds, 1998, p. 23, Table 1.2), indicating the importance of "informal habits" in relation to formal law (Gregory, 1994, p. 52) as well as the high level of rationality, in the Neoclassical sense, that guided the decisions of late nineteenth-century elder-based peasant constituency.

Literacy levels among the peasant proletarians, rising in tandem with their penchant for urban wage labor (Burds, 1998, pp. 29, 176, 177; Johnson, 1979, p. 96; Kahan, 1989, p. 184, Table 7.7), abetted an increase in the socioeconomic independence of the younger generation vis-à-vis household members of the parents' generation. This presented individual peasants with hitherto unavailable choice opportunities, including some in the spiritual realm, as they departed for wage labor (Burds, 1998, pp. 193, 203, 205).

The Rational Peasant

By applying the combined Veblenian Evolutionary Institutionalist / Northian NIE theory, I find that peasant proletarians' applications for title to their allotments of land in the village commune, which burgeoned as Stolypin's land reform was being implemented (Gaudin, 1998, p. 754), reflected a "boundedly rational" (Nelson and

Winter, 1982, p. 67) calculus on the individual applicant's part, one that spanned his life cycle. Importantly, however, even if the peasant proletarian intended by applying for land title to insure himself against poverty and old-age destitution (Gaudin, 1998, p. 754), his act carried the long-term potential of turning him and his offspring into agrarian entrepreneurs. Therefore, an application to become a householder-owner of a land allotment (ibid., p. 755) should not be misconstrued as nostalgia or a predisposition to collectivism.

Paradoxically, by acting on behalf of the Tsarist state and enhancing the repatriation of otkhodnik income to the commune—thereby abetting the legal enforcement of the rural collectivist custom, tying the otkhodnik- wage worker to the commune and ostensibly promoting political stability—the mainstream Greek Orthodox Church in fact increased the transaction costs of the Tsarist modernization. This, in turn, magnified the transaction and surveillance costs of tax extraction in the short run (Leonard in Bartlett, 1990, p. 136; North, 1990, pp. 90, 91; Martens, 2004, p. 193; Barzel, 2002, p. 61), weakening the Tsarist state and, with it, the involuntary component of the collectivist rural structure.

In sum, the technological innovation imported from Europe, the railroad, increased the mobility and migration of labor and facilitated the flight of peasants to the Old Belief, with its attendant *razkol* doctrine, and to secularization. Both choices, heralding the transition to rationalism, weakened a crucial pillar of stability in Tsarist rule, the Church (Burds, 1998, p. 203; Freeze, 1996, p. 309). The consequent erosion of the Tsarist government's spiritual base of legitimacy made territorial conquest all the more important. Against this background, the debacles of the Crimean and the Russo-Japanese wars marked the beginning of institutional transformation and challenge to unquestioned Tsarist authority (Freeze, 1996, p. 309; Ascher, 1988, p. 43). The Tsarist Empire had in fact boarded a train to constitutional monarchy (Ascher, 1988, p. 2).

Culture Clash—Otkhod Urban Freedom vs. Rural Safety

The Railroads Abet Peasant Individualism

As we have seen, the novel railroad technology encouraged the diversification of the risk to subsistence by creating greater dependency on non-agricultural wage labor and sharply lowering the transaction costs (including the uncertainty) of rural–urban migration. Thus, the introduction of this technology allowed individuals to choose among multiple institutional structures, challenging the patriarchal institutions on which the communal village was based and arguably rendering the village, conceptualized as a transaction-cost internalization unit, redundant (Coase,

1937, p. 42). As the technology advanced, the costs of collectivism increasingly outweighed the benefits in both the short and the long terms (Vanberg, 1994, p. 55).

As population growth in the communes necessitated greater recourse to opportunities for wage labor, and as the industrialization effort made this recourse possible, more and more commune households opted for permanent urban settlement. As the increased tax burden on households remaining in the villages bred dissatisfaction (Burds, 1998, p. 29), the commune assembly attempted to hinder peasants and households from making the rural–urban migration, exacerbating internal conflicts and fomenting general discontent with the communal organization (Gaudin, 1998, p. 104, Table 3–4). Concurrently, the government's growing commitment and ability to provide social security and other welfare services eroded the rational raison d'étre of the collectivist communal form of organization.

Paradoxically, the escalation of internal peasant conflict in the villages during the implementation of the Stolypin reform (Macey, 1990, p. 222), although unambiguously indicative of the rise of individualism, made the remaining households in the village even more dependent on the communal and reciprocal communal-help mechanisms in the short run. The peasants' observable resistance to the Tsarist government's encroachment on their relatively strong rural autonomy as the Stolypin reform went ahead (Mironov, 2000, pp. 290, 347) elicited peasant fears of the erosion of these mechanisms (Pallot, 1999, pp. 156, 157)—a development that would be consistent with the intensified transition from rural collectivism to rural–urban individualism. After having survived 200 years both due to and despite these state-supported collectivist rural structures, some of the European Russian peasantry had indeed become dependent on mutual insurance and mutual assistance, retarding its development and discouraging entrepreneurial risk-taking.[259] The agency effect of the opportunities that were introduced by the new technology, embedded in industrialization, is cumulative in the long run. Thus, while individual entrepreneurial risk-takers seized the opportunity presented by the novel technology and broke away, others placed their trust in the tried-and-true communal structures. However, as the proportion of risk-takers in the village population who invoked novel survival strategies climbed, these strategies granted the marginal risk-taker greater and greater utility, making it increasingly likely that the proportion of the population choosing the novel strategy would grow even more (Boyer and Orlean, 1993, p. 22). Thus, the process of exodus from the village, set in motion by the railroads, became self-enforcing.

The changes in kinship-structured habits of thought in favor of the individual risk-taker—the otkhodnik—are clearly manifested in the *smena ideala yunoshy*, the

[259] See Hodgson (2004), pp. 105, 185, on the reconstitutive downward causation of the historical institutions.

transformation of the ideal husband, that occurred in the villages as industrialization, railroad construction, and urban wage-labor progressed. Traditional peasant agrarianism, bound to the family-and-village structure, was increasingly perceived as an inferior choice. The refrain of a folk song confirms this, heralding the intensified voluntary transition to the urban and more individualistic culture: "*Krestianskij syn durashen, on mnogo pashni pashet*"—The peasant son is an imbecile; he ploughs a lot of plough land.[260] Traditional peasants who remained in the villages received the derogatory nickname *domoleg*, "idle homebody," and were increasingly associated with vulgarity and inflexibility (ibid.).

The changes in preferences and prejudices in favor of the *Petershchiki*—peasant otkhodniks who worked in the capital, dressed in worldly attire, and increasingly embraced secularization or the Old Belief—cannot always be explained by the material opportunities presented by wage labor, writes Smurova. The domoleg could offer a young bride membership in an established household; the Petershchik's wage income was incomparably less certain, at least in the short run, and his bride might have to remain behind in the village alone for quite some time until her Petershchik otkhodnik could accumulate enough means to establish an urban household (Smurova, 2003, p. 101).

It is legitimate to suggest that the main attractiveness of the urban wage laborer relative to the domoleg—the obshchina-bound young peasant who becomes a paterfamilias (bolshak) and husband of a young village bride—was the former's individualistic experience of interaction in the city and, in turn, his increasingly less hierarchical-patriarchal-authoritarian and more democratically egalitarian conception of family relations (ibid., p. 102).[261] This supposition is reinforced by growing demand for personal rights during the industrialization spurt, itself a product of the transition to individualism (Mironov, 1999, p. 476). This new tendency recurred in the villages as well, as evidenced in the rising incidence of criminal cases in Moscow, Vladimir, and Riazan provinces from 1890 to the beginning of World War I, in which personal insult was an increasingly frequent charge. The growing propensity to litigation in the villages suggests an escalating transition to individualism among the peasantry, manifested in an increasingly powerful sense of personal dignity (Gaudin, 2007, p. 103, Table 3–3; Mironov, 1999, Vol. I, pp. 475, 476, 477). I venture that the demand for personal dignity and freedom on the part of the transplanted villager gathered strength not only because his additional wage income gave him the means to instigate lawsuits but also due to the inevitable importation of multiple institutional structures, which presented a

[260] Folk song transcribed by D. Zhvankov in Soligalicheskij canton, Kostroma Province (Smurova, 2003, p. 100).

[261] There was also a smaller population of female otkhodniks, who engaged in urban crafts and services (Johnson, 1979, p. 58, Table 3.3).

hitherto unknown challenge to the traditional rural collectivist habits of thought. The very fact of being able to choose among these structures added a novel element—an individualist experience—to the decision-making process. I suggest that the complementarity of the 1861 emancipation statute (ibid.; Hodgson, 2004, pp. 105, 185) and the railroad technology in their effect on habits of thought, both of which intensifying the otkhod process, amplified the demand for individual freedom, as manifested in the transformation of the "ideal husband" notion from the traditional, patriarchal, collectivist domoleg to the Petershchik, the urbanized individual risk-taker, be he entrepreneurial or proletarian.

Rejecting the Hierarchy—Herzen, Bakunin, Emancipation, and the Iron Horse

Both factors—emancipation from serfdom and the novel technology—enhanced the processes of cultural transformation that had been launched, nurtured, and legitimized by the absorption of Saint-Simonian ideology among the Russian intelligentsia, which emerged as a social force in the mid-nineteenth century (Kimball in Timberlake, 1992; Herzen, 1973, p. 120). Alexander Herzen's memoirs, "Past and Thoughts," published after 1855 in the popular *Poliarnaia zvezda*, although cultivating the romantic conception of going to the *narod*—the people—criticized the path propagated by the populists, who were inspired by Slavophile beliefs (ibid., p. 117). Stressing the property of irreversibility in history, Herzen lamented the propensity among intelligent young men after the Emancipation to regard service in the Tsarist bureaucracy, the military, or a commercial enterprise as occupationally superior options. His social critique totally omitted vocations such as "landowner," "peasant," or even "industrial laborer," which he understood as obsolete (ibid., pp. 117, 120). Indeed, Herzen deemed the shackles of all aspects of the theretofore known social order, including the estate system with its anchor in birth rights, all class related occupations, and the peasant estate in itself, as belonging to Russia's past. Although the technological revolution embodied in the introduction of the railroad in 1842 is not mentioned in his writings, Herzen's "concern for the freedom and dignity of human individuals" (Herzen, 1985; 1973, p. xxii, quoted from foreword by Isaiah Berlin) should be understood as *anticipating the atrophy of the brutality of cognitive barriers, i.e., restrictions on choice, that earlier in history had been imposed by estate- and class-related occupations*. "The old world was crumbling visibly and deserved to fall" (ibid., p. xxvii). The antagonism between Herzen and Marx (ibid., p. 677) additionally suggests that his insight allowed him to anticipate individual choice formally unhampered by the historical adherence to class-estate.

Following the Saint-Simonian line of thinking, Herzen envisioned the future Russia as being guided by an elite of savants—*uchenych*—who would derive their authority neither from a hereditary birthright estate (*soslovie*) nor from a hierarchy rank enforced by the autocratic state (*chin*). According to Herzen, Russia's future depended on its society's ability to attain a higher stage of development, to make "a transition from aristocratism and militarism to egalitarian humanism and peaceful productivity" (Kimball in Timberlake, 1992, p. 122).

Thus, this leading revolutionary intellectual rejected all the aforementioned occupations—the historical as well as the currently preferred—on the grounds that all had been derived from the externally bestowed, privilege-based formation of either religious or secular hierarchies, implying by definition individual degradation and obedience of the superior. By so professing, Herzen drew somewhat closer to the ideas of the anarchist leader Prince M.A. Bakunin (1814–1876), as evidenced in the title of the latter's work, *God and the State*.

However, Herzen's belief in the superiority of government by the learned, much contrary to Bakunin, legitimized in principle the legal domination of people by people, provided the domineers obtain their authority and its consequence, their elite status, through their own creativity and effort. In Herzen's Saint Simonian vision of post-Revolution Russia, universities would replace churches as "networks of communication" (ibid., p. 123, and Timberlake in Timberlake, 1992, p. 10) between rulers and ruled. Bakunin's radical egalitarianism, however, mocked and rejected the idea of the government by a "scientific academy":

> It is the characteristic of privilege and of every privileged position to kill the mind and the heart of men. That is the social law which admits no exception and is applicable to entire nations as to classes, corporations and individuals. It is the law of equality the supreme condition of liberty and humanity (Bakunin, 1970, p. 31).

The peasant's cultural transformation (Smurova, 2003, p. 100)—facilitated by the railroad and otkhod, intensified by urban interaction, and manifested in the rejection of the inherited rural, hierarchical, and patriarchal structures that historically redistributed the entitlement to surpluses and the power to rule to the paterfamilias (Hoch, 1986, p. 128)—was congruent with the ideas and the sentiments nurtured by the Russian intelligentsia. In both Herzen's and Bakunin's writings, the idea of ultimate humanism was captured succinctly in the egalitarian perception of human ability and value.

Rule of Law and Industrialization—The Individuation of the Peasant

According to Lenin's application of Marx to the social conditions of Tsarist Russia, it was the intensification of economic differentiation and class struggle, occasioned

by the development of capitalist structures in the home market (contrary to the Narodniks' expectations), that ultimately doomed the Tsarist state (Lenin, 1974, pp. 588, 589). According to this reasoning, the Tsarist effort to modernize Russia, which enhanced the development of capitalist structures only ambivalently (Kahan, 1989, p. 91; Owen, 1995, p. 19; idem, 1991, p. 39), toppled the pillars of autocracy. I stipulate that the post-Emancipation modernization process, with its unintended consequences, was inconsistent with autocracy. I propose, however, that the factors that weakened and transformed the autocratic structures were different from those identified by the Marxist-Leninist school.

Relations between peasants and former landlords were symbiotic more often than not (Engelgardt, 1993, p. 82). The literature that explains the 1905 revolution solely in terms of class antagonisms oversimplifies the specificities of peasant life in Tsarist Russia; in particular, it overlooks the historical intra- and inter-class dependencies brought on by harsh and unstable climatic conditions (Milov, 2001, note 128 and pp. 1, 2; Kahan, 1985, p. 13; idem, 1989, pp. 139, 140, 141, Table 3A on the frequency of natural calamities). Moreover, the perception of the late nineteenth-century Russian peasantry as monolithic in its antagonism to the Tsarist governmental institutions must be revised (Gaudin, 2007, p. 7).

Worobec (1990, pp. 103, 104) and Engelgardt (1993, p. 87) report rising individualism and its consequence, greater heterogeneity of values, in the peasant environment. Frank and Engelgardt (Frank, 1993, p. 87) emphasize the historically established peasant preference of the rural community's internal conflict-resolution mechanisms, such as reconciliation and compensation, over formal penalties. Even the custom-based peasant *volost'*—township courts—were seen by the rural constituency as instances of last resort that were fit to use only when the informal conflict-resolution mechanisms failed (Frank, 1999, p. 97).

This condition of life changed dramatically during the industrialization decades. The direction of the institutional change, unambiguously pointing to the growing individualism of the Russian peasant, was, according to the model underlying this thesis, consistent with the rising living standards that typified the modernization decades, as verified by the upward trend in indirect-tax receipts during the post-Emancipation period (Simms, 1977, p. 382, Table l; Gregory, 1994, pp. 44, 45). Studies on institutional conditions in the last decades of the nineteenth century report the increasing litigiousness of the Russian peasantry (Gaudin, 2007, p. 103, Table 3–3).[262] Formal litigation rates, defined as *volost* court cases per 1,000 rural

[262] The rate of intra-communal lawsuits over insults increased until World War I, giving evidence of greater independence in communal mutual-risk insurance that permitted an increase in individualism and the perception of personal dignity. The kink in the curve in 1908, following the second industrialization spurt (1907), supports this argument. Until then, dependency on mutual insurance had been expressed in a declining rate of litigants over insults per 1,000 inhabitants.

inhabitants, steadily increased in 1891–1911 in the provinces of Central European Russia: Moscow, Novogorod, Riazan, and Kursk (ibid., p. 89, Table 3–1). This clearly points to the weakening of collectivist dependence and practice in the peasant village and a commensurably stronger propensity to the enforcement of individual rights.

The escalation of litigiousness among individuals in both the affluent and the impoverished classes is inconsistent with a state of conflict stratified along class boundaries or among peasant classes that are ostensibly more and more differentiated by material possessions,[263] as Marxist scholars would have it. The upturn in litigiousness clearly indicates the disintegration of the commune as well as the absence of Marxist class cohesion. Thus, I suggest that the pre-modern risk internalization unit, the *mir,* atrophied with the increase in peasants' trust in Tsarist jurisprudence, as evidenced through the proxy of the litigation rate (Gaudin, 2007, p. 103, Table 3–3; p. 104, Table 3–4; p. 108, Table 3–5). This line of reasoning conforms to Stolypin's observations (Klimin, 2002, pp. 10, 11) and those of Engelgardt, formed as the latter lived among the Russian peasantry. Both eyewitness accounts stress rising individualism ahead of the 1906 land reform.

The rise of individualism suggests, in turn, that during the late nineteenth-century industrialization the Tsarist state began to internalize the transaction costs, including uncertainty, that had previously been checked by the pre-modern obshchina community. The upturn in litigiousness, representing escalating individualism, gives evidence of the ongoing transition from community to society (Mironov, 2000, p. 286). By implication, the Tsarist Empire had tacitly embarked on the transition from personalized to impersonalized institutions, reducing system transaction costs in the long run while increasingly including the peasants of European Russia in imperial state structures.[264]

Thus, the turn-of-century peasant constituency was characterized by weakening estate and class cohesion and growing intra-class conflict (Gaudin, 2007, pp. 103, 104, 108). This conclusion is additionally vindicated by Macey (1990, p. 222), who ultimately challenges the Marxist interpretations, and by Freeze (1996, p. 312), who

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The dip in 1908 suggests that industrialization exacerbated rural uncertainty in the short run. From then on, the curve rises steeply until 1914, indicating the rebound of individualism.

[263] See Löwe (1990), p. 167, Table 11.1a, for evidence to the contrary. The share of medium-sized farms was highest in those villages where the share of colonists, who held their land in personal tenure, was the lowest. Thus, the village commune had a long-term leveling effect, reflected in the absence of Marxist differentiation, which atrophied on the margin due to households' reduced dependency on the mutual risk-insurance role of the commune.

[264] See Raeff (1984), pp. 178, 179, on the introduction of universal compulsory military service in 1874, which irreversibly integrated the peasantry into the imperial structure on equal footing with other classes. See also Hartley, J. (1999), p. 112; and Yaney, G. (1973), p. 226.

analyzes the widening schism between the Church and the Tsarist state. The declining authority of mainstream Orthodoxy paved the way to a future participatory government structure.

Formally, the legislation that was passed on November 9, 1906, allowed heads of households to claim their *nadel*—their share of the communal land—as personal property and/or to enclose it in a single parcel (Gaudin, 1998, p. 747). This novel institution granted applicants for title legal autonomy vis-à-vis the decisions of the skhod (village assembly), which until then had shaped households' use rights in land by adjusting land allotments to the number of labor teams per household. Thus, after Stolypin's reform, the subsequent desultory adjustment of habits of thought would hypothetically cause land rotations during redistributions to decline gradually. Moreover, departing households' land would no longer revert to the commune. Thus, the paterfamilias' title to land constituted the formal foundation of a transition to a hereditary family-farm system. Since the paterfamilias could claim conditional land allotments as his personal property at any time, the application for title—*ukreplenie*—formalized the transition of the household away from the collectivist risk-sharing and mutual-aid system of the village commune to the individualism of a hereditary family farm (ibid., p. 751). The main restriction that distinguished erstwhile allotment land from the gentry's private property was the injunction against selling the parcel to a non-peasant. Legislation passed on June 14, 1910, however, allowed any head of household to purchase up to six parcels. The new statute specified that the acquisition of allotment land also included transactions in common village resources such as pasture and wood lands. Thus, the village assembly's control over the redistribution of common resources weakened, additionally heralding the transition to individualism in the landholding system.

The peasants responded to the 1906 reform in a way that belied their characterization as a timid mass, as Gerschenkron's analysis would have it, or as a "property unconscious" population in the Kantian sense (Crisp, 1989, pp. 34, 36), that had been manipulated and exploited by the Tsarist state. Instead, the peasants brought a sophisticated, landed-property-conscious, opportunistic attitude to the choice between imperial institutions based on a civil code and the more custom-based rulings of the township courts in resolving conflicts over title to land.[265] Again, the increase in peasant recourse to the Tsarist judicial system shows that the peasants increasingly trusted these institutions. Thus, the rural constituency's

[265] See Gaudin (1998), pp. 750, 751, 754, 755 on the rationality of peasant ties to the land; and idem (2007), pp. 114–117, Table 3–8. The increase in appeals of volost court rulings to district congresses was steeper in civil cases than in criminal cases. The volost court, a custom-structured and tradition-bound instance, took a common-law view of property while the district congress, structured by the imperial code, was less predictable in its verdicts and better adapted to codifying new relations in property rights, albeit with higher risks of loss.

grazhdanstvennost— perception of citizenship—evolved gradually in accordance with the objectives and ethos of the 1906 land reform.

The steady increase in civil complaints per 1,000 inhabitants between 1891–1913 (Gaudin, 2007, p. 104, Table 3–4) and 1903–1913 raised the proportion of land-related suits in the total caseload (ibid., p. 108, Table 3–5), clearly demonstrating that the informal institutional transition from collective use rights in land to household-head property predated by at least a decade and a half the formal transition to individualism in landholding institutions codified in the Stolypin land reform (North, 1990, p. 78).

Gaudin's (2007) findings are fully consistent with Mironov's analysis. Mironov emphasizes the intensified demand for personal rights and the newly acquired sense of personal dignity among the European Russian peasantry. Gaudin as well as Worobec (1995), the latter demonstrating the increased frequency of pre-mortem household divisions, imply that Tsarism's last decades saw rising demand for individually delineated rights in movable as well as landed property, as manifested in the proportion of such cases in the total caseload (ibid., p. 108, Table 3–5). In the central Russian provinces of Riazan, Moscow, Tver, and Vladimir, the proportion of suits pertaining to land increased markedly. Suits concerning family divisions and inheritance showed much the same trend (ibid.).

As the 1906 land reform went ahead, the transformation of governmental judicial institutions was taking place, affecting peasant attitudes and being affected by them. Interpreted from this perspective, the individualization of rights to land title could not have been alien to the traditional institutions of the Great Russian peasant. This proposition challenges Pallot's emphasis on the relative viability and stability of the collectivist aspects of the rational peasant's life strategies (Pallot, 1999, p. 157). Kingston-Mann's analysis, focusing on inter-household transactions that compensated individual households for investments in land at times of *peredely* (repartitions) (Kingston-Mann, 1991, pp. 43, 44) indicates that the nineteenth-century obshchina metamorphosed increasingly into a unit of voluntary cooperation between independent and individualistic agrarian entrepreneurs. Engelgardt's eyewitness accounts verify this.

Thus, following Gaudin's (2007) empirical research, I find Stolypin's reform fully consistent with the peasants' genuine demand for the individualization of all civil rights, including rights to landed property, as opposed to a process imported from Germany to the Eurasian Empire and implemented vis-à-vis the peasant commune by sheer coercion (Pallot, 1999, pp. 158, 159). Such a demand, I propose, was manifested before and during the 1905 revolution, reflecting an unambiguously positive attitude toward land ownership (Zakharova, 1992). Against this background, the transition from collective-communal rotating and redeemable use rights in land, as established in the Emancipation, to personal property rights under

Stolypin's reform may be perceived as a predominantly voluntary process, as Stolypin himself envisioned it (Klimin, 2002, pp. 11, 15). The Soviet scholar Dubrovskij (1963, p. 241, Table 29) reports a steep increase in peasant petitions for land title in the provinces of European Russia—from 219,332 in 1907 to 380,691 in 1908 and 704,964 in 1909, receding to 650,347 in 1910. As proposed above, Evolutionary Institutionalist reasoning suggests that the conspicuous interest in personal landed property reveals the historically present individualistic dimensions of the village commune structure (Kingston-Mann, 1991, pp. 43, 44) that reconstituted and predisposed the peasant (Hodgson, 2004, pp. 105, 185), enabling the individual agriculturalist to seize the opportunity presented by the novel legislation and to acquire title. Thus, the assumption about the continuity of the Russian peasant's collectivist mentality, a notion nurtured in the Western debate, is unambiguously challenged.

Challenging the Perception of the Slavonic Collectivist (Muzhik) Mentality—The Railroads Transfer Life-Risk Insurance from the Commune to the Imperial State

Ultimately, too, the observable rationalism of the peasant constituency challenges proposals flowing from the pervasive assumption of the existence of a collectivist Slavonic mentality, as evidenced in nineteenth-century Slavophile writing. The peasantry's rational individualistic inclination in the second half of the nineteenth century is explained by the rural landholding institutions' interaction with the industrialization spurt in the 1890s and the resulting increase in urban wage labor and reliance on non-agricultural income, which ensured against the risk of starvation due to crop failure. Moreover, the Tsarist government was increasingly able to employ railroads as instruments of famine relief. Namely, the Tsarist railroads insured against starvation at times of famine by assuring access to industrial and agricultural regions that were not stricken by crop failure; they also facilitated access to wages, lowered transaction costs, increased the predictability of income by facilitating the formation of a price-converging national grain market (Metzer, 1973, p. 82), made stored grain more accessible (Robbins, 1975, pp. 22, 33), and mitigated dependency on the communal mutual-insurance custom.

The positive correlation between peasant economic household independence and the railroads is composed of the following elements:

- Reversal of the undersupply of seasonal labor to industry. The shortage, occasioned by a preference for agricultural income on the basis of "ceremonial knowledge" (Hodgson, 2011, CRIE Workshop lecture, The University of Hertfordshire), was engineered historically by inducement structures in industrial employment— including strict coercive binding of

labor to industry by employers, keeping otkhodniks' wages down despite the scarcity of nonagricultural labor (Johnson, 1979, p. 36, note 41) except in the metalworking industries, in which a pecuniary incentive structure did allow for wage increases (ibid.). Access to railroads facilitated increasing literacy and industrial skill accumulation while shortening the cognitive distance from countryside to city. Given the costs of coercion to employers, the growing supply of skilled labor allowed the marginal value product of labor, rather than coercion, to determine otkhodniks' wages. Amid the escalating demand for labor and the relatively sluggish adjustment of supply, wages rose and households' mutual dependence subsided.

- The interaction of railroads with the 1866 food supply statutes, which institutionalized a famine-relief system that created an empire-wide capital fund (Robbins, 1975, pp. 22, 23), causing grain prices to converge (Metzer, 1972, p. 82). Transaction costs decline, including those related to uncertainty mitigation, had a decisively abetting effect on households' individual ability to cope with famine, making mutual insurance within the village commune redundant.

By reducing the risk of death, the railroads allowed rational choices and demands to be made with greater ease than before. This was manifested in the escalating number of civil lawsuits—individualistic acts par excellence, demonstrating empirically that a transition to rationalism and individualism actually occurred (Gaudin, 2007, p. 104). The rising proportion of criminal cases, in turn (ibid., p. 103, Table 3–3), points to the development of a more nuanced definition of what was perceived as a criminal offense and how such an offense should be countered. Future, not yet attempted empirical research may also reveal a slow but steady decrease in the incidence of *samosud* (violent extrajudicial collective penalization parties), an often grotesquely brutal social sanction in Russian villages, in Tsarism's last decades (documented by Worobec, 2001, p. 88, and Frierson, 1987, p. 55, 62). Although the frequency of samosud—related in this context to the phenomenon of *witchcraft and sorcery*—was essentially unaffected by the closer proximity of villages to railroad stations (Worobec, 2001, p. 87), it stands to reason that the shrinking distance to the railroad and, in turn, the intensified rural–urban cognitive exchange (Martens, 2004, p. 101), would have a slow and enduring long-term effect.

Moreover, the transition to rationalism and individualism exhibited a universal propensity that challenges the Marxist interpretation of the 1905 revolution (Gaudin, 1998). Heads of household who petitioned mainly for separation of allotment land from the commune in order to establish a farm on personal property were anything but a homogeneous group of well-to-do individuals (ibid., p. 750). They actually belonged to marginalized groups: widowed female heads of household and absentees (wage laborers in urban industries) who risked the loss of their right to an

allotment in the commune upon the next repartition. Their purpose in petitioning was to secure their access to landed property at all junctures of their life cycle (ibid.).

The implementation of Stolypin's reform touched off escalating intra-commune conflicts among individuals over the newly available right to title, sundering the previously enforced collectivist cohesion of the village. This again challenges the Marxist assumptions about class formation within the peasant estate and the transformation of this estate into a class, as well as populist postulates about the impossibility of individual capitalist institutions in Russia (Macey, 1990, p. 222; Gaudin, 2007, p. 108, Table 3–5; idem, 1998, p. 750; Atkinson, 1983, p. 76).

As for the cultural gap among the estates in recourse to governmental judicial institutions, the relation between peasant custom and the civil code may be understood as continuous rather than discrete and dichotomous (Burbank, 2004, p. 10). Due to the railroads, inter-class (-estate) cultural boundaries became increasingly blurred and the differences narrowed over time (Crafts, 2007; Martens, 2004, p. 101).

The surge in general peasant litigiousness, the dramatic increase in the proportion of landholding cases in the civil caseload in 1901–1913 (Gaudin, 2007, p. 108, Table 3–5), and the growing proportion of cases concerning family divisions and legacies give unambiguous evidence of the escalation of private-property consciousness growing trust in governmental institutions among Russian peasants. Importantly, the timing of the process vindicates the hypothesis that the peasants' intensifying property consciousness and transition to individualism predates the November 1906 codification of these changes in Stolypin's reform.[266] Thus, the reform may be seen as an ex post codification of a process already under way.

Several factors abetted this institutional transformation:

- The judicial reform of 1864 and the consequent professionalization of the judiciary made law enforcement more predictable, paving the way to greater social reliance on governmental justice (Gaudin, 2007, p. 117, Table 3–8).[267]
- The establishment of a representative public organ, the first Duma (1906) (Ascher, 1988, p. 231), channeled the public discourse into a formal forum that both the state and the society accepted. This, in turn, mitigated repression and enhanced citizens' trust in the state, lowering the transaction costs of law enforcement.

[266] An additional argument for this hypothesis is advanced by Mironov (2000), p. 349.

[267] On the increase in appeals of volost court cases to district congresses, see Hodgson (2004), pp. 105, 185, and Burbank (2004), p. 31

The introduction of railroads decisively reduced the interdependent physical and cognitive distance (Martens, 2004, p. 101; Crafts, 2007) between the peasant and the custom-based volost court. It also shortened distances between peasants and the civil-code-based imperial court institutions that had until then given them a powerful motive to settle conflicts informally and within their communities, invoking their intricate mechanisms of reciprocal agreements and compensation for grievances that had the further advantage of developing social consciousness (Engelgardt, 1993, p. 36; Frank, 1999, p. 92). Before the railroads, fear of discriminatory and degrading treatment by governmental institutions, coupled with the perceived opportunity cost of working time spent in travel to and from the courtroom, deterred both plaintiffs and witnesses from engaging the Tsarist judicial system. The technological innovation intrinsic to the railroads reduced the opportunity cost hazards and uncertainties of traveling, making litigation less fraught with transaction costs and more predictable in whatever instance—the cantonal volost courts, structured by peasant custom applied as common law (Gaudin, 2007, p. 4; Engelgardt, 1993, p. 44), or the imperial courts (Svod Zakonov Rossijskoj Imperii), which applied the imperial statutes of 1832. Thus, repeated interaction alleviated the insecurity of arbitrary law enforcement and encouraged more peasants to rely on Tsarist governmental institutions. The process transformed these institutions as well. By giving the peasantry recourse to the judiciary, the railroads allowed witnesses to be heard at length, abetting equality before the law and encouraging additional engagement. The railroads cumulatively promoted the institutional transformation of the peasant estate as well as that of the elites, abolishing cultural-estate boundaries before the October Revolution and the Bolshevik takeover.

Landownership and Freedom; Peasants' Share in the Ancestral Russian Legacy

Under the November 9, 1906, statute, the central government guaranteed the household head the right to transfer his strips of land from communal to personal ownership (Yaney, 1982, p. 260):

> The actual fulfillment of this right [to leave the commune . . . meets practical obstacles in most rural communities. . . . Therefore . . . it is necessary now to eliminate existing legal obstacles to the practical fulfillment of the peasants' right to their land allotment (Sidelnikov, 1973, quoted in Yaney, 1982, p. 260).

The legal transformation of the entire system of peasant rights, which at least formally allowed the commune to be exited, freed the individual householder from the daily imperative of submitting to the authority of the elder-based communal structure, i.e., the Tsarist bureaucracy and, ultimately, the autocracy. The November

1906 legislation did more than abet the transition from landholding collectivism to individualism from a static perspective. It also amplified the effects of otkhod under the still-extant village commune system, facilitating the de jure emancipation of young heads of household from their fathers' patriarchal authority. This intensified the transition from extended to nuclear household units and, in turn, enhanced peasant mobility and migration.[268] The ability to sell the acquired land, albeit only to other members of the peasantry (Yaney, 1982, pp. 265, 260), precipitated structural changes. The table below illustrates the peasants' response to this institutional novelty.

Table 7–2 Motives for Land Sales by Households in the 1913 Government Survey, Pct. Distribution

Reasons for sale	Households that sold all their land	Households that sold part of their land
Migration beyond Urals	**12.6**	2.3
Land purchase elsewhere in European Russia	**30.0**	12.1
Work in industry or services	**26.4**	14.9
Labor shortage	11.1	22.1
Harvest failure, famine, alcoholism	9.6	24.9
Other reasons	10.3	23.7
Total	100.0	100.0

Source: Pallot (1982), p. 27.

Thus, the interaction of land reform and industrialization allowed individual householders to escape from the perils of disadvantageous agricultural conditions by migrating and taking up industrial labor. This, from a dynamic long-term perspective, mitigated individual economic dependency and challenged the organic rationality of peasant collectivism, which was motivated by necessity.[269] Concurrently, the utility of the individualistic strategy increased not only due to the formal institutional transformation, which shaped and molded peasant preferences in its favor (Hodgson, 2004, pp. 105, 185, Boyer and Orlean, 1993, p. 22), but also by enhancing the returns on individual decision-making in tandem with the proliferation of individualism, which contributed to the popular legitimization of the reform and strengthened the effects of the "reconstitutive downward causation process" (ibid.). The reform instigated a rapid (6–7-year) peasant response in spatial

[268] Worobec (1995), p. 102, Table 3.3, indicates that the frequency of fissions was positively correlated with the accumulation of household assets—which, in turn, was enhanced by seasonal rural and urban wage labor (p. 98). The peasants' most frequent response to the famines in 1891–1892, merger, clearly indicates that they considered extended households a risk to the insurance unit that was meant to fend off hunger in the event of a calamity (Eggertsson, T., 1990, p. 303; Burds, Y., 1998, p. 29).

[269] Inspired by Vanberg (1994), p. 55.

and occupational mobility that altered the social structure of the countryside. If so, the peasant village commune must have been ripe for destruction by the time the novel institutional reforms went into effect (Hodgson, 2004, ibid.; Pallot, 1982, p. 8). This is why various aspects of Stolypin's reform may be understood as the ex post codification of an ongoing individualization process. The process had been formally acknowledged in the June 14, 1910, legislation that allowed former repartitional communes that had not conducted a general land redistribution since 1861 to acquire title to allotment land that had been managed in de facto hereditary tenure. The assumption that the commune atrophied squares with Stolypin's personal perceptions and expectations (Klimin, 2002, p. 14).[270]

The frequency of peasant petitions for land settlement under the November 9, 1906, law points to the formal novelty of the institution, inspiring the peasants to move cautiously at first despite unambiguous enthusiasm about consolidation and household land ownership (Yaney, 1982, p. 275). Thus, in 1906 only 600 petitions for settlements relating to village land reached the agencies that administered the reform. Just one year later, however, the same agencies were flooded with 220,000 petitions, of which 81,000 proposed the full individualization of landholding by forming either an *otrub* (a consolidated parcel within the commune) or a *khutor* (a consolidated piece household land outside of the commune) (ibid.). In 1908, 386,000 peasant petitions were filed and the Ministry of Internal Affairs (MVD) remarked about the popularity of the process (ibid.). It follows that the traditional pre-reform commune left enough for individualism within its institutional framework to informally familiarize the peasant community with the advantages of individual entrepreneurial risk-taking and returns on investments in land (Kingston-Mann, 1991, p. 43; Gregory, 1994, p. 52).

The escalating use of the petition privilege counters Pallot's (1999) emphasis on the coercive character of the Stolypin reform as implemented and suggests instead that the peasants were genuinely interested in owning land. Yaney's findings indicate a high degree of voluntarism (Klimin, 2002, p. 14) that accompanied, and determined, the outcome of the process. The implementation of the Stolypin reform caused virtually no revolutionary violence on the part of the peasant constituency (Yaney, 1982, p. 187). As for nonviolent coercion, the main cause of peasant fears had been the expected enforcement of individualistic risk-takers' land rights by government agencies, necessitating costly adaptations by such communal peasants as remained (Yaney, 1982). These fears may have motivated the petitions for the consolidation of the entire communes.

[270] Stolypin's emphasis on the voluntary character of the reform indicates his belief that the commune was dysfunctional at that time.

The adversaries in these conflicts, however, were some peasant household heads against others, rather than peasants versus government agencies (ibid., p. 296; Macey, 1990, p. 222). Thus, under the pressure of the reform, the collectivist communal structure gave way to steadily advancing agrarian individualism, as evidenced in the increase in individual civil suits during the reform period.

The Transformation of the Orthodox Church: Railroad Technology Challenges the Pillar of Political Stability

Gerschenkron (1962, p. 133) posits that the Tsarist state revitalized the village commune structure after the Emancipation. To briefly repeat, functions previously performed by the landlord such as tax collection, control of family structure, and responsibility for law and order were transferred to the jurisdiction of the village commune assembly, the skhod (Atkinson, 1983, p. 25; Mironov, 2000, p. 329), in the Tsarist belief that this would enhance political stability.

This analysis is incomplete. Since the peasants constituted roughly 80 percent of the Tsarist Russian population, the commune could not have been consolidated by government coercion alone. The collectivist organizational structure of the nineteenth-century village commune, with its mutual-assistance properties, needed further backing and obtained it from one of the empire's mainstays of support, the Byzantine (Greek Orthodox) Church (Burds, 1998, p. 97).

The Church as the Pillar of Tsardom

Since Petrine times, relations between the Tsarist state and the Church had been typified by a tightly knit symbiosis. The state subventioned the Church and protected its monopoly on proselytizing (Timberlake, 1992, in idem, 1992, p. 11). Most important, state organs including the police were obliged by law to prosecute any subject who challenged Greek Orthodoxy "by word or by deed" (ibid.). Legally, the Tsar was "the supreme defender and preserver of the dogmas of the ruling faith and protector of the purity of belief and the decorum of the holy Church" (ibid., quoting Curtiss). In exchange for this protection, the Church legitimized the imperial structure by proclaiming the Tsar "divinely anointed" (ibid.). The coronation of each new monarch, including Nicholas II in 1894, centered on an anointment ceremony at the Uspenskii Cathedral (ibid.). Thus the Tsar was conceived as an intermediary between God and man, his rule to be accepted by all subjects as a divine agency—rendering any discourse or opposition a sacrilege. The Orthodox clergy was obliged to report on any conspiracy against the autocracy, even

if discovered during confessional. Since governmental decrees and statutes were announced by the clergy in the course of religious services (the clergy being more literate than the peasantry), the Church also served de facto as a communication medium for the Tsar and his government (ibid).

The implications of this institutionalized dependence of an autocratic regime—the Tsarist *samoderzhavie* (De Madariaga, 1998, p. 43)—on an ecclesiastical authority cannot be fully understood without reference to the work of one of Russia's most dynamic intellectuals, Prince Mikhail Bakunin's *God and the State*. Applying the essence of his pan-humanitarian analysis to specific conditions in Tsarist Russia, Bakunin claims that the Orthodox Church's consecration of the perforce oppressive and despotic state structure is the source of the ultimate human degradation and retardation that Gerschenkron calls institutional "backwardness":

> Christianity is precisely the religion par excellence because it exhibits and manifests, to the fullest extent, the very nature and *essence of every religious system, which is the impoverishment, enslavement, and annihilation of humanity for the benefit of divinity*. … God being master man is the slave. … Whoever says revelation says revealers, messiahs, prophets, priests, and legislators inspired by God himself; and these once recognized as the representatives of divinity on earth as the holy instructors of humanity, chosen by God himself to direct in the path of salvation, *necessarily exercise absolute power*. All men owe them passive and unlimited obedience, for against divine reason there is no human reason and against the justice of God no terrestrial justice. *Slaves of God men must also be slaves of the Church and State insofar as the State is consecrated by the Church*… (Bakunin, 1970, p. 24, italics added).

This radical rhetoric notwithstanding, elsewhere in *God and the State* Bakunin neither rejects nor denies the insight that the history of religious beliefs reflects "the development of collective intelligence and conscience of mankind" (ibid., p. 23). Thus, religiosity as such is a necessary stage in human development, an enterprise ultimately aimed at the attainment of individual dignity and liberty. Bakunin's vision of the ultimate rebellion—the rejection of all hierarchy, all domination of men by men, and the demand for absolute egalitarianism—reflects an aspect of the general sentiment that, albeit to a notably different degree, inspired other movements in nineteenth-century Russia, including radical clerical ones (Freeze, 1999, p. 281).

The interaction between the modernization process launched by the Tsarist autocracy, entailing technological change, and the Tsarist institutions' ongoing dependency on ecclesiastical structures paradoxically and unintentionally radicalized the religious base of the regime's legitimacy and instigated an institutional change in the direction of egalitarianism (Shevzov, 2004, pp. 36, 51,

52; Freeze, 1999, pp. 280, 281). These mechanisms induced the gradual transformation of the autocracy into a constitutional monarchy (Ascher, 1998, p. 2).

Bakunin, the true leader of the anarchist intelligentsia (as opposed to Karl Marx; after all, the landless proletariat constituted 5 percent of the Russian population), illuminated and defined the type of heterogeneous rebellious force, individualistic in character, that was being directed at the secular hierarchy, which itself was embedded in the religious mainstream. It was this that propelled the institutional transformation of both the Orthodox Church and the autocratic state toward the modernized pluralist Russian society that formed with growing celerity before World War I. The technological innovation that set the whole country in motion—railroad construction, the core of the state-led industrialization process—contributed a condition of irreversibility to the process of democratizing social change.

The weaker the secularized legitimacy base of the autocratic governance system became, the more the Tsarist state strove to lean on the pillar of spiritual legitimacy provided by the Church (Freeze, 1996, p. 309). The government-launched industrialization under Nicholas II, creating new wants, tumbled the peasantry into a self-perceived (relative) economic plight in the short run. The famine of 1891 and the economic depression of 1901–1903 bred dissatisfaction with the ruler just as the twin debacles of the Crimean War and the Russo-Japanese campaign of 1904 severely diminished the empire's power in international affairs (ibid.). That the last Russian monarch was totally devoid of charisma only made things worse. Thus, by the end of the nineteenth century, the secularized bastions of Tsarism's stability—the persona of the ruler, the appearance of prosperity, and the relative projection of power in international affairs (ibid.)— no longer sufficed to ensure the political stability of the empire. This, in turn, amplified the importance of the regime's ecclesiastical and spiritual base of legitimacy (ibid.).

Here it is important to elaborate on the vicious cycle, the consequences of conquest, and the reliability of the Greek Orthodox base of legitimacy for the perpetuation of the autocracy. Historically, the secularized "power in international relations" (ibid.) that increased at this time, manifested in the imperial army's ability (due to technology imported from Western Europe) to secure territorial claims, brought a host of non-Orthodox populations under the wings of the Tsarist autocracy (Timberlake in idem, 1992, pp. 7, 8). This accumulation of populations, although ostensibly strengthening the empire's secularized base of legitimacy, menaced the long-term stability of the autocratic regime by posing a spiritual challenge to the Tsar's ally, the Orthodox Church, as the conquered peoples practiced Islam or different forms of Christianity and owed no national and political loyalties to the crown. A long-term vicious cycle ensued: territorial conquest vitiated the spiritual pro-Tsarist base of legitimacy, making it necessary to bolster the secularized

legitimacy base even more by means of conquest. In graphic form, the cycle looks like this:

Figure 7–2 Endemic Necessity of Conquest for the Preservation of Autocracy

To break the cycle, the Tsarist state appears to have attempted to "resacralize" autocratic rule (Freeze, 1996, p. 311), as may be judged by the marked increase of canonizations in the second half of the nineteenth century, in which the imperial family played an active if not an initiating role. Freeze (1996) proposes that the Tsarist attempt to hitch religious rites to the political wagon had the unintended consequence of consolidating pious subversion within the ranks of the mainstream Orthodox Church. Thus viewed, contrary to the implications of Gerschenkron's analysis and the expectations suggested by Marxist theory, the Church was not necessarily a reactionary force and the Tsarist state was not necessarily a progressive modernizer in all respects (ibid).

The canonization in 1902 of Serafim Sarovskii (1760–1833) is a case in point. Sarovskii, an obscure, humble, egalitarian monk, renounced the Church hierarchy and proclaimed a bright future for the Romanov dynasty. Although Nicholas II was born more than three decades after the pious preacher went to his eternal reward, the posthumous legacy of Serafim Sarovskii's teachings envisaged and predicted the perpetuation of autocracy under the Romanov rule that Nicholas II piously applied to his court. Thus, despite the skepticism of the Holy Synod, the imperial family initiated Serafim Sarovskii's canonization to enhance "unity between the Tsar and the people" (ibid., pp. 315, 317, 318, 323). At the ceremony that solemnized the event, the imperial court, having organized masses of religious pilgrims, unintentionally revealed its value systems, which overtly exacerbated the cultural and material rift between the pilgrims and the ruling elites. Exactly as the Tsarists had neither intended nor expected, Sarovskii's canonization revealed and aggravated the estrangement between the Tsar and the people. The Tsarist court's attention to materialist splendor, the nobles' extravagant dressing and dining habits accompanied by extensive reliance on servants, and their worship of physical well-being, all of which manifested at this gathering in order to kindle the devotion of the timid masses, alienated the pious pilgrims, for whom asceticism, the rejection

of worldly matters, and elevation over daily deprivations of the body, was a metaphysical creed. Influenced by the radicalization of its constituency, the mainstream Church increasingly fomented pious dissent and subversion rather than obedience to the crown (Freeze, 1996, pp. 317, 321, 324, 325, 329; idem, 1999, p. 280).

Institutional Pluralism, Schisms in Orthodoxy, and the Impact of the Rails

The railroad technology allowed popular pious dissent to express itself on a scale theretofore unknown by allowing lengthy pilgrimages and unprecedentedly massive gatherings at canonization events. The latter inevitably posed a credible grassroots threat (Greif, 2006, p. 440) that prodded and pressured the Tsarist government toward democratizing concessions.

Given the weight of religious beliefs in the peasant way of life, any analysis of the vitality of nineteenth-century peasant collectivism entails a closer look at the institutional transitions within the Church that initially consolidated the communes (Burds, 1998, p. 97). These internal reevaluations were prompted by the challenge to the mainstream Orthodox hegemony presented by the Schismatics and other sectarians as well as the accelerating secularization that typified the last decades of Tsarism (Treadgold, 1968, pp. 81–91).

The tensions within mainstream Orthodoxy coincided with the industrialization spurt of the 1890s and its consequences: intensified railroad construction, more peasant migration to urban centers for wage labor, and religious pilgrimages to remote and obscure monasteries. Attractive secular ideologies such as those of the Union of Liberation and the Socialist Revolutionaries, as well as an intensified peasant flight to the Old Belief (staraya vera and razkol)—a movement that was more often than not antagonist toward the Tsarist state—combined to pose a credible (and subsequently realized) threat of an uprising against the mainstream Church.

Importantly, none of these events, which heralded progressive future development, took place at the village level; they were individual-level processes. It is of great interest in this context that the Bishop of Volokolamsk and the dean of the Moscow Theological Academy, expressing their concerns in the revolutionary year of 1905—before the land reforms—observed, “One of the most characteristic traits of our time is that the individual *lichnost* [personality], previously strongly suppressed, now unreservedly strives forward in his or her development and self-expression” (Shevzov, 2004, p. 13).

The ascendancy during this period of *beztserkovnoe khristianstvo*—“churchless Christianity,” the belief that the larger ecclesiastical order and community were no

longer essential for salvation—constituted an additional challenge to traditional Orthodoxy (Shevzov, 2004, p. 13). Therefore, the pious dissent expressed by the Schismatics and, especially, the Old Believers should be seen as causally related to the growing revival of egalitarian doctrine that had earlier concerned small parishes and to the large-scale transition to democratic piety within the mainstream ecclesiastical system (ibid.; Burds, 1998, p. 193). The depth of the institutional transformation set in motion by industrialization and its corollary, otkhod, cannot be overestimated. Neither can the shaping and molding effect of the democratization of the ecclesiastical system and its corollary, the individualization of customary peasant structures (Shevzov, 2004, p. 36; Hodgson, 2004, pp. 105, 185).

The hierarchical ecclesiastical system that legitimized the autocratic Tsarist state, structured on the authority of both clerical and civil officials' and preaching to and monitoring the obedient laity's religious habits, was established under Peter the Great and codified in the Spiritual Regulation of 1721 (Shevzov, 2004, p. 18).[271] Formally, the Spiritual Regulation constituted the institutional foundation that legitimized the Tsarist Empire from Petrine times to the October Revolution of 1917. The following quotation from the Regulation shows that the state tolerated neither autonomous ecclesiastical authority nor any formal institutional recognition of a faith community:

> …Common people do not understand how the spiritual authority is distinguishable from the autocratic. … They imagine that such an administrator is a second Sovereign, a power equal to that of the Autocrat, or even greater than he… (Shevzov, 2004, p. 16).

In the last decades of the nineteenth century, the Tsarist state of Nicholas II and the Church increasingly parted ways (Freeze, 1996, p. 312). The Byzantine structure had identified the laity with the profane, i.e., with matters belonging to "this world," and the peasantry with the "dark masses," in contrast to the ordained, spiritually superior, and leading clergy, represented by the supreme procurator of the Holy Synod, K.P. Pobedonostsev. Now, informally and through an emerging internal debate influenced by the older egalitarian concept of *sobornost*— literally a "church-community gathering"—the parish laity as well as the clergy were seen as the "People of God," namely, equals before God (Shevzov, 2004, p. 33). All of this coincided with, and was occasioned by, the 1890 industrialization spurt and the peasants' growing propensity to wage-labor migration.

The laws of April 17, 1905, and October 17, 1906, which established religious tolerance and legalized the Old Belief and other "sectarian" practices, marked the

[271] Where relations between clergy and laity were concerned, the Spiritual Regulation was heavily influenced by the thinking of Bishop Feofan Prokopovich (1681–1736), trained at the Kievan Academy, which was strongly influenced by Roman Catholic Jesuit teachings.

advent of an emerging pluralist society in Tsarist Russia (Treadgold, 1968, p. 85). These late-Tsarist concessions, geared to the restoration of law and order, also suggest that the 1905 revolution did not find its main motive in material impoverishment. The common denominator between Stolypin's reform and the establishment of freedom of religious belief a year earlier is the acknowledgment of all individual civil rights that were theretofore unknown in Tsarist Russia.

The intra-ecclesiastical debates in 1905–1917 concerned the very identity of Orthodoxy. Countering the Marxist intuition, the competing visions crossed both social and ecclesiastical class lines. Liberalizing reforms were often proposed by bishops while the laity represented the conservative adversary (Shevzov, 2004, p. 14). Thus, the Orthodox establishment, perceiving the spiritual challenge posed by the individual choices that industrialization allowed and fearing rootlessness in its own constituency, competed for hearts and minds—so its conservative adversaries charged—by absorbing "republican" ideas (ibid.).

While organs of the contemporary secular press such as *Ruskii Vestnik* and *Moskovskie Vedomosti* defended conservative positions, two ecclesiastical journals, *Bogoslovskii Vestnik* and *Tserkovnyi Vestnik*, were truth abidingly accused by the conservative laity of injecting into the Tsarist Empire the same ideas that had fueled the French Revolution (ibid.). The transition to an egalitarian conception of the parish was perceived by the ecclesiastic reformers as being as urgent as the Emancipation Act of 1861 had been (ibid., p. 16).

The mainstream religious authority was additionally challenged in the closing decades of the nineteenth century by a sharp turn to the Left—toward rationalism in terms of scientific enlightenment— in Orthodox attitudes toward superstition. (Ibid., p. 209: "The bishop was subordinate to the icon not the icon to the bishop.") This liberalization may explain the paradox of *klikushestvo*—the perception of being possessed by a demon—among the peasants. Perceived as sinister black magic and its consequence: samosud, *the extrajudicial peasant system of punishment and vengeance aimed at alleged witches and sorcerers*. These processes seemed immune to the effects of modernization, specifically the call of urban culture that peasants could now heed due to the increasingly proximate railroad station (Worobec, 2001, p. 87). As both the ecclesiastical and the imperial systems became more and more tolerant of pious dissent practices, peasants had less of an incentive to conceal klikushestvo. Consequently, the number of reported cases increased, possibly also fueled by the improvement in peasants' ability to visit remote monasteries for exorcism.

It is of interest that the industrialization process, with railroad construction at its core, also abetted the transition to pious rationalism in the modernizing and

democratizing Church (ibid., pp. 40, 41).[272] Challenged by the secularization that the urban culture inspired, Orthodox clerics increasingly regarded cases of klikushestvo as attacks of hysteria, hesitantly opening the door to the acceptance of the possibility of recovery through medical treatment (Worobec, 2001, p. 41). This progressive gesture notwithstanding, the Church perceived itself as the miracle cure that it offered as one of its main functions (ibid).

Railroads Allow Choice: Mainstream Orthodoxy or Dissent? The Advent of Peasant Rationalism

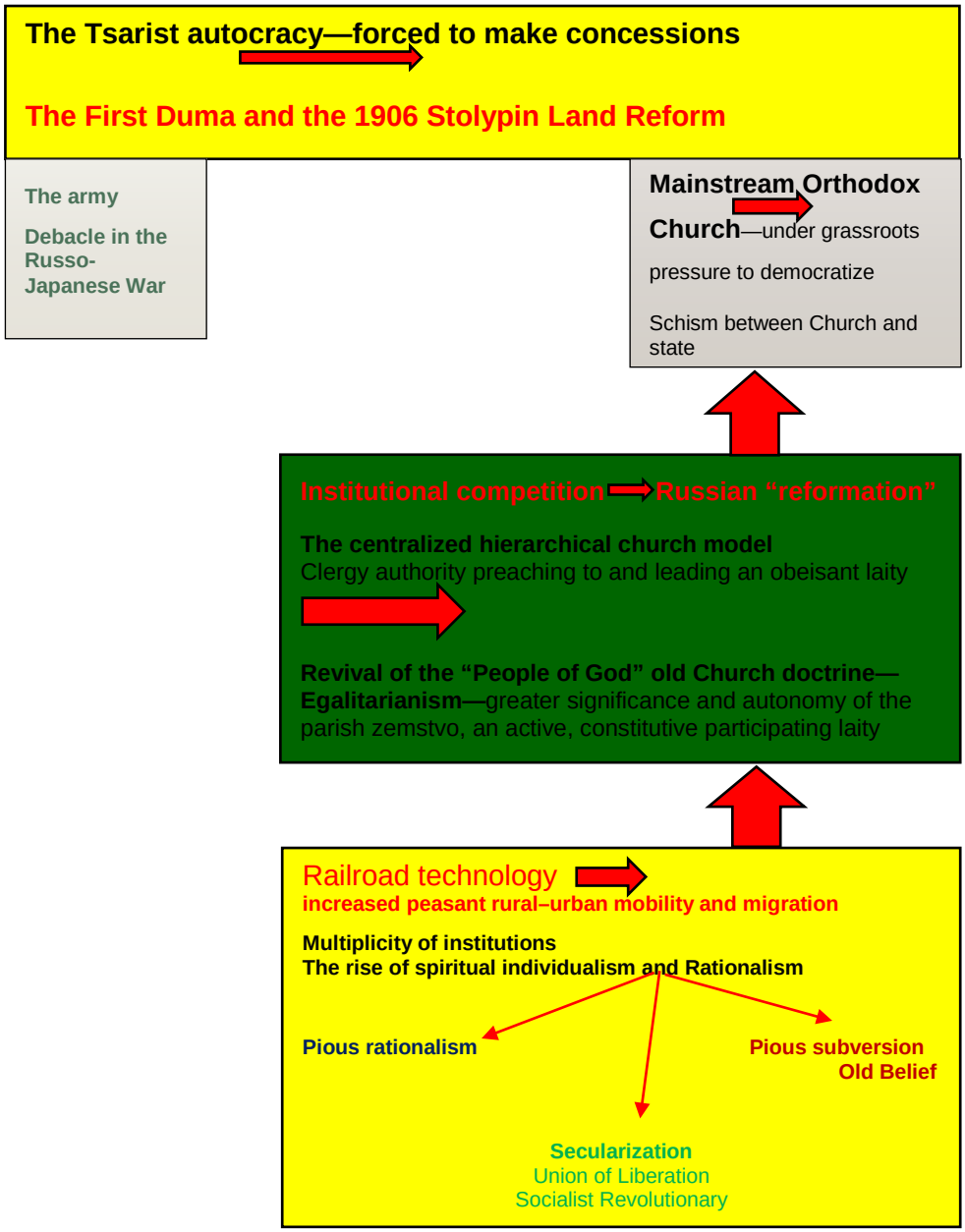
One such choice opportunity was secularization (Mironov, 2000, p. 500, Table 7.18). Another option was flight from the moral economic obligations that the mainstream Orthodox Church imposed on kin who remained on the commune by embracing the Schismatic movement (the *staraya vera*—the Old Belief) and its doctrine of *razkol* (Burds, 1998, pp. 193, 203, 205). Unlike mainstream Orthodoxy, the staraya vera, consolidated during the seventeenth century, was deeply antagonistic to the perpetuation of unchallenged Tsarist authority—a characteristic that it shared with the secularized urban ideologies. The Tsarist government persecuted Old Believers more harshly than it did any other community of dissenters because it viewed secession from the official state religion as both apostasy and treason (Lieven, 2000, p. 257).

The mainstream Orthodox village priesthood, in turn, legitimized the sanctity of the patriarchal hierarchy (Hoch, 1986, p. 183; Burds, 1998, pp. 76, 84, 189), helping the Tsarist police to enforce the peasants' customary obligation to repatriate income earned from wage labor in support of their families in the commune (Burds, 1998, pp. 29, 83). This tied the urban proletarian to his native village (ibid.; Johnson, 1979, p. 61). Thus, by invoking rural social-sanction mechanisms and collaborating with the formal penal system, mainstream Orthodoxy tightened controls over the income of peasants generally and of peasant workers particularly (Burds, 1998, pp. 29, 83). If so, the popular and ostensibly voluntary peasant conception of the village commune as an unemployment and old-age "insurance company" (Johnson, 1979, p. 38) was anchored in and shaped by Orthodox worldviews (North, 2005, p. 23). Enhanced by the railroads, peasant mobility for wage work and migration, allowed the individual exposure to the sectarian, and piously subversive as well as secularized dissent. Those processes, introducing rationalist choice, irreversibly challenged every hierarchy of coercion structured by mainstream Greek Orthodoxy,

[272] On the rationalist definition of klikushestvo as hysteria and the multiple structures that enabled rationalist reform, see Shevzov (2004), p. 39.

those formed at the autocracy and the village commune level. Allowing the challenge of the legitimizing autocracy spiritual pillars, the railroads brought about the democratization of the Church and the Autocracy, paving the way for the individualization of landholding in Stolypin reform, whilst ultimately heralding the advent of Constitutional Monarchy in Russia.

Figure 7-3 The Railroad and the Transition from Hierarchy to Egalitarianism



Sources: Ascher (1988), p. 50 Vol. I, pp. 93–96, 165–183, 194, Vol. II, p. 269: Freeze (1996), pp. 309, 312; Shevzov (2004), pp. 32–41; Burds (1998), p. 23, Table 1.3, p. 188; Worobec (2001), pp. 41, 55; Treadgold (1968), pp. 80, 81.

The Peaceful Monarchy—Autocracy, Peasant Individualism, and Stolypin's Reform

The idea of modernizing Tsarist Russian agriculture by dissolving the village commune through the reassignment of land rights to heads of household (Gaudin, 2007, p. 43; Yaney, 1982, p. 260; Pallot, 1999, p. 105; idem, 1982, p. 6) was an institutional novelty. The Stolypin reform, I maintain, was congruent with the civil-rights-oriented spirit of the 1905 laws on personal freedom of faith and the growing egalitarianism and consequent democratization "from within" that transformed late nineteenth-century Russian Orthodoxy. The long-term objective of the November 9, 1906, statute that allowed heads of household to obtain title to obshchina land was to free these individuals from the bureaucratized paternalism of the elder-dominated communal-village structure (Mironov, 2000, p. 330). Thus, the Tsarist concession embodied in Stolypin's reform presaged the future retreat of state bureaucracy from the countryside, in what Atkinson calls the "second Emancipation" of the Russian peasantry (Atkinson, 1983, pp. 41, 42).

At the government level, the Stolypin reform was motivated by two dominant concerns relating to political stability. It aspired to inculcate a sense of citizenship, *grazhdanstvennost* (Ascher, 1988, pp. 268, 269), in the peasant paterfamilias by persuading the masses that loyalty to the Tsarist crown was economically rational. In accordance with agricultural doctrines that had been promoted in the nineteenth century, the individualization of control and ownership of landed resources would pave the way to greater productivity and, ultimately, eliminate peasant poverty (Yaney, 1982, pp. 164, 165, 166, 174). In the long run, the reform would do away with the periodic land redistribution schemes that the European Russian peasant had practiced to regionally varying degrees—frequently until 1893 and afterwards, under a new law, at a minimum interval of twelve years. Ideally, the land reform would abolish this practice altogether (Atkinson, 1983, p. 29), enhancing the transition from extensive to intensive land use (ibid., p. 174; Nafziger, 2007, pp. 12, 14, Table 2, 15; Hesse, 1993, p. 51; Gerschenkron, 1962, p. 120).

Stolypin's reform proposal derived its uniqueness from the notion that improving the lot of the peasantry would stabilize the empire's legitimacy base without engaging Russia in territorial conflict (Ascher, 2001, p. 10). Indeed, reflecting on the disastrous outcome of the 1904 Russo-Japanese War, Stolypin deemed the prospect of armed conflict decidedly unfavorable to the future of the monarchy (ibid., pp. 10, 11). Thus, unlike the Tsarist state's previous modernization initiatives, the 1906 land reform was not primarily intended to serve the needs of warfare.

Stolypin's views on the superiority of the individual household as opposed to collective landed resource management and ownership were inspired by his

observations of German farming (ibid., p. 2). The Tsar's prime minister was neither a constitutionalist nor a liberal; he was devoted to the Tsarist monarchy as well as to the Orthodox Church, authoritarian institutions both (ibid., p. 9). While the intellectual Left opposed the 1906 reform as an attempt to preserve the centralized autocratic order, the extreme Right opposed it in the belief that it would bring about fundamental changes in the social and economic systems, thus endangering the political stability of the empire (ibid., p. 2). Indeed, the spatial and, in turn, the structural implications of the transition to individualism in landed property were inimical to the perpetuation of autocratic rule, and the Stolypin reform did indeed have unintended consequences for the Tsar's government.

Choice and Exodus from Compulsory Collectivism

May it be concluded, then, that the mutual-trust networks—the voluntary collectivist institutions of which the post-Emancipation communal village was partly composed—lost all of their significance in the peasants' survival calculus? Certainly not: the transition from communal to individual rights in land exhibited collectivist as well as individualist elements both in the implementation of the reform[273] and in its results.

The proportion of peasant households that totally seceded from their communes varied markedly from region to region—from 3.7 percent in the mid-Volga region to 18.3 percent in Bogorodskii District, part of Tula Province in the central black-soil belt (Pallot, 1982, p. 25). A 1913 government survey of 17,567 households set the average share of households withdrawal from communes at 7.4 percent (ibid.).

Table 7–3 Activity of Households in Bogorodskii District before and after Consolidation of Land Strips into One Household Parcel that Receives Rights to Title (Pct. Distribution) 1913 survey.

Activity	Before consolidation	After consolidation	change
Farming	22.6	9.5	**-57.8%**
Migration beyond Urals	6.6	9.2	**+40.0%**
Industrial labor	41.6	46.6	**+11.8%**
No specified employment	14.4	23.3	**+61.4%**
Unknown	14.6	11.4	-22.2%
Total	100.0	100.0	-

Note: The percent share of all peasants specifically in Bogorodskii District who remained agrarian after consolidation from 22.6 percent to 9.5 percent—a 57.8 percent decline.

Source: Pallot, J. (1982), p. 27.

[273] Yaney (1982), pp. 277, 280, 357, 358, identifies the conversion of entire communes to hereditary household-head ownership under the law of June 14, 1910. The path to such conversion had been paved by household and individual secessions and group land settlements, both of which entailing corresponding levels of communal cooperation. (Atkinson, 1983, p. 61).

Bogorodskii District, however, was not typical; it boasted an unusually high share of industrial labor. “No specified employment” might include farming for a wage; so could “migration beyond Urals.” To determine what became of the missing 14.6 percent, comparisons with other regions are needed.

Pallot’s definition of the consolidation process (Pallot, 1982, p. 19) speaks of the transfer of title to household land and property rights in implements to the paterfamilias. Household land was consolidated in accordance with two methods:

- The establishment of a *khutor* caused the settlement to “disperse” (ibid., p. 18) as heads of household withdrew the consolidated strips, dwellings, and outbuildings that remained separate from the commune’s common pool.
- The consolidation of allotment land into an *otrub* was characterized by ongoing cohesion of the commune village. The consolidated parcels of each household and the adjoining household dwellings could be combined, forming a hamlet.

The propensity to cooperate voluntarily after making a choice based on individual utility increased. Since authoritarian and autocratic rule in the Tsarist Empire rested on pre-modern tribal institutions at the grassroots level (De Madariaga, 1998, p. 79; Hoch, 1986, p. 183), Stolypin’s reform also increased the surveillance costs (North, 1990, pp. 90, 91) of authoritarian control over implementing the reform. Peasants who remained in agriculture gained more long-term bargaining power vis-à-vis the ruler now that they held title to land, augmenting these costs even more (Pipes, 1999, p. xii; Martens, 2004), p. 193; North, 1973, p. 29). Stolypin’s reform transferred the monitoring capacity in regard to conscripts, tax remittances, and compliance with the Autocrats Law, as set forth in the Russian Imperial Statutes, from the peasant village assembly officialdom to the Tsarist bureaucracy (Mironov, 2000, p. 353). This centralized modality, alien to the peasantry, came with larger surveillance costs. Moreover, title to land created a peasantry that, in the aggregate, enjoyed increasing alternative spiritual options and was therefore less likely to homogeneously choose the mainstream and support the autocratic Tsarist autocracy that engaged in pious subversion. Given the totalitarian control aspirations of an autocracy, the expansion of choice options pushed transaction costs up. Importantly, then, the 1906 legalization of peasant individualism did not result in an atomized peasantry.

Freedom through Cooperation

It did the opposite: as the reform moved ahead, the communal rural cooperation mechanisms adjusted to the challenge of land settlement (Yaney, 1982, p. 366). Individual household governance allowed and enforced withdrawal from the

communes, necessitating the correction of land redistributions and communal land consolidations on the basis of formal acknowledgement of individuals' rights. This, in turn, strengthened the evolution of the voluntary mechanisms of peasant and former communal peasant collective action (ibid., p. 280).

By strengthening peasant migration to urban areas as well as other rural locations, the reform helped to reinforce the necessary *zemliachestvo* (landsman) ties that characterized relations among otkhodniks (wage laborers) (Johnson, 1979, p. 69).

Stolypin: The Shift of Rule—from the Tsar's Patrimony to Peasants' Countervailing Negotiating Power

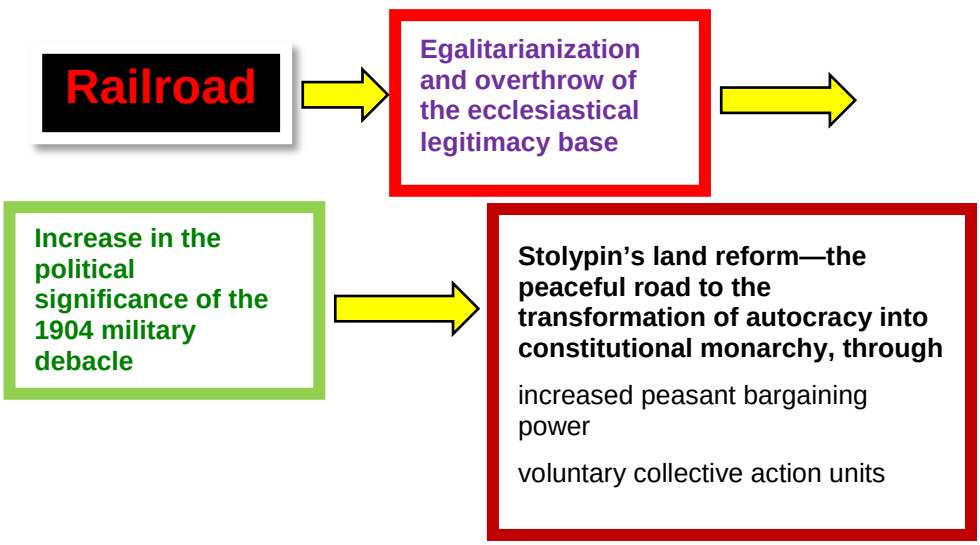
The institutionally legalized peasant individualism codified in Stolypin's 1906 reform had both the spiritual and material aspect. Peasants' participation in the reform was characterized by informal spontaneous and voluntary individualization of landholding within the commune village. Due to increasingly rationalistic cooperation, the benefits of the process were evaluated through with refined mechanisms of collective action within the commune that sometimes led as far as dissolution (Barzel, 2002, p. 61). Labor and peasant entrepreneur voluntary associations came together in these mechanisms, resulting in the gradual emergence of a peaceful element of organized credible demand for a transfer of political power from ruler to subjects. Stolypin's reform marked the end of the Tsarist *votchina* (patrimony) (Pipes, 1995, p. 70)—as the new landed property holders, the bolshaki, acquired political power. This exposed the autocracy to a two-edged challenge: the transfer of property rights in land to a newly institutionalized citizen community that constituted 80 percent of the population *and* the ability of this constituency to organize in both the rural and the industrializing urban environments. Zemliachestvo ties, strengthened by rural cooperation mechanisms, easily transitioned into modern urban trade-union activity and pious opposition (Martens, 2004, p. 193; Pipes, 1999, p. xii; North, 1973, p. 29; Freeze, 1996, p. 311; Boyer and Orlean, 1993, p. 22). The challenge to autocracy posed by the emerging civil society was an unintended consequence of the Stolypin reform.

State-led industrialization with railroad construction at its heart promoted ideological and religious heterogeneity in Tsarist Russian society, forcing and facilitating the legalization of individual household property rights in land and, in turn, triggering the formation of voluntary collective action units (Barzel, 2002, p. 61). None of this was consistent with the perpetuation of autocratic governance. The Tsarist Russian Empire had embarked on the road to constitutional monarchy.

Paradoxically, the technological change effectuated by Tsarist railroad construction and its effect—democratization, meaning the dissolution of the pious hierarchy and, in turn, the weakening of interdependencies between the state and the Orthodox Church—amplified the significance of the debacle of the 1904 Russo-Japanese War. Finding both the ecclesiastical *and* the military bases of its legitimacy eroded, the Tsarist state had to make institutional concessions in an attempt to create a secularized legitimacy base alternative to conquest. In the eyes of the Stolypin government, the land reform and its aim—rallying the loyal citizen-landowner behind the crown—seemed an adequate solution to this problem. In fact, it was not. Against the background of technological change, the Stolypin reform was inconsistent with the preservation of autocratic privileges and prerogatives because these phenomena emanated from the Muscovy founding principle of land as the ruler's personal patrimony (Pipes, 1995, p. 70). The very process that Stolypin had intended to assure the stability and perpetuation of autocracy weakened this structure and set Russia on the road to constitutional monarchy. The secularized base of legitimacy in the Tsars' gradually democratizing empire would be provided by a prosperous peasantry. Such an outcome represented a historical discontinuity because it was conditioned on perpetuating peace instead of preparing for conquest as tradition would have had it (Ascher, 2001, pp. 9, 10, 11).

By participating in World War I, Russia would breach this condition in a manner disastrous to the possibility of peaceful democratization.

Summarizing Figure 7-4 Railroads and the Emergence of Collective Action Units



Sources: Shevzov (2004), p. 36; Freeze (1996), p. 309; Ascher (2001), pp. 9–11; North (1973), p. 29; Martens (2004), p. 193; Pipes (1999), p. xii; Barzel (2002), p. 61.

Chapter 8 - From Peter to Nicholas- Continuity and Progress through Reform

Introductory Summary

According to Evolutionary Institutionalism, institutions do not vanish; instead, their structures transform. This chapter asks why Tsarist Russia became an importer of technology via a war-induced crisis. It also continues the discourse in Chapter 7 on the role of technology in the modernization of Tsardom including its democratization, all of which unintended by the rulers. The aim below is to call attention to the structural continuity that extended from Peter I to Nicholas II and to juxtapose it with discontinuous, revolutionizing institutional progress.

Since time immemorial, those living on the Russian plain have been exposed to hazards of nature that resulted in volatile harvests amid high land-to-labor ratios. Given the scarcity of historically acquired collective knowledge, those who amassed the agrarian experience that conduced to survival rose to an authority so unchallenged as to have been invested with divine legitimacy. Tsar-Imperators commanded similar obedience, as did their emulators, the elder-dominated commune hierarchy. The Tsar's authority constantly depended on military success that ensured vigorous growth and stability as well as their outgrowths, subjects' survival and labor. While the hierarchies of oppression and coercion discouraged the search for novelty and risk-taking in innovation, success in battle could be ensured through spurts of autochthonous modernization effectuated by the importation of technology. If so, a temporally continuous and systematically prioritized *obshchego blaga*, "common good," surfaces in Russia: victory in battle and conquest that entail the ubiquitous sacrifice of civilian services such as healthcare and education. This continuum ranges from Peter I through the enlightened Catherine II to Nicholas II and beyond. Two major clusters of technology give structure to the Tsar-Imperators'[274] reign: the imports of the Baltic

[274] De Madariaga, I. 1998 p. 50 As this chapter deals with the continuities vs. discontinuities among the eighteenth and nineteenth centuries modernizations, I included in the understanding of the

fleet and related arts and sciences under Peter I, and railroads during the time in power of Nicholas II. This conceptualization of "common good" continuity may be challenged on the grounds that each of the technologies was imported for a military purpose. Each of them also, however, helped to improve the civilian economy, and civilians' survival options, in novel and multiple ways. The imported technology that mentioned above, as a subset of general technology infusion evoked new demands, promotedthe urge to associate in new constellations, and instigates instigated cognitive cultural revolutions that increasingly posed a credible threat from below, forcing rulers to concede to their subjects by delegating rights. The thesis of this chapter is that the railroads, due to their dual-purpose (military/civilian) function—unlike their modernizing eighteenth-century predecessor, the navy—brought about the delegation of property rights in land to the Russian peasantry that constituted 80 percent of the population. In this manner, the railroads carried, passenger-style, Russia's transition to rationalism individualism and constitutional monarchy.

By reducing cognitive distance (Crafts, 2007; Martens, 2004, p. 101) through intensified *otkhodnikhestvo*—peasant wage labor as a side pursuit—the railroad contributed to the rural–urban institutional exchange in Tsarist Russia, enhancing the creation of urban cooperation and collective action units (Barzel, 2002, p. 61) that emulated the agricultural commune-village system on the basis of shared liability (*krugovaya poruka*)—initially by means of a kinship unit that metamorphosed into a territorial unit, the verv (Petrovich, 1968, p. 215). Through this transformation, the railroad promoted the landsman zemliachestva coordinated urban trade unions and artel'- craftsman co-operatives structured by mutual solidarity in responsibility for all obligations (De Madariaga, 1998, p. 79; Johnson, 1979, p. 69; Hodgson, 2004, pp. 105, 185; Troyat, 1961, p.98). The labor commitment devices (Greif, 2006, p. 101) that were created in this manner evolved into a successful mechanism of subversion that amplified the ruler's surveillance costs (North, 1990, pp. 90, 91), enhancing democratization. Thus the imported railroad technology, the most successful of the Tsarist ventures in state entrepreneurship, contributed to the disintegration of the ancién régime.

The Baltic fleet technology of Petrine times and, to a greater extent, Nicholas' railroads sowed elements of modernization and introduced a discontinuous but progressive demand for equality under the law—all of which unintended by the Tsars.

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institution the Tsar the concept Imperator that considers the Nakaz- Decree of the Catherinian era. The latter promulgates the shedding of despotism. The Nakaz Chapter II article 9 fundamental laws in Latin states: Quis imperat est monarca- where sovereignty or *samoderzhavie* is legally defined.

Peter's Reforms: "Progress Despite Coercion" in Russia

The modern Russian historian Evgenii V. Anisimov (1989) subtitled the English translation of his book, *Vremia Petrovskich Reform* (the era of the Petrine reforms); "Progress through Coercion in Russia." Studying selected Western and modern Russian sources, one senses that this title captures the Janus-faced character of the Tsarist industrialization. Namely, this very infusion of novel technology triggered the unintended institutional transformation that weakened the coercive hierarchy and fueled the transition to egalitarian rationalism in Late Imperial Russian society.

Anisimov's title, however, captures more than the Petrine époque. The transition to modernity under the last Tsar, Nicholas II, long after the emancipation of the serfs (1861–1863), was burdened with the collective violation of individual rights (albeit to a much smaller extent than under its eighteenth-century predecessor).

Gerschenkron's substitution theory (1962), according to which state entrepreneurship fills in missing "prerequisites" for industrialization (Rostov, 1960, pp. 6, 22), analyzes the crucial role of the autocracy—the *samoderzhavia* (De Madariaga, 1998, pp. 43–45)—in the modernization of Russia. Importantly, this pattern of substitution is not costless to society. Indeed, coercion is profoundly costly, not least in the coin of invention and innovation forgone due to the degrading treatment of the individual by the absolutist state structure (Hughes, 1998, p. 129; Poznanski, 1992, pp. 85, 88, 93; Mokyr, 1990, pp. 176–177). The loss is aggravated by a hierarchy of values (Mokyr, 1990, p. 173) that prioritizes common over individual welfare and defines the former according to the requisites of war. As I argue below, the appropriate way to characterize the spurts of industrialization under Peter I and Nicholas II is *progress despite coercion*. Both spurts were characterized by massive importation of skills and accompanying value systems that modernized the domestic production of new technology (Boyer and Orlean, 1993, p. 22). The absorption of European value systems abetted an institutional revolution[275] that fueled the demand for civil rights and its unintended consequence, democratization (Ascher, 1988, pp. 87–89).

This chapter discusses the unbroken thread of this dualism in Tsarist Russia's transition to modernity. The eighteenth century saw the progressive systematization of government; reform of the taxation system, the military statutes, and the education and welfare systems (Yaney, 1973, p. 7, Cracraft, 2004, p. 57; Hartley, 1999, p. 135; Kahan, 1985, p. 4) and the equalization of servicemen's *pomest'ie* with allodial property in 1714 (Bartlett, 1999, p. 76). These reforms and the Table of Ranks (1722) presaged the growing tendency to allocate political posts on the basis of achievement rather than ascription (Cracraft, 2004, p. 14). Since this

[275] Cracraft (2004), p. 24: cultural revolution is an aspect of institutional revolution.

legislation, however, coexisted with reliance on bonded serf labor, the supply of labor and skills was coerced rather than induced (Anisimov, 1989, p. 122).

My objective here is to stress the social cost of the transition to modernity within the reconstituting structure (Hodgson, 2004, pp. 105, 185) of militarized Russian absolutism, focusing on the cost of pledging a large and shackled labor force to a Tsarist industrial system that prioritized production for military purposes (Anisimov, 1989, pp. 122, 123). The analysis emphasizes the cost to society of the loss of invention and innovation due to disabling restrictions anchored in an ethos of bondage and corporal punishment (Mokyr, 1990, pp. 177, 180, 181; Poznanski, 1985, pp. 45, 46; Hoch, 1986, p. 182, Hughes, 1998, p. 129). That these phenomena retarded human-capital accumulation and entrepreneurial risk-taking in the eighteenth and nineteenth centuries is treated as axiomatic. Given that structures shape the preferences and goals of individuals for generations to come, the newly emancipated nineteenth-century population still carried the imprint of serfdom institutions in its habits of thought (Hodgson, 2004, pp. 105, 185; Veblen, 1931, p. 188; Hoch, 1986, p. 182).

By criteria such as levels of government involvement and centralization of government functions, Petrine Russia was indeed a rapidly modernizing society (Cracraft, 2004, p. 14). Nevertheless, the deficiencies in other criteria of modernization, e.g., what Cracraft calls the "impersonalized rule of law" and the "level of individualization" in rural structures[276]—which are interdependent (Frank, 1999, pp. 100, 101; my project description)—imply that the uncertainty of life and property remained very high in Russia under Peter the Great, indicating backwardness relative what Western European reforms achieved in Western Europe.

It is true that the Russian estate most affected by the Petrine cultural revolution (Cracraft, 2004, p. 12), the nobility, acquired the French language, internalized Western habits of thought, diet, and dress (Raeff, 1984, pp. 50, 51), and cultivated ties with Western philosophers, engineers, and other specialists. Society at large, however, remained modeled on hierarchies of patriarchal structures (Hoch, 1986, p. 182) and permeated by the degrading practice of corporal punishment (Hughes, 1998, pp. 129–130, Hartley, 1999, p. 67). It was corporal punishment, by fostering risk aversion, that retarded invention and innovation and made the domestic stock of knowledge dependent on imported technologies (North, 1981, p. 4; Mokyr, 1990, p. 177; Poznanski, 1985, pp. 45, 46). If so, most Russian technological improvements and their congruent institutional innovations were initially foreign and alien to the greater part of society at large (Raeff, 1984, pp. 32, 50, 51). The

[276] Cracraft, 2004, pp. 15–16; Yaney, G. (1973): p. 16 on personalized structures and pp. 28, 29 on Peter's attempts to systematize and depersonalize the law; Raeff, 1984, pp. 64, 80, 84.

resulting shortage of skilled labor led to the enserfment of skilled workers (Kahan, 1985, p. 89), creating short-term disincentives to the acquisition of new skills and triggering a vicious cycle.

Although Peter's Europeanization of Russian governmental institutions, norms, and values merits the term "modernization process" in a narrow sense (Cracraft, 2004, p. 12), the endemic social burden of bondage, aggravated by an inter-estate cultural gap and intra-estate authoritarian rifts that widened due to the nobility's Western orientation (Frank, 1999, pp. 5–7; Raeff, 1984, pp. 50, 51), justifies Gerschenkron's conception of the Russian peasant constituency, a hundred years later, as backward in relative terms relativeto the Westeuropean Empires and the US , as it had been throughout history. Applying additional criteria of modernity (such as one proposed by Cracraft: "mass popular interest and involvement in the political system"), we may clearly distinguish the Russian Empire, with its burden of serfdom and absolutism (De Madariaga, 1998, pp. 55–56), from its European counterparts.

Until Stolypin's land reform, the issue of the peasantry's civil status (*grazhdanstvennost*) as relating to the principle of equality before the law was not addressed. Living under customary law (Yaney, 1973, pp. 18–19), which rested on different institutional foundations from those guiding the Imperial Code (*Svod Zakonov Rossijskoj Imperii*), peasants could neither take an interest nor be involved in the political system of the empire due to lack of transparency and widespread illiteracy. Instead, the participation of the peasants— roughly 80 percent of the Tsarist Russian population—was characterized by passive and active resistance to the yoke of serfdom and the obligations of post-emancipation life.[277]

At the time of Napoleon's invasion of Russia (1812), the thing most feared by the conservative leaders of the Tsarist empire was the importation of the value-system adaptations that the French Revolution had set in motion (Tolstoy, 1953, Vol. 1–2, p. 407). Thus, as the prominent Russian historians Kliuchevski and Miliukov maintain following Raeff (1984), Peter's modernization drive was dictated by the needs of war. It was war, Kliuchevski states, that "determined the order of reform, set its pace and its very methods. Reforming measures followed one another in the order dictated by the requirements imposed by the war" (Hughes, 1998, p. 63). Even if warfare (particularly in the Northern War with Sweden) was not the sole motive for the Russian empire's importation of European institutions under Peter, as Raeff (1982) argues, the the aftermath of the Crimean War and the timing of the great reforms starting with the Emancipation Act of 1861 justify treating the eighteenth-century reforms, too, as expressions of the continuous longitudinal geopolitical rationality of a totalitarian state structure (Hayek, 1944, p. 80). In such a structure,

[277] Hoch (1986), pp. 185–184; Kolchin (1987), pp. 244–250 on armed uprisings, pp. 303, 311 on peasants' responses to violations of their collective rights; petitions and flights, Gerschenkron (1962), p. 133.

three dominant motives for concession and reform exist: improving surplus extraction, securing a territorial claim including conquests, and attaining internal stability (Gerschenkron, 1962, p. 134, Ascher, 1988, Vol. 1, p. 177). If so, war (the Northern War with Sweden in respect of the Petrine period) is treated as an organizing principle in conceiving the Europeanization and modernization process in Tsarist Russia.

The Petrine projects relating to development blocs (Gerschenkron, 1961, p. 125) such as the Baltic fleet, the core of which created vertical and horizontal supply and undersupply transactions among industries in ascending order of complexity of production, all of which conspicuously driven by government demand, were the Arsenal in Moscow and the fortress and the Admiralty in St. Petersburg (Kahan, 1985, pp. 86, 99, Hughes, 1998, p. 63). Under the post-reform government (1717–1718), the Colleges of War, the Admiralty, and foreign affairs received larger shares of state revenues than did any other cause (ibid.; Yaney, 1973, p. 28). The 1722 Table of Ranks placed the social standing of the military above that of any civilian endeavor (Hughes, 1998, p. 63; Hartley, 1999, p. 53). In a letter of congratulations to Alexander Menshikov upon the birth of a son, Peter wrote, "God has given him to you as a recruit" (Hughes, 1998, p. 63)—a blessing that clearly indicates a "hierarchy of values" in the structuring of Russian society (Mokyr, 1990, p. 173) in which war came first.

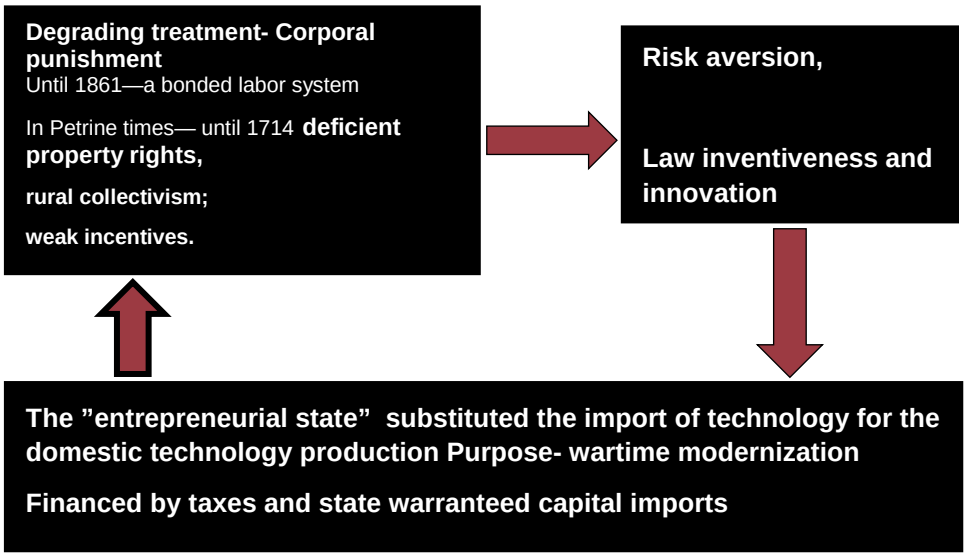
Reputable Western historians attribute to Peter the transformation of the Russian army "from an Asiatic horde into a professional force" (Hughes, 1998, p. 64) such as that maintained by Sweden, France, and Prussia. Russia's victories in the seventeenth-century Thirteen Years War against Poland challenge this view (Hughes, 1998, p. 64) by demonstrating the pre-Petrine professionalization of Russian troops (ibid.). It is unchallengeable, however, that the Russian defeat at Narva in the war against Sweden in 1700 lent urgency to Peter's drive to modernize the Russian army and, while he was at it, the government (ibid., p. 150).

Traditionally, initiated by the reign of Ivan III (1461–1505), Russian imperial modernization entailed the importation of weapons and ammunition and the hiring of foreign military specialists (Hughes, 1998, p. 71). Peter the Great's modernization of the army and society followed this tradition. His imports of technology, however, included European organizational structures that conceptualized organization as an institution (Hodgson, 2004, p. 181), a fact that itself indicates Russia's relative techno-institutional backwardness.

Inventiveness Lost: the Cost of Corporal Punishment

This raises two important questions: Why did Tsarist Russia import foreign technology and foreign expertise on a massive scale for defense purposes as a matter of *historical continuity*, and why were Britain, France, and Germany the leading countries of origin in this respect? The figure below proposes an answer.

Figure 8-1 Accumulated Social Costs of State Entrepreneurship—a Vicious Cycle



Sources: Hughes (1998), pp. 129–130, Bartlett (1999), pp. 76, 77; Mokyr (1990), pp. 173, 177; Poznanski (1985), p. 45; North (1981), p. 4; idem (1990), pp. 64, 78; idem (1974), p. 29; Anisimov (1989), p. 122, Hughes (1998), p. 63; Gerschenkron (1968), p, 315.

In Petrine times, the Russian peasant was subjected to the institutions of serfdom, based on ownership of man and fear of corporal punishment as an incentive for the supply of labor and skills (Hoch, 1986, pp. 185, 186; De Madariaga, 1998, pp. 101, 102). Allodial property rights, including those of the nobles, did not exist until 1714 (Bartlett, 1999, pp. 76, 77).

I suggest that the degrading treatment of the individual peasant in Tsarist Russia should be understood as a causal factor that, while continuous, strongly weakened over time. Nevertheless, the risk aversion occasioned by the high frequency of corporal punishment may explain the low long-term propensity to invent (Mokyr, 1990, p. 177; Poznanski, 1985, p. 45; Hoch, 1986, p. 188; Hodgson, 2004, pp. 105, 185). The reconstitutive downward causation process would prolong the adverse effect of corporal punishment inflicted during serfdom (Hodgson, 2004, pp. 105, 185; Hoch, 1986, p. 188).

The Instructions of Catherine II included a general condemnation of cruelty (De Madariaga, 1998, p. 199). The 1785 Charter to the Nobility awarded the nobles property rights irrespective of state service (Bartlett, 1999, p. 76, Hartley, 1999, p. 17). These reforms and, of course, the emancipation of the serfs were codified long before the modernization spurts of Nicholas II. Nevertheless, until the Stolypin reform, the peasant was continuously subjected to the coercive collectivist elements of village custom. More often than not, this system continued to curb individual initiative, lowering the transaction costs of Tsarist tax extraction by strengthening the grip of kinship-based collective liability for all obligations (krugovaya poruka) (De Madariaga, 1998, p. 79; Gerschenkron, 1962, p. 120; Worobec, 1995, p. 22; North, 1990, pp. 90, 91; idem, 2005, p. 117). This structure offered, at best, collective use rights in land (Gerschenkron, 1962, p. 120; Moon, 1999, p. 120; Worobec, 1995, p. 27). The village assembly could designate undesired commune members for military conscription or exile to Siberia by administrative order (*w administrativnom poriadke*), i.e., without trial (Worobec, 1995, p. 24; De Madariaga, 1998, p. 119; Wood, 1990, p. 395). The institutionalized hegemony of collective judgment, including instances of *samosud*[278] with their cachet of arbitrariness, abetted the all-pervasive violation of individual rights, inhibiting domestic technological invention and innovation (Engelgardt in Frierson, 1993, p. 65; Mokyr, 1990, p. 177; Poznanski, 1985, p. 45; Worobec, 2001, p. 88; De Madariaga, 1998, pp. 97, 98, 99).

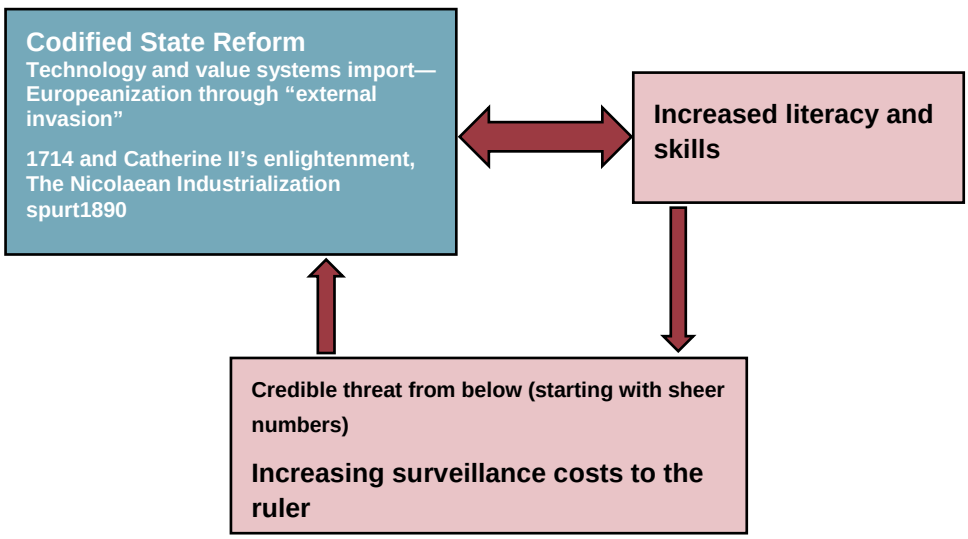
At times of armed conflict, the dependency of the Tsarist state on the international technology market relative to domestic technology producers weakened the bargaining power of the latter as well as that of home entrepreneurs of whatever class (Paltseva lecture, 2008). Instituting the importation of technology as an Anisimovian "common good" primarily for military use instead of entrepreneurial progress in peacetime also hindered the transition to delineated property rights in two ways: by retarding voluntary socioeconomic progress in Russia (Anisimov, 1989, pp. 121–125) and by establishing the hierarchy of coercion, rather than the acquisition of individual human and physical capital, as the basis for knowledge and skills allocation. Moreover, with each victory on the battlefield, the totalitarian state consolidated and centralized its powers, enhancing its extractive capacity and control of people (Hobson and Weiss, 1995). By weakening civil society (Borodkin, personal communication, 2008), the state hobbled the domestic production of new technology, exacerbating the country's historical dependence on imported technology.

Despite these obstacles to modernization, I suggest that the continuous "top-down" reform effort did plant the seeds of transformation (Figure 8–2). Paradoxically, the

[278] Frierson (1987), p. 55, and Worobec (2001), p. 88, use this term to denote the peasants' practice of taking the law unto the own hands to punish social undesirables.

continuity of reforms (even amid internal revolt and war) that entailed technology imports raised literacy levels and expanded the set of skills available (Gerschenkron, 1962, pp. 127, 128; Hartley, 1999, p. 126; De Madariaga, 1998, pp. 168, 169; Cracraft, 2004, pp. 80, 81, 82; Kahan, 1989, Table 8.3, p. 188, Table 8.4, p. 189). As more and more individuals were able to read the Tsarist ukases to the peasants, fueling rumors of change (Moon, 1999, p. 240; Burds, 1998, pp. 176, 177; Mokyr, 1990, EHES 2007), the rulers' surveillance costs escalated (North, 1990, pp. 90, 91). The peasant constituency's human capital accumulation gradually shifted the balance of power from the patriarchate-based autocratic-agent structure to society.[279] The modernization spurt and the technology imports that it entailed, motivated by the Imperial territorial claims and secured at heavy social cost, ultimately enhanced the credibility of a threat from below, forcing concessionary reforms. During the two centuries overviewed, this is assumed to have abetted the transformation of the rule of serfs by autocratic agents into a constitutional monarchy increasingly ruled by free people. The following figure summarizes the argument.

Figure 8-2 Unintended Consequences of Tsarist Modernization—a Virtuous Cycle



Sources: Greif (2006), p. 441; North (1990), pp. 90, 91; Burds (1998), pp. 176, 177; Gerschenkron (1962), pp. 127, 128; Kahan (1989), p. 188, Table 8.3, p. 189, Table 8.4; Barzel (2002), p. 61; Boyer and Orlean (1993), p. 22; Lal (1998), p. 12; De Madariaga (1998) p. 173.

Increased literacy endowed the peasantry with the steadily growing voluntary ability to cooperate in the obshchina and art'el forms. This enhanced its potential to impose

[279] Martens (2004), p. 193; Burds (1998), p. 29; Hoch (1986), p. 128. The point of departure was the redistribution of earnings from the younger to the elder generation.

a credible threat from below, forcing additional reforms (Troyat, 1961, pp. 98, 99; Barzel, 2002, p. 61; Greif, 2006, p. 441).

The secondary sources show that Tsarist Russia was a long-term net importer not only of technological innovation but of institutional innovation as well. The question then is which endogenous factor made the empire's conquests, expansion, and viability possible. The answer, as a working hypothesis, is the autocratic system of governance anchored in Greek Orthodoxy—a source of relative strength and weakness, historically an asset to the Russian rulers and a liability to the Russian people. The combination of pagan and Christian folk wisdom (Treadgold, 1968, pp. 78, 79) embodied in the peasants' kinship-based egalitarian custom (De Madariaga, 1998, p. 79) made obshchina-dwellers highly responsive to the importation of egalitarian and libertarian ideas from the West (Boyer and Orlean, 1993, p. 22). By absorbing the imported innovations, the peasants reformed the empire (ibid.).

Thus, I claim, the vicious cycle depicted in Figure 8–1 retarded but did not ultimately hinder Tsarist Russia's post-emancipation modernization, including the peasant transition from collectivism to individualism.

Transaction Costs, including the Uncertainty Implications of Tsarist Government Centralization

Formally, the principles of law and administration in Russia were much the same as in the West; not so, however, were the role of the system in society and its place in the individual's sense of values (Yaney, 1973, p. 21). The origins of the empire's legal and administrative order date from 1240 CE, when the Tatar (Mongol) horde held sway (ibid.). The Russian princes, manifesting their Greek Orthodox affiliation and unity, operated an organized tribute-collecting network to provide the Tatars with recruits and protection money (ibid., p. 22). The reconstitutive downward causation process, in which the institutional superstructure shapes the prevalent habits of thought in a way that abets their replication (Hodgson, 2004, pp. 105, 185; Hodgson and Knudsen Mars, pp. 10, 11, 12.), ensured the survival of forced collection and induction after the dissolution of the horde (Yaney, 1973, p. 22, Hodgson, 2004, pp. 105, 185).

The coercion and cruelty that typified the raising of tribute and the mobilization of recruits characterized the Tsarist state from its inception (Yaney, 1973, p. 22). Frank's account of the nineteenth-century legal and cultural rift between the Tsarist state institutions and their peasant subjects (1999) suggests that the quasi-colonization condition of the state–citizen relationship was continuous in the period reviewed. Moreover, in the de facto absence of a functioning legal system, the hierarchy of personal dependencies posed structural restrictions on behavior (ibid., p. 23; North, 1990, p. 64). Under these conditions, the Tsar, who as the ultimate

superior was vastly empowered to act arbitrarily, actually had very little control over his subordinates' doings (Yaney, 1973, p. 24).

In pre-Petrine Russia, state power was distributed from the center to forty separate offices in a way that made local "strongmen"—*gubnye starosti*, territorial chiefs, i.e., *voevodas, starchiny*; elders—more potent than the state (Migdal, 1988, p. 40; Yaney, 1973, p. 28). The exercise of arbitrary state power was obstructed by a pervasive awe of the superior, which served as the basic motive for the supply of labor and skills, and by bribery (ibid., pp. 26, 27). The long-term imprint on Veblenian habits of thought in these structures hindered Peter's efforts to create a well-functioning Western-style governmental apparatus (ibid., pp. 20, 21).

In the realm of the rural village commune, serfs faced steep transaction costs, including uncertainty about life and use rights in land. This reinforced all the premodern networks—mutual trust, mutual insurance, mutual aid—that were based on shared responsibility for obligations (krugovaya poruka) (De Madariaga, 1998, p. 79). Thus, these structures proved viable over time—as Pallot's analysis of peasant responses to Stolypin's land reform indicates (Pallot, 1999, p. 172)—albeit with decreasing intensity (Mironov, 2000, p. 344).

Peter imported several institutional innovations: the Senate, the Procuracy, and the central colleges were attempts to centralize and systematize the Tsarist government (Yaney, 1973, p. 29), reducing transaction costs and bureaucratic uncertainty. Due to the reconstitutive imprint of centuries of personalized rule, however, people who had been sufficiently and arbitrarily empowered by the Tsar could tip Senate rulings in their favor (ibid.). Although de facto the Senate became the Tsar's ill-tempered clavier (ibid.; Raeff, 1984, p. 48), both ordinary people and statesmen increasingly resorted to it to solve their problems (Yaney, 1973, p. 29). This indicates the existence of powerful and ideology-driven demand for the impersonalized rule of law, a desideratum that gained intensity in the course of the eighteenth century (ibid.).

According to Raeff (1984, pp. 50, 51, 52), Peter's reign, a clearly distinguishable term due to the weight of imported technological and institutional innovations in it, instigated a deepening rift in Russian society between the increasingly West-oriented elite; intelligentsia, and nobility, and the introverted and xenophobic peasantry (Owen, 1995, p. 10). The incoherence between the formal institutions' Imperial Code, which structured the daily lives of the elite and non-peasant town dwellers, and the informal customary law that structured the daily lives of the peasantry[280] resulted in a system endemically burdened with high transaction costs (Nee, 1998, p. 85, North, 1990, pp. 64, 78; Yaney, 1973, p. 29; Hartley, 1999, pp.

[280] Hartley, 1999, pp. 1, 2, 3, 52, and ibid., p. 78, on the privilege/non-privilege dichotomy ; see also Figes (2002), pp. 15–18, 100, on the peasant commune.

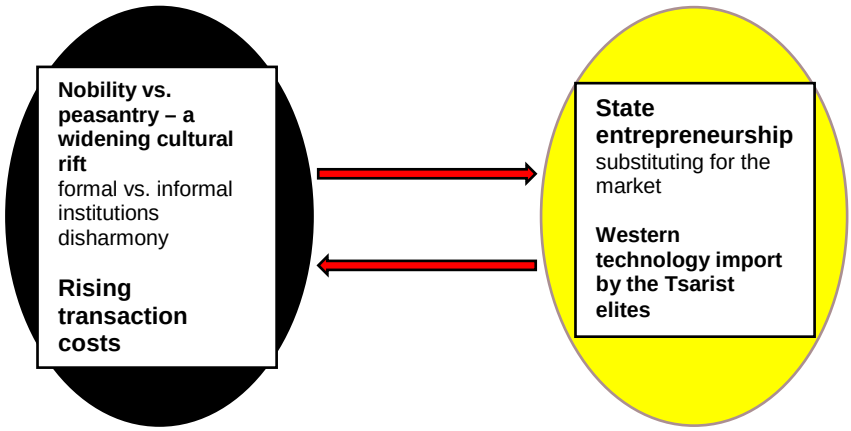
1, 2, 3) that were only exacerbated by the Mongol horde's long-lasting legacy of personalized and arbitrary rule. Since high transaction costs weaken the incentive structure of property rights (Poznanski, 1992, p. 72), the level of innovation in an environment of high transaction costs is assumed to be low. Thus, the transaction-cost aspect of property-rights theory (ibid.; Barzel, 1989, pp. 2, 3) may additionally explain why, historically, Russia had been a net importer of technological innovation. Moreover, due to private entrepreneurs' weakened incentive structure, it is more than likely that the importation of technology in a high-transaction-cost environment would be state-led (Coase, 1937, pp. 38, 39; Gerschenkron, 1962, pp. 126–131). Indeed, a crucially important commonality of the eighteenth-century Petrine techno-institutional revolution and the modernization spurt under Nicholas II is the state-led importation of technology that subjected Russia to an "external invasion" (Boyer and Orlean, 1993, p. 22; Cracraft, 2004, pp. 58, 69) of European value systems (Figure 8–2).

Given the peasantry's linkage of technological innovation with the coerced absorption of foreign culture (Hughes, 1998, pp. 107, 108) and the imposition and implementation of foreign formal institutions (North, 1990, p. 78; Cracraft, 2004, pp. 57, 60, 61), the peasant folklore linked imported technology with non-Christian values. This nexus induced a short-term increase in transaction costs, necessitating the expansion of state entrepreneurship to achieve technological modernization. In the mindset of peasant Russia, Peter the Great was the embodiment of the Antichrist (Raeff, 1984, p. 53; Anisimov, 1993, pp. 208, 215)[281] and the importation of railroad technology in the nineteenth century was at its inception much the same (Westwood, 1964, p. 32). Following Hayek (1944, pp. 69, 70) and Gerschenkron (1962, pp. 123–126), combined with Coase (1937, p. 40), I note that the substitution of state entrepreneurship for private initiative due to high transaction costs is not a cost-free adaptation. Thus, in addition to the growing risk of mistakes (i.e., transaction costs) due to excess centralization (Coase, 1937, p. 44), the autocracy—contrary to Gerschenkron's conceptualizations—was burdened with dictatorship costs (Gerschenkron, 1968, p. 315) that entailed resource allocation guided by battlefield priorities (Winicki, 1988, pp. 74, 78; Anisimov, 1989, pp. 122, 123).

An additional vicious cycle that powered a short-term widening rift between the tax-exempt elites and the non-privileged population strata (Raeff, 1984, pp. 50, 51, Hartley, 1999, p. 52)—the taxpaying peasants—is illustrated in the following figure.

[281] See also Westwood (1964), p. 33, for a discussion of nineteenth-century railway construction via serf labor under the most degrading conditions.

Figure 8–3. Stratified Modernization—the Short-Term Vicious Cycle of State Intervention and Rising Transaction Costs



Sources: Raeff (1984), pp. 50, 51; North (1990), pp. 64, 78; idem (2005), p. 117; Nee (1998), p. 85; Gerschenkron (1962), p. 123; idem (1968), p. 315; Coase (1937), p. 40, Hayek (1944, pp. 69, 70).

Figure 8–3 summarizes an aspect of state entrepreneurship that, in the Russian context, represented a historically continuous vicious cycle until the nineteenth-century railroads homogenized the rural customary and imperial institutions. The institutions of backwardness that Russia had inherited from the Mongol horde thrust the backward regions into a characteristic substitution of state initiative for private entrepreneurship that raised transaction costs due to excess centralization and dictatorship, all of which exacerbated by incoherence between formal and informal institutions (Nee, 1998, p. 85; North, 1990, pp. 64, 78; idem, 2005, p. 117).

This institutional incongruence is best specified by the historical position of the Old Belief (*raskol*). It is plausible to argue that the positioning of Old Believers within the body social of the country and their antagonistic relationship with the state (Gerschenkron, 1970, p. 21) prompted them to develop alternative ways to alleviate the transaction costs through the mutual-trust networks and the severe moral discipline that held their communities together (ibid., p. 19).

Paradoxically, state entrepreneurship and its outcome, increased uncertainty, strengthened the premodern mechanisms, based on shared belief systems, kinship ties, and identity by negation that mitigated structural risk and uncertainty. This resulted in the formation of commitment devices such as those described by Greif (2006, p. 101) and unintentionally yielded one of the most prominent manifestations of domestic entrepreneurship, one that enhanced the transition to modernity. The accumulation of fortunes within the ranks of "merchant dynasties" (Gerschenkron, 1970, p. 19) of peasant origin, formed by Old Believers, were one of the few autonomous sources of capital in the Tsarist Empire that could be invested in modernization (ibid.; Gregory, 1982, pp. 56, 57). In Russia's high-transaction-cost environment, the Old Believers' mutual-trust networks were the vehicles of growth

in pre-industrialization eighteenth-century textiles as well as in the pre-nationalization nineteenth-century railroad industries (Gerschenkron, 1970, p. 20).

Generally speaking, the elitist and coercive character of Peter's cultural revolution (Cracraft, 2004, p. 12) proved to be one of its main weaknesses, as the very social groups that were sympathetic to entrepreneurship were also the most severely alienated by the rule of the centralizing, West-imitating government and the increasingly militarizing society (Hughes, 1998, p. 63; Raeff, 1984, pp. 50, 51; Gerschenkron, 1970, p. 20). The Old Believers community is a case in point (ibid., p. 19; Raeff, 1984, p. 36).

The Tsarist Motive for Industrialization—to Perpetuate the Coercive Hierarchy or to Make Progress?

In Petrine times, only state service offered a path to social mobility (Raeff, 1984, p. 41). Among the mechanisms of state service, the Imperators' (De Madariaga, 1998, p. 1) institutional innovation, the 1722 Table of Ranks,[282] granted military service a higher status than any civilian vocation (Hughes, 1998, p. 63). This condition, beyond clearly sketching the hierarchy of values that characterized the Petrine institutional environment, proved persistent over time. If so, Raeff's proposal (1984, p. 36), challenging the "reform for the needs of war" understanding of the eighteenth-century modernization drive, must be seen as controversial and refutable. Peter's observation on economic affairs may be summarized in a quotation from the monarch himself: "Money is the artery of war" (ibid., p. 135).

By studying the institutional structures, particularly the distribution of allodial property rights within the Empire—established in 1714 under Peter the Great (Bartlett, 1999, p. 76) and sustained until Stolypin's land reform in the early twentieth century—it is easy to trace the hierarchy of exploitation that was designed to serve the priorities of warfare. In view of the historical narrative that spanned centuries, Gerschenkron deserves credit for observing implicitly that the source of money and conscripts for Tsarist Russia's wars in general was the indigenous peasantry (Hughes, 1998, p. 135; Gerschenkron, 1962, p. 125). The Petrine drive to modernize Tsarist Russia entailed the institutional colonization (Frank, 1999, p. 19) of the peasant estate, additionally strengthening the institutions of backwardness, foremost serfdom, in the name of progress (Hoch, 1986, p. 189).

[282] Hosking (1997), p. 154. The 1722 Petrine Table of Ranks institution replaced family status, rights, and status functions (Searle, 1995), acquired by geniture, with merit. Henceforth, "education, personal achievement, and experience" would define the rank that one might attain in the service of the Tsar.

To judge whether resource allocation during Peter's reign prioritized the exigencies of the war, one need only look at the distribution of state expenditure (Table 8–1 below). In 1704, the fourth year of the Northern War with Sweden, it is evident that Peter I, unlike Nicholas II, envisaged a relatively secularized state (Cracraft, 2004, p. 7, Hughes, 1998, p. 136) that would anchor the legitimacy of absolutist rule primarily in the Empire's ability to secure its territorial claims and exercise bureaucratic control rather than a system of religious beliefs centering on the anointed person of the Tsar (North, 2005, p. 83; Freeze, 1996, p. 309). This proposed construct is consistent with the efforts made at this time to establish *zakonnosc*, the rule of impersonalized law in Russia.[283]

Progressive aspects notwithstanding, the distribution of government expenditure (Tables 8–1, 8–2 below) challenges the idea that Peter's objective was to modernize Russia rather than to win the war with Sweden, which Russia could have accomplished anyway due to the enemy-impeding effects of its manpower advantage and harsh climate (Raeff, 1984, pp. 36, 37, 50, 51). Government expenditure on education and healthcare was negligible compared with military spending (Table 8–1). Moreover, education in Petrine Russia centered on forcing the nobility to acquire skills in navigation, navigational astronomy, geography, arithmetic, geometry, and trigonometry, all conducive to the development of the navy and the installation of Russian officers as its commanders, displacing the foreign experts (Hartley, 1999, p. 126; Cracraft, 2004, pp. 82, 83). Therefore, defensive and offensive warfare should be seen as the major and continuous motive for modernization that characterized the Tsarist endeavor.

An additional indication of the establishment of a war economy, induced by the Northern War, is the degree of centralization in the ownership of industries constitutive of development blocs.[284] The Admiralty's shipbuilding complex in St: Petersburg, for example, was state-owned and -operated (Kahan, 1985, p. 86). Peter was much less concerned about the merchant fleet than about the navy (Hughes, 1998, p. 63; Cracraft, 2004, p. 56).

Kahan (1985, p. 80) offers a useful definition of the extent of state intervention: "Intensity of demand on the part of the government, for the output of a particular industry, measured by relative shares of output purchased or otherwise acquired by the government." Thus, throughout the eighteenth century the Tsarist government purchased the largest shares of output in precious metals, armaments, and woolen cloth, an in-between share of output in copper and ironworks, and the smallest share

[283] Yaney (1973), p. 7. See also De Madariaga (1998), p. 122, on attempts to introduce systemic predictability. Namely, the rule of law was reinforced under Catherine II.

[284] Gerschenkron (1962), p. 125. "Development blocs," to use Erik Dahmén's phrase, are "the component elements of growth in individual industrial branches."

in linen, cordage, silk, and cotton—civilian and dual-purpose industries. Consequently, warfare was a preferred government sector in the long term, one that structured and preconditioned economic activity in the Empire (Hodgson, 2004, pp. 105, 185, Archer, 1995, p. 76).

The Tsarist government's centralization of systems and Western orientation were structured to serve the needs of war. Thus, the most significant and viable tax reform that it enacted had as its main objective "shorten[ing] the route of the money from the pockets of the peasants into the regimental cash boxes" (Hughes, 1998, p. 138). The poll or "soul" tax—the *podushnaya podat'*—imposed on each male head of household, instead of the household at large, was modeled after the Swedish system of levying taxes to support the troops (ibid.). The population census (*revisia*) of 1722–1723, preceding and anticipating the tax reform, was carried out by military commanders (ibid.). The tax was first collected in 1724 at 74 kopeks per head. At this rate and given the state of military technology, it took forty-seven peasants to maintain one infantryman and fifty-seven to sustain one cavalryman (ibid.; North, 1981, p. 137). Centralized tax record-keeping (Hughes, 1998, p. 138) and tax liability itself determined the social status of various population strata within the Empire (Hartley, 1999, p. 52). As the direct result of the census, previously free people were enserfed to new masters. The imposition of the tax created new strata of taxpayers (Kahan, 1985, p. 331). As for the actual economic burden that the measure foisted on the peasant population, calculations differ. According to Miliukov, the imposition of the poll tax raised the tax burden on the taxpaying population by 61 percent (ibid.; Hughes, 1998, p. 138). In Kahan's estimation, most of the increase in budget revenue due to the poll tax traced to an increase in the number of taxpayers rather than a heavier tax burden on pre-reform individuals.

I argue that even if, contrary to Gerschenkron's and Miliukov's estimates, the transition from household tax to soul tax actually mitigated the direct economic burden on the peasant population (Kahan, 1985, p. 331), the improved efficiency of the Tsarist government in collecting direct taxes and mobilizing conscripts after recurrent censuses—*revizii*—inevitably exacerbated the economic hardships of the peasant population even if taxation eventually became lower and more predictable.[285] Moreover, the material egalitarianism inspired by the tax structure may have contributed to a higher level of *perceived* discrimination among the peasant estate. Kahan terms the increase in burden due to the imposition of the poll tax a "myth" and traces it to the coincidence of the reform with a natural calamity known as the Little Ice Age, a period of severe winters that induced famine (Kahan, 1985, pp. 332, 11). The introduction of the poll tax also coincided with hardships related to money-supply restrictions due to compensation payments to Sweden (ibid., p. 332). Mironov challenges these conclusions, citing the inflation that

[285] See Hobson and Weiss (1995), p. 6, on the dimensions of the state's invasive power.

occurred in the early eighteenth century and advising that the tax "restored the peasant obligation in real terms" (Hughes, 1998, p. 139). Presumably, however, the imposition of a stable and predictable tax in the highly volatile environment of Russian grain yields implied a de facto increase in the economic burden at times of crop failure.[286]

Either way, the Petrine poll tax created a dominating institutional continuity that structured the peasant economy in the eighteenth and nineteenth centuries until it was abolished in 1887 (Hughes, 1998, p. 139).

Due to favorable terms of trade, Russia's foreign trade increased fifteen-fold during the eighteenth century, linking the Empire to Europe and the New World and demonstrating the developmental capabilities of the country's commercial sectors. Government intervention in trade ranged from the creation of trading monopolies in exports and imports to the formation of state-run companies. True to the principles of mercantilism, the government sought to stimulate exports, limit the importation of manufactures, and protect domestic import substitutes by means of tariffs and direct subsidies (Kahan, 1985, p. 163).

A reconstituting "habits of thought" continuity that characterized Tsarist institutions was the heavy imprint of state control, resulting in structures that expanded, centralized, militarized, and, more often than not, expropriated[287]—all of which imposed with an arbitrariness that inhibited the long-term development of foreign and internal trade for civilian purposes (Owen, 1995, p. 19). Although Peter ostensibly sought to promote the foreign-trade sector, the credit institutions that such trade requires, as well as insurance, shipping, and brokerage, he did not allow them to develop sufficiently (Hughes, 1998, p. 149). Foreign merchants are said to have commented on the excessive state interest in trade and the pervasive insecurity in society as to its rights to immovable property, hampering capital accumulation (ibid.). The Tsar coveted boyars' property and boyars coveted landed merchants' property, creating a hierarchy of expropriation (ibid). "The picture is of a hierarchical society with checks downward on the amassment of power and wealth" (Hughes, 1998, p. 149). Even as the Moscow-based *Pomernaia izba* Chamber of Commerce, supervised by the Tsarist states' regulation of internal trade which reduced transaction costs and enhanced internal trade during the Petrine era by standardizing weights and measures (ibid.; North, 1990, p. 53), the state as the net

[286] Scott (1976), p. 11, Milov, 2001, pp. 1, 2. The *zemledelcheskaya obshchina*—the customary redistribution of land endowments commensurate with the household unit's tax burden—was an institutionalized risk-internalization strategy that enhanced predictability even amid unpredictable grain yields under volatile climate conditions

[287] Kahan (1985), pp. 2–4, and idem (1989), p. 94, concerning expropriating taxation. Owen (1995), p. 17, comments on the immaturity and institutional weakness of Tsarist Russian corporate capitalism.

effect restricted the development of domestic markets by regulating internal trade, e.g., charging duties on grain sales (Hughes, 1998, p. 149).

Owen (1995, p. 19) implies that the substitution of state entrepreneurship for private initiative under conditions of socioeconomic backwardness, following the model proposed by Gerschenkron (1962), underestimates the costs of state entrepreneurship in terms of private entrepreneurship forgone due to excessive control and expropriation through taxes by a centralizing and politically rational, as opposed to economically rational, state structure.[288] The Tsarist state is said to have erected barriers to corporate entrepreneurship instead of promoting it (Owen, 1995, p. 16). Additionally, the adverse effects of state entrepreneurship were very long-lasting because nothing is more costly than changing a general structure that determines the nature of economic institutions (North, 1990, p. 79), meaning that institutions of a given nature determine the economic behavior of agents for generations to come (Hodgson, 2004, pp. 105, 185).

Nine companies were founded during the reign of Peter the Great. One was the Spanish Trade Company, chartered in 1724 to implement the Tsarist plan that proposed to transform Russia into a significant maritime power. The company failed shortly after receiving its charter (Owen, 1995, p. 18), giving clear evidence of an institutional environment inimical to private entrepreneurship, the government's declared objectives notwithstanding. Private entrepreneurship was constrained by the Emperor's arbitrary conduct in signing charters. The enlightened Catherine, for example, signed only four private company charters (ibid.). The lack of success of the Russian-American company that had been founded in 1797 to exploit Alaskan fish and animal resources, relative to the company's British counterpart, which had been incorporated by English royal charter in 1670, is explained by the institutional differences between the British and Russian entrepreneurial structures. Unlike Hudson's Bay Company, which operated in a similar geographic environment in Canada, the Russian firm did not offer its investors limited liability until 1821 and operated under strict government control, both factors inhibiting its expansion and long-term viability (ibid., pp. 18, 19).

Corporate growth in the Russian Empire remained unimpressive until the Crimean War. Fifteen corporate charters arbitrarily approved by the Tsarist bureaucracy in 1821–1830 did represent an increase relative to the thirty-three that had been granted from 1700 to that time. Most of the companies, however, proved short lived, clearly indicating institutional environment deficiencies, i.e., the long-term costs of state entrepreneurship (derived from ibid.). Only one of them survived until World War II: the First Russian Insurance Company, founded in 1827, which branched from fire insurance into transport and accident coverage (ibid., p. 19).

[288] See Hayek (1944), pp. 69, 70, on the political rationality concept.

Owen (1995) identifies two recurrent patterns in Russian corporate development: geographical concentration of corporations in St. Petersburg and relative success of insurance and textile manufacturing companies as against private ventures in metallurgy and transport (ibid.). The concentration of corporations, i.e., of approved corporate charters, in the vicinity of administrative centers and ports of exit indicates the Tsarist government's preparedness to apply bureaucratic control (ibid.). As for metallurgy and transport, the paucity of success shows the inability of the state-controlled institutional infrastructure to allow these industries to develop in a corporate form. Against the background of the Tsarist government's acknowledgement of the vitality of the railroads for national economic development and their strategic importance in wartime, the turn-of-the-century volatility of profit in these industries resulted in the nationalization of railroad construction and maintenance, given that the institutional infrastructure did not provide sufficient incentives for the success of high-risk ventures in a private corporate form (Owen, 1991, p. 39).

Thus, the substitution of state entrepreneurship for private entrepreneurship as a way to internalize the burden of transaction costs in a backward society (Gerschenkron, 1962, pp. 123–124, Coase, 1937, p. 40) was not cost-free. In the long run, this strategy may have proved self-defeating as it inevitably led to state–society conflicts and vicious cycles (Figures 8–1, 8–3), retarding progress. Basing myself on the quoted sources, I suggest that the omnipresence of state intervention slowed progress. Ultimately, however, the languid pace of Tsarist Russia's top-down reforms triggered an increasingly credible threat from below and transformed the autocratic entrepreneur into an interactive political entity (Figure 8–2).

Industrialization under Peter the Great and Nicholas II—Continuity in Numbers

This section highlights the coerciveness of the militarized modernizations that the Tsarist autocracy set in motion under Peter the Great and Nicholas II. Instead of concentrating on the unique aspects of each period as a historian would (Confino, 1997, discussion), I focus on the institutional structure imposed by the rule of the "Tsar-Imperator" (De Madariaga, 1998, p. 42) and the self-perpetuating mechanism that rendered it continuous over time. It was in this manner that Peter I's "Big Bang" modernization and Europeanization preceded Nicholas II's modernization, including its spurts of industrialization.

The great formal institutional divide between these processes (North, 1990, p. 78) was, of course, the emancipation of the serfs in 1861–1863. As for the intensity of the autocracy's economic intervention, however, structural continuity is evident from 1700–1721, due to and during warfare, specifically the Northern War. The

modernization spurts of the eighteenth and the nineteenth centuries were dictated by war requisites (the Crimean War in the case of Nicholas II), which structured priorities in resource allocation.

The endogeneity of autocratic, totalitarian government and territorial conflict, which if successful in the field would grant these structures their main basis of legitimacy, perpetuated a war economy. The share of military purposes in state expenditure during Nicholas' and Peter's industrialization spurts implies as much. (This table is reproduced from Part 1 to call attention to the structural continuity between the spurts.)

Table 8–1 Repeated Expenditure of Imperial Government, 1913 Prices Recalculated

	Administration expenditure (% share)	Expenditure for education and health (% share)	Defense expenditure (% share)	Total (%)
1885	**44%**	5%	**51%**	100
Δ	+ 5.2%	- 7.7%	+ 3.8%	+3.8
1888	**44.6%**	4.4%	**51%**	100
Δ	*+25%*	*+ 26.9%*	*+19%*	*+22.2%*
1891	**45.8%**	4.6%	**49.6%**	100
Δ	+3.9%	+18.18%	+16%	+10.5%
1894	**43%**	4.9%	52%	100
Δ	+16.6%	+2.5%	+4.8%	+9.8%
1896	**45.7%**	4.6%	**49.7%**	100
Δ	*+2.2%*	*+45%*	*+20.9%*	*+13.5%*
1900	**41.2%**	5.9%	**52.9%**	100
Δ	+24.5%	+25.8%	+7.8%	+15.7%
1903	**44.3%**	6.4%	**49.3%**	100
Δ	*- 6.7%*	*- 15.9%*	*+6%*	*-0.7%*
1907	**41.8%**	5.5%	**52.7%**	100
Δ	*+22.4%*	*+74.6%*	*+/-0%*	*+13.5%*
1910	**45%**	8.6%	**46.4%**	100
Δ	*+/-0%*	*+40%*	*+61.6*	*+32%*
1913	**34.%**	9.2%	**56.8%**	100

Source: Gregory (1982), Appendix F, Table F.4, p. 256, and Sztern's recomputations. Rows in boldface are calculated as shares of absolute totals; rows marked with "Δ" are calculated by comparing absolute ruble values vertically, so that each period relates to the preceding one. Italics are used for emphasis.

Table 8–2 Approximate Proportions of Expenditure in 1704, the Fourth Year of the Northern War

	Hughes (1998) (Rubles)	**Hughes (1998) (Pct.)**	**Sztern's calculation, based on Hughes' absolute numbers**
Military expenditure	1,439,832	40.9%	47.5%
State apparatus	1,313,200	37.6%	43.3%
Royal household	156,843	4.4%	5.2%
Diplomacy	75,042	2.1%	2.5%
The Church	29,777	0.8%	0.98%
Education, healthcare, postal services	17,388	0.5%	0.57%
Grand total	3,032,082	~100%	~100%

Source: ibid., p. 136. The table is constructed from the percentage shares in the text.

Calculations based on absolute numbers show even more emphatically that the Tsarist State devoted the largest share of its expenditure to the military and administration, leaving education and healthcare with a residual share of less than 1 percent share after the royal household, diplomacy, and the church received their allotments.

Table 8–3 Military Budget Expenditure under Catherine the Great, 1762–1796 (,000 Rubles)

Year	Army	Navy	Special war appropriation	Total military	Percent of gross expenditure	Percent of net revenues
1762	9.219	1.200		10.419	63.15	
1763	7.920	1.200		9.120	52.92	62.75
1764	8.723	1.230		9.935	46.12	56.09
1765	9.676	1.508		11.184	49.44	58.77
1766	9.806	1.309		11.115	46.14	55.17
1767	9.828	1.263		11.191	47.60	52.22
1768	10.13	1.313	1.300	12.626	50.61	60.53
1769	10.000	1.400	1.800	13.200	49.48	65.16
1770	9.904	1.445	7.600	18.949	*54.11*	76.69
1771	10.282	2.578	9000	21.860	*56.62*	82.82
1772	10.508	1.378	7.700	19.586	*49.85*	76.12
1773	10.182	1.433	7.355	19.600	*50.27*	76.40
1774						
1780	n.a.	n.a.	n.a.	n.a.		
1781	10.600	3.250		13.850	33.81	48.18
1782	10.800	3.270		14.070	34.39	44.49
1783	13.720	3.820		17.540	36.40	55.54
1784	14.320	3.930		18.250	36.65	45.04
1785	16.400	4.130		20.530	36.36	51.22
1786	19.110	8.40		27.750	44.28	67.25
1787	21.060	4.640	5000	30.700	46.00	68.66
1788	18.690	4.350	16.000	39.040	*51.29*	89.41
1789	20.170	5.310	16.000	41.480	*52.38*	93.57
1790	21.620	5.470	16.000	43.090	*52.10*	94.28
1791	24.590	5.470	15.000	45.060	53.09	101.47
1792	23.100	6.200		29.300	40.55	67.94
1793	23.300	5.430		28.730	37.59	69.51
1794	21.600	5.670		27.270	37.71	63.87
1795	22.200	7000		29.200	36.87	52.98
1796	21.000	6.680		27.680	35.41	49.96

Source: Kahan (1985), p.337.

Notwithstanding the pecuniary and computational differences between the sources referenced, the institutional structure that determined the *proportions* of state expenditure on defense and state administration must have been roughly consistent

over time. Under both Peter I and Nicholas II, at least 40 percent of sources originating in tax collection was allocated to the military and around the same went to state administration (Tables 8–1, 8–2, 8–3). Table 8–3, covering a longer period in the eighteenth century during the reign of the enlightened Catherine the Great, is reproduced for comparison. Kahan (1985), p. 339, cautions that the lack of data on construction, communication, and other uses make the estimates of administrative outlays "tenuous indeed." Again, the military accounted for about 40 percent of gross expenditure on average during this and exceeded that proportion during the Pugachev revolt (1770–1773), the French Revolution, and the First Turkish War. Given this allocation structure, a continuous dimension of the institutional structure, the economies under Peter I and Nicholas II may be thought to have had the commonality of being war economies, which, in terms of their elements, may be seen as precursors of the subsequent Soviet war economy (Anisimov, 1989, pp. 122, 123). What matters in particular is the steady share of the military in state expenditure in wartime and peacetime alike (Kahan, 1985, p. 337).

Anisimov (1989) maintains that, during the first quarter of the eighteenth century, Russia experienced an economic upswing comparable to the industrialization spurt of the Soviet era.[289] In 1695–1725, 200 new factories were constructed, raising their numbers to ten times those in the previous century (Anisimov, 1989, p. 121).

Characteristic of a war economy is the voluntary and involuntary collectivist ethos that takes over at times of national conflict. In the Petrine era, the industries developed were chosen according to national necessities and the "common good" as the Tsarist government perceived them (ibid. p. 122). The consequent classification of industries as *nuzhnye*——"needed"—or *nienuzhnye*—"superfluous"—was dictated by the prerequisites of the Northern War (ibid., p. 121). Moreover, the ideas of mercantilism and protectionism that inspired this period in Russian history were congruent, in terms of involuntary collectivism and antipathy to freedom, with the idea of *nasilstvennogo progressa*—"progress through coercion" (ibid., p. 122)—that Peter nurtured. It should be emphasized in this context that the idea of state-controlled, bureaucratically shaped economic development were exceptionally long-lived in the Russian and Soviet superstructures, a condition that structured individuals' habits of thought for decades upon decades to come.

It was the Russian defeat at Narva (1700) that ultimately determined the type and pace of the Petrine industrialization, which aimed to bolster the combat performance of the Russian army and navy (ibid.). The industries prioritized were those that manufactured armaments and clothing for military institutions (ibid.). The

[289] Anisimov (1989), p. 121. All comments on Soviet growth should include an institutional and numerical evaluation of the Gulag, an un-free labor system, and its economic effects. Inspired by lecture L.I. Borodkin, November 19, 2008.

formation of development blocs (Gerschenkron, 1962, p. 125), the Ural ironworks, and the St. Petersburg Admiralty (Kahan, 1985, p. 86), all for the purpose of supplying the Russian navy (Anisimov, 1989, p. 124), rested at the core of the war-structured industrialization and modernization process. The textile industries in the Moscow region were also developed to supply the combat forces (Kahan, 1985, p. 88; Anisimov, 1989, pp. 125, 127; De Madariaga, 1998), pp. 51, 81, 82; Raeff, 1984, pp. 50, 51). This modernization for the sake of military victory had a byproduct: it allowed the Russian elites to compete culturally with their British, French, and Prussian counterparts for international acknowledgement of their empire's status (Raeff, 1984, p. 62).

One of the pillars of Russia's eighteenth-century Europeanization and modernization effort was the government-sponsored reorientation of commerce and the merchant fleet from Archangelsk port to the newly built St. Petersburg (Anisimov, 1989, p. 129). This process inflicted a dire cost on the Russian merchant class, whose traditional trust networks were destroyed in the short run, and had to be backed by heavy penalties for noncompliance. The destruction of the networks and the interventionist policy of the Tsarist government, which ruled through monopoly, taxation, and licensure, resulted during the Petrine era in drastic attrition among the *gosti*, the wealthiest merchant strata (Hartley, 1999, p. 168; Anisimov, 1989, pp. 129, 131, 132; Owen, 1995, p. 19).

The economic and social sacrifices demanded of the population make it evident that the involuntary, collectively mobilized war economy had been put in place not to produce a thriving individualist capitalist entity but to transform Muscovy into a major European military superpower. The price (social cost) of state entrepreneurship in the case of the Tsarist autocracy was the continuous reallocation of physical and human resource from the civilian to the military sector of the economy.

The coercive character of the Petrine Europeanization was manifest in the practice of *prinuditelnye pereselenia*, forced resettlement (Anisimov, 1989, p. 131)—a long-term policy meant to bring skills and labor to the purposes and centers of modernization, trampling on individual rights in the process. Under a series of ukases in 1711, the most successful merchants were forcefully resettled in St. Petersburg (ibid.), the new capital that had been built by the 40,000 peasants who had been resettled in such a manner each year. Undernourished and housed in mud huts, they perished en masse (ibid.) while constructing the "pyramids" of Imperial splendor with half their bodies buried in muck. Their living conditions (Veblen, 1931, p. 188) were replicated among the serfs who built Russia's first railway lines under Nicholas I. To eliminate the possibility of their rising up, the Tsarist overseers plied them with alcohol (Westwood, 1964, p. 33).

According to Anisimov, Peter secured his victory in the Northern War by increasing the fiscal burden on the peasant population (Anisimov, 1989). The structure of collective obligations (krugovaya poruka) included supplying the state with soldiers, labor, horses, undertakings in natura, and monetary dues (Anisimov, 1989, p. 134). The Bulavin revolt that plagued Peter's reign (1707) was linked to the dire exploitation, degradation, and virtual enslavement of the peasantry as the Northern War was being fought (ibid., p. 139). A commonality that linked Peter's and Nicholas' modernization spurts was the role of foreign human capital, in addition to imported technology, in the institutional revolution. The development of the Baltic fleet, a chief component of the Russian navy (Cracraft, 2004, p. 80), in the Petrine modernization and the initial construction of railroads in the nineteenth century were core activities in the development blocs. The role of British expertise in establishing the prestigious Russian School of Mathematical and Navigational Sciences, which abetted the eighteenth-century "cultural revolution" related to the navy, is comparable to that of the Viennese Professor Franz von Gerstner in Russia's importation of railway technology (1834) (Westwood, 1964, p. 22). The Petrine-era importation of maritime technology institutions and organization,[290] although easily applicable to peacetime activities, did not augment the capacity of the Russian commercial fleet very much.[291] Thus, technology diffusion from the military to the civilian sector could not be taken for granted in the case of the Tsarist autocracy. In fact, the opposite continuously proved true. In this context, then, the emphasis belongs to Gerschenkron's (1968) identification of the "costs of dictatorship" rather than the positive long-term effects of state entrepreneurship, on which the great economic historians focus. These effects proved too deficient to foster the requisite value systems and skills for increased industrial production (Gerschenkron, 1968, p. 315) for civilian purposes.

The Tsarist enthusiasm for von Gerstner's suggestion to link by rail the "two capitals to the Volga system" (Westwood, 1964, p. 23) stemmed from military considerations. Once implemented, it would allow Russia to compete with Britain for access to the Persian Gulf; what is more, by facilitating swift troop movement, it would deter future Polish uprisings (ibid.). The military purpose notwithstanding, one cannot but agree with Gerschenkron that the state-led importation of technology brought progressive institutional adaptations in train. Although they were

[290] Cracraft (2004), pp. 61, 62, Statutes;"Ustav Morskoi," the 1720 Naval Statute, and the 1722 Admiralty Regulation, Reglament o Upravlenii Admiralteistva i verfi"— Regulation of the Administration of the Admiralty and Wharves, which codified naval innovations going back to 1680 and provided for maintenance of the navy.

[291] Cracraft (2004), pp. 55, 56. In Kahan's estimation, however, Russian maritime trade increased fifteen-fold between 1730 and the end of the century. The role of civilian maritime trade in terms of the cultural impact of the construction of the Baltic fleet was incomparably smaller (Hughes, 1998, p. 148). Plainly, the coercive insistence on rerouting trade through St. Petersburg as against other ports was strategically rather than commercially motivated.

unintended more often than not (Lal, 1998, p. 5), the Tsarist autocracy retarded but did not preclude institutional and economic civilian progress.

"Top-Down" Reform and the Railroad to Progress

The question to ask in this context is whether the most progressive of the Tsarist reforms, the emancipation of the serfs in 1861–1863, was motivated by the increased transaction costs of the serfdom system (Leonard, 1990, p. 136), the importation of Enlightenment ideas under Catherine the Great (that, when institutionalized a century later, rendered ownership of man by man socially costly due to population increase—Kahan, 1985, p. 8, Tables 1.1, 1.2), the falling land-to-labor ratio (Kolchin, 1987, p. 2), or all these factors combined.

The perceived relative urgency of the reform clearly validates Gerschenkron's (1968) analysis. The debacle of the Crimean War showed Alexander II that the reform could be postponed no longer, for two reasons; geopolitical competition with Western rivals that had abandoned recourse to un-free labor and soldiering, and the risk of internal upheaval, ever-present but intensified by the Crimean defeat. Radzinskij (2005, p. 116) quotes the Tsar-Liberator in explaining that the Great Reform was actually an unavoidable preemptive measure: "If freedom will not be given the peasants from above, they will take it from below." This quotation demonstrates the legitimacy of Figure 8–2 above. Alexander Herzen, a leading contemporary intellectual, urged Alexander II to spare the peasants from the agony that their otherwise ineluctable revolt would inflict on them: "*Smoite pozornoe piatno z Rossii. Zalechte rubcy ot platei na spinach vashych bratev. Izbavte krestian ot krovi kotoruju im nepremenno prijdiotsja prolic…"*—"Wash out the shameful stain of Russia. Heal the traces of the knout on your brothers' backs. Save the peasants from the blood that they will inevitably be compelled to spill […]" (idem, 2007, p. 145).

Denunciation of the degrading treatment of the individual, including the injunction against torture, is incorporated into Catherine's instructions, the *Nakaz* (De Madariaga, 1998, p. 106). The Pugachev revolt (1770–1773), which made the Tsarist empire exceptionally dependent on the nobles' loyalty,[292] led in 1785 to the Charter to the Nobility, freeing the Russian elite of degrading corporal punishment, sparing it from compulsory state service, and guaranteeing it allodial property rights in land (Bartlett in Hosking and Service, Hartley, 1999, p. 76). The same dependence retarded the liberation of the serfs, limiting the issue to social debate

[292] Pipes, 1999, p. 192; idem (1995), p. 180. The Pugachev rebellion actualized the symbiotic relationship between the autocracy and the nobles.

until the second half of the nineteenth century (De Madariaga, 1998, p. 86; Pipes, 1995, p. 255).

In face of the Enlightenment-inspired reforms "from above" and the Judeo-Christian values that were being disseminated continuously since the ninth century,[293] the peasants' attitude to equal individual rights could not have been entirely ambivalent. As regards land ownership rights, 85 percent of the peasants agreed with the redemption (*vykup*) of land previously put to collective use from their creditor, the Tsarist state (Zakharova, 1992, p. 36). The large proportion of peasants who voluntarily participated in the redemption process implies that the peasantry viewed land ownership enthusiastically, albeit on a village commune basis, as early as 1881—twenty-five years before the Stolypin land reform (ibid.).

Zakharova (1992) advises that the institutionalized preservation of the village commune, including its collective control mechanisms, did not originate in the ranks of the peasantry. The empowerment of the commune assembly with legal capacities previously held by the landlord (Atkinson, 1983, p. 22), including enforcement of the formal (North, 1990, p. 78) restrictions on freedom of movement (Gerschenkron, 1962, pp. 120, 121), may be understood as a Russian manifestation of the disadvantages of institutional backwardness.[294] Studying the Western experience and ideologies (Marxism), Tsardom feared a massive exodus from the rural sector and its corollaries, proletarianization and revolution.

Contrary to Pallot's analysis (1999, pp. 75, 171) and consistent with Gerschenkron's, Zakharova (1992) maintains that the nineteenth-century collectivist village-commune control was imposed from above and supported by the Tsarist state. If so, the historical viability of the obshchina can be only partly explained by noting the climatic conditions of Russian agriculture (Milov, 2001, pp. 1, 2). Although the foundation of the commune and the ethos of Tsarist Russian collectivism—mutual liability, krugovaya poruka—was kinship-based (De Madariaga, 1998, p. 79), the viability of the commune cannot be sufficiently understood without giving due account to Russia's institutional backwardness relative to West European empires such as Britain, interdependently with its historically high land-to-labor ratio (Kolchin, 1987, p. 2) and its geopolitical vulnerability, manifested by frequent invasions from the West.

The historical kinship-based obshchina was an organic unit. Its consolidation during serfdom and its viability between the emancipation of the serfs (1861) and Stolypin's land reform (1906) may be explained as due to a state initiative that aimed to reduce the transaction and surveillance costs of Tsarist tax extraction.

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[293] Blum (1961), p. 36. Prince Vladimir accepted baptism in 988 CE.

[294] The mirror expression, "advantages of backwardness," traces to Gerschenkron (1962).

After the Crimean debacle, Russia manifested its vulnerability in growing internal concern about European public opinion—*zabota o Evropeiskom obshchestvennom mneni* (Zakharova, 1992, p. 25)—and its government turned keener attention to the plight of the peasants. "[The] humiliation that autocratic Russia endured at the hands of the democracies England and France during the Crimean war" (Gatrell, 1994, p. 13) and the Empire's debtor position stressed the need for libertarian reforms in general and peasant emancipation in particular. Consequently, the Russian defeat at Narva intensified the importation of Swedish, Dutch, and British institutions into the Euroasian Empire.[295] The unfavorable (for Russia) terms of the Paris peace that concluded the Crimean War had much the same effect, including the importation of European disapproval of the ownership of man by man.

The Russo-Japanese War (1904), meant to placate and divert internal discontent with deficient civil rights, including the right of association, ended with Russia's shameful rout, further intensifying civil society's demand for institutional transformation (Ascher, 1988, pp. 47–50; Borodkin (2008), Discussion). In this context, the 1905 revolution may be understood as an epitomic cost of dictatorship in the Gerschenkronian sense—one that could have been avoided had the autocracy made the concession demanded: the constitutional delegation of decision-making power to a publicly elected body, the Duma (Ascher, 1988, p. 2).

Paradoxically, then, it may be argued that preparations for the clash of powers on the battlefield and Russia's lost wars triggered imports of technology and progressive institutional adaptations, while victories consistently consolidated the autocracy, having a retarding effect. It is true that the Petrine economy was restructured after the victory in the Northern War, allowing private initiative, encouraging private commerce, and freeing private enterprise from state monopolies in what Anisimov (1989, p. 279) calls the historical NEP. This tolerance of private entrepreneurship, however, was temporary; the economy was subsequently placed under the domination of government-dominated industry (Gerschenkron, 1962, p. 143). As autocratic control of production processes under governmental consolidated power intensified, resources were channeled to the achievement, in Gerschenkronian terms, of autochthonous modernization in supplying the army and the state with manufactures (Anisimov, 1989, p. 279). Thus, the flow of resources from the civilian to the military sector of the economy under state entrepreneurship did not cease in peacetime. The idea behind the "commercial company," an imitation of the Western model, was to supply the state with manufactures for military use (ibid.). The economy remained under full bureaucratic control (ibid., p. 281).

[295] Hughes (1998), p. 138. On the Swedish origin of the poll tax, see Cracraft (2004), pp. 58, 69.

The railroad arrives

Russia solved the problem of integrating industrialism with imperialism by keeping industry under intensive direct and indirect state control (Gatrell, 1994, p. 15) in self-perpetuating continuity. Importantly, the costs of imperialism (ibid.) were manifested neither exclusively nor primarily in higher taxes and recruitment obligations but in the dashed expectations of the internal upheaval that had induced the reforms.[296] If so, what animated the industrialization spurt of the 1890s? It was France, which after the Crimean War considered the Russian Empire a strategic interest. Thus, Russia benefited immensely from peacetime French capital flows (Gatrell, 1994, p. 16). The growth of nineteenth-century industrial production, however, centered on the railroadization program that was induced and financed by the Tsarist government (ibid., p. 14), allowing track length to grow from 30,600 kilometers to 56,500 between 1880 and 1900 (ibid.).

Table 8–4 Growth of the Russian Rail Network 1860–1916

Year	Length (km.)	Freight (million tons–km.)	Ridership (millions–km.)	Headcount (yearly average,,000)
1860	1,626	-	-	-
1865	3,843	0.571	-	-
1870	10,731	2.404	-	-
1875	19,029	5.146	-	-
1880	22,865	8.000	-	-
1885	26,024	11.238	3.929	213
1890	30,596	14.925	5.013	248
1895	37,058	22.615	***7.581***	344
1900	53,234	38.869	***13.003***	554
1905	61,085	45.109	19.467	751
1910	66,581	60.594	23.229	772
1913	70,156	69.731	29.312	815
1916	80,139			

Source: Kahan (1989), p. 30.

Focusing on the dramatic 51 percent increase in ridership during the last five years of the nineteenth century (verified by the increase in the sale of tickets and passports—Kahan, 1989, p. 4, Table 1.2), one may argue that the railways were the most progressive, peacetime-applicable, and freedom-enhancing of all the Tsarist government's initiatives. Unlike Peter's massive investments in developing the Baltic fleet, the sole purpose of which had been military (the technology, acquired from Britain, was not diffused to civilian commercial endeavors), the railways were dual-purpose from the outset: political (including military) and economic (ibid., p. 28). Indirectly, by guaranteeing the railroad bonds at an unprecedented 5 percent rate (ibid., p. 29; Westwood, 1964, pp. 43, 44; Borodkin (2008), Discussion), thereby attracting massive foreign direct investment, the autocratic government set in motion an "external invasion" (Boyer and Orlean, 1993, p. 22) of libertarian value

[296] Gregory, 1994, p. 53. The revolution occurred under conditions of rising standards of living.

systems that were prevalent in the West, creating multiple institutional structures. Moreover, rural-to-urban migration and the cultural exchange associated with it weakened the rural institutions of collective patriarchal control (Smurova, 2003, p. 100; Burds, 1998, p. 29, Crafts, 2007, EHES). Instead of these, *otkhodnikhestvo*—rural peasants' wage labor in urban industrial centers—was the core of the process (Smurova, 2003, p. 100).

Kahan (1989, p. 31) points out that without the railroads, the commercialization of Russian agriculture would have advanced much more slowly, as would have GNP. The rising productivity among the gentry and the agrarian peasantry, raising the living standards of the latter (ibid., p. 69, Table 1.36, p. 128, 3.7; Gregory, 1994, p. 53), can be explained partly by the direct and indirect stimulation that railroad construction provided for the expansion of the ferrous and machine industries (Kahan, 1989, pp. 19–21). The growth of rail abetted structural—and, in turn, institutional—change in entire regions. From the mid-1860s, for example, mechanized construction industries began to expand due to structural transformation in parts of the Povolzhe region (Halin, 2007, p. 287, 288).

The railroad construction boom in the 1890s revived a large cohort of engineering industries (Gatrell, 1994, p. 53), not least through skills training, including those along the supply chain down to raw materials in the iron, lumber, and textile production process as well as the machine industry that abetted farming. Production for the railway transport sector explains the 9.7 percent annual rate of increase in the market for Russian-built machinery between 1885 and 1900 (ibid., Table 1.6.). The falling labor–capital ratio in larger and more capital-intensive production units (consistent with Gerschenkron's predictions) and the rising productivity of labor are reflected in the structural changes in the engineering industry depicted in Table 8–5 below.

That the share of agricultural machinery in gross machine-building output doubled may indicate that the growing mechanization of agriculture and the ensuing rising productivity of land and labor explain the upturn in peasant living standards (Gregory, 1994, p. 53) ahead of the 1905 revolution. It stands to reason that the railroads contributed to the sharp rise in land prices along rail lines, making investment and therefore de facto individually delineated property right in land profitable (Hesse, 1993, p. 51). By implication, the railroads abetted the transition from collectivism to individualism in the landholding system.

Thus, in terms of the risk of dying of starvation, which according to the rationalist model is assumed to have induced rural collectivism (Scott, 1976, p. 4), the railroads had a triple hypothetical impact. At the indirect and direct institutional level, they powered the agricultural machine-building industry (Gatrell, 1994, p. 55), improving factor productivity and the peasantry's living standards (Gregory, 1994, p. 53); they mitigated rural collectivism, opening up access to the urban market

(Kahan, 1989, p. 31); and they created opportunities for wage labor in industrial centers (Johnson, 1979, p. 15; Burds, 1998, p. 22, Table 1.2, p. 23, p. Table 1.3). If so, existential risk and collectivist dependency declined in tandem (Scott, 1976, p. 4). Finally, the rising return on investment in land occasioned by railroadization encouraged individualism (Hesse, 1993, p. 51), spurring a stronger and faster exodus from collectivist obshchina structures (Boyer and Orlean, 1993, p. 22).

Table 8–5 Gross Output of Machinery, 1900–1908

		1900			1908	
	Units	**Output (million rubles)**	**Percent share**	**Units**	**Output (million rubles)**	**Percent share**
Rolling stock	14	92.0	46	18	85.3	41
Vessels	32	6.1	3	18	4.6	2
Boilers	52	24.6	12	56	11.7	5
Agricultural machinery	**162**	**12.1**	**6**	**216**	**26.5**	**13**
Other	279	67.1	33	244	83.3	39
Total	539	201.9	100	552	211.5	100

Source: Gatrell (1994), p. 55.

As Chandler (1977) explains, the 283 percent growth rate of the labor force in rail-transport services (Kahan, 1989, p. 30, Table 1.14) between 1885 and 1913 reflected the acquisition and dissemination of skills vital to the institutional development of the economy as a whole. By making extensive use of the telegraph and improving the national postal service, the railroads help to intensify information flows, raising the cultural level of the population (Kahan, 1989, p. 35, Table 1.18). By launching the industrialization process and, in particular, by building railroads—setting cultural-cognitive exchange in motion (Smurova, 2003, p. 100; Boyer and Orlean, 1993, p. 22; Martens, 2004, p. 101) and creating multiple institutional structures—the autocratic government unintentionally triggered democratization, causing an upturn in demand for parliamentary structures that made itself present in the 1905 revolution (Ascher, 1988, pp. 87–89; Martens, 2004, p. 193). Thus, the preemptive top-down libertarian reform, interacting with state-led technological innovation, enhanced the credibility of the bottom-up threat and forced additional top-down concessions and reforms (Figure 8–4). The state entrepreneurship that was manifested in rail construction, partly for military purposes, abetted the formation of progressive civilian institutions as an unintended epiphenomenon of the military effort. In a nutshell, the effect of the virtuous cycle (Figure 8–2), depicting the long-term unintended consequences (Lal, 1998) of state entrepreneurship, was more decisive than the continuity of the vicious cycle of the costs of dictatorship that burdened state entrepreneurship. Thus, the credible threat from below constituted the vehicle of progress even as the self-perpetuation of autocracy promoted

progress, via lagged reforms from above, and retarded it by burdening the institutional innovations with dictatorship costs.

Tallying the Progress

Figure 8–4 below, focusing on the transition from collectivism to individualism during the nineteenth century, summarizes the identifiable progressive mechanism in the interaction among the climate, the state (as the effectuator of technological innovation), and the mir, leading to advances in individual rights including the right to immovable property.

Since time immemorial, Russia had exhibited a high land-to-labor ratio, a harsh climate that kept yield-to-seed ratios low, and unpredictable yields (Kahan, 1989, Appendix, p. 139, Table 3, B, p. 142; Milov, 2001, pp. 1, 2). These factors had long fostered collective survival strategies that began with kinship-based risk-sharing that had mutual-insurance properties (Scott, 1976, p. 4; Moon, 1999, p. 216; De Madariaga, 1998, p. 79; Eggertsson, 1990, p. 303). The unit of collective control—the mir—was an organic creation (Barzel, 2002, p. 61; Blum, 1961, p. 22) that had the potential of becoming a vehicle of subversion against the Tsars' despotic sway over the Russian plain (Montesquieu in Durkheim and Rousseau, 1970, pp. 26, 31). More benignly, the risk-sharing mechanism that structured the mir allowed innovation (Kingston-Mann, 1991, p. 43; McCloskey, 2009; Hodgson, 2004, pp. 257, 414) that helped to instigate a long-term increase in household independence and transition to individualism (Hesse, 1993, p. 51; Boyer and Orlean, p. 22) (left-hand side of the figure, **Road I**).

The combination of harsh climate (Chubarov, 1999, p. 4; Milov, 2001, pp. 1, 2) and frequent natural calamities (Kahan, 1985, p. 13; idem, 1989, Table 3.1, pp. 139, 140, 141) necessitated landlord and ultimately state intervention in the form of loans, grain storage, and various modalities of famine relief. The last-mentioned had also been effectuated indirectly by the Tsarist government in the form of public works for peasants and injunctions against grain exports in famine years (ibid., p. 136). These measures, by enhancing centralization and sheer peasant dependence on the Tsarist state, broadened the state's encroachment into the economic sphere of the peasantry, consolidating autocratic rule (derived from ibid.). Combined with Judeo-Christian values, they produced collectivist state structures in the short run (derived from Milov, 2001, pp. 1, 2). In the long run, however, the ever-present credible threat from below, interacting in the nineteenth century with the imported technologies and value systems embodied in railroad construction, would prompt the government to codify the individualization processes ex post, launching the land reform that carries Stolypin's name (**Road IV**).

Railroad construction, the core of the Tsarist industrialization drive in 1890–1907, was yet another dual-purpose activity (Gerschenkron, 1962, p. 125; Kahan, 1989, p.

28). As an instrument of warfare (simplifying troop transport—Westwood, 1964, p. 23), the railroad may have encouraged collectivism at both the state and village levels in the short run by making recruited soldiers' families dependent on the commune (Worobec, 1995, p. 64) and strengthening the mechanisms of state control over society at large (Hobson and Weiss, 1995, p. 6). In the long run, however, due to the improved transportation technology and the systemization of government that it facilitated (Yaney, 1973, p. 7), the bottom-up demand for individualizing reforms made upward progress with greater ease (**Arrow A**, **Road IV**).

The Tsarist taxation system, with its heavy reliance on collective responsibility for the liabilities of the village commune (Gerschenkron, 1962, p. 120), unintentionally strengthened the unit of subversion, intensifying the credibility of the threat from below (Greif, 2006, p. 441; Barzel, 2002, p. 61) and challenging Tsarist autocracy (**Road III**). In the communes, discontent among well-to-do households and individuals with the collectives' violations of individual rights viewed the commune as an obstacle to innovation and spurred the transition to individualism. Likewise had been perceived by the Russian Westernizing intelligentsia. Such views had been congruent with Stolypins conceptualization of the commune as an obsolete imstitution that constituted the barrier to agrarian modernization. (Hoch, 1986, p. 189, Worobec, 1995, pp. 79, 80; Boyer and Orlean, 1993, p. 22) (**Road III**). Individuals' expectations in this regard were justified in view of the civilian development afforded by the railroads, enabling the transport of grain and people. By instrumentalizing famine relief, the railroad rendered households mutually independent. Conceived of as insensitive to climatic conditions, unlike water transport (Fogel, 1964, p. 4; Metzer, 1972, p. 82), the railroads weakened the collectivist strategies of the mir in the long run, rendering them redundant (**Arrow A**). The rows in the figure are marked in chronological order. **Road I**, the village commune as an innovation-"enabling" institution (Hodgson, 2004, pp. 257, 414; McKloskey, 2009; Kingston-Mann, 1991, pp. 38, 43), is assumed to have dissolved due to skill accumulation (Hesse, 1993, p. 51) facilitated by risk-sharing (Moon, 1999, p. 216), leading in the long run to greater independence among householders. The interaction of the communal institutions with the state-led industrialization process, centered on railroad construction (**Road II**), catalyzed the atrophy of the collectivist practice. In this interaction, the railroads—the extended hand of the Tsarist government—would insure the peasant household against starvation, replacing the premodern collective risk-insurance and -sharing mechanism of the commune.

Concurrently, the inhibiting control mechanisms inherent in the commune alienated well-to-do households that wished to rid themselves of collective liability for their

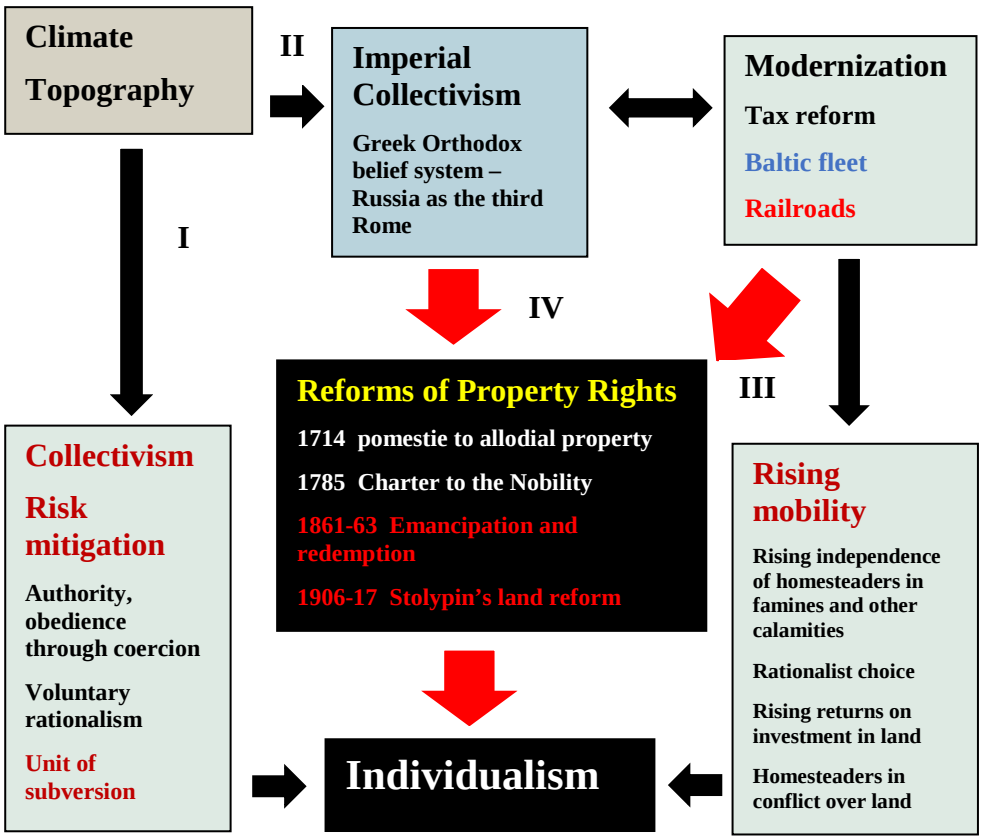
poorer fellows.[297] The wealth accumulation made possible by the mechanization and commercialization of agriculture, induced by railroad construction, intensified the exodus from the commune (**Road III**).[298]

Given the interaction between these mechanisms and the intensity of the pecuniary and non-pecuniary obligations and the coercion, the top-down reforms should be seen as ex post codifications of ongoing processes and concessions to Russian society's demand for institutions of civil control (**Road IV**).

[297] Worobec (1990), p. 97. In communes that practiced effective manure investment in land, mutual insurance through land repartitions was less necessary. Thus, land repartitioning was a function of the extent of economic dependency.

[298] Following the hypothesis of Hesse (1993), p. 51, and Boyer and Orlean (1993), p. 22.

Figure 8-4 The Tsarist State and the Mir[299] —Four Complementary Roads to Progress in Late Tsarist Russia



Sources (left to right): Chubarov 2001), p. 4, Milov (2001), pp. 1, 2, Blum (1961), pp. 21, 22; Montesquieau in Durkheim (1970), pp. 26, 31; Anisimov (1989), pp. 122, 123; Gerschenkron (1968), p. 315; idem (1962), pp. 120, 123–124;; Cracraft (2004), p. 57, Kahan (1989), p. 28, Bartlett (1999), p. 76; Pipes (1995), p. 70; idem (1999), p. xii; Gaudin (2007), p. 43; Pallot (1999), p. 113; Kingston-Mann (1991), p. 43; Barzel (2002), p. 61; Greif (2006), p. 103; Burds (1998), Table 1.3, p. 23; Hesse (1993), p. 51; Sheshinski (2010), p. 3; Gintis (2009) pp. 1, 2; Macey (1990), p. 222; North (1990), pp. 90, 91.

[299] Volyn (1970), p. 78. The term *mir* has two meanings: "the world" and "peace." In the nineteenth century, it denoted a community of former serfs or state peasants who, as a rule, settled in a single village, although sometimes a village included more than one mir and conversely several villages could combine into a single mir. Burds (1998), p. 18. The *obshchina*—village commune—is a composite juridical person composed of the aggregate of the community's juridical persons—the *domokhoziaistvo*.

Was Stolypin Right or Wrong in Assuming that the Peasant Mir Had Atrophied? Mironov vs. Nefedov

It is of the utmost importance to call attention to the explanations of institutional discontinuity, i.e., the institutional innovations implemented, after the 1905 revolution. Is there sufficient reason to assume that the First Duma and Stolypin's land reform, both occurring in 1906 and involving the individualization of the right to land tenure and the transformation of communal use rights in land to the property rights of heads of household, were indeed the concessions that the peasantry, the intelligentsia, and the urbanized peasant workers had demanded? (Johnson, 1979, pp. 123, 124; Ascher, 1988, Vol. II, pp. 268, 269)

If the peasant revolt in 1905—the torching of landlords' demesne due to the alleged excessive exploitation through the fiscal system that financed the industrialization drive (Gerschenkron, 1962, pp. 121, 122)—resulted in pauperization,] logic would advise that collectivist practice within the realm of the village commune (the mir) would have intensified during the post-emancipation period. The peasantry would then attempt by all means to resist Stolypin's pro-individualization land reform. The peasants' dependence on the mutual safety mechanisms of the commune would grow, prompting the Tsarist state to implement the reform by coercion. If so, the effect of the interaction of industrialization and population increase on the peasantry's standard of living (Nefedov, 2005, p. 2) would vindicate Pallot's (1999) analysis of the 1906–1917 land reform, which emphasizes peasant resistance to the individualization measures.

Contrary to Pallot's proposition, Klimin (2002) reveals that Stolypin himself lived among the peasantry and watched the collectivist practices atrophy. The peasant mir, Stolypin concluded, had played itself out, the peasants preferring to work for their own households' prosperity rather than to ensure that of their comrades. Engelgardt's eyewitness account also notes ever-present and growing individualism in the peasant milieu in the post-emancipation period.

These observations, as well as Worobec's (1990, p. 97), are indicative of rising peasant living standards and, consequently, growing independence of peasant households as leading factors among the rural constituency in the post-emancipation era. This being the case, the 1905 revolution should be understood as a battle for civil rights, including property rights in land, rather than a desperate peasant protest against immiseration and hunger. Consequently, Stolypin's land reform should be considered a Tsarist concession that the peasantry demanded (Asher, 2001, pp. 7, 11, 12; Klimin, 2002, pp. 11–15) as opposed to a measure implemented through sheer administrative coercion to create a well-to-do peasant stratum loyal to the crown. This interpretation is congruent with the expectations of the model, in which

the railroad, by mitigating the risk of starvation, intensifies peasant demand for the legalization and enforcement of household heads' property rights, i.e., the disintegration of the village commune.

Here we contrast the work of two modern Russian scholars, B.N. Mironov and M.A. Davydov (2003), complementing the findings of Gregory and Simms, with Nefedov's traditional work. Nefedov emphasizes the interaction of a Malthusian crisis and the Tsarist aspiration to industrialize backward Russia as the cause of the peasantry's impoverishment. Thus, Nefedov explains the 1905 revolution in materialist terms.

Mironov writes that, in Soviet historiography, the peasant movement and the revolutionary situation in 1905 are matters of tradition that are explained by the pauperization of the peasantry due to severe exploitation by the Tsarist state. He quotes Druzhynin (1946), who saw the accumulation of peasant tax arrears—*nedoimok*—as evidence of this constituency's deepening impoverishment (Mironov, 2003, p. 2), brought on by an increase in the burden of obligations and declining agricultural entrepreneurship.

Other modern Russian sources quoted by Mironov lay the ultimate blame for the peasants' pauperization at the foot of the Russian climate, which left surpluses that were chronically smaller than those in Western Europe (Milov, 2001, pp. 1, 2). As for the reform that terminated serfdom in Russia, Mironov, citing the traditional historian Litvak (1972), notes the belief that the exploitation of the peasantry continued even after the Emancipation Act (1861), but now under the Tsarist state instead of the landlords.

Soviet and, in part, post-Soviet sources draw their inspiration from the notion of "hunger exports" of grain (*golodnyj export*) and press their point by quoting Finance Minister Vyshnegradzky (1887–1892): "*Sami neoedim a vyvezem*" (Mironov, 2003, p. 4)—We'll starve but we'll go on exporting. This inspiration diffused to Western sources as well (e.g., Atkinson, 1983, p. 34). Conforming to the traditional interpretations, Nefedov focuses on demographical-structural conditions and maintains that the peasant constituency had been impoverished throughout the Imperial period.[300] Ryndzjunski (1978) summarizes the traditional Soviet interpretation of the post-reform period: "*Utverzhdenie kapitalisticheskogo stroja dostigaetsia cenoj razorenia i poraboshchenia naroda*"—The establishment of the capitalist system was achieved at the price of the people's bankruptcy and enserfment (ibid., pp. 6, 7).

In the West, Simms (1977), Gregory (1982, 1994), and Bideleux (1990) challenge the agrarian-crisis hypothesis. Simms (1977, p. 382, Table 1) argues convincingly

[300] Mironov (2003), pp. 1, 2, 3. The reference to Nefedov is on p. 5.

whilst implying as a general principle peasant rationality that the peasants'of Tsarist Russia ty, resorted toaccumulation of tax arrears. The latter suggested *unwillingness* rather than inability to pay, just as a concurrent increase in indirect-tax receipts indicates rising living standards. Thus, the accumulation of arrears is more indicative of low legitimacy of the autocratic government than of peasant poverty (North, 1981, p. 53). Indeed, the increase in peasant consumption of indirectly taxed items such as tea, vodka, matches, and kerosene, proxied by rising indirect-tax receipts, shows that the peasantry's purchasing power and standard of living were rising. Publications of the Ministry of Agriculture in 1894 and Zemstvo publications in 1894 and 1895 (ibid.) according to Simmsdocument the improvements in the rural sector. A correspondent in Korochansk District reported during this period that "The bread the peasants eat is pure and in abundance" (Simms, 1977, p. 394).

Among modern Russian economic historians, Davydov challenges the thesis of "hunger exports" of grain, demonstrating convincingly that internal Russian grain shipments grew faster than did export grain shipments, indicating a growing national grain market (Davydov, 2003, pp. 49–51).

The available data suggest that the peasants' tax burden in real terms had been falling during the 1801–1850 period relative to the eighteenth century (Mironov, 2003, pp. 7, 11). Thus, while the Bulavin revolt during Peter's reign may have been set in motion partly by peasant material impoverishment (Anisimov, 1989, pp. 139, 140), other reasons for mass discontent should be sought for the peasant war of 1905. The emancipation statutes (1861–1863) merely created an in-between stage ahead of full civic status for the peasantry; i.e., they paved the way for additional discussions within the ranks of the Russian nobility on the equalization of nobles' and peasants' rights to landed property (Macey, 1987, p. 46). The Great Reform simultaneously heightened the expectations of success, triggering resistance to the old order among the peasantry (Mironov, 1999, Vol. 1, p. 476). The emancipation reform, freeing the peasant from serfdom, rendered patriarchalism, which supported and had been supported by serfdom, badly weakened. The individual peasant was increasingly conscious of his personal rights vis-à-vis other family members; consequently, intra-family egalitarianism in rights increased (Burds, 1998, p. 29; Mironov, 1999, Vol. 1, p. 477).

The crucial factor that enhanced the dissolution of the extended patriarchal family structure,[301] the individualization process, had been the peasants' rural–urban migration for side earnings (*otkhod*) (Burds, 1998, p. 34). The growing frequency of household divisions (*semeinye rozdely*) indicates a "cultural crisis" triggered by

[301] Worobec (1995), p. 88. The escalation of intra-family tensions and pre-mortem fissions is indicative of rising individualism. Frierson (1990), pp. 309, 313, refers to the "disruption of the patriarchal principle in the peasant society" in the post-emancipation era. In general, the closer the villages were to towns, the smaller and more nuclear the family households were.

the waves of migrant workers who commuted between the urban and the rural milieus (ibid., Smurova, 2003, p. 100). Data gathered by the Ministry of Internal Affairs in 1861–1882 show 116,229 household divisions in European Russia on annual average (Burds, 1998, p. 34). In 1874–1884, this number increased to 140,355 (ibid.). By the end of the period investigated (1884), more than half of the households in thirty-seven provinces of European Russia had made the transition from an extended to a nuclear structure (ibid., p. 35; Worobec, 1995, p. 88).

It is of special interest to note in this context that, according to Frierson (1990, p. 313), the availability of non-agricultural income made family divisions more frequent, i.e., abetted individualism. By implication, proximity to railroad stations would have the same effect. The growing prevalence of family divisions may be explained by intensified *otkhod*, facilitated by proximity to railroad stations (Sztern, MSU Lomonosov Economic History Seminar, November 19, 2008). While the first generation of *otkhodniki* had to be forced by their parents to leave in order to "moonlight," its successor generation flowed to capitals and other cities in a "huge wave" (Burds, 1998, p. 38). Smurova investigated the clash between the rural culture and the sartorial and worship habits of the secularized *Pitershchiki*, otkhodniki who worked in St: Petersburg. These people, as noted above, were considered more attractive marriage partners than were their introverted rural brethren (Smurova, 2003, pp. 100, 101)—auguring the future dissolution of the mainstream Greek Orthodox patriarchalism-structured village commune.

As argued with emphasis above, the Greek Orthodoxy that gave the Tsarist autocracy its spiritual legitimacy faced revolutionizing challenge not only from *secularization* but also from *otkhodnikhestvo* per se. The flight from the Church-based obshchina structure toward *raskol*—the Old Belief (Burds, 1998, p. 188)—may be seen as the result of "side jobs" as allowed by the state in the railroad construction that it spearheaded. If so, paradoxically, the Tsarist state introduced the elements of its own transformation into its constitutional monarchy. As proposed in Chapter 7, peasants' practical choice among religious institutions— the Orthodox Church and the Old Belief—and secularized adherence to leftist ideologies entailed an individualization process (ibid.), something incongruent with the obedience of authority on which the Orthodox empire was based. The flight to the Old Belief allowed fugitive peasants to escape the requirement, sanctioned by mainstream Orthodoxy, that *otkhodniki* repatriate their industrial earnings to their village communes (Burds, 1998, p. _188__). Thus, the adherence of most of the peasantry to the mainstream Orthodox Church, eschewing the Old Belief, strengthened and perpetuated rural–urban ties.

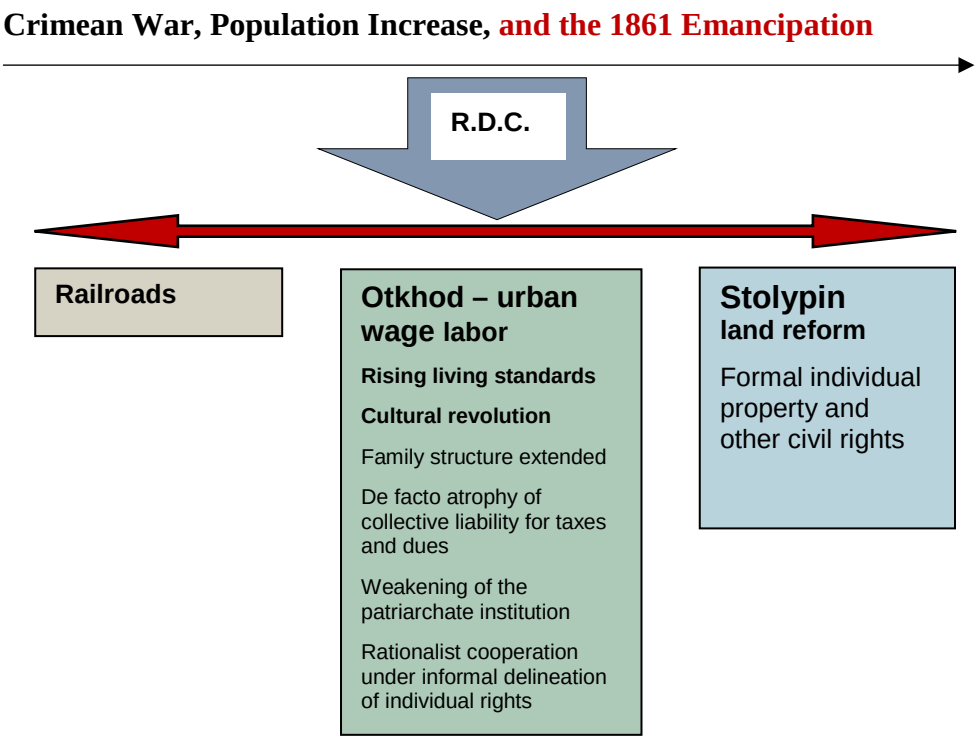
In effect, by legitimizing the communes' claim to the wage laborers' earnings, mainstream Orthodoxy inhibited the formation of a genuine proletariat in pre-revolutionary Russia (ibid., 1998; Johnson, 1979). Thus, not only secularization but

also the increasing adherence to Old Belief had an individualizing effect on the commune village structure and enhanced peasant mobility. Notably, however, the growing prevalence of otkhod, and *a fortiori* the resettlement of entire families in city centers, foisted a heavier fiscal burden on the remaining commune members. After all, all their obligations were collectively defined and the members were collectively liable—through the krugovaya poruka practice—for their fulfillment (Burds, 1998, p. 38). Thus, while commune members who left enjoyed a higher level of personal rights, those left behind were more dependent, in the short run, on the risk-sharing mechanisms of the commune. This dependency may have retarded the transition to rationalism and individualism. Moreover, the commune offered a form of old-age insurance for those "peasant proletarians" (Johnson, 1979, p. 38) who returned to their native rural villages when they reached age forty (Burds, 1998, pp. 188, 193). An explanation for this particular cohort's repatriation to the village is the following: The competitiveness of the peasant otkhodniki in the urban labor market appears to have declined at this age, whereas in agriculture their experience might still be a socioeconomic asset. This incentive may not have inhibited—it may have even enhanced—rational calculus among competing choices (Sheshinski, 2010, p. 3; Gintis, 2009, pp. 1, 2). Nevertheless, research (Burds, 1998; Frierson, 1990; Mironov, 1999, 2000; and others) clearly indicates that Stolypin was right (Klimin, 2002, p. 11–15) in assuming that the commune had exhausted its utility as a survival strategy in the peasants' own judgment. Otkhodnichestvo (wage labor in industrial centers) weakened the authority of the head of household, in turn vitiating the authority of the commune assembly and causing the commune's collectivist mechanisms of coordination and, at times, repression, to atrophy. The last link in the causal chain—the Tsarist state's preemptive top-down emancipation of the serfs, a precondition for genuine modernization (Rostow, 1960, pp. 6, 7; Cracraft, 2004, p. 12)—is presented in the figure below. The process of reconstitutive downward causation (Hodgson, 2004, pp. 105, 185) ensured change in the "habits of thought" of a peasant population that increasingly demanded personal rights.[302] Moreover, the state entrepreneurship (Gerschenkron, 1962, pp. 123–125) manifested in railroad construction set the entire nation on the move. The growing numbers of internal passports (Burds, 1998, Tables 1.2, 1.3, pp. 22, 23) mirror the upturn in labor mobility, formal restrictions (Gerschenkron, 1962, p. 120; North, 1990, p. 78) notwithstanding. The mass migration that occurred at this time (Burds, 1998, Tables 1.2, 1.3, pp. 22, 23), explaining and following the legal logic, is itself an indication of the weakening of patriarchal authority (Gerschenkron, 1962, p. 120). The dissolution of the extended family structure carried with it the atrophy of the historically kinship-based village commune (De Madariaga, 1998, p. 79). The

[302] Burds (1998), p. 29; Mironov (1999), Vol. I, p. 477; Frank (1999), p. 74, Table 2.3. In 1874–1913, the average increase in felonies was lowest in personal injury and property crimes and highest in assaults on state authority.

atrophy of the commune deprived the autocracy of its tribal and spiritual fundament. Ultimately, the state-led railroad construction triggered a transition from compulsory collectivism to voluntary cooperation, heralding the democratization of Tsarist Russia (Ascher, 1988, p. 1).

Figure 8–5. Railroads and the Individualization of Rights to Land



Sources: Gerschenkron (1962), p. 131; Leonard (1990), p. 136; Boyer and Orlean (1993), p. 22. On the general collapse: North (2005), p. 83; Hodgson (2004), pp. 105, 185; Kahan (1989), pp. 28, 35; Cracraft (2004), p. 12; Burds (1998) Table 1.3, p. 23; Frierson (1990), p. 313; Worobec (1995), p. 88; Smurova (2003), p. 100; Mironov (1999), Vol. 1, p. 477; Gerschenkron (1968), p. 159; Atkinson (1983), p. 41. Abolition of collective liability in 1903: Gaudin (2007), p. 43.

Concluding Remarks

The combined "top-down"/"bottom-up" perspective, allowed by the complementarity of New Institutional Economics and American Evolutionary Institutionalism, fills in important missing aspects in the concept of state entrepreneurship as a substitute for the deficient market mechanism in backward economies, i.e., Gerschenkron's thesis.

The foregoing overview, focusing on the long-lasting institutional properties of the Tsarist Russian state, proposes that state entrepreneurship in the hands of an autocratic, totalitarian government is profoundly costly to society in the long run. Gerschenkron's "costs of dictatorship" concept (Gerschenkron, 1968, p. 315) (relating to the stability of a dictatorship, which I propose is applicable to late imperial Russia, revealing the social costs of these structures) is crucial in this context. The institutions of a totalitarian state, structured to prioritize the collective's interests at all levels of the hierarchy while repressing individuals' claims to absolute life and property rights, are the ultimate sources of the institutionalized degradation and oppression of the individual and his resulting backwardness and impoverishment.

The pattern followed by a political superstructure is determined by political rationality in the Hayekian sense of the term (Hayek, 1944, pp. 69, 70). A totalitarian state aspires to maximize its control of social and economic activity to further its goal, the perpetuity of rule. The scope of its intervention in the economy systematically distorts its equilibrium level Reform for modernization and development purposes is a lagged response to geopolitical vulnerability manifested in a military debacle; it also constitutes a concession induced by an internal revolt along with a credible bottom-up threat of more of the same in the future (Greif, 2006, p. 441). In the Tsarist Russia case as an application of general principle among totalitarian regimes. Absent any base of legitimacy other than a set of religious beliefs that depicts the ruler as an intermediary between god and man and as the nation's anointed patriarch, success on the battlefield becomes the second factor that legitimizes autocratic rule (Freeze, 1996, p. 309).

Since the reign of Peter the Great, the steady vitiation of the Orthodox Church's political influence[303]—a structuring and preconditioning factor in Russian society (Hodgson, 2004, pp. 105, 185)—made territorial defense and conquest a cardinal foundation of legitimacy for the perpetuation of autocracy (Freeze, 1996, pp. 309, 311). Typically among totalitarian structures, the Tsarist Empire engaged in endemic territorial conflicts, kept the economy on a war footing (Tables 8-1, 8-2, 8-3), and deemed national collective rights superior to individual claims. If so, the Tsarist autocracy burdened the civilian economy with costs of dictatorship, identified in this thesis as the long-run invention and innovation forgone due to degrading treatment of the individual, inducing extreme risk aversion (Poznanski, 1992, p. 72; idem, 1985, p. 45; Mokyr, 1990, pp. 153, 173; North, 1981, p. 4; idem, 1990, pp. 64, 78; Hodgson, 2004, pp. 105, 185).

[303] Hartley (1999), pp. 229–231. On the pious subversion dissent put forward by the Old Believers, see Hughes (1998), p. 337.

By repressing individual creativity and talent over time in order to consolidate its totalitarian state structure, Tsarist Russia made itself historically dependent on imports of technology (Figure 8–1). Owen (1995) defines the cost to Russia of excess centralization of economic activity, i.e., state entrepreneurship substituting for the market, as the private entrepreneurship forgone due to the Tsarist state's encroachment and despotic and arbitrary intervention in the economic sphere. By enforcing rural collective liability for all obligations, the autocratic state structure fostered habits of thought that were inimical to the cultivation of divergent behaviors such as "preference for novelty" (Witt, 1993, p. 3), private risk-taking, and entrepreneurship (Gerschenkron, 1962, p. 120; De Madariaga, 1998, p. 79; Wood, 1990, p. 395; Hoch, 1986, p. 188, Worobec, 1995, p. 13).

Unintentionally, however, by pursuing military-strategic and geopolitical objectives, the Tsarist autocracy brought about genuine modernization (Figure 8-2). Top-down importation of technology led implicitly to the importation of politically pluralistic and increasingly democratic social institutions, i.e., structures (Boyer and Orlean, 1993, p. 22; Zakharova, 1992, p. 25). In the short run, this process deepened the inter-estate cultural rift (Raeff, 1984, pp. 50, 51), thereby increasing transaction costs including uncertainty in the Tsarist economy (Nee, 1998, p. 85; North, 1990, pp. 64, 78)—necessitating additional state encroachment. The resulting vicious cycle (Figure 8–3) continuously retarded socioeconomic progress. The longitudinal effect of the importation of Western institutions, however, hastened the "translation" (Boyer and Orlean, 1993, p. 22) of the material egalitarianism of the rural sector (Atkinson, 1983, pp. 11, 21, Worobec, 1995, p. 20) into an effective demand for the implementation of the principle of abstract equality before the law, heralding the gradual transfer of power from the state to civil society.

By enforcing the obshchina, an initially organic entity based on collective liability, the autocracy unintentionally strengthened the unit of subversion and the practical vehicle of modernization in Tsarist Russia (Gerschenkron, 1962, p. 133; Barzel, 2002, p. 61).

The institutional structure set in place in the Petrine era was transformed during the nineteenth century under the pressure of the institutional and technological change occasioned by the emancipation of the serfs, paving the way to the industrialization spurt of the 1890s. Both of these modernizing processes, as a matter of historical continuity, were Tsarist responses to Russia's military debacle in the Crimean War.

Railroad construction lay at the core of the Tsarist industrialization effort. The "iron horse" facilitated not only troop transfer but also famine relief. In its latter capacity, it played a decisive role in the transition from collectivism to individualism at all levels of the hierarchy.

By absorbing into the Eurasian Empire a technology already applied in Europe, the railroad, the Tsarist state mitigated the rural population's risk of starvation at times of crop failure and simultaneously created additional opportunities for wage labor in the industrial centers. This attenuated peasant households' existential risk and facilitated cognitive cultural exchange between the rural and the urban milieus (Martens, 2004, p. 101; Smurova, 2003, p. 100). As households became increasingly independent of each other, the communal village's mutual-insurance mechanism atrophied. This "informal" transition (North, 1990, p. 64) anticipated the individualization of peasant landholdings—the Stolypin reform—which in turn enhanced democratization in the Euroasian Empire (Pipes, 1999, p. XII).

Chapter 9 - Was Stalin Necessary? Railroads and the Crumbling of the Obshchina in Tsarist Russia[304]

Introduction

Russian agriculture in Tsarist times was sclerotic if not ossified. Powered by the *muzhik*, the peasant—a listless and indolent type, driven by his prejudices and beholden to the Tsar and the Church, agriculture was trapped in a Middle Ages level of productivity. Only a serious jolt could set the peasantry on the road to a more modern way of life and to the adoption of the new technologies that were drifting in from the West. The jolt was administered by Stalin. It may have been overly harsh if not unnecessarily cruel, yet the jolt itself was inescapable. This is a widely accepted view that this chapter seeks to dispute.

The jolt, we contend, had already been administered by the invasion of modernity and new technology and industry from the West, railroad construction in particular, that started in the second half of the nineteenth century. The advent of railroads had a transformative effect on rural society in those parts of Tsardom that it reached, linking once-isolated villages to the rapidly changing outside world. It showed the peasant that he could improve his miserable life and incentivized him to take his fortune into his own hands. In particular, it sowed the seeds of the wish to be freed from the bonds to the *obshchina*, the village commune, and to satisfy the desire for individual landholding in European Russia. I support my claim with evidence from socio-historical sources and econometric tests on contemporary data.

The latter material, comprised of rural self-government (*zemstvo*) statistics for the Penza Black Earth region in 1913, documents the end of the process that started with the emancipation and redemption acts of 1861–1863 and transformed the peasant's mere right to usufruct, inherited from the serfdom era, into gradually expanding private land ownership. By animating these processes even as it

[304] Co-authored by Professor Michael Keren of the Hebrew University of Jerusalem. All references to myself as the author of this chapter should be construed as including Professor Keren.

continued to enforce mutual responsibility for taxes, dues, and redemption payments (*krugovaya poruka*) (Gerschenkron, 1968)—the very practice that kept the commune solid—they unintentionally enabled the peasant to start to free himself from the shackles of the obshchina even before the Stolypin reform of November 9, 1906. This privatization of the commune, if one may use a term that did not exist at the time, accelerated after these reforms, and by the eve of World War I significant parts of communal land had become privately owned and cultivated plots. This process proceeded with the greatest celerity in communes that were close to newly constructed rail lines.

It is important to note that communal landholding embodies an important element of insurance. The continental Russian climate—characterized by spells of extreme cold and heat, long dry seasons, and precipitation unpredictable in both time and space, with much greater micro-climatic variations among contiguous plots than in the regions to its west—subjected peasants to sharp fluctuations in yields and income. The *mir* provided them with some promise of assistance in hard times. Peasants needed a reliable substitute before daring to leave it and forfeit the mutual aid to which they were accustomed. The advent of the railroad and the resulting creation of a national grain market (Metzer, 1972) provided this alternative and did much to mitigate the underlying riskiness. Although a crop failure in any region still reduced local incomes, food from other regions was now available at prices that did not have to skyrocket. Thus waned the danger of death from starvation and epidemics, a change that was perceived by the peasants (Scott, 1976, p. 4) and mitigated their need for the community's mutual insurance (Eggertsson, p. 303; Metzer, 1972, pp. 6–8; Robbins, 1975, p. 80, map on p. 89).[305]

The new and affordable means of transport did much more than alleviate hunger. It reduced dependence on risky agriculture by tying railroads to the industrializing economy (Gerschenkron, 1962, p. 159) and gave peasants access to non-agricultural and urban work (Kahan, 1989), diversifying their sources of income.

Gerschenkron (1968, p. 196; idem, 1962, pp. 120, 121) postulates the existence of a mobility barrier caused by the redistribution of land and obligations amid changes in the number of able-bodied males in the communal village over the household lifecycle—an ostensible obstacle to participation in the industrializing urban economies on the part of adult household members. We challenge this theory.

The new means of transport triggered a change in the peasant's view of the world. His environment was no longer the old unchanging scene of his ancestors. Choice entered his life: he could now question the patriarchal authority that underlay the

[305] Robbins' map shows famine-prone provinces in European Russia with and railroad lines; Morshansk-Penza—the Syrzan'–Viaz'ma line—delivered famine relief to Penza province in 1891.

inherited village-commune structure and shift from blind obedience to authority to rational deliberation (Gintis, 2009, pp. 1–2; Sheshinski, 2010, p. 3). The decline in travel time reduced the cognitive distance between the rural periphery and the strange urban life and its diverging spiritual and legal cultures,[306] allowing recourse to the *volost'* (cantonal) court system for dispute resolution. This enhanced the peasant's self-esteem and dignity and strengthened his property rights, both real and perceived (Gaudin, 2007, pp. 103–104, Tables 3–3, 3–4; Burbank, 2004, pp. 18–19).[307] It also enabled him to acquire literacy and new skills. The gains in productivity (Poznanski, 1992, pp. 71–94; Hesse, 1993, p. 51; Barzel, 1989, p. 7), brought on by the acquisition of literacy and skills (Burds, 1998, p. 177), coupled with the lowering of transaction costs, enhanced returns on investments in land and human capital. This, in a virtuous cycle, insured against starvation during famines and other calamities and accelerated the transition to hereditary household property.

By enhancing national market formation and price convergence, the railroads fostered specialization in grain and other commodities. In the short run, this disruptive innovation may have raised transaction costs (Metzer, 1972, p. 80; Martens, 2004, p. 193); in the longer term, however, it mitigated the uncertainty of these costs. It was the Tsarist regime's consent to the delegation of tangible and intangible property rights to its subjects, as codified in the Stolypin reform, that allowed specialization to lower transaction costs (Martens, 2004, p. 193). This transfer of property rights—entailing the shift of political rights to citizens, making them subjects no longer (Pipes, 1999, p. xiii)—abetted the transformation of Tsarist Russia into a constitutional monarchy.

The new technology weakened the veneration of the Tsar and the Church, the two institutions that had done the most to hold the Russian empire together and that used to have an unshakable grip on the countryside. This catalyzed the dissolution of the personalized hierarchies of coercion that had cantilevered on the anointed Tsar's authority.

These fundamental social and economic changes could not but leave their imprint on the Russian polity; they are likely to have contributed to the events of 1905 and even 1917. Here, however, we concern ourselves with a more limited sphere—the Russian village and its social organization, as embodied in the evolving forms of landholding.

If this contention is correct, one would expect the effects of the railroads to be most salient in the regions that benefited the most from them, i.e., those most accessible to them. To test this hypothesis, I found a dataset for a northern *czernozem* (black

[306] Schivelbusch (1986), pp. 37, 38, 160, describes the process as a "dissolution of reality."

[307] Burbank speaks of a correlation between peasants' legal consciousness (as Wortman puts it) and access to railroads.

earth) region (Moon, 1999, map, p. 1, Lomonosov State University Economic History Seminar 2008), the Penza province. The dataset includes, for clusters of villages, information about distance from railway stations and the distribution in 1913, seven years after the onset of the Stolypin reform, of various landholding types. Indeed, I found that the newly introduced ownership forms had taken root in many places there. Following with a simple regression analysis, I was able to determine that the distance of a village from the nearest rail station is a significant explanatory variable. It is quite remarkable that fundamental long-term social and economic changes, which entailed legal implementation, could be observed in such a brief span of time.

These findings run counter to accepted views of Russian agrarian development among historians, including such venerated names as Gerschenkron. They also touch upon the broader subject of Soviet economic development: Was Stalin necessary? This question was first asked by Nove in 1964, and following him, we must first clarify exactly what it means. The answer sought does not concern any kind of necessity, logical or circumstantial; I am not asking whether the Soviets had no choice in adopting their development policies. Nor am I interested in the question that Nove (1964) debated extensively, namely, whether Stalin had any choice, given the internal party politics and external Russian situation he faced in the second half of the 1920s. The question is rather whether, without Stalin's ruthless policies, Russia's conservative rural society would not have remained dormant and affixed to the social order, technological practices, and economic organization of its feudal legacy. My findings show that, given the opportunity, Russian peasants, or at least a considerable number of their class, were ready to give up their traditional attachments and adopt with gusto new institutions and invest in growth. In other words, there would have been progress without Stalin. He was not necessary.

My research complements that of Cheremukhin et al. (2013) who, relying on macroeconomic data, find that up to 1940, given Tsarist growth trends, Soviet policies impeded growth and slowed the immanent economic advance. They believe that Tsarist agricultural development was held up by the shackles imposed by the obshchina institutions. As I show, however, these obstacles tended to melt away in those regions that were served by rail. In other words, agrarian growth would have accelerated in tandem with the spread of the new means of transport. I return to this problem in the concluding section of this chapter.

The next section presents with alternative readings of Russian rural history, followed by a description of the evolution of landholdings during the Tsarist period and statistical evidence of the social influences of the new means of transport. Following this are the crucial data from Penza province, with which I test the hypothesis and preface the econometric regressions. The chapter concludes the

argument and expands on the problem captured by the tantalizing question, "Was Stalin necessary?"

Alternative and Complementary Theories

Gerschenkron, in his seminal works (1962, 1968), posits that for latecomers, the periphery—in the present case the peasantry—cannot initiate development; only the state can start the engine of growth. His conceptualization of the obshchina depicts this institution as set in its ways throughout the post-emancipation period. The commune, in his view, was shaped by the Tsarist tax-extraction method. To simplify collection, a poll tax was imposed on the entire collective, which apportioned it among households whose payment ability was "homogenized: through periodic repartitioning of the commune's land (Gerschenkron, 1968, pp. 271, 276). Even after emancipation, the peasant was bound to this commune by habit (ibid.). Our findings, however, show that the peasant was not tied to the obshchina by shackles that could be broken only by a central authority. His bonds, hallowed by tradition though they were, had their use in the environment of their time and could therefore change with circumstances. The commune offered him mutual insurance and a "fair share" of fiscal liability (*krugovaya poruka*) in exchange for unstable use rights and tenuous landownership. Their real cost was low productivity and immobility. I show that the post-emancipation commune was being irreversibly transformed by its interaction with the railroads into an increasingly individualist hereditary household farm system. This encouraged investment in land and human capital, raising peasants' productivity and providing them with mobility to benefit from employment in the nascent industry. This also places in doubt the thesis that the Tsarist tax extraction method, which financed industrialization, impoverished the peasantry and triggered the 1905 upheaval. The empirical tests that follow indicate clearly that Stolypin's reform (1906–1917) must have codified a spontaneous and voluntary, if hardly noticed, adaptation to the opportunities and choices that were evolving among the European Russian peasantry since the railroads began their inroads.

It is argued (Pallot, 1999) that the Stolypin reform was imported from Bismarck's Germany (Ascher, 2001, p. 2) and implemented by the coercive Tsarist bureaucracy in the expectation of raising productivity by causing the commune to dissolve. Yet the negative correlation that I found between distance to railroads and individual peasant landholdings shows that economic factors unrelated to the bureaucracy were at play. This concurs with Gregory (1994, 1982) and Simms (1977), who call attention to informal peasant transactions within the formal framework of the commune (Gregory, 1994, p. 52) that accompanied the rising agricultural standards

of living and labor mobility that industrialization facilitated. The transformation is observable in the rising labor mobility, the decline of the share of agriculture in NNP, and the corresponding increase in that of industry (Gregory, 1982, pp. 133–134). Yet Gregory, Simms, and Gerschenkron all disregard the railroads' impact on the Tsarist landholding system. The explanation below of the modernization of post-emancipation Tsarist Russia introduces this missing link.

Nafziger (2007, p. 22), regressing yield per acre on land repartitions,[308] finds a negative correlation between the frequency of repartitions, i.e., instability in land ownership, and productivity. That is, the more frequent the redistributions were, the lower the yield per acre. We show that proximity to the railroads makes land rotation less frequent. The union of the two findings implies that increased access to railroads leads to a rise in land productivity, larger yields per acre. Nafziger (2010, pp. 390, 391, 393, Table 4) also finds support for Gregory and Simms (see above), that despite constraints imposed by the commune, peasant households reacted to mortality shocks by transactions inside the village but outside the communal system. They involved the leasing of land—reallocating allotment land when the commune failed to do so, the hiring of labor, and looking for work outside the commune and even outside agriculture. Nafziger's regressions reveal significant flexibility in individual commune over time in their degree of collectivism. This puts in doubt Gerschenkron's claim about inertia in the communes' practices and the impediment to industrialization that it ostensibly presented. My findings complement Nafziger's insofar as they suggest that the railroads attenuated the grip of collectivist custom that was the backbone of the commune.

Burbank (2004, pp. 18, 19) highlights an upturn in peasant use of the judicial system in locations near railroads. This dovetails with my thesis. Her work, however, fails to explain satisfactorily the mechanisms behind peasants' growing demand for and access to the law for the protection of their property and the enforcement of their personal rights. I attribute this, too, to the effect of peasants' exposure to the wider environment through the socially disruptive medium of rail.

Background: Russian Landholding Modalities from Peter to Stolypin

In pre-Petrine history, all landownership by nobles was conditioned on service to the state (*pomestie*). Peter's reform transformed this practice into *votchina*, allodial property. From 1649 the formal beginning of serfdom until the emancipation,

[308] Ibid., Equation (3): ln(Yield)i=ß+……. +ß3 repartitionsi+ß3Repartitionsi^{2}+dj+ei

peasants needed authorization from landlords even to walk about at distances longer than 30 versts (Blum, 1961) and labored under obligations that effectively reduced them to serfdom (Hughes, 1998, p. 161, quoting Kahan). Thus serfs in Tambov, a black-earth province close to Penza (the region of focal attention below), and in other provinces were tied to the person of the *votchinnik-pomeshchik*, the landlord (Hoch, 1986, pp. 133, 91) and all peasant land was allotment land that belonged to the landlord (Hoch, 1986, p. 16). Peter and his reform (1714), transformed the service nobility's *pomestie* to allodial property rights (Bartlett in Service and Hosking 1999). Peasant households (*dvor*) held farmsteads and buildings (*usad'ba*) in perpetuity (ibid.; Worobec, 1995, p. 21) although their hereditary property rights were limited to the "residential and storage portion" of the farmstead (Hoch, 1986, pp. 16, 117; Hughes, 1998, p. 138; North, 1990, p. 91).[309] Arable allotment land conferred temporary use rights and was periodically redistributed commensurate with changes in the number of *tiyagla* per household (usually construed as an extended household), to which harvests from redistributed allotment land belonged (Hoch, 1986, p. 16). The average peasant landholding was 60 desiatinas (1 desiatina = 1.092 hectares) or 15 desiatinas per head of population (1766 Survey Instruction: Bartlett in Service and Hosking, 1999, p. 78). Landlords also gave members of peasant communes equal access to pastures, meadows, and estate woodlands. In return, serfs commonly had to remit dues in cash (*obrok*) (Hughes, 1998, p. 168) or perform corvée labor (*barshchina*) in the demesne for the right to work an allotment of arable land. In chernozem provinces orientated toward agriculture the latter practice was customary; in non-black-earth provinces that tended toward a crafts-based economy, obrok was the customary obligation. In 1722–1880, a flat-rate poll tax (*podushnaya podac*) was levied against each male and against the household (Hughes, 1998, p. 138; Bartlett in Service and Hosking, 1999, 77). To boost the peasantry's taxpaying capacity while reducing their own surveillance costs, landlords enforced the egalitarian ethos of the commune by imposing mutual responsibility (*krugovaya poruka*) for taxes and dues (De Madariaga, 1998, p. 79). The unit of taxation was a "labor team" comprised of an able-bodied male, his wife, and, at times, a draft animal (*tiyaglo*).

Catherine II's reign (1762–1796) brought further changes. That era was characterized by two countervailing tendencies: territorial expansion that increased the land–labor ratio and the share of serfs in the population, and an influx of Enlightenment ideas (ibid., pp. 126, 127). By promulgating the Charter to the Nobles (1785) after the 1773–1774 Pugachev rebellion, Catherine acknowledged her dependence on the aristocracy's loyalty (Pipes, 1999, p. 192). The transfer of authority from state to landlords under the Charter intensified the depth and extent of serfdom (De Madariaga, 1998, p. 124). An additional charter, addressed to a

[309] Keren (2007) suggests that this practice constituted an adaptation to the poll tax.

restricted category of state peasants, also reflected Enlightenment ideas imported from the West, including recognition of a form of peasant property rights, the right to "travel freely in and out of town" for even the meanest of villagers (*poselyane*), and immunity from dispossession without a trial by peers (the *nizhnyj zemskij sud*) (ibid., p. 87). This charter, however, was a draft that while informally debated was never promulgated.

Discussed above was the impact of the introduction of railroads by the Tsarist state, starting in 1837. It reduced, *inter alia*, the risks of famines and peasant vulnerability to catastrophes (Westwood, 1964, p. 33; Robbins, 1975, p. 37) and provided the peasant alternative means of insurance that could replace the serfs' mutual insurance, with landlords as lenders of last resort (Engelgardt in Frierson, 1993, p. 39). Another effect of this process was population increase due to a decrease in mortality abetted by the railroad-facilitated control of famines and epidemics. Under these structural conditions (Archer, 1995, p. 76), the Russian debacle in the Crimean War (1855) laid bare the irrationality of serfdom to landlords and tenants alike, paving the way to the emancipation and redemption statutes of 1861–1863 (Gerschenkron, 1962, p. 131; Leonard in Bartlett, 1990, p. 317).

The emancipation and redemption reforms established peasants' theoretical equality before the law, abolished bondage, made landownership contingent on local arrangements that allowed peasants to redeem allotments (ibid., pp. 38, 39), and allowed peasants to purchase allotment land (*vykup*). In the initial stage of the reform, charters (*ustavnye gramoty*) allocated a *nadel* allotment—a subsistence quantity of pasture, arable land, and meadows for perpetual use—to peasant households (ibid., p. 40). Next, landlords were to sign agreements (*vykupnye zdelki*) with former serf tenants concerning 20–25 percent of the land, usually the farmstead. The remaining 75–80 percent, comprising arable land, was usually purchased from landlords by the state for redemption by the peasantry over a forty-nine-year term at 6 percent quitrent value (ibid.). The obshchina constituted an administrative unit that required a two-thirds majority vote for decisions on land redistribution or a household's exit from the commune (ibid., p. 188). According to Article 165 of the Redemption Statute, a peasant household could obtain such permission once it paid all redemption arrears (ibid., p. 187). This arrangement allowed communes to perpetuate their jurisdiction over household landholdings for another forty-nine years (ibid., p. 187).

The Stolypin reforms put an end to redemption payments in 1907 and restructured the privatization of landholdings gradually until it was stopped by World War I (Atkinson, 1983, p. 44). The statute that enshrined the reforms, passed on November 9, 1906, codified the privatization of land holdings by establishing hereditary tenure by head of household (*bol'shak*). Such holdings included previously allotted land in the process of *ukreplienie*—establishment of entitlement; tradable within the

peasant estate, head-of-household tenure rights that could serve as collateral for loans from the Peasant Land Bank (Gaudin, 2007 p. 43), additionally reducing the riskiness of peasant exodus from the commune. By legalizing individual household heads' right of title to their allotted landholdings (*ukreplienie*), the Stolypin reform effectively dissolved the village commune (ibid.). It is noteworthy that titled land was the personal property of the *bol'shak* and not of the household at large (ibid.). Insofar as the household left land fallow due to changes in land–labor ratios, the Stolypin ukase allowed the head of household to sell it instead of returning it to the commune as theretofore. Requests for land consolidation—the merger of scattered strips into a single parcel at the time of a general repartition—could not be rejected by the commune (ibid.). In a subsequent decree (June 14, 1910), communes that had not repartitioned since emancipation were allowed to convert members' holdings into hereditary household title by simple majority vote (ibid.). The Stolypin reform allowed the formation of individual household farms within existing obshchina settlements (*otruba*) and outside the village's territorial boundaries (*khutora*) (Pallot, 1999, p. 62). As explained above, titled land restricted the gentry's property rights, could not be sold outside of the peasant estate, and could be mortgaged only via the Peasant Land Bank.[310]

Table 9–1 shows the structure of land holdings in 1913, just before the outbreak of World War I. It includes only ownership forms that represent more than 5 percent of total land area in our sample of the Penza dataset (below) but cover all but 5 percent of the total land area, showing they were the only forms that proved attractive to a significant share of the peasantry. The full table appears in Appendix A. Nearly two-thirds of the cultivated area was still repartitioned allotment land. Nearly 10 percent was allotment land, redeemed under the Emancipation and Redemption acts of 1861, and nearly 16 percent was acquired under the Stolypin reforms. Much of the last-mentioned, however, was strip land, tilled collectively. The remaining 13 percent was individually owned under the Stolypin reforms and individually cultivated.

[310] Gaudin (2007), p. 44. The custom-based volost (cantonal) courts that had adjudicated interaction within peasant estates were replaced by justices of the peace, bringing the peasantry under the universal jurisdiction of the imperial legal system.

Table 9–1 Land Categories, 1913

Major cateory	Designation in Russian	Meaning	Year of origin	Legal origin	% of total area, 1913	Total
Allot-ment land	Nadelnaya Razverstannaya, Razpredelonnaya	Allotment rotating, periodically repartitioned	1649	Serfdom	69.0	
	Nadel Ukreplienie 9 November Czerezpolositsa Razpredelonnaya	Entitled allotment; redistributed strip-farmed land	1906	Stolypin reform	7.3	80.3
Non allot-ment land	Vnenadelnaya Kollektivnaya	Non-allotment collectively managed land	1906-1917	Stolypin reform onward	10.2	
	Vnenadelnyj Yedinolichnyj Otrub	Non-allotment individually owned consolidated parcel	1906-1917	Stolypin reform onward	7.7	19.7

Source: Appendix Table A–1. Only categories that cover more than 1 percent of land area are included.

In sum, fifteen types of landholdings existed in 1913. Only one (allotment land) predated emancipation. Emancipation and redemption introduced the redemption of this land. The Stolypin reform (1906) established the concept of individual entitlement to non-allotted and previously allotted land. Property rights, which in 1785 were transferred from the Tsarist *votchina* to the nobles, were in 1906 handed to heads of household.

Evidence of the Socioeconomic Effects of the Railroads

Although comprehensive time-series data are not available, shorter-term tables in Atkinson (1983) reveal changes in the structure of holdings during the Stolypin reform (1907–1913) and indicate that the reform must have been preceded by spontaneous informal individualization consequent to changes in the environment such as the arrival of railroads.

The tables below provide selected examples. The data on personal appropriations of communal allotment land in 1907–1915 show that mass applications for land title and completed household land appropriations took place in the early stages of the Stolypin reform (1908–1909): see Tables 9–2 and 9–3. These applications—the documented swarm-like demand for exodus from the commune—indicate that commune members had made up their minds before, i.e., that their habits of thoughts had been changing before 1906. My cross-section results for the Penza region (below) indicate that the most extreme changes occurred in locations most susceptible to the inroads of the railroads.

Table 9–2 Personal Appropriation of Communal Allotment Land, 1907–1915
39 Provinces of European Russia and Stavropol Province

Year	Applications for appropriation ('000)	Appropriations completed ('000)	Land appropriated ('000 desiatins*)	Average land per appropriation (desiatins)
1907	212	48	4,316	7.7
1908	840	508		
1909	650	579	4,115	7.1
1910	342	342	2,303	6.7
1911	242	145	996	6.8
1912	152	122	785	6.4
1913	160	134	1907	5.5
1914	120	98	594	6.1
1915	37	30	267	9.0
Total	2,755	2,008	14,123	7.0

Source: Atkinson (1983), Table 7, p. 76. *1 desiatina=1.092 hectares.

The median household allotment was 5–15 desiatins in 1765–1900 (Löwe in Bartlett, 1990, p. 181). According to Atkinson (1983, p. 28), the post-emancipation subsistence allotment was 5-6 desiatins (5.5–6.5 hectares) per male soul; the average per-soul allotment at the time of the emancipation to seigniorial serfs (40 percent of the total) was 3.3 desiatins (about 3.5 hectares) (peasants cultivating state lands were in better conditions and held 5.6 desiatins on the average; appanage peasants belonging to the imperial family 4.1 desiatins (Moon, 1999, p. 22). Therefore, the average appropriation corresponds to the average allotments, since most households had more than one male soul.

It seems to have been the pre-reform codification of landholdings, the de facto transition to hereditary household ownership, that gave rise to massive appropriation of communal allotment land in 1907–1909. This process petered out in 1910–1914 (Table 9–3). Thus, all land that had been used de facto in hereditary tenure before the Stolypin reform became entitlement land once the reform began. The process slowed because the remaining land was less valuable and its potential purchasers—hereditary households—preferred land reapportionment for fiscal-insurance purposes (Burds, 1998, pp. 125, 133, Table 5.2).

Table 9–3 Certifications of Personal Ownership of Communal Allotment Land, 1910–1915 (39 Provinces of European Russia and Stavropol)

	Issued to communes				Issued to individual heads of household		
Year	Number	Number of Households	Land ('000 desiatins)	Avg. land certificate per household	Number	Land ('000 desiatins)	Avg. land certificate per household
1910	69	1,429	12	8. 5	6,787	45	6. 6
1911	2,623	75,356	460	6. 1	91,894	526	5. 7
1912	1,626	36,756	248	6. 7	71,920	424	5. 9
1913	571	26,367	176	6. 7	71,392	390	5. 5
1914	432	10,368	65	6. 3	54,915	287	5. 2
1915	84	2,627	28	10. 5	19,981	135	6. 7
Total	5,405	152,903	989	6. 5	316,889	1. 807	5. 7

Source: Atkinson (1983), Table 8, p. 78.

Table 9–3 documents the issuance of land titles in response to applications (*ukreplenie*) submitted by communes through their assembly (left-hand side) or personally by individual heads of household (right-hand side). The communes' applications indicate that there had been such a "majority aspiration in waiting during the post-Emancipation era" (Macey, 1998, p. 162) that had been legalized and released through the Stolypin reform, that explains the clustering of title issues to the second stage of the reform (1911–1912) (Macey, 1998, 162). The individualization process was disrupted by World War I, applications and title issues plummeting by 64 percent among heads of household and 81 percent among communes. In wartime, evidently, the communal resource pool and mutual insurance delivered greater marginal utility than the entitlement that commune members might claim upon their return from conscription (Johnson, 1979, 37*ff*; Burds, 1998, 125, 133, Table 5.2).

Table 9–4 Changes in Peasant Landholding, 1905–1915

	All peasant land		Land held by communes	
Category and date	Amount (million desiatins)	Percent of total	Amount (million desiatins)	Percent of all peasant land
1905				
Allotment land	138.8	85%	115.4	83%
Private land, owned by:				
Communes	3. 7	2	3.7	
Associations	7.6	5	-	-
Individuals	13.2	8	-	-
Total	163.3	100%	119.1	73%
1915				
Allotment land	138.8	80%	99.0	71%
Private land, owned by:				
Communes	4.6	3	4.6	100
Associations	12.9	7	-	-
Individuals	16.8	10	-	-
Total	173.1	100%	103.6	60%

Source: Atkinson, D., (1983), Table 9, p. 83.

These arguments are corroborated by data on changes in peasant landholdings in 1905–1915, i.e., between the 1905 revolution and the formal inception of the reform in 1906 and the first full year of World War I (see Table 9–4). During this decade, the share of allotment (periodically reapportioned) land held by communes in total peasant land rose by 15 percent while that held by individuals rose by over a quarter. Thus, the commune initially served as a risk internalization device, allowing greater risk-taking in the transition to individual household tenure in the 60 percent share of peasant land that was held in communal tenure. The share of peasant land held by associations and individuals rose by 40 percent during that decade, another indication of flexibility in peasant landholding arrangements (Eggertsson, p. 303). These data may challenge Pallot's conception of the commune as an obstacle to land-tenure individualization (Pallot, 1999, p. 75). Paradoxically, the risk-internalizing functions of the commune, on which Pallot focuses, served as an institutional novelty diffusion mechanism (Kingston-Mann, 1991, pp. 43–45). Once the commune assembly decided by a two-thirds majority (Worobec, 1995; Moon, 1999) to transform communally held allotment land into hereditary tenure or

privately held communal land, clusters of households turned to achieving mutual insurance via cooperative cultivation, rather than risking going it alone by leaving the commune altogether.

The share of total peasant land held by communes declined by 15 percentage points in 1905–1915. This decline is explained by the acquisition of land title by associations and individuals and the transition to privately held communal land.

Table 9–5 Private Landholding, 1905–1915 (million desiatins)

Type of land	1905	1915
All privately owned land	97.9	97.9
Private land held by peasants of which:	24.6	34.4
Individually	13.2	16.8
Collectively	11.4	17.5

Source: Atkinson (1983), Table 10, p. 84.

The table reveals a shift in ownership of privately held gentry land to the peasantry. Individually and collectively held private peasant land increased by some 40 percent. This shift is explained by peasants' acquisition of gentry landholdings, rendering the total share of privately held land unchanged. It is evident from this source that the peasants, privatization notwithstanding, still preferred to cultivate much of their privately-owned land collectively. This may be due to the prevalence of small strip-farmed plots that are best suited to that form of cultivation. This finding is corroborated by the higher frequency of collective cultivation than of individual cultivation in modern privately held non-allotment land, as the share of total land in our Penza data from 1913 shows (below).

Table 9–6 Regional Land Prices and Appropriations of Communal Land, 1906–1914

Great Russian communal provinces		Size of average holding (desiatins)	Average price of land per desiatin in 1806–08 (rubles)	Percent of households appropriating by 1914
I	Southern Steppe	8.5	172	40%
II	Volga Central Agricultural	7.7	122	22%
III	Central Industrial and North West	9.4	76	17%
IV	Border provinces	18.5	33	7%

Source: Atkinson (1983), p. 86, Table 11.

Table 9–6 shows the relation between the price of land and the percentage of households that appropriated their plots. It is easily seen that the higher the price of land is, the larger the proportion that went private. Unfortunately, with only four items available, this information cannot not be generalized. It does indicate, however, that the more productive the land was, the more likely peasants were to

leave the embrace of the commune. Proximity to railroads was not the only factor that might raise land prices, but it was a strong one.

Finally, can we see any economic results of this social upheaval? Recent estimates of growth in agricultural inputs and outputs (Leonard, 2008) show a remarkable jump in both inputs and outputs during the first decade of the twentieth century, indicating an increase of close to 3.5 percent in total factor productivity after decades of negative productivity growth (Table 9–7). As Leonard says (ibid., p. 30), "TFP grows positive in the era just before World War I and revolution, suggesting continuous growth involving structural change rather than simply additions to inputs." It may be hasty to extrapolate from a single decade, but it does seem that the changes taking place under the surface had at last started to have serious economic results.

Table 9–7 Average Annual Rate of Growth (%) in Output and Per Capita Output, per Agricultural Worker (Labor Productivity) and Total Factor Productivity, 1870–1913 (1913 prices)

	Average annual growth (%)				
Period	**Gross agricultural production**	**Gross production per capita**	**Gross production per worker**		**Total factor productivity**
(1)	**(2)**	**(3)**	**(4)**	**(5)**	
1861-71	0.22	-0.4	-0.4		-0.28
1871-81	3.26	1.68	1.81		0.42
1881-91	2.55	1.03	1.11		-2.75
1891-1901	3.25	1.45	1.56		-3.54
1901-11	4.8	3.13	3.34		3.46

Source: Columns (1)–(4): Leonard (2008), p. 20, Table 1. Column (5): calculated from ibid., p. 29, Table 5. Caption retained from source, Table 1 (Bb), concurrence of period covered between caption and table is not complete.

The Data

The data are sourced from *zemstvo* (rural self-government) statistics for the Penza province in 1913, which professional statisticians consider the most reliably gathered source of its kind (Davydov, personal communication, November 2008). This type of collection, compiled annually since the adoption of the zemstvo law in 1864, is available for all fifty *gubernias* (regions) in European Russia. The dataset contains, *inter alia*, records of land ownership in 1913 and distances to railroad stations. It is not clear whether the annual zemstvo statistics for other provinces also report these statistics.

The Penza dataset includes data for groups of village communes included in a *selenie*, an administrative unit that we abbreviate as *selo*. Villages in a selo had

several common facilities, one of which was a railroad station. Thus, in the file of the Archangelskaya *volost* (canton), part of the Kerenskii *uezd* (district), we find under the subtitle "*Spravochnaya Svedenia o Seleniach*" (Certified witnessed data) that the railroad station closest to the Alexieevka *selenie* was 30 kilometers away. Apart from the distance, the dataset includes many other details, from the name of the closest township to the distance to and the number of windmills in the selo, which do not concern us at the present stage.

For each selo, we have data for the obshchinas that belong to it. They include statistics on the types of landholdings in each obshchina, tables documenting peasants' living conditions, the number of "souls" parsed by men and women, and so on. Since the distance from the railroad station is itemized at the selo level while the data on the landholding system (*zemlevladenie*) is given per obshchina, all land areas are aggregated by landholding type in a selo. The percentage of each land type in each selo observation is the dependent variable; distance is the explanatory variable.

Data registration proceeded in two steps. First, I registered a sample of two randomly selected cantons (*volosti*) in each of the nine of ten districts (*uezds*) that form the Penza region. This sample contained for each volost about 100 pairs of randomly chosen selos and adds up to 2,202 selo observations, about 10 per cent of the dataset. This made it possible to test whether the data support our conjecture that the structure of land ownership was influenced by the distance of a selo from rail transport. To our surprise, it did.[311] The process continued with the recording of the full set; the outcome of my tests on it are reported below. This two-step method skirted the charge of data mining: the first step served as an exploratory analysis; the present one, using the simple equations of the first, was the confirmatory stage.

Table 9–8 below uses the Alexieevka selo to illustrate how the data were aggregated. In this case, only four types of landholding were common enough to merit econometric testing.[312] Three of these types are allotment land: rotating allotment land (Type 1 in the Appendix I and II), Stolypin allotment land in scattered strips distributed to the village (Type 7 in the Appendix I and II), and Stolypin allotment land in scattered strips bought by the village (Type 8 in the Appendix I and II). The fourth type is a form of non-allotment land: individual scattered strips. When the percent share of the total area of non-allotment land was examined and compared with the share of non-allotment scattered strips (Type 14 in the Appendix I and II), a slight discrepancy of less than 0.01 desiatina was found, indicating the existence of another type of individual non-allotment land: the non-allotment individual

[311] The results of this exploratory stage were reported in the biannual EACES congress in Budapest and the First International Conference on Comparative Economics in Rome in 2015.

[312] The full dataset also includes only four discrete types of prevalent ownership.

consolidated parcel (Type 15 in the Appendix I and II). In other words, *for this selo*, the share of land types missing in the table is insignificant.

Table 9–8 Example—Aggregation of Villages into Selo Data

Land category	Village 1	Village 2	Village 3	Village 4	Village 5	Village 6	Selo, total
Households holding rotating allotment land			47	99	9	159	336
Area of rotating allotment land	96.46	18	4	737.35	139.44	1011.4	2119.26
% of total area of selo							91.08
Households holding Stolypin allotment land scattered strips, distributed to village	4	0	6	8	1	15	34
Area of Stolypin allotment land scattered strips, distributed to village	27.82	0	17.16	36.87	22.46	76.49	180.8
% of total area of selo							7.77
Households holding Stolypin allotment land scattered strips, bought by village	1	0	0	1	0	1	3
Area of Stolypin allotment land scattered strips, bought by village	4.8	0	0	8.57	0	8.57	21.94
% of total area of selo							0.94
Households holding allotment land, total	21	4	53	105	10	172	365
Total area of allotment land held	129.08	0.17	151.6	782.79	161.9	1096.46	2322
% of total area of selo							99.79
Households holding non-allotment individual scattered strips	0	0	0	2	0	2	4
Area of non-allotment individual scattered strips	0	0	0	2.43	0	2.43	4.86
% of total area of selo							0.21
Households holding non-allotment individual scattered strips, total	0	0	0	2	0	2	4
Total area of non-allotment individual scatter strip	0	0	0	2.43	0	2.44	4.87
% of total area of selo							0.21
Total land held in village	129.08	0.17	151.6	785.22	161.9	1098.89	2326.86

Source: Keren, M. The table is constructed from the percentage shares in the text.

Econometric Tests

The independent explanatory variable in all the regressions that follow is the distance between a selo and the railroad station nearest to it. The dependent variable is the percent share of selected landholding forms in the total land area of the selo in 1913. Only representative forms, those that cover at least 2 percent of the total land area in Penza District, are included. Rarer forms do not appear in many selos; the many zeroes that their inclusion would create would distort the statistics. The forms of main interest are repartitioned allotment land (the most communal form) and non-allotment consolidated individual holdings (the most individual).

Before the results of the regression are shown, a brief note regarding two econometric problems is in place. Most of the regressions exhibit serial correlation and heteroscedasticity, conditions that, untreated, lead to inefficient estimates and unreliable measures of goodness of fit. The former problem is common in time series. Here it indicates that adjacent points are not independent institutional environment or that villages are influenced in their choice of land-ownership forms by neighbors' decisions; it is either local conventions or local soil and climate conditions that may lie at the root of common decisions. This problem is obviated by running AR(1) routines. To deal with heteroscedasticity—non-constant variances—the Generalized Least Squares (GLS) method is invoked.

Table 9–9 Regression Results

Landholding type	Allotment land			Non-allotment land		
	Rotating	Strip-farmed Stolypin)	Allotment	Collectively farmed	Consolidated individual	Non-allotment
# of type in Appendix Table	1	7	Total	13	15	Total
C	0.511 *** *28.987*	0.116 *** *13.071*	0.674 *** *42.645*	0.127 *** *13.978*	0.178 *** *10.999*	0.326 *** *20.637*
DIST	0.0034 *** *6.018*	-0.0007 *** *-2.547*	0.003 *** *5.682*	-0.001 *** *-3.303*	-0.0020 *** *-4.472*	-0.003 *** *-5.682*
ARrep(1)	0.520 *** *33.870*	0.446 *** *16.705*	0.521 *** *29.576*	0.357 *** *13.856*	0.655 *** *30.141*	0.521 *** *29.576*
R-squared	0.293	0.204	0.288	0.133	0.439	0.288
Adjusted R2	0.292	0.203	0.287	0.132	0.439	0.287
Durbin-Watson stat	2.194	2.140	2.167	2.063	2.244	2.167
Schwarz criterion	0.520	-0.576	0.285	-0.414	-0.279	0.285
Observations (N)	3369	3369	3369	3369	3369	3369
Share of total land area	68.98%	7.29%	80.29%	10.22%	7.69%	19.71%

Legend: italicized numbers—t-values. Significance: ***= <1%; **= <5; *= <10

Table 9–9 presents the results of regressions for those forms of ownership that represent more than 2 percent of all land in Penza. These regressions explain 13–

43% of the variance of the regressions, a remarkably high proportion given the small window of opportunity for this process of change and myriad other factors that surely influences the choice. As explained above, only four landholding forms account for more than 2 percent of the total land area in the dataset. Two are types of allotment land: repartitioned allotment land (Type 1 in the Appendix I and II?) and strip-farmed allotment land (Type 7 in Appendix I). The former is the traditional communal holding; its periodic repartitioning was an important equalizing tool that, however, reduced individual incentives to invest in land improvement. The proportion of land held in this form decreases as the railroad is neared, as expected. Namely, given that all land was once allotment land, the closer peasants were to the railroad the faster they converted their allotments into other forms of ownership. The latter form of ownership, the strip-farmed plot (Type 7 in the table), one of the new forms of allotment land introduced by the Stolypin reforms, retains some of the mutual insurance that cooperation within the commune provides and is selected by peasants who are closer to the rails.

The two other types of ownership are non-allotment land. The share of consolidated individual plots (Type 15 in Appendix I), the most individual type, increases as peasants near the rails, as expected. Non-allotment collectively farmed land (Type 13- Non allotment collectively farmed lands in the Appendix II). Non allotment strip farmed land- *cherezpolositsa* is composed of multiple narrow strips pursuant to attempts to achieve fair distribution when land is of varying quality—this is Type 14) .To effectuate collectively farmed land kind of ownership, heads of household had to coordinate their moves and cooperate voluntarily. These parcels, as well as strip-farmed land (*cherezpolositza*) are economical when farmed collectively and harvested individually; therefore, they still leave the fruit of any investment in the owner's hands. The farther peasants were from the modern means of transport, the more they opted for this form. This is either because they chose more remunerative contiguous land over fairer strips when the land was close to the rail or because for strips farther from rails, where proximity to markets did not alleviate risks, they preferred the cooperation that they chose to forgo where transport was less expensive and more reliable.

Thus, all the regressions support our hypothesis that the advent of more affordable and reliable transport (Metzer, 1972, p. 82) did start to relax the communal bonds. The direction of influence of the new transport is easiest to explain in the case of the two extremes, repartitioned allotment land and consolidated private land; their regressions explain between nearly 30 percent and over 40 percent of the variance. The choice of the other two, strip plots, is also explicable on economic grounds. The muzhik was clearly not stuck in any rut; he proved to be an agile decision-maker who took seriously the economic opportunities that he encountered.

It is remarkable how quickly the effect was manifested. Even if the only step that had to be accomplished was to formalize changes that had been taking place informally and gradually since the advent of rail and the beginning of industrialization, the change in the land-ownership regime, a tedious and time-consuming operation—especially given the slow and sleazy Russian bureaucracy—became visible after only six years of life under the new law.

Concluding Discussion

The thesis that early twentieth-century rural Russia was dormant and ossified in its traditional commune organization has strong roots. To change and awaken the peasantry, says this thesis, strong, nay, violent external forces were necessary, and these were applied by Stalin. His collectivization was cruel, possibly too bloody, but necessary. So it is said. The evidence presented in this chapter, however, disproves it. Radical changes took place in the fields decades before Stalin, fragmenting the obshchina and transforming the peasants into independent individual or even freely cooperating farmers driven by market forces. The strong influence of proximity to rail lines in our regressions indicates that railroad construction influenced this trend.

Yet the celerity of changes in land registration, by a bureaucracy that is not known for its efficiency, is surprising. Formally, the changes in landholding took place from the Stolypin reforms of 1906 onward, while the invasion of the rails started before mid-nineteenth century. This leads us to conjecture that the final changes in land registration—and possibly even the laws themselves—came to formalize developments that had been taking place informally since the last decades of the nineteenth century. In other words, the peasantry was not blind to the changes that were taking place around it and that were brought home by the new technologies, particularly the means of transport that integrated the village commune into its surrounding society (Archer, 1995, p. 76; North 1981, p. 13). The unexpected and unforeseen result of the thirty-nine-year Tsarist-led Russian industrialization drive in Penza province (1874–1913) was that rails lured peasants into growing urban centers and integrated them into a society of which they had hardly been aware before. I posit that a gradual and unrecorded adaptation of the landholding system was taking place. If so, the railroads as the harbingers of the new economy determined the pace of transition to a hereditary household-farm system and the dissolution of the commune. The Stolypin reform and the legalization of household-head property rights in land was just a response to real changes that were occurring in the fields (ibid.; Boyer and Orlean, 1993, p. 2; Gaudin, 2007, p. 43).

Clearly, Stalin was not necessary. Did he, however, accelerate change or impede it? This seems to be the proper spot to mesh our results with the masterly estimates of Cheremukhin et al. (2014). Leonard's estimates of strong acceleration of productivity growth during the end of nineteenth and the first decade of the twentieth century (Table 9–7) indicate that the changes documented in this chapter were just starting to influence output in the fields; it is very likely that they would have accelerated had the trends at the start of the twentieth century continued. Therefore, absent the three cataclysmic events that intervened—the Great War, the Revolution, and collectivization—the high estimate of Cheremukhin et al. (2014) should be viewed as the more likely one. After the war, even after the Revolution, Russia should have returned to its previous path. After collectivization, this was no longer conceivable. Stalin must have slowed down or even frozen rural development.

Plainly, Stalin was the problem, not the solution. The Russian village, as we leave it on the eve of the terrible war that would transform Europe and prepare it for a second and even more terrible one, was in the throes of a wide-ranging upheaval. Absent Stalin, this would have accelerated and brought Russian agriculture closer in shape to that of Western Europe. As it happened, Stalin destroyed the enterprising element in the village and converted the potential entrepreneurial farmer into a passive state employee. Russian agriculture has not awakened from the torpor he imposed on it; even now, a quarter century after the end of communism in Russia, agriculture has not come to life.

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Appendix I - Land Categories, 1913

	Major Category	Designation, Russian	English Translation	Meaning	Year of origin	Law	Share of total area, %, 1913	Total
1	Allotment land	Nadelnaya Razverstannaya, Razpredelonnaya	Allotment rotating, redistributed	Periodically repartitioned	1649	Serfdom 4	69.0	
2		Nadelnaya Razversttannaya Kupplennaya	Allotment rotating purchased, redistributed	Periodically repartitioned	1861	Emancipation	0.3	
3		Nadelnaya Vykup Statia165. Czerezpolositsa Razpredelonnaya	Allotment redeemed Paragraph 165. strip-farmeding. redistributed	Allotment strip-farmed land, redistributed, redeemed after § 165	1861	Para. 16, Redemption Statute, § 165	0.1	
4		Nadelnaya Vykup Statia§ 165 Czerezpolositsa Kuplennaya	Allotment redeemed, strip-farmed, purchased	Allotment household redemption of strip-farmed redistributed land	1861	Redemption Statute, § 165	0.0	
5		Nadelnaya Vykup§ 165 Otrub razpredelonnaya	Allotment redeemed § 165 consolidated redistributed	Eedistributed allotment consolidated and redeemed after § 165	1861	Redemption Statute, § 165	0.2	
6		Nadel Vykup 165 § Otrub Kuplennyj	Allotment redeemed, consolidated, purchased	redeemed allotment after §165 consolidated plot purchased	1861	Redemption Statute, § 165	0.1	
7		Nadel Ukreplienie 9 November Czerezpolositsa Razpredelonnaya	Allotment entitlement of redistributed strip-farmed land, 9 November Stolypin reform	Allotment entitlement of redistributed strip farmed land November 9 Stolypin reform	1906	Stolypin reform	8.3	

8		Nadelnaya Ukreplennie 9 November Czerezpolositsa Kupllennaya	Allotment entitlement 9 November Stolypin strip-farmed purchased	Allotment, entitlement strip land, purchased by commune	1906	Stolypin reform	0.8	
9		Nadelnaya Ukreplenie 9 November Otrub Razpredelonnaya	Entitlement to consolidated redistributed allotment land after November 9 Stolypin reform	Antitlement allotment land, consolidated, redistributed	1906	Stolypin reform	1.4	
10		Nadelnaya Ukreplenie 9 November Otrub Kupplennaya	Entitlement to consolidated purchased allotment land after November 9 Stolypin reform	Entitlement allotment land, consolidated, purchased	1906	Stolypin reform	0.4	
11		Nadel v Drugoi Obshchinie Razpredelonnaya	Allotted redistributed by the commune land in other village	Allotted redistributed land in other villages	1906 - 1917	Stolypin reform	0.4	
12		Nadel v Drugoi Obshchinie Purchased	Allotted purchased by commune land in other village	Allotted purchased land in other villages	1906 - 1917	Stolypin reform	0.0	80.3
13	Non allotment land	Vnenadelnaya Kollektivnaya	Nonallotment collective	Non-allotment collectively managed land	1906 - 1917	Stolypin reform onward	10.2	
14		Vnenadelnaya Yedinolichnaya Cherezpolositsa	Non-allotment individual scattered strips	Non-allotment, individual, strip-farmed	1906 - 1917	Stolypin reform onward	1.8	
15		Vnenadelnyj Yedinolichnyj Otrub	Non allotment individual consolidated parcel	Non-allotment, individual, consolidated parcels	1906 - 1917	Stolypin reform onward	7.7	19.7

Appendix II - Full Regression Results

Landholding type	Allotment land							
	Rotating	Strip farmed Stolypin)						
# of type in Apendix Table A-1	1	2	3	4	5	6	7	8
C	0.511 ***	0.002 **	0.002 ***	0.001 ***	0.003 ***	0.003 ***	0.116 ***	0.009 ***
	28.987	2.368	3.257	3.110	3.153	2.690	13.071	5.861
DIST	0.0034 ***	0.000	0.000	0.000	0.000 **	0.000 *	-0.0007 **	0.000
	6.018	1.105	1.223	-1.526	-1.683	-2.278	-2.547	-0.647
AR(1)	0.520 ***	0.032	0.134 *	0.274 ***	0.256 ***	0.426 ***	0.446 ***	0.209 ***
	33.870	1.521	1.917	7.046	1.834	3.674	16.705	3.227
R-squared	0.293	0.001	0.018	0.076	0.067	0.183	0.204	0.04414
Adjusted R-squared	0.292	0.001	0.018	0.075	0.067	0.183	0.20315	0.04357
Durbin-Watson stat	2.194	2.003	2.004	1.997	2.050	2.258	2.14002	2.05759
Schwarz criterion	0.520	-4.429	-4.562	-7.532	-4.785	-5.282	-0.576	-3.9439
# of observations	3369	3369	3369	3369	3369	3369	3369	3369
Share of total land	68.98%	0.17%	0.31%	0.06%	0.19%	0.12%	7.29%	0.76%

Land-holding type						Non-allotment land			
	(Stolypin) Strip farmed	(Stolypin) Strip farmed	(Stolypin) Strip farmed	(Stolypin) Strip farmed	(Stolypin) Strip farmed	Collectively farmed	Indivi-dual scattered strips	Consoli-dated individual	Total non allotment
# of type in Appendix Table	9	10	11	12	Total Allotment Land	13	14	15	
C	0.016 ***	0.001	0.010 ***	0.003 ***	0.674 ***	0.128 ***	0.019 ***	0. 178 ***	0. 326 ***
	5.408	1.051	5.119	4.903	42.645	13.978	5. 708	10. 999	20. 637
DIST	0.000	0.000	0.000	0.000 *	0.003 *	-0.001 ***	0. 000	-0. 0020 ***	-0. 003 ***
	-0.949	1.243	0.301	0.298	5.682	-3.303	1. 677	-4. 472	-5. 682
AR(1)	0.142 ***	0.117 *	0.222 ***	0.034 ***	0.521 ***	0.357 ***	0. 185 ***	0. 655 ***	0. 521 ***
	3.052	2.117	4.363	1.499	29.576	13.856	5. 192	30. 141	29. 576
R-squared	0.021	0.017	0.049	0.001	0.288	0.133	0. 036	0. 439	0. 288
Adjusted R-squared	0.020	0.016	0.048	0.001	0.287	0.132	0. 035	0. 439	0. 287
Durbin-Watson stat	2.012	2.016	2.034	1.968	2.167	2.063	2. 026	2. 244	2. 167
Schwarz criterion	-2.006	-5.700	-3.304	-4.723	0.285	-0.414	-2. 032	-0. 279	0. 285
# of observations	3369	3369	3369	3369	3369	3369	3369	3369	3369
Share of total land	1.44%	0.35%	0.42%	0.002	80.29%	10.22%	1.80%	7.69%	19.71%

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