

Institutions, taxation, and market relationships in ancient Athens

Lyttkens, Carl Hampus

Published in: Journal of Institutional Economics

DOI:

10.1017/S1744137410000159

2010

Link to publication

Citation for published version (APA):

Lyttkens, C. H. (2010). Institutions, taxation, and market relationships in ancient Athens. Journal of Institutional Economics, 6, 505-527. https://doi.org/10.1017/S1744137410000159

Total number of authors:

General rights

Unless other specific re-use rights are stated the following general rights apply:

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.

 • You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

Read more about Creative commons licenses: https://creativecommons.org/licenses/

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Download date: 22. Dec. 2025

Institutions, taxation, and market relationships in ancient Athens

Carl Hampus Lyttkens
Department of Economics, Lund University, Sweden
carl_hampus.lyttkens@nek.lu.se

Abstract: This paper explores the institutional and economic development in ancient Athens from around 600 B.C. into the fourth century, a period during which the Athenians experienced oligarchy, tyranny, a gradually evolving but eventually far-reaching male democracy, followed by a return to more influence for the elite. Concomitantly, economic life changed qualitatively and quantitatively. Self-sufficient farming gradually gave way to market relationships and there was substantial economic growth. This analysis of institutional changes in Athens emphasises the importance of credible commitments from those in power to other groups in society. It is furthermore likely that the increasing reliance on market relationships gradually transformed individual behaviour and individual beliefs, leading to changes in the formal and informal rules in society. Taxation played an important role: it pushed people into market relationships, illustrated the need for credible commitments, and helps to explain why foreigners were so prominent in trade in ancient Athens.

1. Introduction

"The social sciences are noteworthy by their relative absence" in the study of the ancient world, and yet "the archeological and textual record provides an astonishing degree of information about these societies" (Morris and Weingast, 2004: 702). In particular, the ancient world provides a very promising ground for analyses using the tools of the New Institutional Economics, contrasting with the tendency within humanistic research on the ancient societies to produce "economic history without economics" (Morris and Manning, 2005: 3).

This paper explores certain key aspects of the institutional and economic development in ancient Athens from the perspective of New Institutional Economics. ¹ It begins in the archaic period around 600 B.C. with Athens under aristocratic rule, covers the development of democratic institutions, and ends with the transformation of political and economic institutions in the fourth century B.C. The analysis of this process of institutional changes emphasises the importance of credible commitments from those in power to other groups in society. The study belongs to the social-scientific tradition and so it will necessarily ignore a wealth of seemingly important details in order to focus on the structure of the process of institutional change. ²

Morris and Weingast (2004) single out precisely the development of democracy in Athens as an interesting point of intersection between New Institutional Economics (NIE) and the study of the ancient world. There is no lack of material: "The Greek *poleis* in general were characterized by the abundance of their political institutions, and democratic Athens was notoriously in the lead; in fact, never before or since has such an elaborate network of institutions been created and developed in order to run a quite small and fairly simple society" (Hansen 1991: 319). The main purpose of this essay is to show that the NIE framework outlined in section 2 helps explain what might otherwise appear as a set of diverse institutional developments. The Athenian case is interesting in its own right in view of the renown of the Athenian democracy, and it contributes to our understanding of institutional change.

Discussions of the development of democracy increasingly emphasise that there is no mono-causal relationship between economic development and institutional change. Rather, there is a complex interplay between these two processes, where different societies may end up on

¹ The use of economic analysis in this context has been criticised on the grounds that economic life was "embedded" in antiquity so that market forces played no independent part (Finley, 1999 [1973]). This arguably is a matter of degree. On the one hand, much economic behaviour in the modern world is also "embedded", so the ancient world was not that different. On the other hand, embeddeness leaves considerable scope for analyses based in institutional economics, which emphasises social norms, interaction between economic and social domains and people's beliefs (Greif, 1994a, 2006; North, 1990, 2005). Furthermore, Murray (1990) argues that institutional change in ancient Greece displays a high level of rationality.

² For the humanities, "God is in the details [....] social sciences, on the other hand, cut through the messy details that make up real life to find underlying general structures and principles" (Morris, 2002: 8).

different paths due to particular early circumstances.³ As formulated by Greif (2005: 727), "…neither the assertion that liberal political institutions lead to markets nor that markets lead to liberal governance are supported by theory or history. Markets and political institutions co-evolve through a dynamic inter-play between contract-enforcement and coercion-constraining institutions." For the Athenian case, Ober (2008) argues eloquently that democracy enhanced the economic performance of the state, and enabled the Athenians outdo their rivals in prosperity. It is also well established nowadays that specific institutions promote economic growth. Regarding this interplay, the focus here, however, will be on the influence running in the *other* direction, from economic life to institutional change.

The rest of this paper is organised as follows. Section 2 provides the analytical framework. Next the analysis proceeds in three chronologically ordered sections dealing with the changes in political institutions: the defusing of a revolutionary situation under Solon in 594 B.C. (henceforth all dates are B.C.), the rule and fall of tyrants in the second half of the sixth century, and the development and consolidation of democracy in the fifth and fourth centuries. The following section contains a brief sketch of the changes in economic life in Athens 600-300 B.C., whereupon the effects of these changes on political behaviour and tax evasion are discussed. Section 5 offers some further reflections on Athenian taxation, credible commitments and institutional development. Section 6 provides some concluding remarks.

2. Analytical framework

Ancient Greece witnessed frequent political transition in the archaic and classical periods, from oligarchy to democracy or tyranny and back again. Such political transitions, as well as several other aspects of institutional change, are intrinsically linked to the issue of credible commitment (North and Weingast, 1989), and to the predatory model of the state as an agency of a group or class with the function to extract income from the rest of the constituents (North, 1981, 2005). In their stimulating book on the economic origins of democracy, Acemoglu and Robinson (2006; henceforth A&R) argue that elites, when threatened by revolution from below, will sometimes choose to democratise, even though economic concessions may seem preferable. The reason is that promises of economic concessions are not credible into the future unless there is a shift of political power to the poor majority, because the revolutionary situation will eventually abate, and when it does, there is nothing to stop the elite from taking back any economic concessions if they retain the same political power as before. A revolutionary situation is intrinsically transitory – in some situations, revolutions are easier and less costly to carry out. This occurs typically in times

³ Acemoglu et al. (2005), Acemoglu and Robinson (2006), Greif (2005), North (1990, 2005), Paldam and Gundlach

of economic or military crises, which lead to short term fluctuations in the violence potential of different groups. It is possible to prevent a revolution, because a revolution is costly and much of the wealth of a society may be destroyed (to everybody's loss).

Similarly, with a democratic constitution, where the poor majority rules, the majority may seek to reduce the threat of an elite coup by shifting some political power to the elite, as a guarantee (credible commitment) that exploitation of the rich through taxation etc. will not become excessive. The presence of a middle class, finally, may act as a buffer. The middle class "will typically support policies much closer to those that the elite prefer [...] making democratization more attractive for the elites than repression and changing policy enough that the citizens are content not to revolt" (A&R: 39).

The formal rules in a society may promote efficient economic behaviour, but that is by no means necessarily the case, as the ruler's best interest depends *both* on the cost of extracting resources from the economic agents *and* on the size of the extractable surplus (North, 1981; Olson, 2000). Additionally, even if potentially efficient institutions are in place, it does not automatically foster efficient economic activity in society, because "a state strong enough to protect property rights is also strong enough to abuse them" (Greif, 2005: 747). In other words, there have to be coercion-constraining institutions as well. The NIE tradition also emphasizes the importance of social norms and the belief system of the actors (North, 1990).

Greif (2005) argues that contract-enforcing institutions, i.e., market enhancing institutions, have a tendency to reveal the property of those who utilise them. Therefore, for such institutions to have beneficial effects on trade and growth, it is necessary for the state to credibly commit to not using its powers and the information to confiscate the property so revealed. This problem can induce the ruler to shift some coercive power (e.g. political power) to the tax-payers.

Greif (2005: 748) also points out that "a ruler's costs and benefits from abusing rights depends on administrative capacity and who controls the administration [...] in particular, if the state's administration is controlled by the asset holders, abusing their rights can undermine, rather than foster a ruler's welfare." Hence the administrative control by asset holders may provide the expectation that a ruler will not abuse rights, and thus the conditions favourable to the growth of the market.

In a recent paper dealing with ancient Greece, Fleck and Hanssen (2006) show that an elite may *voluntarily* introduce democracy as a way to credibly commit not to confiscate the increase in income that would be generated if ordinary farmers made long-term investments in their land. The elite benefits from democracy because the revenues from taxation of the farmers – now

determined by the farmers themselves – could be higher than under aristocratic (oligarchic) rule. Fleck and Hanssen show that the extent to which democracy emerged in different ancient Greek societies is consistent with their theoretical predictions.

However, this is not the whole story about credible commitments and the emergence of democracy in ancient Greece. Firstly, if the ordinary farmers are given the right to decide on taxation, why should they tax themselves and not the aristocracy? A major issue for both the introduction and the stability of democracy was the ability of the poor majority to credibly commit not to tax the rich excessively. Secondly, neither of the first two sets of "democratic" reforms in Athens was voluntary. Thirdly, we need to accommodate the fact that the development sometimes took a turn in a non-democratic direction in Athens. Such issues are incorporated in the extended theoretical framework of A&R, which therefore provides a better understanding of the emergence of democracy in Athens, the one case in ancient Greece where we can follow events more closely.

3. Political transitions in ancient Athens as rational institutional change The reforms of Solon

The city-states of ancient Greece witnessed many violent shifts of political regime in the seventh and sixth centuries, in particular in connection with military crises, which of course easily turned into economic crises. In the seventh century, Athens was ruled by a birth aristocracy. It was an aristocratic prerogative to hold the offices of state, of which the most important were the nine elected archons. Ex-archons had a seat in the Council of the Areopagos, where membership was for life. At the beginning of the sixth century, social tensions in Athens led to what is often described as a revolutionary situation. According to Aristotle (*The Athenian Constitution* V.1-2), "the people rose against the notables [and] the party struggle [was] violent." As a consequence, the aristocrat Solon was appointed archon and mediator for the year 594/3.

The situation that faced Solon is a clear case of a revolutionary threat – an economic crisis⁴ – like the one envisaged in the A&R model. Several factors may have contributed to increasing tensions between the rich elite and the rest of the population. Morris (2002) suggests that population growth had reduced the production per capita, making dependent farmers increasingly worse off. The divide between rich and poor may have been exceptionally large in Athens (Morris, 2000: 288, 305). In addition, it is generally presumed (not least on the basis of the subsequent reforms) that there were individuals who were wealthy but who were excluded from political and judicial power, *qua* not belonging to the old aristocracy.

To prevent a revolution, Solon gave political rights to the rich non-aristocrats and improved the economic situation of the poor. Firstly, he co-opted the rich non-elite by substituting wealth for noble birth as a qualification for holding office. Whether he enacted other constitutional changes is more contentious. The Assembly of all citizens probably existed before Solon, but he may have instituted a new Council of 400, where issues had to be discussed before being taken up in the Assembly.⁵

Secondly, Solon enacted economic concessions to the population at large – cancellation of debts, abolishment of slavery for debt, etc. It is debatable whether these economic concessions were seen as a credible commitment to ease the economic situation of the ordinary population in the long run,⁶ but given the fact that the most likely leaders of a revolt were given some political

⁴ Athens suffered military defeats in the late seventh century against Megara, Mytilene and perhaps Aegina (Morris, 2002).

⁵ Ober (1989: 64) notes: "... Solon was attempting to establish a sociopolitical order in which the privileges of the elite would be secured by granting minimal rights to the poor." No definite conclusion will ever be reached regarding the precise nature of Solon's reforms (Hansen, 1991; Manville 1997 [1990]; Morris, 2002; Osborne, 1996a). Foxhall (1997) and Davies (2003) both warn against attributing, with hindsight, democratic visions to Solon.

⁶ We may see a reflection of the short-run nature of the solution in the troubles already emerging in the 580s over the appointment of archons (Aristotle, *The Athenian Constitution*, XIII.1-2).

power, so that the collective action problem of the ordinary farmers was exacerbated, these measures were apparently sufficient to defuse the situation in the short and medium run. "It may be sufficient for the elite to co-opt the middle class rather than concede a comprehensive democracy" (A&R: 39).

Note that political power was given to those who were *rich*, but outside the traditional birth aristocracy - obviously there was no threat that this small step towards a more democratic regime would lead to the poor majority taxing the rich. If a nondemocratic elite can manipulate the institutions of democracy so as to guarantee that radical majoritarian policies will not be adopted, then democracy becomes less threatening (A&R: 34).

The tyranny of Peisistratos and his sons

The sixth century witnessed many instances of continued political turmoil in Greece. Sometimes a single member of the elite took control over the state as a tyrant. The material is often very scanty, but it appears that tyrants usually replaced aristocratic oligarchies. The sixth century tyrants often came to power with outside help (Osborne, 1996a: 272), but arguably ruled with at least the implicit consent of a large part of the population. From the middle of the seventh century and onwards, well-to-do farmers who could afford the equipment of a hoplite (heavy infantryman) were of considerable military importance. It is often argued that the tyrants tried to please the common people, e.g., by spending on public works.

In the middle of the sixth century Peisistratos established himself as a tyrant in Athens, after two unsuccessful attempts. This turn of events is not particularly surprising because, I would argue, the Solonian measures had not entailed any fundamental change in the economic situation of the poor; in the long run, they would again fall into debt to the elite, who could also use their control over the political and judicial system to further their own interests.⁸ Furthermore, while the poor did not risk debt bondage (of which we hear nothing more in Athens), they may have suffered economically by the inability to use their own person as collateral (Ober, 1989: 62). Hence, over time, it is likely that discontent with elite rule once again became widely spread.

⁷ The often informative writings of the fourth century are coloured by the political debate of that century and the meaning of a term like "the people" (demos) could vary considerably (Robinson, 1997: 80, n. 59).

⁸ According to Aristotle (The Athenian Constitution IX.1), the most democratic of Solon's reforms was the right to appeal against the decision of an archon. This argument may have its merit for fourth-century Athens, but it is not necessarily true for Solon's time. One suspects that the common people would have remained dependent on the local landlord in judicial matters, vide the fact that Peisistratos found it expedient to provide travelling judges. It seems much more likely that in Solon's time the right of appeal was an example of elite self-regulation, just as Osborne (1996a: 187) has argued for the early written laws.

An important consideration for the Peisistratids – as for any ruler (North, 1981) – was their ability to reward those who supported their regime, which depended both on their revenues and on their other expenditures. Under Peisistratos, tax revenues likely increased with the increase in trade and real incomes (cf. below), but the increase in tax revenues also made it more attractive to challenge their rule *ceteris paribus* (Greif, 1994b). Another important source of revenue was the personal assets of Peisistratos and his sons (Hippias and Hipparchos), which included property in the Mount Pangaeus region, well-known for its gold mines.

As time passed, military expenditures increased. Peisistratos himself largely ruled without external conflicts (Aristotle, *The Athenian Constitution* XVI.7), but his sons were engaged in wars (Thukydides, VI.54.5), and their expenditures were greater than their father's (Andreades, 1979 [1933]). Furthermore, the threat from the Persians increased after the fall of Lydia in 546. About this time, the trireme – an expensive and specialized warship – was increasingly adopted, adding to the cost of war considerably and entailing state navies (Morris, 2009). The Persians built a fleet in the late 520s. As a result of Darius' campaign against the Scythians, the Persians took control of much of Thrace, probably in 512, making income from the Mount Pangaeus area a very uncertain source of revenue for Hippias at best (Lewis, 1988: 297). The Persian expansion would also have reduced any revenue from Sigeon, which may have been seen as a family possession (Andrewes, 1982: 403-404).

Hence we find Hippias increasingly being unable to credibly commit to rewarding his followers to the same extent as before. The deteriorating balance between revenues and expenditures can help explain why Kleisthenes of the Alkmaionid family managed to form a coalition that ended Hippias' rule. The loss of the Thracian possessions may have been instrumental – it certainly coincides nicely in time (probably in 512) with the first attempt by Spartans to oust him (probably in 511) and their eventual success (510). This being said, we should also note that the decline of tyranny was a trend in the Aegean at this time (Morris, 2009).

The Athenian democracy and its tenacity

After the fall of the Peisistratids, it is a good guess that everybody expected a return to traditional elite competition for power. Tyranny was – after all - just an extreme outcome of the aristocratic rivalry (Osborne, 1996a: 272-85). The Peisistratids had not changed the formal institutions. However, in the ensuing political struggle, Kleisthenes inadvertently took a step that started a long-term process of democratising developments – he turned to the common people for support in the aristocratic struggle. This was an unprecedented action.

Kleisthenes' action and his success in the ensuing struggle temporarily put him in a position where he could reform the constitution. He divided Attica into 139 *demes*, distributed among ten new artificial tribes, and a new Council with 500 members replaced the Solonian council. We do not know if Kleisthenes made any changes in the criteria for eligibility, or any other significant changes with respect to the formal rules for the archonships, the Assembly or the Areopagos. Many scholars argue that the *deme*-reform was used to reduce the influence of the old nobility over the population (thus strengthening Kleisthenes' relative position), for example, by breaking the political influence of old cult centres (Salmon, 2003). Furthermore, several scholars suspect that Kleisthenes tried to manipulate the distribution of demes in order to increase the influence of his family (Ostwald, 1988: 310-319), but we do not know if the irregularities were introduced after Kleisthenes (Osborne 1996a: 300-303). 10

The most important of Kleisthenes' actions, however, was the fact that he violated the unwritten *informal rules* of the aristocratic struggle for power when he appealed to the common people – an important institutional change. The elite realised that they had a new tool to use against each other. As the aristocracy adapted to the new situation, they would become more and more prone to advocate measures that would benefit the common people. "Rich and well-born Athenians competed vigorously, sometimes savagely, with each other for political influence, and they used appeals to the masses as ploys in their ongoing political struggles" (Ober, 1989: 84).

At this point event-history makes an inevitable appearance in this structural account. In the absence of Kleisthenes' particular action, Athens may well have remained an oligarchy, as the experiences of other Greek city-states show. Kleisthenes hit upon a solution to his short-run problems that had tremendous long-run consequences, since it changed the nature of aristocratic competition for power. It provides an example of how particular circumstances can set a society on a path that ends in democracy.

Gradually, as people became more aware of the issues at stake, and with new measures increasing the influence of the less affluent majority (cf. below), the process would become self-reinforcing. Those who tried to direct Athenian policy constituted a relatively small group and they were usually active in politics for a considerable time (Hansen, 1991: Ch. 11). To be successful in the Assembly, a political leader would increasingly have had to advocate measures that benefited the poor majority, even though leaders themselves were initially of high birth.

_

⁹ Kleisthenes gave the Assembly the right to hear political trials – this was no longer the exclusive right of the Areopagos (Hansen 1991: 37). He probably introduced the well-known process of ostracism.

¹⁰ In the literature (including our ancient sources) Kleisthenes is depicted both as a self-interested manipulator and as a visionary democrat (Ober, 1996: 41). Once again, Davies' (2003) salutary warning against the latter view applies. Snodgrass (1980: 198) notes the "absence of anything that was *necessarily* democratic about his administrative provisions."

"Whatever authority they wielded was dependent upon the people's continuing approval [...] rhetores [politicians] were judged each time they stood up in the Assembly" (Ober, 1989: 121).

For the ordinary people the incentives to take part in the political process increased, because trade and reliance on imports increased (cf. section 4). Reliance on market relationships rather than self-sufficiency implies that one is more affected by public policy measures. Furthermore, the Athenian Empire (cf. below) meant that a significant portion of the Athenian population had a direct interest in foreign policy as it affected their livelihood.

Between the year of Marathon and the outbreak of the Peloponnesian War (i.e., 490-331), the constitution of Kleisthenes was gradually transformed into what was for the male citizens a far-reaching direct democracy (women, non-citizens and slaves were excluded). When the transition was complete, archons, councillors and other magistrates were all chosen by lot for one year. Jurors were selected by lot for one day. The only elected magistrates of importance were the ten generals. Citizens of all classes could speak in the Assembly and serve as jurors in the popular courts. Theoretically, the lowest property class were still excluded from the Council and offices, but this rule probably already ceased to function in the fifth century. Each man could only serve twice in his lifetime on the Council (once in other offices). The Areopagos had lost almost all of its judicial powers. Citizens were paid for serving as jurors, on the Council and in other offices. Few of these changes can be dated with any certainty. Selection by lot for archons was introduced in 487. Several of the other reforms occurred around 460-50, and are associated with Ephialtes and Perikles.

This development was not uncontroversial; for example, Ephialtes was murdered and Thucydides (I.107.4-5) mentions an abortive aristocratic coup in 458/7. Nevertheless, the process continued largely without causing violent attempts by the elite to regain control of the Athenian state. Several factors help explain this. The necessary condition was that it remained credible that the poor majority would show restraint in using its political power to tax the rich.

Firstly, the existence of a "middle class" of military importance, consisting of well-to-do farmers, made democracy more acceptable to the rich elite as it ensured that the poor would not conduct too radical taxation policies. ¹² Secondly, in 478/77 the Delian league, later to become the Athenian Empire (more aptly labelled The Greater Athenian State (Morris, 2009)), was formed as a military coalition against the Persians. Over time, it increased the prosperity of Athenian citizens in several ways, despite the cost of keeping a fleet (Morris, 2009). The poor gained from

10

¹¹ This coincides in time with the reform that allowed the third property lass, presumably the bulk of the hoplites, to become archons (Aristotle, *The Athenian Constitution* XXVI.2). This reform may have been the cause of the attempt or the reason it failed or both.

employment in the fleet and (from the 440s) in the building projects on the Acropolis. For the rich, the Empire brought overseas acquisitions, while the poor could move abroad as settlers in colonies (cleruchies). Trade increased, and the revenue from harbour dues increased as Athens benefited from its position. Hence the rich Athenians had a positive interest in not rocking the boat, while the situation of the poor could improve without increasing the tax burden on the rich. Thirdly, it has been argued that landholdings in Attica were relatively egalitarian by 500 (Morris, 2002, 2004). An egalitarian distribution of assets meant that there was less of a threat of excessive taxation of the rich (A&R: 35ff). While the distribution of non-landed wealth was probably much less equal, such wealth was also more difficult to tax, being much less visible (Gabrielsen, 1986). Fourthly, there was the revenue from the new silver mines in Laureion.

Then the Peloponnesian War (431-404) obviously changed the situation. The Athenians lost the war, and with the loss of the Empire, the poor could no longer credibly commit not to start taxing the rich at much higher rates than before. Military expenditures and other public expenditure would in the future have to be financed through internal revenues. The internally financed military expenditures were already increased during the war (cf. section 5), and revenues from taxation of trade must have been at a low ebb immediately after the war.

So it comes as no surprise that members of the elite staged a coup d'état in 411 (in the aftermath of the disastrous military expedition to Sicily) and that they used the Spartans to set up an oligarchy in 403 (after the end of the war). These attempts by the elite to take over failed, and there were lots of contingent reasons for these two oligarchic coups. Nevertheless, it seems obvious that something had to give if future attempts by the rich to put an end to democracy were to be avoided.

The solution was to reduce the power of the Assembly and to increase the influence of those institutions where the elite had more influence, in particular the Areopagos. In 403-399, the Athenians codified and revised their laws, and the Assembly was deprived of a number of its powers (Hansen, 1991). For example, the right to pass laws (nomoi), was transferred to boards of nomothetai, appointed (probably) by lot for one day from the 6,000 jurors that were chosen by lot for one year. The authority of the council of the Areopagos was gradually extended from 403 and through the fourth century. For example, in 403/2, the Assembly decreed that the Areopagos was to supervise the administration of the laws by the magistrates. Around 355 the Assembly was deprived of its jurisdiction in major political trials. (Some scholars argue, however,

¹² This should not be taken to deny that the poor majority was important, and increasingly so after Salamis in 480 (Aristotle, *Politics* 1304a17-24), but the hoplites were important too, and many of them were, e.g., absent when the Areopagos was deprived of most of its powers in 462.

¹³ According to Hansen (1991: 303-304) the courts and the *nomothetai* were the organs for keeping the Assembly and the political leaders in their place.

that traditional accounts exaggerate the changes between the fifth and fourth centuries (Millet, 2000; Ober, 1989: 95ff).)

With the restoration of democracy in 403/2, payment to jurors and councillors was reinstated. Payment to magistrates, however, was not reintroduced. Instead, assembly pay was introduced and raised in the decade following the restoration of democracy (Hansen, 1991: 188, 240-41, 254). It is probably significant that Assembly pay was introduced *after* the reduction of the powers of the Assembly, while payment to magistrates was discontinued, which meant that these positions would be in the hands of the relatively affluent in society. I would also argue that it is unlikely that the *working* poor could afford to sit as jurors. The expected pay for turning up would be around 1 obol (1/3 chance of being picked, remuneration 3 obols; Hansen, 1991: Ch. 8) whereas the daily wage is usually thought to have been between 1 and 2 drachmas (1 drachma = 6 obols).

Hence the overall tendency of the reforms was to reduce the threat of excessively populist policy decisions. The elite was given more influence over what happened in the Athenian democracy, thus making it more acceptable to them. In retrospect (and arguably also as perceived at the time), this was necessary for the continued existence of democratic rule. It nicely illustrates Ober's (2008) argument that the Athenian democracy showed great capacity to adapt its institutions to changing circumstances. While many authors note that the Athenians wanted a "less radical" democracy, the changes have not been connected to the issue of credible commitments with respect to treatment of the rich.

4. Market relationships, economically rational behaviour and institutional change

Economic development 800-322

Morris (2004) has estimated that there was almost a ten-fold increase in population in Greece including Attica over the period 800-300, but that this was outpaced by economic growth, so that real income per capita increased by 50-100% over the period. For example, by "300 the typical Greek house cost something like five to ten times as much as the typical house had around 800" (Morris, 2004: 720).

Trade expanded at least from the eighth century with concomitant specialisation (Osborne, 1996a,b; Thomas and Conant, 1999; Morris, 2002; Reed, 2003). In the late seventh century, "a handful of Greeks were aggressively pursuing gain all across the Mediterranean and doing very well out of it" (Morris, 2002: 32). Probably by 500, major Greek cities such as Athens were

permanently reliant on imported grains,¹⁴ and olive oil and wine were exported by a number of Aegean states (Davies, 2007: 343). By the sixth century, there were true cities with resident artisan and traders. There was extensive horizontal specialisation in the form of diversified occupations in classical Athens (Harris, 2002), and exports included also ceramics and other manufactured goods (Amemiya, 2007: 86).

The expansion of trade was facilitated by the introduction of coinage. It is commonly argued that this important institutional change, which occurred in Greece in the mid sixth century, was probably not motivated by any desire to facilitate trade (despite statements by Herodotos and Aristotle to the contrary (von Reden, 1997)). Irrespective of the original purpose, however, the beneficial effects of coinage on economic transactions will have become quickly apparent. Not surprisingly, small denominations, conducive to monetising everyday transactions, have now been shown to have already appeared in connection with the beginnings of silver coinage in the sixth century (Kim, 2002). Monetisation was also encouraged by payment of taxes in cash – another institutional change, which pushed in particular the rich into the market. "The Greek micro-states all became monetized fiscal systems in the fifth century" (Davies, 2007: 358).

As a result of grain imports and specialisation, Athens ceased to be a community of self-sufficient farmers. In the fourth century, we meet one Phainippos who prefers to produce wine on his well-watered lands, a crop that could provide cash (Osborne, 1991: 127). "Phainippos' farming policy certainly was not centred on self-sufficiency, and [we have] no warrant for ascribing to him a 'satisficer' rather than a 'maximiser' mentality' (Osborne, 1991: 140). Similarly, Christesen (2003) argues that individuals in fourth century Athens displayed instrumental, income-maximising behaviour.

Reliance on the market was not restricted to the rich. "In bad years most and in normal years many Athenians had to buy their cereals. Aristophanes tells us about a peasant who carries his wine to the market to sell it and buy flour instead" (Hansen, 1987: 12.) "Extensive specialization of labour made it inevitable that the average Athenian [...] would have dealings with those outside the restricted circle of family, neighbours, and friends. When he bought and sold, he thus had to enter the world of market relations" (Harris, 2002: 76). The growing importance of the market is illustrated by an innovation in language; the word agora originally signified public meeting place, but by the middle of the fifth century a new verb, agorazo, "I buy" had appeared (Davies, 2007: 335).

¹⁴ Some believe that the dependency on imported grain began later than commonly assumed, and also that it was demand for better quality wheat that drove the early grain imports (Möller, 2007: 363).

¹⁵ Cyrus (Persian ruler c. 557-530) replied to a Spartan embassy, "I never yet feared men who have a place set apart in the midst of their city where they perjure themselves and deceive each other" (meaning, Herodotos (I. 152-53) explains, the Greek market-places).

At least by the late fifth century, it is evident that market forces are at play and that people are aware of this. Several remarks in the comedies of Aristophanes make it clear that prices fluctuate with supply, e.g., people rushing to buy cheap sardines (*Knights* 640ff). Land was being bought as an investment to improve and resell (Xenophon, *Oeconomicus* XX. 22-26), and deliberate investment for profit becomes visible in the form of urban rental property (Davies, 2007: 357). Aristotle, Finley (1970: 13-14) notes, "knew perfectly well that prices sometimes responded to variations in supply and demand." Loomis (1998: 254) argues that "economic forces of supply and demand are a [...] likely explanation for differences in wage rates across occupations and over time in Athens in the fifth and fourth centuries." Indeed, according to Bitros and Karayiannis (2008), Athens became "a vibrant market economy" and this development was encouraged both by a value system conducive to entrepreneurship and by measures that facilitated private contracting. Similarly, Amemiya (2007: XI) finds that "fifth and fourth century Athens had an extensive monetary and market system." The gradual shift of political power towards the common people likely functioned as a coercion-constraining institutional change, conducive to the expansion of market transactions.

In the second half of the fourth century, changes in legislation were undertaken in order to facilitate commercial activity, in particular for foreigners (Burke, 1992; Cohen, 1992). The procedures for hearing commercial disputes were altered to allow adjudication within a month, and the law was changed to admit to litigation individuals without regard to their nationality (consequently public revenues increased in the 330s, in all probability from harbour dues). Also by the fourth century, there were private banks in Athens that took deposits and lent to private entrepreneurs. "The bank is a business yielding a hazardous revenue from money which belongs to others" (Demosthenes, *For Phormio XXXVI.11*).

To sum up, we have three simultaneous and interdependent developments: income growth, increasing trade and specialisation, and a movement towards a monetised market economy. The pace and scope of this development are open to debate, but the direction seems clear. It should be envisaged as a gradual process, beginning no later than the seventh century and possibly accelerating after the Peloponnesian War. These processes were encouraged by institutional changes (coinage, taxation etc). At the same time, the development arguably had repercussions for people's behaviour, their belief system and their moral attitudes.

Consequences of the changes in economic life in Athens

It seems reasonable to argue that the gradual expansion of individualistic market relationships (the logic of the market) encourages self-interested behaviour and an individualistic ethos, ¹⁶ i.e., more of what we would call "economically rational behaviour," and less "embeddeness," paving the way for a further expansion of markets.

Tentatively, I would argue that over the three centuries 600-300 an increasing prevalence of market transactions (in contrast to giving and lending from family, friends and neighbours) thus induced people to think and behave differently, but also, equally importantly, to expect another kind of behaviour from their fellow citizens. The individual would increasingly expect economically rational behaviour – looking after one's own interest – whether in business transactions, politics, as tax payers, or in public administration (an example of intertransactional linkages, to use the term recently introduced by Greif (2006: 48)). Compare Thucydides' (I.70) description of the Athenians: prone to innovation, inclined to take the utmost advantage of any possibility, constantly on the lookout for new opportunities. That this "economic rationality" gradually evolved does not mean that it describes all behaviour at any point in time in this period; but then it does not describe all behaviour in modern society either.

These changes may have been further encouraged by an interaction between individual behaviour and income levels. Obviously the rise in incomes gave room for leisure and thus facilitated political participation, but an increase in average incomes may also have affected the nature of individual behaviour. To see why, consider how people make decisions in everyday life. There are two polar modes (ideal types) of decision making – on the one hand, the individual who makes conscious efforts to engage in explicit and calculated decision-making on the basis of expected costs and benefits associated with different alternatives, and, on the other hand, those who follow their habits, who explain their behaviour with reference to the habitual, and who act in an unreflective manner. The former type corresponds to "economically rational behaviour" – it is assumed in most economic analyses. Everybody obviously follows habits to a large extent, otherwise life would be unmanageable (Hodgson, 1997).

In modern society, there are several reasons to believe that those with fewer resources at their disposal are more prone to rely on habits (Lindbladh and Lyttkens, 2002). From a sociological perspective, one could argue that among those in low social positions an adjustment to the long-term experience of narrow margins generates a disposition to act in accordance with the principle of habit; it makes it natural and comfortable to keep things as they are – it just

15

¹⁶ The upper class was characterised by a highly competitive individualistic ethos at least from Homeric times (Murray 1993: Ch. 12). Indeed, individualism is seen as a heritage of ancient Greece (Greif, 2005: 769).

seems meaningless to devote resources to explicit decision making.¹⁷ In an economic perspective, one would argue that explicit decisions are costly (transaction costs) and as such more likely to be undertaken by the affluent in society. Additionally, experience in the process of explicit decision-making reduces the cost of that same activity, so the tendency for the well-off to involve themselves more in explicit decision-making is self-reinforcing.

The implication of these considerations is that a general increase in prosperity is likely to produce more of explicit decision-making, more of economically rational behaviour, and more of a positive attitude towards such behaviour. This is probably particularly important in times of rapid changes in society, as is the case now and as arguably was the case in the late archaic and classical periods in ancient Greece as well. Consequently, I would suggest that similar considerations are likely to apply in ancient society, *mutatis mutandis*, so that the prevalence of economically rational behaviour – interpreted as explicit decision-making based on perceived costs and benefits – is likely to have been encouraged in Greece as real income increased over the centuries.

The changes in attitudes and behaviour, as well as changes in what kind of behaviour people expect from others, have important implications for the effects of different institutional set-ups and for the incentive to change institutions. For example, the basis for compliance with the property taxation was eroded as the act of tax compliance became more of a consciously calculated decision for the rich, rather than being something which followed automatically (by habit) with one's social position. In a first stage, the basis for compliance likely shifted from custom to "quasi-voluntary" compliance. With the latter notion, Levi (1988) suggests that individuals may choose to pay taxes even in situations where in principle it is individually rational to evade the burden (e.g., because the probability of detection is low), but only if it is believed that others also pay their taxes and that the revenue is used in a way they find beneficial. When either of these two conditions ceases to be fulfilled, tax evasion follows. The latter change probably had taken place at least by 400, because we hear numerous stories from the law courts of individual tax-evasion in the fourth century (cf. below). The emergence of economically rational behaviour arguably also increased the demand for market-enhancing institutions, such as those introduced in Athens to facilitate commercial activity.

Importantly, the change in attitude must also have had repercussions in another domain, namely the political market. When people expect others to act as economically rational, self-interested individuals, the political market becomes more obviously an arena for the extraction of

¹⁷ This reasoning is inspired by the habitus theory (Bourdieu, 1986, 1990), which ultimately accounts for the logic and reason of everyday practices. People learn by their everyday actions to recognise the limits of their potentialities.

surplus from others; in other words, conforming more and more to the rational-actor model in A&R. The changes in outlook that followed from the increasing importance of market relationships will have strengthened the tendency that successful politicians had to advocate policies that benefited the poor majority.

Those active in the governing of the state were originally members of the elite, and it is among them that we would expect the change in attitude to have manifested itself first. If we think of this process as under way already in the sixth century, Kleisthenes' "unprecedented" action becomes a natural consequence of an increasing tendency to view the political arena as a means to further one's own interests. It helps explain why other members of the elite followed his example and advocated measures that benefited the majority in order to gain their support in the competition within the elite.

As time passed, this new political attitude would spread to the common people, reinforcing the tendency among the elite to try to enlist them by promising them benefits of different kinds. By the time we can talk about a fully developed democracy, after the reforms of Perikles around 450, it must have become an issue of the extent to which poor would use the political arena to exploit the rich through redistributive measures such as taxation, confiscations etc. It is a recurrent theme in the ancient literature that the poor in a democracy might exploit the rich in political trials. A trial could lead to heavy fines or outright confiscation of property. The revenue from the courts could make a large contribution to state revenue, but it is not known to what extent rich persons actually suffered in the courts (Ober, 1989: 200-202). In an oration spoken after 338 "there are three examples of how the Athenian courts did *not* fall into the temptation of condemning a number of rich mining-concessionaires. On the other hand, [...] in those very same years, the richest of all [...] Diphilos, was condemned [...] and his fortune of 160 talents distributed among the citizens" (Hansen, 1991: 315). At that time, 160 talents corresponded to some 13% of total public revenue.

The change in outlook probably also contributed to (and was reinforced by) changes in the composition of the class of political leaders in Athen. An increasingly economic outlook would mean that – over time – leaders would not be supported *qua* belonging to the traditional elite, but rather based on what they could be expected to deliver in terms of benefits. Unsurprisingly, one finds that "Down to and including Perikles all Athenian leaders [...] had been aristocrats and landowners; after him they were often of lower birth – just as wealthy [...] their power was based much more on their ability to persuade people in the Assembly" (Hansen, 1991: 39). In the fourth century noble ancestors largely ceased to have a role, and we even find men of modest

Through the mechanism of habitus, objective conditions are (subconsciously) converted into subjective aims and

means among the politicians (Ober, 1989: Ch. 6.E; Davies, 1981:Ch. 6). In the fourth century, public payments that benefited the poor increased.

The increasing tendency towards economically rational behaviour can help explain another feature of Athenian democracy. The Athenians were extremely careful to establish institutions that enabled them to prevent magistrates (and anybody else who handled public money) from enriching themselves at the public's expense, and rules that meant politicians were held accountable for the advice they gave. "The Athenians had the characteristic of being honest with themselves about themselves. [...] they went on the basis that, given the chance, every one of them would have his hand in the till and make a profit out of political activity, and they took every possible means to limit the chances" (Hansen 1991: 310). This overriding aspect of the Athenian institutions has a very natural explanation in the emergence of economically rational behaviour.

One should point out at this juncture that experience of the practical running of the democratic institutions was widely spread among the citizens. In the fourth century, the male citizens numbered perhaps around 30,000 and Assembly meetings (of which there were 40 a year) were generally attended by at least 6,000 citizens. Hansen (1991: 313) calculates that the rules regulating rotation on the council and magistracies ensured that every third citizen served at least once on the council, and that the pool of magistrates must have been well above 1200 citizens. This popular participation likely had far-reaching consequences and was instrumental in enabling the Athenians to adapt their institutional structure to changing conditions and to maintain a social equilibrium between the elite and the common citizens (Ober, 2008).

5. Variations on a theme – some further notes on taxation in Athens

The nature and development of taxation often have much to tell us about a society (Levi, 1988; Lieberman, 2003; North, 1981). The relationship between the power to tax and institutional change has already figured prominently in the account above. In this section we shall see that the risk of excessive taxation and importance of credible commitments may help explain some further specific institutional changes in the Athenian economy.

In the classical period, it was considered a duty and an honour for a rich Athenian citizen to perform a liturgy – to finance and manage certain functions for the common good. The trierarchy was a military liturgy; to commission and command a state-owned warship for a year. The other liturgies concerned the religious festivals. In the fourth century there were about 100 festival liturgies each year (Davies, 1967). The cost of a liturgy often exceeded the annual wage of

a skilled workman. The major festival liturgy is first attested at Athens in 502/1 (Capps, 1943). The trierarchy is attested for Samos in 494 and for Athens and other states in 480 (Herodotos VI.14, VII.181, VIII.46, VIII.90; Gabrielsen, 1994: 37-39). Having been appointed to perform a liturgy, it was punishable to avoid it, and avoiding liturgical service could be used against one in court.

A few years into the Peloponnesian War (428/7) a direct tax on wealth is mentioned for the first time – the *eisphora* (Thukydides III.19.1). It was a tax on property, usually used in times of war. In the following century it was a normal feature of the economic and political life of the Athenians, despite their dislike of direct taxation. In 378/7, the citizens liable for the *eisphora* were divided into 100 symmories and a general reassessment was made. This was probably also the time when the *proeisphora* was introduced; the 300 richest citizens (3 for each symmory) could be called upon to advance the total amount of the *eisphora* to the state and thereafter to reimburse themselves from the other taxpayers. It also seems likely that in 358/7 a symmory system was introduced or extended to cover those liable to perform trierarchies, and was reorganised in 340.¹⁸

Volunteering liturgists were important throughout the classical period. Towards the end of the fifth century, however, and frequently during the fourth century, we hear of people being accused of evading their civic obligations, of not performing liturgies or not paying the *eisphora*, and of concealing their wealth (Cohen, 1992: Ch. 6; Gabrielsen, 1986; Lyttkens, 1994). It is difficult to tell if this was a new phenomenon, because we have few sources from before 430 that could be expected to bring up such issues. There are, however, several reasons to believe that tax evasion increased over time. Firstly, the growing importance of non-landed wealth (in the increasingly monetized economy) made tax evasion easier. Secondly, as already mentioned, the gradual emergence of economically rational behaviour must have reinforced the tendency of tax evasion. Thirdly, the expected average level of property taxation increased in the fourth century, when the tribute from the Empire was lost and the cost of running the democracy was higher (Hansen, 1991). Furthermore the rich now had less to gain from the Athenian wars.

As tax evasion became an important topic in the forensic speeches, people's belief systems changed in the direction of expecting more economically rational behaviour from others (and less quasi-voluntary compliance), which would again increase the propensity to evade taxation.

On the face of it, the formalisation of the eisphora was to the disadvantage of the tax payers. However, as noted in Lyttkens (1994), the introduction of the *proeisphora* meant that the

¹⁸ Much remains obscure regarding the symmory system(s) and lists of those liable to perform trierarchies and other liturgies (Gabrielsen, 1994: Ch. 8).

¹⁹ Kaiser (2007) shows that the mechanisms involved lend support to the rational-actor model of Athenian taxpayers.

rich elite had gained considerably in influence over the use of the tax. Arguably, it could only be used with the implicit approval of the rich elite. This change in the system of property taxation may then have been a necessary condition for the continued survival of Athenian democracy, in addition to the changes discussed in section 3. "A ruler's costs and benefits from abusing rights depends on administrative capacity and who controls the administration" (Greif, 2005: 748). When the rich control the tax administration, democracy becomes more acceptable. It does not seem too far fetched to suggest that the introduction of symmories for the trierarchies had a similar effect to the *procisphora* system, namely that it increased the elite's administrative control.

Finally, it is a common argument that a large part of the trade in Athens was in the hands of foreigners. This is often explained by the fact that the Athenians tended to take a disparaging view of commercial activities, and did not want to lower their own status by partaking in them (Finley, 1999 [1973]; contra Bitros and Karayiannis, 2008). However, it has not been noted that there was a fundamental institutional reason for this "specialisation". Foreigners were not allowed to own landed property in the Greek city-states. As noted above (section 4), the Athenians developed some contract-enforcing institutions in the second half of the fourth century, which facilitated the use the legal system in commercial disputes. The pertinent fact is that the use of these institutions inevitably entailed a disclosure of one's wealth. Therefore, these contract-enforcing institutions could be efficiently used only if the state could credibly commit not to transgress the property rights of those who used them. And this was possible precisely in the case of foreign merchants, who could easily move to another locality with their assets, assets which did not include landed property. Any attempt by the Athenian state to tax them at excessive rates would simply have led to exit. The Athenians themselves were in a very different position, often with a very substantial part of their wealth in landed property. Hence, the commercial activities of Athenian citizens were less likely to be favourably affected by this set of institutions.

6. Concluding remarks

That institutions influence economic behaviour and performance has long been one of the basic tenets of the New Institutional Economics, but it is equally clear that influence also runs the other way (North, 1981). This preliminary exploration into the structural determinants and effects of institutional change in ancient Athens adds some new insights into the political and economic development in the archaic and Classical periods.

Politically, Athens changed from an oligarchy to a slightly extended oligarchy, then to tyranny, and then gradually towards democracy, which was seriously threatened after the

Peloponnesian War, but survived in a revised form down to 322. Theses political transitions in Athens are consonant with the view that the nature of rule, and the extent to which concessions are made to the other party, whether by the elite or by the poor majority, are significantly affected by what those in power can credibly commit to doing, or, in particular, not doing, as envisaged by Acemoglu and Robinson (2006). At the same time, the specific path followed by Athens in the fifth century was due to a particular decision in a formative moment, but even so the development towards a male democracy stayed within the bounds given by the general structural factors (the scope for credible commitments).

Changes in economic life – an increasing reliance on market relationships and possibly also the increase in incomes – gradually transformed individual behaviour and the individual's view of the world. The ensuing emergence of economically rational behaviour partly shaped the effects of the political institutions and contributed to the overall political developments. It also fed back into the gradual development of market relationships, altered the effects of taxation and affected the demand for market enhancing institutions.

Taxation, finally, added to the changing outlook of the individual by pushing people into market relationships. The need for those in power to credibly commit not to abuse property rights also helps explain some organizational features of Athenian property and why foreigners were so prominent in trade in ancient Athens.

Acknowledgment

Helpful comments from three anonymous referees of JOIE are gratefully acknowledged. This research has received financial support from the Gyllenstiernska Krapperup Foundation, and the Partnership Foundation, School of Economics and Management, Lund University.

References

Acemoglu, D. et al. (2005), 'Income and democracy', CEPR Discussion Paper Series No. 5273.

Acemoglu, D. and J. A. Robinson (2006), *The Economic Origins of Dictatorship and Democracy*, New York: Cambridge UP.

Amemiya, T. (2007), Economy and Economics of Ancient Greece, Abingdon: Routledge.

Andreades, A. M. 1979 [1933], A History of Greek Public Finance, New York: Arno Press.

Andrewes, A. (1982), 'The tyranny of Pisistratus', in *The Cambridge Ancient History*, 2nd ed., Vol. III.3, pp. 392-416.

- Bitros, G. C. and A. D. Karayiannis (2008), 'Values and institutions as determinants of entrepreneurship in ancient Athens', *Journal of Institutional Economics*, **4**: 205-230.
- Bourdieu, P. (1986), Distinction. A Social Critique of the Judgement of Taste, London: Routledge.
- Bourdieu, P. (1990), The Logic of Practice, Cambridge: Polity Press.
- Burke, E. M. (1992), 'The economy of Athens in the classical era: some adjustments to the primitivist model', *Transactions of the American Philological Association*, **122**: 199-226.
- Capps, E. (1943), 'Greek inscriptions: A new fragment of the list of victors at the City Dionysia', *Hesperia*, **12**: 1-11.
- Christesen, P. (2003), 'Economic rationalism in fourth century BCE Athens', *Greece & Rome,* **50**: 31-56.
- Cohen, E. E. (1992), Athenian Economy & Society. A Banking Perspective, Princeton: Princeton UP.
- Davies, J. K. (1967), 'Demosthenes on liturgies: A note', Journal of Hellenic Studies, 87: 33-40.
- Davies, J. K. (1981), Wealth and the Power of Wealth in Classical Athens, Salem, New Hampshire: The Ayer Company 1984.
- Davies, J. K. (2003), 'Democracy without theory', in P. Derow and R. Parker (eds.), *Herodotus and his World*, Oxford: Oxford UP, pp. 319-335.
- Davies, J. K. (2007), 'Classical Greece: production', in W. Scheidel, M. Morris, and R. Saller (eds.), *The Cambridge Economic History of the Greco-Roman World*, pp. 333-361.
- Finley, M. I. (1970), 'Aristotle and economic analysis', Past and Present, No. 47: 3-25.
- Finley, M. I. (1999) [1973], The Ancient Economy, London: Chatto & Windus.
- Fleck, R. K.. and F. A. Hanssen (2006), 'The origins of democracy: A model with application to Ancient Greece', *Journal of Law and Economics*, **49**: 115-145.
- Foxhall, L. (1997), 'A view from the top', in L. G. Mitchell and P. J. Rhodes (eds.), *The Development of the Polis in Archaic Greece*, London: Routledge, pp. 113-136.
- Gabrielsen, V. (1986), 'ΦANEPA and ΑΦΑΝΗΣ ΟΥΣΙΑ in Classical Athens', *Classica et Mediaevalia*, **37**: 99-114.
- Gabrielsen, V. (1994), Financing the Athenian Fleet. Public Taxation and Social Relations, Baltimore: The Johns Hopkins UP.
- Greif, A. (1994a), 'Cultural beliefs and the organization of society: A historical and theoretical reflection on collectivist and individualist societies', *Journal of Political Economy*, **102**: 912-50.
- Greif, A. (1994b), 'On the political foundations of the late medieval commercial revolution: Genoa during the twelfth and thirteenth centuries', *Journal of Economic History*, **54**: 271-287.

- Greif, A. (2005), 'Commitment, coercion, and markets: the nature and dynamics of institutions supporting exchange', in C. Ménard and M. M. Shirley (eds.), *Handbook of New Institutional Economics*, Dordrecht: Springer, pp. 727-786.
- Greif, A. (2006), Institutions and the path to the modern economy, New York: Cambridge UP.
- Hansen, M. H. (1987), The Athenian Assembly, Oxford: Basil Blackwell.
- Hansen, M. H. (1991), The Athenian Democracy in the Age of Demosthenes, Oxford: Basil Blackwell.
- Harris, E. M. (2002), 'Workshop, marketplace and household', in P. Cartledge, E. E. Cohen, and L. Foxhall (eds.), *Money, Labour and Land*, Abingdon: Routledge, pp. 67-99.
- Hodgson, G. M. (1997), 'The ubiquity of habits and rules', *Cambridge Journal of Economics*, **21**: 663-684.
- Kaiser, Brooks A. (2007), 'The Athenian trierarchy: mechanism design for the private provision of public goods', *The Journal of Economic History*, **67**: 445-480.
- Kim, H. S. (2002), 'Small change and the moneyed economy', in P. Cartledge, E. E. Cohen, and L. Foxhall (eds.), *Money, Labour and Land,* Abingdon: Routledge, pp. 44-51.
- Levi, M. (1988), Of Rule and Revenue, Berkeley: University of California Press.
- Lewis, D. M. (1988), 'The tyranny of the Pisistratidae', in *The Cambridge Ancient History*, 2nd ed., Vol. IV, pp. 287-302.
- Lieberman, E. S. (2003), Race and Regionalism in the Politics of Taxation in Brazil and South Africa, New York: Cambridge UP.
- Lindbladh, E. and C. H. Lyttkens (2002), 'Habit versus choice: the process of decision-making in health-related behaviour', *Social Science & Medicine*, **55**: 451-465.
- Loomis, W. T. (1998), Wages, Welfare Costs and Inflation in Classical Athens, Ann Arbor: The University of Michigan Press.
- Lyttkens, C. H. (1994), 'A predatory democracy? An essay on taxation in classical Athens', Explorations in Economic History, **31**: 62-90.
- Manville, P. B. (1997) [1990], The Origins of Citizenship in Ancient Athens, Princeton: Princeton UP.
- Millet, P. C. (2000), 'Mogens Hansen and the labelling of Athenian democracy', in P. Flensted-Jensen, T. Heine Nielsen, and L. Rubinstein (eds.), *Polis and Politics. Studies in Ancient Greek History*, Copenhagen, pp. 337-362.
- Morris, I. (2000), Archaeology as Cultural History, Oxford: Blackwell.
- Morris, I. (2002), 'Hard surfaces', in P. Cartledge, E. E. Cohen, and L. Foxhall (eds.), *Money, Labour and Land.* Abingdon: Routledge, pp. 8-43.
- Morris, I. (2004), 'Economic growth in ancient Greece', *Journal of Institutional and Theoretical Economics*, **160**: 709-742.

- Morris, I. (2009), 'The Greater Athenian State', in I. Morris and W. Scheidel (eds.), *The Dynamics of Ancient Empires*, New York: Oxford UP, pp. 99-177.
- Morris, I. and J. G. Manning (2005), 'Introduction', in J. G. Manning and I. Morris (eds.), *The Ancient Economy. Evidence and Models*, Stanford: Stanford UP, pp. 1-44.
- Morris, I. and B. R. Weingast (2004), 'Views and comments on institutions, economics, and the ancient Mediterranean world: introduction', *Journal of Institutional and Theoretical Economics*, **160**: 702-708.
- Murray, O. (1990), 'Cities of reason', in O. Murray and S. Price (eds.), *The Greek City from Homer to Alexander*, Oxford: Clarendon Press, pp. 1-25.
- Murray, O. (1993), Early Greece, London: Fontana Press, 2nd ed.
- Möller, A. (2007), 'Classical Greece: distribution', W. Scheidel, I. Morris, and R. Saller (eds.), *The Cambridge Economic History of the Greco-Roman World*, Cambridge: Cambridge UP, pp. 362-384.
- North, D. C. (1981), Structure and Change in Economic History, New York: W.W. Norton & Company.
- North, D. C. (1990), *Institutions, Institutional Change and Economic Performance*, New York: Cambridge UP.
- North, D. C. (2005), Understanding the Process of Economic Change, Princeton: Princeton UP.
- North, D. C. and B. R. Weingast (1989), 'Constitutions and commitment: the evolution of institutions governing public choice in seventh-century England', *The Journal of Economic History*, **49**: 803-32.
- Ober, J. (1989), Mass and Elite in Democratic Athens, Princeton: Princeton UP.
- Ober, J. (1996), The Athenian Revolution, Princeton: Princeton UP.
- Ober, J. (2008), Democracy and knowledge, Princeton: Princeton UP.
- Olson, M. (2000), 'Dictatorship, democracy, and development', in M. Olson and S. Kähkönen (eds.), *A not-so-dismal science*, Oxford: Oxford UP, pp. 119-137.
- Osborne, R. (1991), 'Pride and prejudice, sense and subsistence: exchange and society in the Greek city', in J. Rich and A. Wallace-Hadrill (eds.), *City and Country in the Ancient World*, London: Routledge, pp. 119-145.
- Osborne R. (1996a), Greece in the Making 1200-479 BC, London: Routledge.
- Osborne R. (1996b), 'Pots, trade and the archaic Greek economy', Antiquity, 70: 31-44.
- Ostwald, M. (1988), "The reform of the Athenian state by Cleisthenes, in *The Cambridge Ancient History*, 2nd ed., Vol. IV, pp. 113-136.
- Paldam, M. and E. Gundlach (2008), 'Two views on institutions and development: the grand transition vs the primacy of institutions', *Kyklos*, **61**: 65-100.

- Reed, C. M. (2003), Maritime traders in the ancient Greek world, Cambridge: Cambridge UP.
- Robinson, E. W. (1997), *The First Democracies. Early Popular Government Outside Athens*, Stuttgart: Franz Steiner Verlag.
- Salmon, J. (2003), 'Cleisthenes (of Athens) and Corinth', in P. Derow and R. Parker (eds.), Herodotus and his World, Oxford: Oxford UP, pp. 219-234.
- Snodgrass, A. (1980), Archaic Greece. The Age of Experiment, London: J M Dent & Sons Ltd.
- Thomas, C. G. and C. Conant (1999), *Citadel to City-State*, Bloomington & Indianapolis: Indiana UP.
- Von Reden, S. (1997), 'Money, law and exchange: coinage in the Greek polis', *Journal of Hellenic Studies*, **117**: 154-76.

Ancient sources

- Aristophanes, *Knights, in* Aristophanes, The Acharnians, The Clouds, The Knights, The Wasps. The Loeb Classical Library, London: Harvard UP, 1992.
- Aristotle, *The Athenian Constitution*, in *Aristotle*, Vol. XX, The Loeb Classical Library, London: Harvard UP, 1981.
- Aristotle, Politics, in Aristotle Vol. 21, The Loeb Classical Library, London: Harvard UP, 1977.
- Demosthenes XXXVI (For Phormio), in *Demosthenes* Vol. IV, The Loeb Classical Library, London: Harvard UP, 1984.
- Herodotos I, VI-VIII, in *Herodotus*, Vols I, III, I, The Loeb Classical Library, London: Harvard UP, 1990, 1982, 1981.
- Thukydides I, III, VI, in *Thukydides*, Vols I-III, The Loeb Classical Library, London: William Heineman Ltd, 1991, 1958, 1959.
- Xenophon, Oeconomicus, in Xenophon IV, The Loeb Classical Library, London: Harvard UP, 1979.