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Resilience to Shrinking as a Catch-Up Strategy: a Comparison of Brazil and Indonesia, 1964–2019

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Abstract

Development economics has long focused on growth patterns to explain countries' ability to catch up and forge ahead. We argue, however, that resilience to economic shrinking matters more. Using the examples of Brazil and Indonesia, we propose that a framework consisting of social capabilities—namely structural transformation, autonomy, and inclusion—can explain why Indonesia is more resilient to economic shrinking than Brazil and why the country is more likely to be successful in its catching-up process.

Keywords Economic shrinking · Income convergence · Social capabilities · Latin America · Asia · Brazil · Indonesia

JEL Classification N10 · O20 · O43

Introduction

A longstanding question remains today as to why some countries are rich while others remain poor (Lewis 1955; Kuznets 1966; Abramovitz 1986; Rodrik 2009; Acemoglu et al. 2001, 2002; Engerman and Sokoloff 2002; North, Wallis, and Weingast 2009; Acemoglu and Robinson 2012). The answer is often tautological; some countries are richer because they have grown more. The road to prosperity is simply to grow. Recent studies, however, suggest that too much focus may have been placed on growth and that it is at least as important to avoid shrinking, defined here as

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a year-on-year decline in GDP per capita.¹ Countries like UK and Sweden forged ahead through stable growth rates and shrank less frequently (Broadberry and Wallis 2017; Andersson 2018). A comparison between regions in the Global South shows that, between 1950 and 2016, Asia grew at a higher rate and had a lower frequency of shrinking than Sub-Saharan Africa (SSA). Andersson (2018) simulated a counterfactual by giving SSA the shrinking pattern of Asia, which resulted in a GDP per capita almost four times higher than in reality. To understand why some countries are rich and others are not, we must therefore also understand the dynamics of resilience to economic shrinking. Traditional growth theory focuses on factor accumulation and productivity increases through, for example, innovation and technological change, but provides little explanation of the causes of increased resilience to shrinking.

In a similar vein to Béné et al. (2014), we define resilience to economic shrinking as a country's ability to adapt and transform in response to economic conditions. How this resilience develops can, in turn, be conceptualized through a social capability approach grounded in Abramovitz (1995) in conjunction with the transition from limited to open access social orders through the fulfillment of the doorstep conditions as postulated by North, Wallis, and Weingast (2009). In short, “transformation,” “autonomy,” and “inclusion”—three of the social capabilities defined by Andersson (2018)—are the vectors that allow any given nation to reach the doorstep conditions—namely the rule of law for elites and institutional impersonality—which, in turn, allows economies to be more resilient to shrinking as they transition toward open access order societies. Open access order societies will more effectively adapt and transform their economies in response to external shocks as they are less susceptible to internal pressures stemming from vested interests.

We provide an in-depth study of Brazil and Indonesia to understand how resilience to shrinking can develop. These countries are an interesting comparison both for their apparent similarities and their differences. First, both countries are members of the G20 and, as such, have some of the largest economies in the world. Furthermore, Brazil and Indonesia are the 6th and 4th most populous countries in the world, respectively, and both have populations concentrated in specific regions.

Second, although Indonesia has historically been more dependent on natural resource rents, in recent years, this gap has closed (World Bank, 2021).

Third, both countries have experienced long periods of authoritarian military rule followed by a successful transition to democracy. Brazil was under authoritarian rule for 20 years between 1964 and 1984. Indonesia became increasingly authoritarian in the first half of the 1960s and witnessed a military dictatorship under Suharto from 1967 to 1998. Both countries are today democracies.

In terms of catching up, the countries have been on different paths. Brazilian economic development took off already in the nineteenth century when Indonesia was still a Dutch colony. Not surprisingly, Brazilian GDP per capita was, at the start of our period, three times greater than Indonesia's. The growth patterns look very different and Brazil's growth trajectory can be described as a plateau. After strong

¹ Mathematically, we express this relationship as $(\text{GDP per capita})_t > (\text{GDP per capita})_{t+1}$.

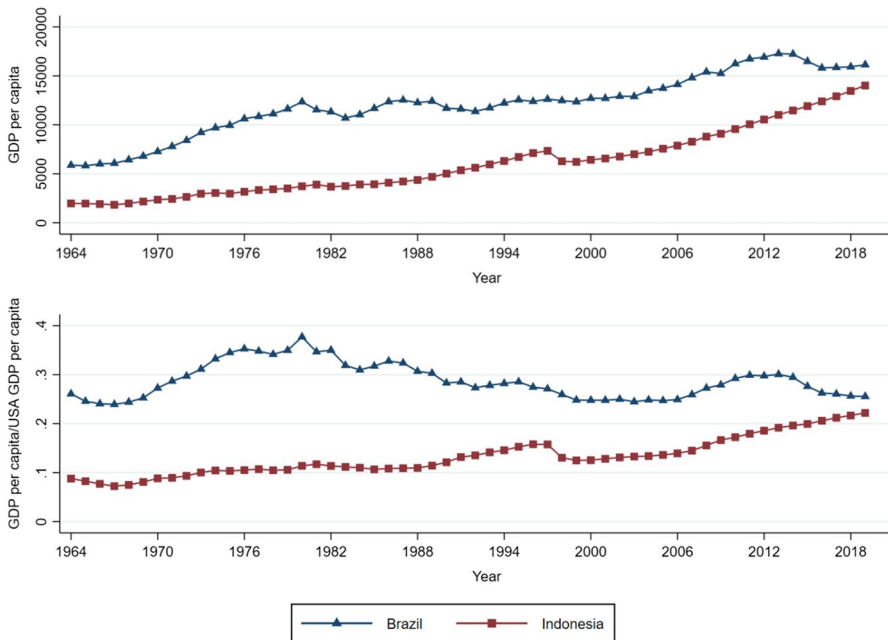


Fig. 1 Evolution of Brazilian and Indonesian GDP per capita and its representation as a proportion of the USA's GDP per capita. All values in international 2018 US dollars, PPP. Source: TED (2019)

development in the 1960s and 1970s, growth largely halted and shaped a plateau until the early 2000s (Pritchett 2000). After another growth spurt, the plateau seems to have returned. Indonesia, on the other hand, is described by Pritchett (2000) as an accelerator, with a few bumps along the road but nevertheless a continuous strong GDP per capita increase. The different growth patterns are also reflected in the catching up of the two countries. In a comparison with the USA, as Fig. 1 shows, Brazil sees strong but not sustainable catching up in the 1970s. In the early 1980s, Brazil sees a reversal of its fortunes and is, by the turn of the millennium, at levels comparable to those of the pre-boom era. On the other hand, Indonesia's growth trajectory saw a steady catch up from 1967 until today, with only short periods of falling behind in the early 1980s and the late 1990s.

Turning to the two countries' shrinking patterns, a few interesting trends emerge, as shown in Fig. 2. First, in the period under study (1964–2019), Brazil shrinks in 17 of the years, compared to Indonesia's seven. Second, if we divide the period into two sub-periods, we can see that the distribution of the years of shrinking looks very different. Between 1964 and 1980, Brazil only shrank in 1 year compared to Indonesia's four. In the second period from 1980, Brazil shrank 16 times while Indonesia shrank in only 3 years. From this, we can conclude that Brazil is not only shrinking more than Indonesia but also is seeing an increased frequency of shrinking over time. In the same vein as Andersson (2018), we can apply these differences in the magnitude and frequency of shrinking over time to produce a simple counterfactual

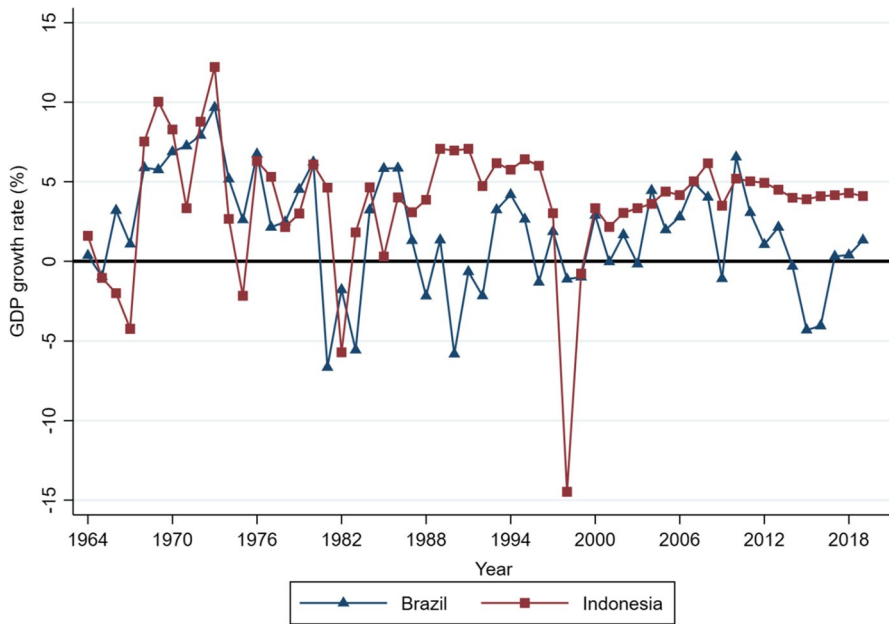


Fig. 2 Brazilian and Indonesian GDP growth rate, percent. Source: See Fig. 1

of what Indonesian development would look like if the country had the Brazilian shrinking pattern and vice versa. This is done by firstly aggregating yearly GDP per capita² into a fixed temporal unit—such as decades. Then we assess the frequency and magnitude of shrinking in each decade for each country. We finally apply this metric to each country's initial conditions, i.e., GDP per capita levels in 1964. From that, we infer that if Indonesia's growth followed the same dynamics as the Brazilian one, it would have reached 2019 reporting merely US\$ 5930, less than half of the actual values reported (US\$ 14,019). On the other hand, if Brazil's growth had mimicked Indonesia's, it would have reached 2019 with a GDP per capita of US\$ 29,497, 82% higher than the actual US\$ 16,137. With that in mind, how can we understand the differences in resilience to shrinking between Brazil and Indonesia?

This is precisely what this paper aims to do. We use a macro-level comparative approach to understand the role of shrinking in the catching-up process in Brazil and Indonesia. This method is useful in expanding our understanding of both the determinants and consequences of economic change. The comparative approach is complemented by the analytic narrative approach of Rodrik (2003). More importantly, however, the paper aims at uncovering and explaining the differences in resilience to shrinking in the two cases.

² International 2018 US dollars, PPP. We use such a series for all GDP per capita metrics in this paper due to its ability to capture productivity and standards of living more adequately than simple constant-dollars metrics.

Through specific country narratives, we gain a greater understanding of the puzzling aspects of economic performance in Brazil and Indonesia that are not explained by ordinary growth theory. With this method and the help of an analytical framework based on the capability approach, we analyze development policy and systematically extract explicit lines of reasoning to find plausible explanations of the development trajectories of our two cases (Bates et al. 1998). Although Brazil and Indonesia have different physical endowments, social and political settings, and historical contexts, the theoretically informed analytical narrative helps in developing more general hypotheses for other countries (Rodrik 2003).

To that end, we collect data from several sources. While traditional cross-country sources are used, such as the World Bank Databank, Penn World Tables, International Monetary Fund, and International Labor Organization, we also provide country-specific sources. For Brazil, we also use the Institute of Applied Economic Research (IPEA), Brazilian Institute of Geography and Statistics (IBGE), Central Bank of Brazil, and also secondary sources mainly from Baer (2003). For Indonesia, we also draw on annual reports from the Indonesian Central Bank (BI) and the Bulletin of Indonesian Economic Studies. The objective is to produce proxies for each social capability so the development trajectories of each country are explained in objective and comparative terms.

Theoretical Framework

North, Wallis, and Weingast (2009) argue that what sets developed countries apart from those that are less developed is that they have moved from being limited access to open-access societies. It is also in this transition to an advanced economy with open access that a country increases its resilience to shrinking. An open-access society is built on doorstep conditions that are characterized by rule of law and impersonal rules that are not dependent on positions or connections in society (North, Wallis, and Weingast 2009: 26–27). Consequently, such a society may be able to make changes regardless of the preference of elites or special interest groups. This, in turn, leads to a greater capacity to adapt and even transform the economy to the current economic situation, creating resilience to shrinking. Furthermore, impersonal institutions work as a bulwark against rent-seeking from elites in society. In addition, rule of law and impersonal institutions allow the decision-making process to adapt to economic conditions rather than the needs of vested interests which would produce suboptimal outcomes. To dig deeper into this, and to expose some of its dynamics, we follow a capability approach.

Myrdal (1969) argued, contrary to neoclassical economic theory, that society does not move toward equilibrium. Instead, cumulative processes and interactions, both economic and institutional, drive further change. These processes could lead to either an upward or a downward spiral. As such, there may be different societal processes, not only economic, that together influence the capacity to adapt and transform, i.e., resilience to shrinking. How these underlying dynamics of resilience to shrinking are formed can be understood through our analytical framework of social capabilities. First proposed by Abramovitz (1995) and further elaborated

on by Andersson (2018); Andersson and Andersson (2019); and Andersson et al. (2021), the framework postulates that the more advanced the social capabilities, the greater the resilience to economic shrinking. The three interlinked capabilities are (a) transformation, which captures both the transformation from agriculture to industry and the shift toward more advanced, diversified, and complex production; (b) autonomy, or the ability of the state to operate independently of vested interests and elite groups; (c) inclusion, in the form of poverty reduction, access to productive resources, and the labor market. The three capabilities are interconnected and difficult to separate as they influence one another. This being said, together these indicators capture the capacity of the state to stimulate a broad-based transformative development process. We believe it is in these capabilities that we can find the answer to how Indonesia, in relative terms, has fared better than Brazil in the second half of the twentieth century. We use a variety of standard measures to capture the thrust of each of the capabilities rather than relying on just one.

Transformation relates to structural change in the sectoral composition of the economy and a transfer from low to high productivity as a necessary condition for sustainable economic growth (Kuznets 1965). Following this, we measure structural transformation through three different aspects. The first two are the more traditional share of the labor force in agriculture and how much agriculture contributes to the value-added of the country as a share of GDP. The idea is that the transformation process shifts the economy into more productive activities and thereby also creates less dependence on the primary sector of the economy. To further understand the shift in the economy, we look at the so-called GAP share (Timmer and Akkus 2008). The GAP share is defined as the difference between the share of the primary sector in GDP and its share in employment. The idea is that as a country structurally transforms, this variable should converge toward zero. The primary sector in this paper follows the same definition as Timmer et al. (2015) which includes agriculture, hunting, forestry, and fishing. We have not included mining and quarrying in our analysis.

The transformation process is, however, more complex than just a shift from agriculture to industry and services. Hausmann et al. (2013) show that production also becomes more complex with the transformation, as measured by exports. Complexity is conceptualized as the amount of productive knowledge an economy contains—reflected in both the diversity and technological level of products exported. Countries with a higher complexity have historically experienced fewer episodes of economic shrinking and their prospects for future growth are also better. A lower level of complexity means a higher dependency on natural resources and commodity exports, making the country more vulnerable to fluctuations in the global economy. Economic complexity is an indicator of a country's adaptive and transformative capacity. To put it another way, with a more complex economic structure, a country may be more resilient to exogenous price shocks and, by extension, shrinking. In addition, the level of productive knowledge has implications within a country, as the more complex organization of knowledge and production leads to a more dynamic and flexible domestic economy and non-tradeable sectors, which in turn affects resilience to shrinking. In this study, we use the complexity index from Hausmann et al. (2013). In short, the Economic Complexity Index is an eigenvector of a country-to-country matrix. It can be thought of in terms of

a principal component analysis that computes countries to their export partners and to the products they export. Products are computed in terms of ubiquity; therefore, complex countries are the ones that have many trading partners and that export low-ubiquity products.

Autonomy has a direct implication for establishing the rule of law and impersonal institutions and by extension creating the conditions for resilience to shrinking. Autonomy is the strength of the state vis-à-vis vested interests. An autonomous state can avoid the persistence of old structures and instead respond to changing conditions, be it in smaller steps or a more fundamental transformation, without the influence of powerful groups in society. This in turn has an effect on macroeconomic stability through levels of fiscal management and inflation. To capture the autonomy of the state in Brazil and Indonesia, we consider the level of inflation and the levels of public debt. Running long-term deficits denotes the inability of a state to maintain a sound fiscal policy, due to either the inability to raise revenues or the inability to curb spending. We argue that this inability stems from the lack of impersonal institutions and consequently the state being influenced by political or economic interests. Inflation may ensue as a consequence of poor macroeconomic management and fiscal imprudence and is also indicative of the autonomy of the central banks to conduct sound macroeconomic policies shielded from vested interests (Besley and Persson 2013).

By inclusion, we mean the distribution of productive capabilities among the population and access to economic opportunities. On the one hand, a high level of inclusion gives a broad base of society the possibility to improve their lives, while it can be argued that a more equal distribution also leads to the factors of production being utilized more efficiently (Ferreira and Gignoux 2011). The broadbasedness also allows for greater capacity to adapt and keep elites at bay, since a greater part of society is actively participating in the economy. In this paper, we use the Gini index measure of disposable income, which gives a good understanding of the general levels of inequality in society at large. To further capture this, we broaden the perspective and include poverty reduction in the two cases through the change in the poverty headcount, and also by examining the elasticity between poverty and GDP. We analyze the GDP elasticity of poverty as the percentage reduction in poverty rates associated with a percentage change in mean per capita income, following a similar line as adopted by Bourguignon (2003). Finally, we look at minimum wages. Minimum wage levels and how these are enforced reflect the commitment of the state to lift the poorest working in the formal sector out of poverty. This gives us an understanding of the commitment of the state to poverty reduction.

Social capabilities in Brazil and Indonesia

Transformation

Transformation is crucial for economic stability. Timmer (2009) argues that no country has successfully achieved sustained economic growth without also going through structural transformation. The move away from agriculture as the dominant sector of the economy, both in terms of share of GDP and in the labor force, means

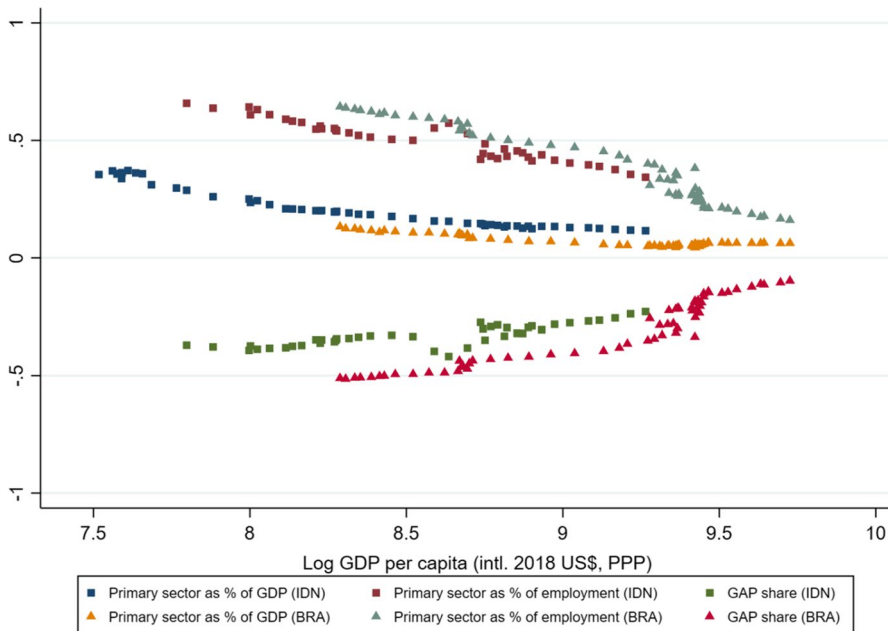


Fig. 3 Agricultural transformation per GDP per capita levels of Brazil (BRA) and Indonesia (IDN). Source: Timmer et al. (2015)

first that the population is shifted into more productive and higher-income sectors, and second that the economy is more diverse, which makes for less vulnerability to fluctuations (Hausmann et al. 2013).

The agricultural transformation of the two countries paints an interesting picture of success. Both Brazil and Indonesia have seen a significant transformation since 1964 in terms of contribution to GDP and share of the labor force. This is also indicated in the agricultural GAP share, which indicates that employment in agriculture is converging to its GDP participation, a sign of proportionality and that an ever greater proportion of the population is active in higher productivity activities (see Fig. 3). A first glance, Brazil has progressed further in the transformation than Indonesia. Such a comparison, however, only shows that the Indonesian transformation process began later. If we instead compare the two countries at the same GDP per capita levels, it can be argued that Indonesia's agricultural economy is more productive as its GDP participation is above Brazilian levels while employing a smaller proportion of the population. This is a clear result of the importance that agriculture was given to the Indonesian development strategy.

Sukarno realized the importance of agriculture already in the 1950s. Agriculture, however, was in crisis; productivity was low and the sector could not keep up with the demand (Bresnan 1993). In the late 1960s, with Suharto's regime in place and once the most acute macroeconomic issues had been addressed, agriculture became a top priority (Booth 1988). This was not surprising as it was the dominant sector of the economy, employing two-thirds of the labor force. Developing Indonesia meant

developing the agricultural sector—feeding millions while also increasing their income. The state-initiated investments were in new technology, primarily seeds, fertilizers, and pesticides. Investments in production and productivity did increase, therefore, but still on a relatively small scale.

It was not until 1973 that things changed in earnest, the consequence of two factors. First, mismanagement from the food procurement agency in combination with poor harvests led to rice shortages and price hikes in 1972. The poor harvests in Indonesia could not be compensated for by the global market. The increased prices and shortages led to demonstrations as the people took to the streets calling for the regime to step down. The Suharto regime realized that their political survival depended on providing the people with food, as the legitimacy of the regime was built on providing for the people (Loveard 1999). To avoid both a political and a food crisis, it became crucial to fundamentally transform the economy.

Second, the oil boom opened new possibilities to respond to the demands of the public. With the oil price hike in 1973, Indonesia saw its oil revenues increase dramatically. Investments in agriculture were increased and coupled with ambitious extension programs that offered farmers subsidized agricultural inputs, training, and credit and facilitated easy access to the market.

The programs became the main feature of agricultural development in the Suharto era and a means to ensure that all farmers contributed to increased production, leading to broad-based participation in the modernization of agriculture. We return to this below. In addition to investment in new technology, the Indonesian state also worked with price mechanisms to stimulate increased production. The food procurement agency BULOG played an important role, as it had a monopoly on rice and other staple crops, making it possible to manipulate prices at both the producer and consumer levels by setting floor and ceiling prices (Timmer 1996; McCulloch and Timmer 2008).

These efforts to promote agriculture are seen in how market distortions have changed over time. From the early 1970s until the mid-1980s, market distortions turned in favor of agriculture. With the waning oil revenues in the early 1980s, this rural bias was reversed but in the aftermath of the financial crisis in 1998, agriculture was once again treated favorably (Fane and Warr, 2009; Anderson 2009).

In Brazil, the development of a modern agricultural sector had similar contours to the Indonesian process. In the 1950s, Brazilian agriculture was characterized by high land usage but low yields. Manual labor prevailed in agricultural production since less than 2% of rural properties possessed agricultural machinery (Schuh and Andrade Alves 1970). At the time, Brazil was experiencing a period of rapid economic and demographic expansion—a period dubbed the “economic miracle”—and analysts feared that the agricultural economy would be the bottleneck to Brazilian development (Vieira Filho 2022). The period after the 1960s, therefore, saw the adoption of better seeds, insecticides, fertilizers, and machines by Brazilian farmers through direct government action. Subsidies, rural credit, minimum price support policies, the regulation of agricultural stocks, and measures to protect local production enabled the acquisition of new machinery and modernization of the production processes (Klein and Luna 2018). Alongside these efforts,

agricultural research was promoted through the creation of EMBRAPA—the Brazilian Agricultural Research Corporation—in 1973, affiliated with the Brazilian Ministry of Agriculture and aimed at providing farmers with technical-scientific information.

In contrast to Indonesia, however, land ownership in Brazil is highly concentrated. From 1920 to 2006, for example, the Gini index of the distribution of land remained virtually unchanged at between 0.832 and 0.872 (Reydon 2014). Subsidies to agriculture did have a transformative impact on the sector but were largely absorbed by the few landowners. The notion at the time was that the modernization of the agricultural sector—even if factor endowments were highly unequal in rural areas—would stimulate the transfer of rural workers to the new urban industry which would be fostered by import substitution.

Starting in 1964 with Marshal Castelo Branco, the military regime combined the old import substitution policies with the expansion of state investments aiming at modernizing and expanding the industrial base. Import substitution policies for basic industrial products and capital goods—such as steel, and petrochemicals—remained, while the regime promoted large infrastructure projects for hydro and nuclear power and communication networks. The goals of this set of policies were to diversify the Brazilian export basket and serve as counter-cyclical measures, which became particularly clear during the oil shocks.

To finance this endeavor, the regime heavily relied on the Brazilian Development Bank (BNDES). Brazil also benefited from significant foreign direct investment and loans. The idea was that the import substitution program would enable Brazil to produce trade surpluses large enough to service and ultimately repay the debt. With excess liquidity on external markets, Brazil pursued this strategy successfully through the 1960s until the second oil shock. While the details concerning the fiscal effect of the shock on Brazilian accounts are dealt with in the following sections, it is important to note that Brazil succeeded in diversifying its export basket. Manufactured goods in the export basket rose from 5 to 36% between 1964 and 1973 (Bértola and Ocampo 2012; Baer 2018). Yet, despite the ever-increasing importance of the industry to Brazilian GDP, the industrial sector of Brazil still lagged in productivity with an output per worker a quarter of that of rich countries (De Negri and Cavalcante 2014), despite a reallocation of industrial labor from manufacturing toward science, engineering, and knowledge-based (SEK) industry³ (Nassif, Feijó, and Araújo 2015). Overall, Brazil did diversify its export basket but this came at an immense fiscal cost that led to significant consequences for sustained economic development.

Transformation goes beyond the shift from agriculture to industry. It is also a story of economic complexity. The analysis of Fig. 4 produces two things worth noting: first, the gap between the countries has narrowed significantly, and second, when comparing the economic complexity of the two countries at the same GDP per capita levels, Indonesia is more complex than Brazil in all but three data

³ In 1970, 40% of total employment in the Brazilian industrial sector stemmed from manufacturing while 25% was derived from SEK industry and 35% from natural resource-based industry. In 1980, however, the distribution was 40%, 30%, and 30%, respectively.

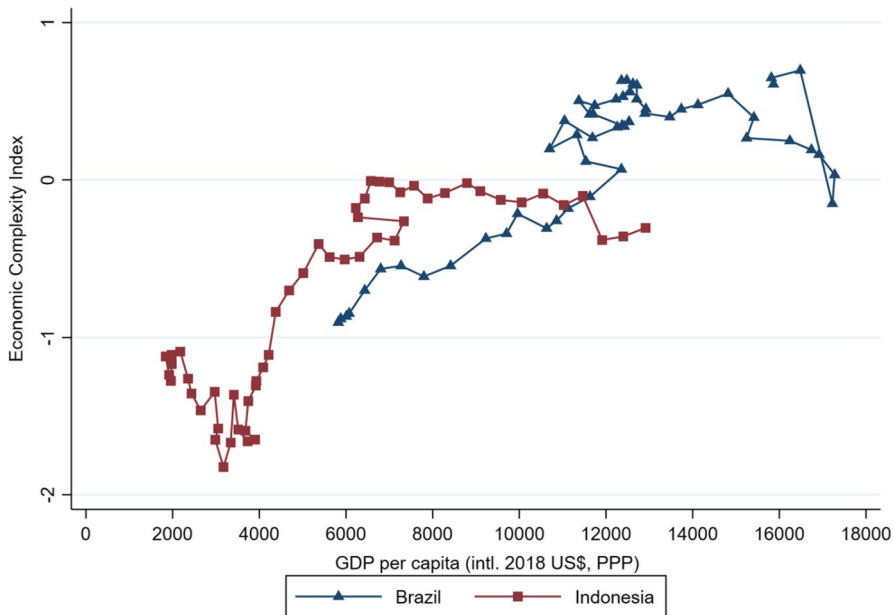


Fig. 4 Evolution of the economic complexity index per GDP per capita levels. Source: Observatory of Economic Complexity (2017)

points.⁴ The evolution of the Indonesian case can be seen to have two phases; it is possible to verify a sharp decline in complexity when exports were dominated by oil due to sharp increases in oil prices. In the second phase, Indonesia saw rapid improvements in economic complexity. This is perhaps not surprising, as observers of the Indonesian economy showed concern over the country's oil dependency already by the mid-1970s. Rather than maintaining the same industrial policy, Indonesia moved away from oil-fed industrialization, playing on its comparative advantage of cheap labor (Hill 2000). Despite the oil price collapse, the industrial sector remained strong. Indonesia thus successfully managed to diversify its exports away from oil toward manufacturing.

The Brazilian evolution can also be characterized by two periods, namely the increase followed by stagnation in complexity. There, it is evident that the efforts of the military regime to diversify the export basket initially paid off, but the foundations for long-term economic prosperity were not laid out. The “fuzziness” of the Brazilian trend reflects successive shrinking episodes coupled with the country's failure to continue its path toward a more complex industrial base.

To conclude, both nations pursued a developmental path in which both agriculture and industry were the targets of significant state intervention. The complexity of the Indonesian economy has developed rapidly and could soon

⁴ This small reduction in economic complexity can be associated with rising commodity prices and growing concerns about premature de-industrialization (Axelsson and Palacio 2018)

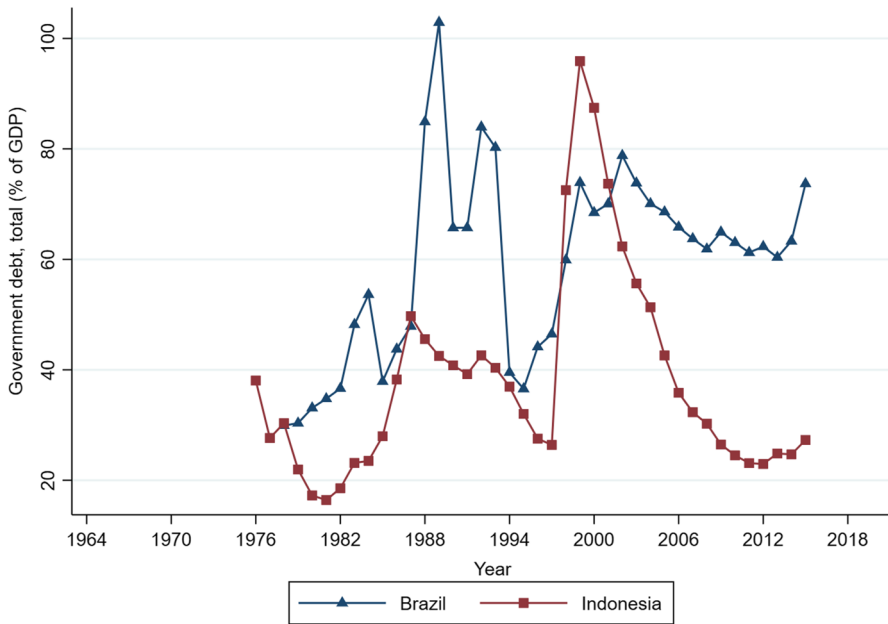


Fig. 5 Total government debt (% of GDP). Source: World Bank (2021)

rival Brazil. The response to changing conditions led Indonesia to fundamentally transform its economy seeking other ways to continue the development process while Brazil continued in old patterns of industrialization built around import substitution. While both achieved strong GDP growth, in Brazil, this could not be sustained since one of the foundations of resilience to shrinking was weaker, especially when compared to Indonesia.

Autonomy

The autonomy of the state is the ability to maintain rule of law and ensure that vested interests are kept at bay. In a state where the rule of law applies, any one individual or interest groups have little influence over, for example, spending or taxation. This also means that the state may adapt policy in response to changing conditions and resist calls for favoring changes that have negative implications for the development process. This has a direct impact on macroeconomic management, expenditures, and revenues and thereby also how resilient the economy is to shrinking. Inflation indexes tend to, to a certain degree, capture the level of autonomy across institutions due to the central bank's need for independence.

In Indonesia, although inflation was relatively high and in the double digits for most of the period under study, it has been stable (see Fig. 5). After the volatility surrounding the regime shift in 1965, there were three main spikes in inflation, the first related to rice shortages and the other two with the inflow of oil revenues. The

relatively stable rates are perhaps surprising, as the first half of the 1960s saw very high levels of inflation which by 1964 were running out of control. The economic policy during Sukarno was untenable and needed to fundamentally change but, rather than transforming the economy, old policies were maintained through expansive fiscal policy catering to vested interests. This leads to two interesting questions: how did they break the spiraling situation, and why did this scenario not repeat, as it did with Brazil? To answer the first question, the regime change in 1965 also meant a change in macroeconomic policy, the drivers for which were both domestic and international. The new government advocated a more austere fiscal policy with a focus on cutting expenditures to match revenues. This was supported by the IMF and other international creditors. Indonesia, with the help of the IMF, drew up a new strategy to reduce the most immediate costs by rescheduling debts (Bresnan 1996), and also cut costs by canceling or rescheduling projects. Institutional constraints through a balancing budget rule became the most basic pillar of Indonesia's monetary and budgetary policies. Over time, they allowed the country to maintain a mostly balanced and adaptable budget, evidenced by the efficacy with which the Indonesian government's debt reverts to the mean. While criticism of such measures does exist (Hill 2000), it nevertheless served as a tool to rein in spending and give the state a line of defense against vested interests.

In the Sukarno era, for example, the government increased salaries and bonuses for civil servants as well as capital-intensive development projects with little regard for the costs. Under Suharto, as evidenced by annual reports from Bank Indonesia, increased salaries were conditioned on the budget allowing for it.⁵ Furthermore, when Indonesia was hit by the crisis, the regime used the rule to justify budget cuts and the postponement, or even cancelation, of development projects (Glassburner 1986; Hanna 1994).

The Indonesian development strategy was dependent on large investments that continued also after the collapse of the oil price. Instead of continued spending with the help of increased public debts, Indonesia adapted to the changing conditions and followed a strategy to increase revenues through tax reforms, in which the tax code was simplified and a value-added tax was introduced. The new laws also aimed at increasing the efficiency of tax collection and clamping down on tax evasion strengthening the rule of law and impersonality of tax collection. As had been the case with fiscal policy in the aftermath of the crisis in 1965, Indonesia was assisted by the IMF. The tax reform was largely carried out without the involvement of the civil service (Heij 2001). Tax collection in Indonesia, therefore, halted the decline in revenues, although there has been a need for renewed efforts to modernize the tax code since the fall of Suharto.

The second strategy for Indonesia was to adapt and open up the economy toward the global markets. As noted above, the transformation process in the 1980s meant a shift away from a reliance on state-led import substitution toward more labor-intensive manufacturing. In the 1970s, the industrialization process had been bankrolled through increased oil revenues. Although the government increased borrowing,

⁵ See Bank Indonesia (1960–2004), Annual Report, Various Issues. Jakarta: Bank Indonesia.

continued industrialization meant an adjustment in industrial policy. In the 1980s, we see a marked increase in foreign direct investments (World Bank 2021).

More importantly, the Indonesian economy shifted toward manufacturing goods for export and tapping into the global market. This, in turn, made stable inflation and macroeconomic management increasingly important to not deter potential investors.

In the Brazilian case, the ability to keep vested interests at bay and a balanced budget can be called into question. The long-term deficits produced by import substitution policies created inflationary pressures that can be traced back to the 1950s. In response to that, the military regime devised the PAEG—the Portuguese acronym for Government’s Economic Action Plan—primarily aimed at reducing inflation. The PAEG explicitly deemed inflation the worst of Brazil’s problems, saying that its control was “indispensable for the resumption of the rhythm of development” (Ministério do Planejamento e Coordenação Econômica 1965: 28). The inflationary pressure was a carry-over from years of uncontrolled government expenditures, partially due to problems associated with the import substitution industrialization carried out during the 1940s and 1950s that significantly distorted the balance of payments and prolonged government deficits.

Initially, Marshall Castelo Branco favored the idea of carrying out reform through legislation. Normal political activities were also permitted, as evidenced by the municipal elections of 1965. Yet, the results of these elections did not please the military leadership, who then pressured Castelo Branco to declare the elections null and void. Through an Institutional Act—a political tool akin to a decree—the regime abolished all existing political parties; restored the emergency powers of the President, effectively allowing the office of the President to rule by decree; and extended Castelo Branco’s term to 1967. The wide range of political parties that existed before 1964 were replaced by only two: the National Renewal Alliance Party (ARENA), the official party of the military; and the opposition Brazilian Democratic Movement (MDB). In 1967, a highly authoritarian constitution was drafted.

Consequently, political opposition to the PAEG was minimal. Operating via decrees, the military government brought a sense of stability to national politics. With this arrangement in place, the PAEG carried out an adjustment program that reduced the rate at which the monetary base was expanded and attempted to impose a salary correction mechanism. Proponents of the PAEG understood that the negative effects of inflation had to be countered with indexation so that long inflationary pressures were reduced and inflation resumed a downward trajectory. However, to avoid hyperinflation, they made a special effort to prevent indexation in salaries due to fears that the inflationary potential of wage indexation was the highest (Bresser-Pereira and Nakano 1983, 1984; Simonsen 1995; Kearney 2007).

In the first years, the PAEG failed to live up to its own goals. The program aimed for inflation rates of 25% and 10% per year in 1965 and 1966, but only achieved 58% and 38%, respectively (Baer 2003; Kearney 2007). Nevertheless, the restrictive monetary and credit policies resulted in a shift in the inflationary trajectory, which was now negative.

With the opposition suppressed, Marshall Costa e Silva assumed the presidency in March 1967 through indirect elections. Delfim Netto was appointed Minister of Finance and continued most of the policies outlined by the PAEG. Perceived

economic stability—or at least potential stability—produced positive effects on the Brazilian economy from 1968 onwards. GDP growth rates averaged 11.3% in the period from 1968 to 1974, and the first episode of economic shrinking occurred only in the 1980s.

This period—dubbed, as aforementioned stated, “the economic miracle”—saw significant growth in exports and increasing state involvement in economic affairs. Government expenditures amounted to 22.5% of GDP in 1973 and public companies owned 74% of the asset value of the 100 biggest companies in the country. The Brazilian State was also prominent in the banking sector, with 56% of all deposits and 65% of all loans operated by government-owned banks (Baer 2003).

Government policies aiming at boosting investment through external borrowing using state-owned enterprises also resulted in a dramatic increase in foreign direct investment, which ultimately financed government deficits since imports increased more than exports in the period due to the continued import substitution policies and state-led industrialization (Lima 1977; Batista Junior 1987). Industry, which at the beginning of the military regime corresponded to 33% of the Brazilian GDP, corresponded to 40% at the end of the “economic miracle,” appropriating a portion that mainly belonged to agriculture.

Merely from an economic standpoint, the initial phase of the military regime achieved relative success, if measured by the inflationary trajectory and GDP growth rates. This was, however, short-lived, as the oil crises of 1973 and 1979 meant an increased cost for Brazil to continue pursuing its import substitution policies. In 1973, the Brazilian response to the first oil shock was a further expansion of public expenditure. The government deepened its participation in the economy by financing the Brazilian Nuclear Program, increased public loans at subsidized rates to private enterprises through the state-owned development bank, and invested in new petrochemical centers through Petrobras, the state-owned oil company. The idea was to stimulate demand via public spending and counter the international recession caused by the sudden increase in oil prices after 1973. A clear departure from the generally orthodox lines from PAEG meant that public debt as a proportion of the GDP rose together with inflation. Deterioration of the public accounts, however, did not immediately translate into poor economic performance. Brazil avoided episodes of economic shrinking, although it grew at a considerably lower rate when compared to the first half of the same decade.

It was not until the debt crisis of 1982 that access to international finance became restricted for Latin American countries, Brazil included. Difficulty in paying interest on the debt led to an austerity program, prompting a severe recessive adjustment throughout the 1980s—a period that became known as stagflation. Alongside the growing inflationary pressures, as seen in Fig. 6, in the period from 1980 to 1994, the Brazilian economy shrank seven times, four of which occurred between 1988 and 1992, demonstrating the Brazilian failure to catch up and attain financial stability. It was not until 1994, with Plano Real, that the hyperinflationary process ended and monetary stability was achieved.

The long-lasting inflationary process in Brazil is deeply linked with the country’s inability to conduct sound monetary policy independent from short-term political pressures. As argued by Ayres et al. (2019: 23), a weak institutional arrangement

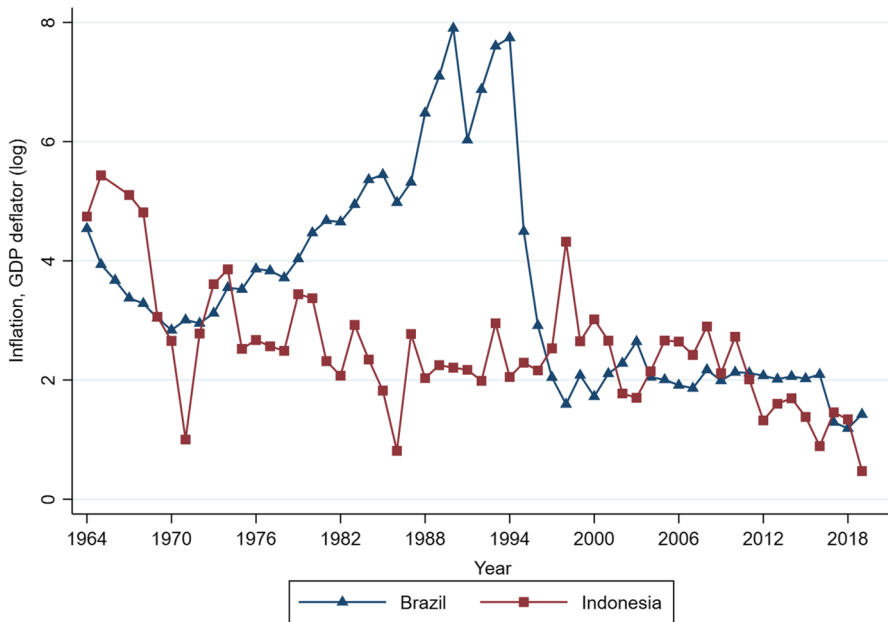


Fig. 6 Inflation, GDP deflator (log). Source: See Fig. 5

provided many political groups with “indirect access to the printing press.” The Central Bank of Brazil was established in 1964 and was overseen by the National Monetary Council (CMN, in Portuguese). The CMN initially consisted of nine members, including the finance minister, the President of the Brazilian Development Bank (BNDES), and other members with fixed terms of 6 years each. Yet, in 1967, all members of the CMN were forced to resign as Marshall Costa e Silva rose to power following Marshall Castelo Branco’s term. Later on, the fixed terms were abolished and the board of CMN continued to expand, in 1985, numbering 30 members from a wide array of sectors including business leaders and labor union representatives, showing that the role of the Central Bank was mostly perceived as political rather than technical.

Problems in keeping vested interests at bay are also visible in Brazilian public spending. While the 2000s saw a decline in government debt, Brazil has been unable to return to the same debt levels it had in the 1960s. The literature presents many reasons for this, but the problem seems to be mostly confined to political economy (Bonomo, Frischtak, and Ribeiro 2021). Low levels of fiscal discipline stem from the bypassing of fiscal laws. Personnel expenditures appear as the Achilles heel of Brazilian public debt management as the controls on these expenditures are systematically bypassed at the state and federal levels of government by successive modifications of accounting standards by State Courts. Such modifications excluded personnel expenditures, pensions, and other pecuniary benefits that increased the

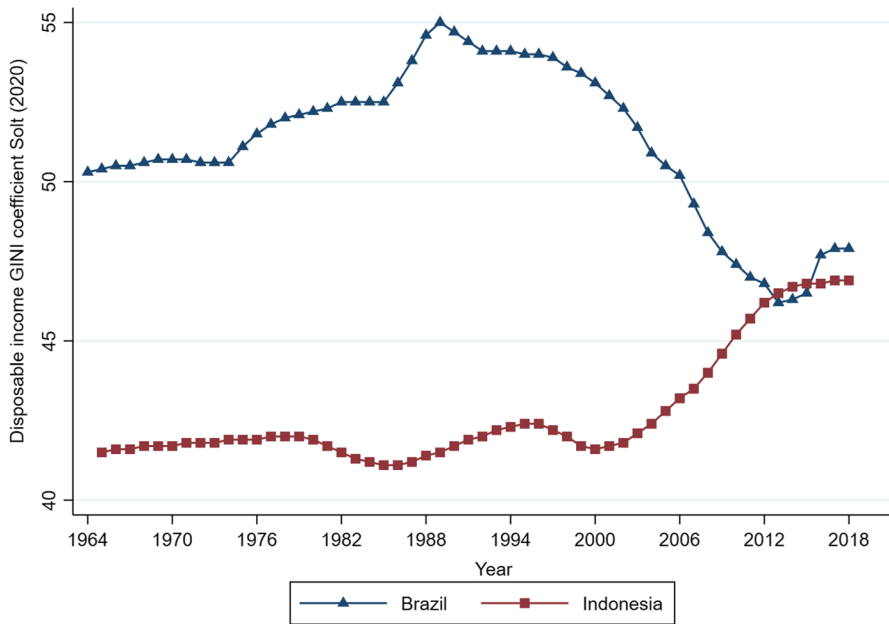


Fig. 7 Gini disposable income. Source: Solt (2009)

remuneration of civil servants from fiscal responsibility laws and other expenditure ceilings (Bonomo, Frischtak, and Ribeiro 2021).

Bypassing these rules is a problem of political economy due to the hyper-fragmentation of the Brazilian party system (Borges 2021; Zucco and Power 2021). Since personnel expenditures are used to accommodate political allies in exchange for political support for the incumbent government in this highly fractionalized landscape, a moral hazard is created as deficits can be approved by increasing expenditures in exchange for this very approval. As noted by Zucco and Power (2021, p. 477), “for strategically minded elites, it is more attractive than ever before to be a dominant player in a small party.”

To conclude, the Indonesian state seems to have been more prudent with the rule of balancing the budget. The Suharto regime was determined to not repeat the hyperinflation of the 1960s. As a result, vested interests have been kept at bay as the state had to adapt to the new conditions and has sought alternative sources of revenue rather than run up deficits. In Brazil, on the other hand, balancing the budget is visibly a challenging task that is not helped by the country’s political economy. A hyper-fragmented political landscape increases the costs of coalitions. These seem only to be formed by forfeiting fiscal prudence, which accentuates a vicious cycle.

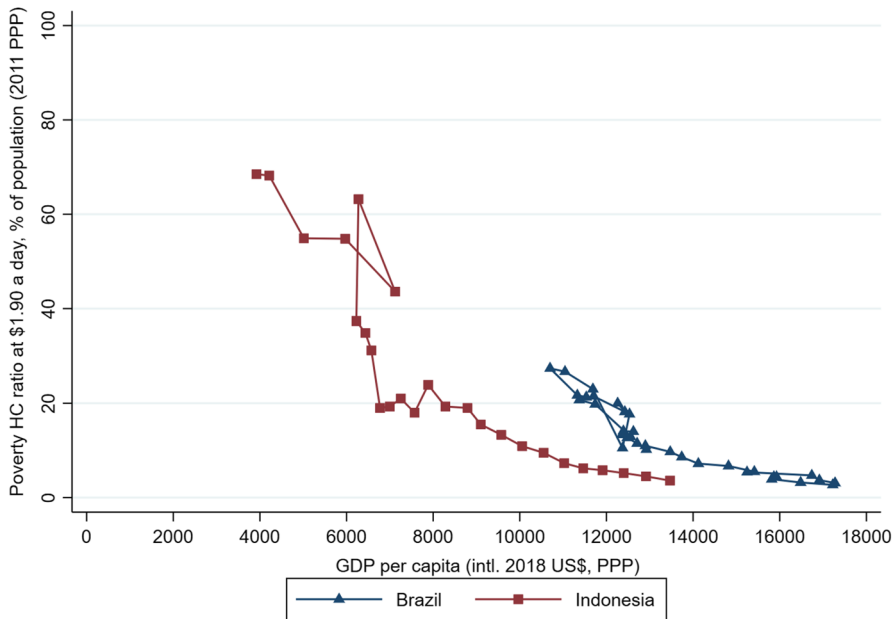


Fig. 8 Poverty headcount ratio at \$1.90 a day over time, % of the population. Source: See Fig. 6

Inclusion

With a more inclusive development process, resilience to shrinking may be strengthened as broad-based participation creates a more dynamic economy and utilizes the factors of production more efficiently. In addition, it leads to a more diversified economy that is less dependent on any single commodity or market. Equal access to opportunity and broad-based development increases the capacity to adapt to changing conditions and also curtails the power of the vested interests discussed above. Here we approach inclusion from three aspects: income distribution, poverty levels, and minimum wages.

A first look at inequality through disposable income tells an interesting story. First, Brazil and Indonesia have been on very different levels. As Figs. 7 and 8 show, from 1964 until 1988, Brazilian inequality indexes were in the lower 50 s and increasing. Indonesia at the same time saw its Gini index in the lower 40 s at a stable level until the end of the Suharto regime in 1998 although it started to increase slightly from the early 1980s. Interesting to note is that at the end of our period, the two countries converged. Brazil has seen a rapid decline since the late 1980s, while Indonesia has seen inequalities accelerate since the end of the Suharto regime and into the new millennium. As one would expect, poverty in Brazil has seen a steady decline, which very much aligns with the falling inequalities. Yet, Indonesia has witnessed an even more impressive poverty reduction. Today the share of the population living below \$1.90 a day is slightly higher in Brazil than in Indonesia. The relative success of the Indonesian case is even more apparent when one considers

Indonesia's lower GDP per capita. If we look at other poverty thresholds, the picture is very much the same. This is not surprising as the elasticity between poverty and GDP in Indonesia is much stronger than that of Brazil. For Indonesia, every percentage point increase in GDP resulted, on average, in a decrease of 0.6% on the poverty headcount index using a baseline of 1.90 USD a day. For Brazil, on the other hand, elasticity is around 0.4%. To conclude, development policy in Indonesia seems to have been much more pro-poor than in Brazil.

The Indonesian poverty reduction strategy is very much a function of the development model that Suharto and his technocrats adhered to. Before Suharto, Indonesia followed the typical developing country pattern with high poverty levels. When Suharto came to power, he looked to the East and the success of the first-tier countries. The model of development had three legs: growth, equality, and social stability. In short, growth would benefit large parts of society. As discussed in more detail above, the Indonesian economy was agrarian at the time of Suharto's takeover. To start the engine of growth, the development of agriculture became paramount. In the 1970s, there were fears that the modernization of agriculture would result in greater inequality; however, the majority of farmers in Indonesia were smallholders, which led to investment in agriculture that benefited the many rather than the few. In sum, large investments in agriculture meant an investment in the poor.

Although there was no effective land reform in Indonesia, it was a typical smallholder type of society. Support in terms of new seed varieties, fertilizers, and irrigation meant that a broad base of society was able to improve their livelihood. Similarly, the institutional framework built around new technology also meant that even the poorer farmers could gain access to new markets and thereby ease the transformation process.

The Indonesian strategy also came with investments in education, infrastructure, and health care. The poor were not only given access to new technology and markets but also given the ability to participate in the modern economy. As a consequence, Indonesia was better equipped to harness the opportunities for change. It is important to note that poverty reduction continued also after the initial investments in rural Indonesia, the result of the inclusive industrialization process. With the shift into highly productive but still labor-intensive industries in the 1980s, Indonesia had a way of absorbing the labor force from agriculture and thereby increasing incomes. This is a process that has continued until today, an inclusive "export miracle" built on wide participation by the population.

Another aspect is minimum wages, an indicator of how committed the state is ensuring that the population is continuously kept out of poverty. In the Indonesian case, minimum wages may not have had a direct effect on poverty. Minimum wages were not legislated until the mid-1970s and, despite the laws, there was little initial commitment from the state (McCawley and Manning 1976). Furthermore, there was little enforcement and companies often have not complied with the laws (Chun and Khor 2010). As a consequence, the minimum wage was irregularly updated and in decline in the 1980s (Manning 1998). In the late 1980s, this changed as a result of both internal and external pressures. International companies and countries pressured Indonesia into better labor conditions, and minimum wages increased dramatically from the early 1990s (Siregar 2020). In addition to the increased minimum

wages, enforcement was also tightened, although compliance remains low. The consequence was that in the last 14 years of the Suharto regime, real minimum wages increased by 50%.⁶ (Chun and Khor 2010). Except for the years surrounding the financial crisis, minimum wages have steadily increased (International Labor Organization 2021; Siregar 2020).

In Brazil, inequality dynamics had different contours. As noted by Neri (2010: 59), “price stabilization and redistribution are two sides of the same coin, since there is no way to obtain a permanent reduction in inequality with high inflation.” Moreover, inflation usually makes the poor worse off compared to the rich (Easterly and Fischer 2001). While state-led investment in heavy industry brought the labor force to urban areas and promoted increased productivity, this work was subjected to a minimum wage policy that can be traced back to the 1940s and has been, ever since, an important tool to influence inflation, inequality, and poverty.

As mentioned previously, the military regime of the 1960s followed the PAEG guidelines that singled out the structural indexation of the Brazilian economy as the root of the inflationary process. While entirely removing the indexation mechanisms was not deemed feasible, the military government was able to deindex salaries due to the authoritarian nature of the regime. The increased political persecution of unions and left-wing parties meant that no significant opposing social movement could thrive. While the effectiveness of this decision is questionable, Brazilian workers saw their purchasing power eroded during the 1960s until, at least, the early 2000s. In December of 1964, for example, the real average monthly minimum wage was 1242 Brazilian reais. Six years later, in 1970, it was 814 reais. The recessive adjustment produced after the second oil shock caused the minimum wage purchasing power to continually decrease, reaching a mere 506 Brazilian Reais in 1992. Unsurprisingly, inequality increased throughout the period. Purchasing power recovery only occurred after the mid-1990s. Ultimately, the lack of wage indexation meant that wage workers were slowly losing purchase power and were largely excluded from the “economic miracle” of the 1970s, resulting in the maintenance of inequality and poverty levels in Brazil.

Inequality in Brazil only began to be systematically reduced from 1993 onward. Ferreira et al. (2008) point to four factors behind this decline: a secular decline in average returns to schooling, the convergence of incomes between rural and urban areas, a decline in absolute interracial inequality, and the effectiveness of cash-based social assistance transfers. All these factors, and especially social assistance through cash transfers, are directly related to the country’s monetary stabilization and inflationary pressures, suggesting that the Brazilian transformation process imposed a toll on a country’s autonomy which then, in turn, ultimately prevented inclusion—as a social capability—to develop.

To conclude, the development process in Brazil has been less inclusive than what we have seen in Indonesia. This can also be seen in the stronger connection between poverty reduction, on all levels, and GDP growth. Rather than betting on a few, well-known, horses to pull the economy forward, Indonesia invested in a more balanced

⁶ Nominally, they increased eightfold.

strategy enabling the population to more actively participate in the modernization of agriculture as well as move into higher productivity sectors of the economy. This has created the capacity for adaptation and transformation further increasing the resilience to shrinking. In Brazil, on the other hand, we see an unbalanced strategy that catered to the few, with a lopsided industrial policy that did not lend itself to greater participation in the formal economy.

Conclusion

In this paper, we set out to understand the relative catching-up experiences of two of the most prominent emerging economies between 1964 and 2019. Specifically, we ask how can the differences in resilience to economic shrinking in Brazil and Indonesia be understood. In doing so, this paper makes three contributions to the literature. The first contribution pertains to our use of the social capability approach. Grounded in Abramovitz (1995) and Andersson (2018) together with the conceptualization of social orders postulated by North, Wallis, and Weingast (2009) and the definition of resilience proposed by Béné et al. (2014), this paper proposes that social capabilities are the vectors that enable nations to achieve the doorstep conditions, more precisely the rule of law for elites and institutional impersonality. This, in turn, allows economies to be more resilient to shrinking as they transition toward open-access order societies. These are thought to be more resilient due to their ability to more efficiently adapt and transform their economies in response to shocks as they are less susceptible to pressures arising from vested interests. Despite the burgeoning literature on the effects of economic shrinking on long-term economic development, our paper is the first—to our knowledge—to propose and operationalize these mechanisms through which these effects are channeled using a comparative approach.

The second contribution consists of our empirical application of the social capability framework. While building on the work of Broadberry and Wallis (2017) and Andersson (2018), in this article, we develop it further by proposing a selection of proxies that could help with the quantification of broad concepts such as transformation, autonomy, and inclusion. These efforts allowed us to demonstrate how timing matters. Social capabilities may yield better long-term resilience when achieved relatively early in a country's developmental stage measured by GDP per capita, as the case of Indonesia illustrates when compared to Brazil. The selected proxies, despite the potential for improvement, may also be of interest to policy-makers who will often deal with concrete tractable measurements. In this paper, we show that the GAP shares, complexity index, inflation, debt levels, and poverty—but interestingly not inequality—are relatively consistent ways to capture transformation, autonomy, and inclusion.

The last contribution concerns how social capabilities are intertwined. We argue that increased adaptative and transformative capacity—i.e., resilience to shrinking—is a consequence of the two countries' different approaches to the balance in development. As Myrdal (1969) noted, the development process does not move toward equilibrium in society but is rather a cumulative process. Changes in one part of the

economy feed into the next change; good things go together and so do bad. In short, resilience to shrinking is a result of the level of social capabilities and their dynamics which, in turn, allow nations to more effectively fulfill the doorstep conditions. Ultimately, social capabilities must not be developed in isolation, and herein lies another challenge to policy-makers. We can also see how the capabilities are closely interlinked and feed into each other to create a positive upward spiral. There seems to be a theme of “broadbasedness” influencing rule of law and impersonal institutions which separates the two cases. Resilience to shrinking is not a step-wise process whereby you can develop each capability separately.

From an analytical standpoint, we concluded that the transformation of the Indonesian economy was the result of a broad-based development strategy through which investments in agriculture enabled a large part of the population to increase their production and productivity and thereby their income. While it was initially capital-intensive with weak links to the economy at large, the industrialization process has been increasingly inclusive. With the rise of the manufacturing industry in the second half of the 1980s, the Indonesian economy transformed and became increasingly complex. The global market became increasingly important and the domestic linkages were strong as manufacturing created new job opportunities in the more highly productive sectors of the economy. Transformation and inequality have thus been closely interlinked in Indonesia. The state also remained relatively autonomous and managed to keep its finances in order with stable inflation and balanced budgets, except for the calamities in the mid-1960s and late 1990s. Investments were made in the modernization of agriculture and infrastructure based on the greater needs of the country while reining in the influence of vested interests—i.e., impersonality. Decreased oil revenues in combination with the need to balance the budget prompted tax reforms and the opening up to global markets rather than continuing state-led industrialization and import substitution with a focus on the domestic market. Macroeconomic stability, therefore, became important in making Indonesia an attractive production location in the continued transformation toward labor-intensive manufacturing. At the same time, it did not undermine the living costs of the poor through rampant inflation. In its development process, Indonesia created the dynamics that could increase the capacity for the country to adapt and transform as a response to changing conditions.

In Brazil, there were of course positive developments too. But in contrast to Indonesia, one capability was improved at the expense of another, producing the analogy of a “short blanket”—i.e., the inability to cover all areas. Brazil incurred significant public debt while pursuing its structural transformation, which came at the cost of autonomy as the institutions in place prevented the Central Bank from being independent of vested political interests. With increasing inflation, the solutions adopted from the 1960s to the 1990s consisted of containing “inertial inflation,” something that proved costly to Brazilian wage workers, particularly those earning minimum wage. With this in mind, it is clear how Brazil sacrificed inclusion to address the problems of autonomy which, in turn, were fostered by the country’s attempt to transform the economy. A string of consequences prevented the Brazilian social capabilities from developing dynamically, ultimately making the nation less able to adapt to the changing conditions and thus less resilient to economic shrinking. The

oil shocks and the Latin American debt crisis imposed significant developmental challenges on many countries in the Global South; as such, Brazil seems unable to prevent past growth from being erased after each successive recession cycle. The inability of Brazilian institutions to insulate themselves from vested interests hinders the ability of its economy to adapt and transform in response to changing conditions. Consequently, economic shrinking features prominently in Brazilian development, preventing the catching-up process to be actualized.

In recent years, we have seen a potentially troubling reversal of economic complexity and inequality in Indonesia. Despite this development, Indonesian institutions have historically been more flexible compared to Brazil, as their social capabilities are more advanced, allowing the country a better prospect for catching up.

While both Indonesia and Brazil have come a long way in their development process, the contrasting experience offers a clear lesson to other emerging countries. Economic growth means little if it cannot be sustained over time. The spoils of economic growth must be broadly invested in the capabilities of the economy to respond to changing conditions. If this is not done, a country risks seeing its fortunes reversed.

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