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# Resilience to shrinking as a catch-up strategy: a comparison of Brazil and Indonesia, 1964-2000

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# Resilience to shrinking as a catch-up strategy: a comparison of Brazil and Indonesia, 1964–2010

Tobias Axelsson* and Igor Martins†

**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, natural states, social capabilities, Latin America, Asia.

**JEL code.** N10, O20, O43

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# 1 Introduction

A longstanding question remains today as to why some countries are rich while others remain poor (Lewis 1955; Kuznets 1966; Abramovitz 1986; Aghion and Howitt 2008; Rodrik 2008; Acemoglu et al. 2001; Acemoglu et al. 2002; Engerman and Sokoloff 2002; North et al. 2009; Acemoglu and Robinson 2013). 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 a year-on-year decline in GDP per capita. Countries like Sweden and the UK 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 this paper, 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 $6^{\text{th}}$ and $4^{\text{th}}$ most populous countries in the world, respectively, and both have populations concentrated in specific regions.

Second, both countries are similar in terms of commodities as a share of exports (Meier and Rauch 1995; UNCTAD 2017). 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 saw an increasingly authoritarian regime in the first half of the 1960s and witnessed a military dictatorship under Suharto from 1967 to 1998. Both countries are today democracies.

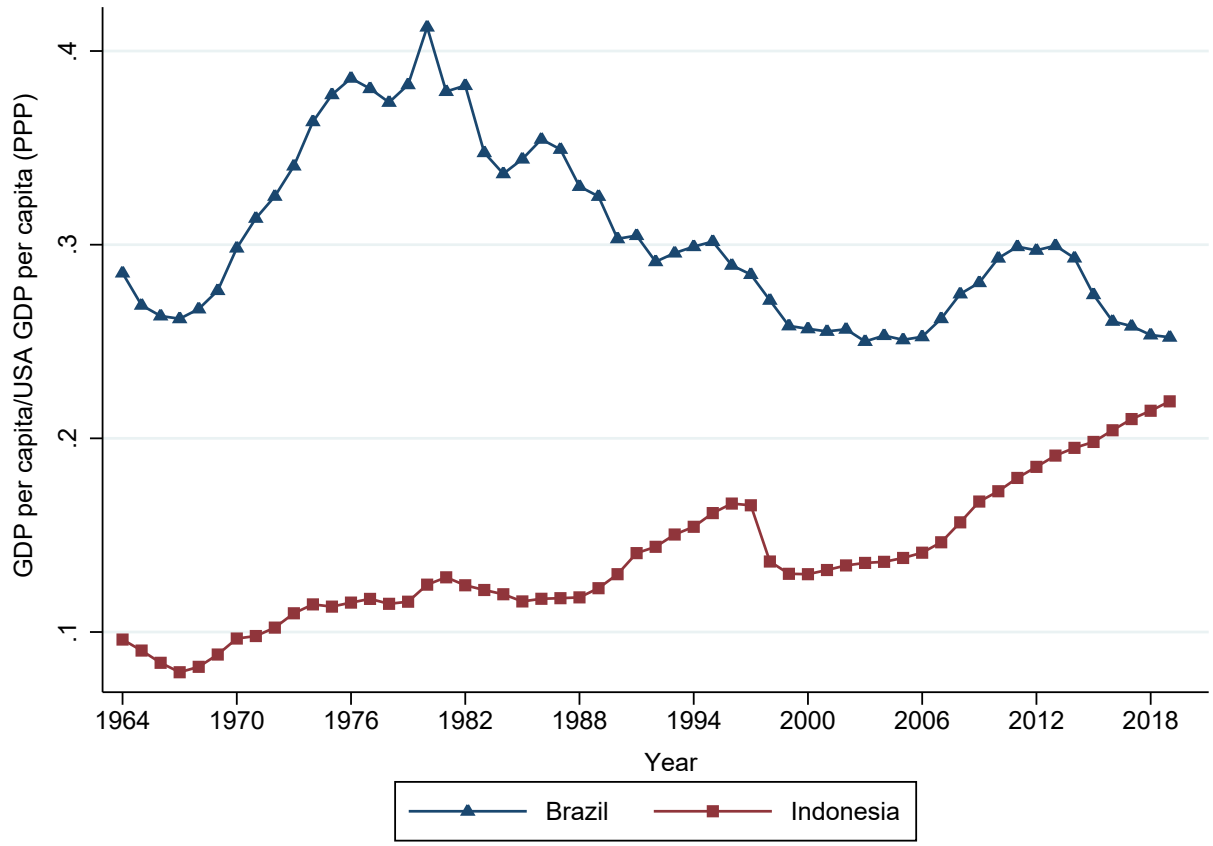


Figure 1: Brazilian and Indonesian GDP per capita as a proportion of the USA (USD 2017 PPP). Source: World Bank (2021).

In terms of catching up, the countries have been on different paths. Brazilian economic development took off already in the 19$^{th}$ century when Indonesia was still a Dutch colony. Not surprisingly, Brazilian GDP per capita was, at the start of our period, five times greater than Indonesia's. Brazil's GDP per capita in 1964 corresponds well with that of Indonesia in 2019. The growth pattern, however, looked very different and Brazil's growth trajectory can be described as a plateau. After strong 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 US, as Figure 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. In line with Indonesia's growth trajectory, the country saw a steady catch up from 1967 until today, with only short periods of falling behind in the early 1980s and the late 1990s (TED 2019). It is worth noting that although the financial crisis in 1998 did not change the general trend, it set back Indonesia by around ten years.

Turning to the two countries' shrinking pattern, a few interesting trends emerge, as shown in Figure 2. First, in the period under study (1964–2019), Brazil shrinks in 14 of the years, while Indonesia shrinks only in 6 of the years. 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 one year compared to Indonesia's three. In the second period from 1980, Brazil shrank 13 times while Indonesia shrank in only three years. From this, we can conclude that Brazil is not only shrinking more than Indonesia but also sees an increased frequency of shrinking over time.

This paper uses a macro-level comparative case study to understand the role of shrinking in the catching-up process in Brazil and Indonesia. This approach is useful in expanding our understanding of both the determinants and consequences of economic change. The comparative approach is complemented with the analytic narrative approach of Rodrik (2012). More importantly, however, the paper aims at uncovering and explaining the differences in resilience to shrinking in the two cases. Specifically, how can we understand the resilience or vulnerability to shrinking in Brazil and Indonesia?

In line with North et al. (2009), we argue that resilience to shrinking coincides with countries moving from a limited to an open-access order. The wealthy countries of today have created resilience to shrinking through impersonal institutions and the rule of law. North et al. (2009) argue that developed open-access economies have several doorstep conditions in place. To capture these doorstep conditions, we use the social capability approach first proposed by Andersson (2018). This approach, inspired by Abramovitz (1986) and Abramovitz (1995), allows us to go beyond

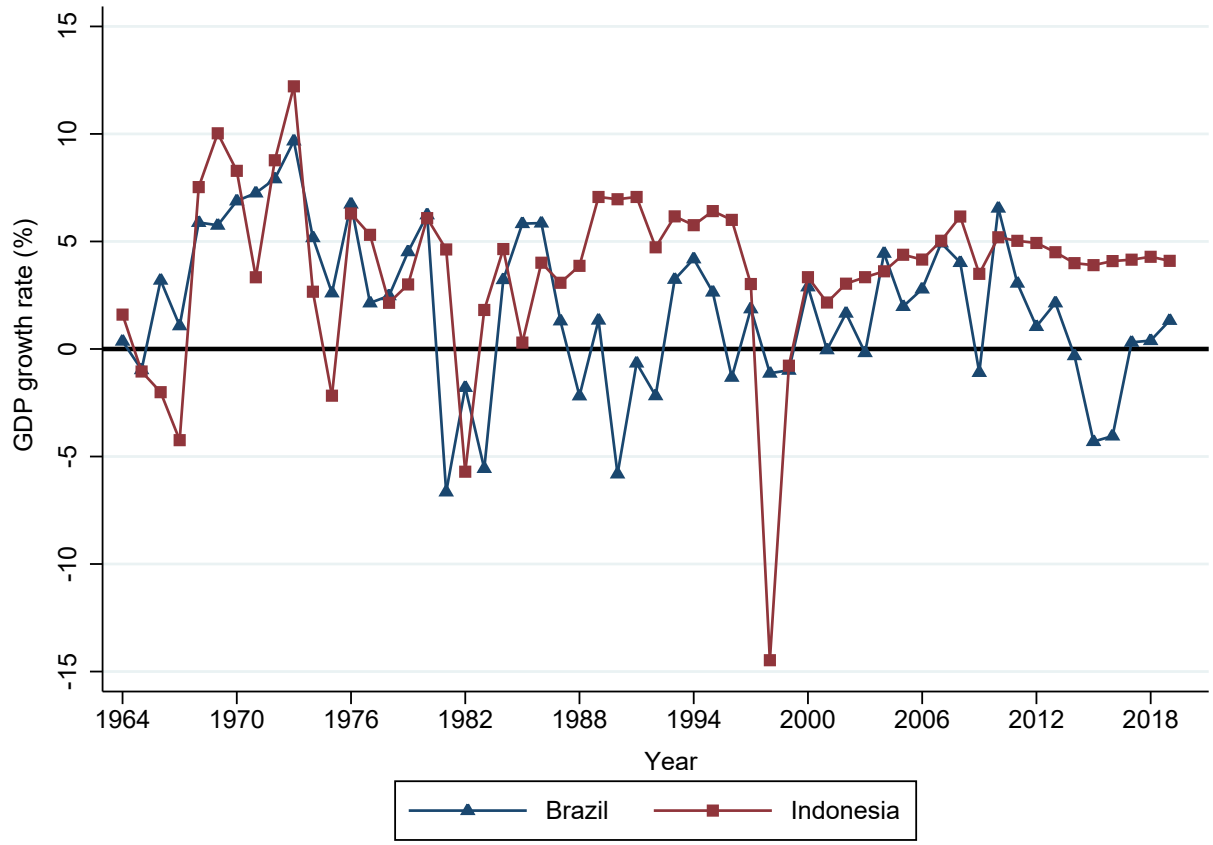


Figure 2: Brazilian and Indonesian GDP growth rate, percent (USD 2010). Source: See Figure 1.

understanding how these countries have developed and instead focus on the structural dynamics and institutional underpinnings of development processes in our two cases over time. We argue that the stronger the social capabilities, the higher the resilience to shrinking.

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, we may, with the help of an analytical framework based on the capability approach, 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. 1999). Although Brazil and Indonesia have unique points of departure in terms of physical endowments, social and political settings, and historical context, the theoretically informed analytical narrative also helps in developing more general hypotheses for other countries and can also inform future development policy (Rodrik 2012).

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 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 draw on sources from the National Statistics Board (BPS) and annual reports from the Indonesian Central Bank (BI). The objective is to produce proxies for each social capability so the development trajectories of each country are explained in objective and comparative terms.

# 2 From limited to open access

North et al. (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. Broadberry and Wallis (2017) further argue that institutions are at the core of the explanation for the decreasing frequency of shrinking. Open-access societies have seen an institutional shift from being personal to impersonal. In short, with impersonal rules, privileges are not dependent on positions or connections in society. 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 greater flexibility and adaptability to the current economic situation. Furthermore, impersonal institutions work as a bulwark to rent-seeking from elites in the society.

Except for some countries in Pacific Asia, there are no countries outside of the Western world, and its offshoots, that have made the transition from a natural state to open access. This is a gradual and not necessarily linear process. A state starts as fragile and cannot support any organization beyond itself. In today's world, there are few of these and they are often plagued by long periods of conflict, such as what we see at present in Afghanistan. It is the transition between these two states that is of great interest for our study and warrants an in-depth description. Basic states are more advanced but still cannot support organizations outside of the state. The final stage before transforming into an open-access society is a mature natural state. In the mature state, we

see plurality with a wide range of elite groups. Inspired by Figure 3, we propose that neither Brazil nor Indonesia has graduated to an open-access order.

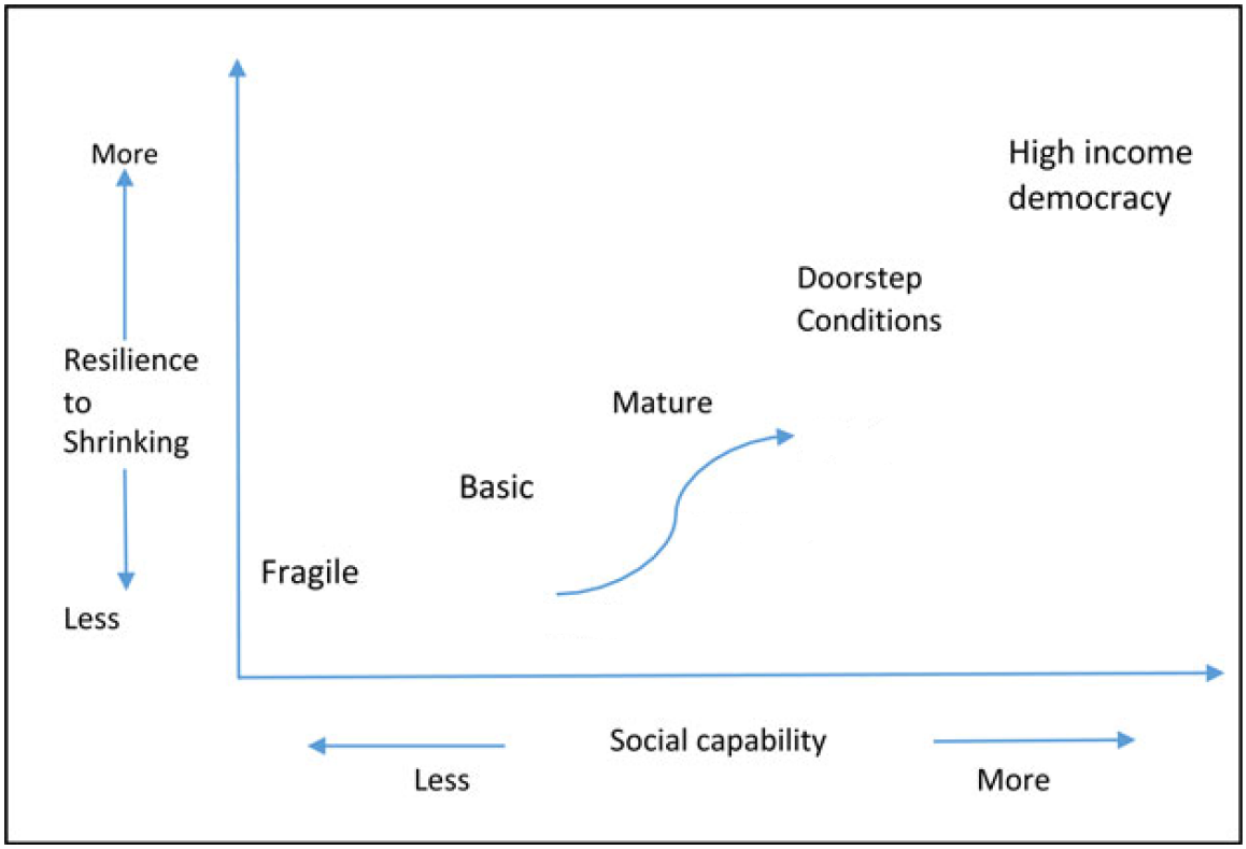


Figure 3: Development of social orders. Source: Adapted from Andersson et al. (2021).

If we subscribe to the idea that it is the transformation from a limited to an open-access society that creates resilience to shrinking and economic prosperity, we are still left with the need to understand the nature of this shift. North et al. (2009) identify what they call doorstep conditions. These may be present already in the natural state and, as such, the doorstep conditions must be consistent with the logic of the natural state while at the same time giving the elites an incentive to move from the limited access society and toward more impersonal institutions. The three doorstep conditions are: (1) rule of law for the elites, which enables new forms of dependency through contract; (2) perpetually lived forms of public and private elite organizations, which enable more economic and political activities but also increase the impersonal characteristics of the arrangements; and (3) the consolidated political control of the military, which changes the dynamics of military grounded alliances (North et al. 2009, pp. 26–27). While North et al. (2009) show what

needs to be in place for the transition to an open-access society to occur; in this paper, we seek to explain how the doorstep conditions can be formed. To dig deeper into this, we follow a capability approach as suggested by Andersson (2018) and elaborated on in Andersson et al. (2021).

## 2.1 The capability approach

Myrdal (1969) argued, contrary to neoclassical economic theory, that society does not move toward an equilibrium. Instead, cumulative processes and interactions, both economic and institutional, drive further change. These processes could lead to either an upward or downward spiral. As such, there may be different societal processes, not only economic, that together strengthen or weaken resilience to shrinking. These underlying dynamics of resilience to shrinking can be understood through our analytical framework of social capabilities. First proposed by Abramovitz (1995) and then 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 five interlinked capabilities are a) inclusion, in the form of poverty reduction, access to productive resources, and the labor market; b) transformation, which captures both the transformation from agriculture to industry and the shift toward more advanced, diversified, and complex production; c) autonomy, or the ability of the state to operate independently of vested interests and elite groups; d) social stability, the ability of a society to solve conflict without violence and, finally, e) accountability, which captures the quality of governance and provision of public goods. The five capabilities are interconnected and difficult to separate as they influence one another. This being said, here we focus on the first three, as 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 $20^{\text{th}}$ century.

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 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. 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).

Autonomy is the strength of the state vis-à-vis vested interests. 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 take a three-pronged approach: first, the level of inflation; second, the level of state revenues relative to GDP; third, the levels of debt. Running long-term deficits denotes the inability of a state to maintain sound fiscal policy, either due to 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 the 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).

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. If development occurs but the income Gini remains unchanged, we can assume that the benefits of development have been distributed evenly and everyone has become better off, but inequality levels remain the same. A decrease of the Gini coefficient combined with a developing economy indicates pro-poor growth, in the sense that the poor have benefited disproportionately from the development process. 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. In this paper, 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.

### 2.1.1 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, 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, which shows that a greater proportion of the population is active in higher productivity activities. At first glance, Brazil has progressed further in the transformation than Indonesia. No doubt, a comparison

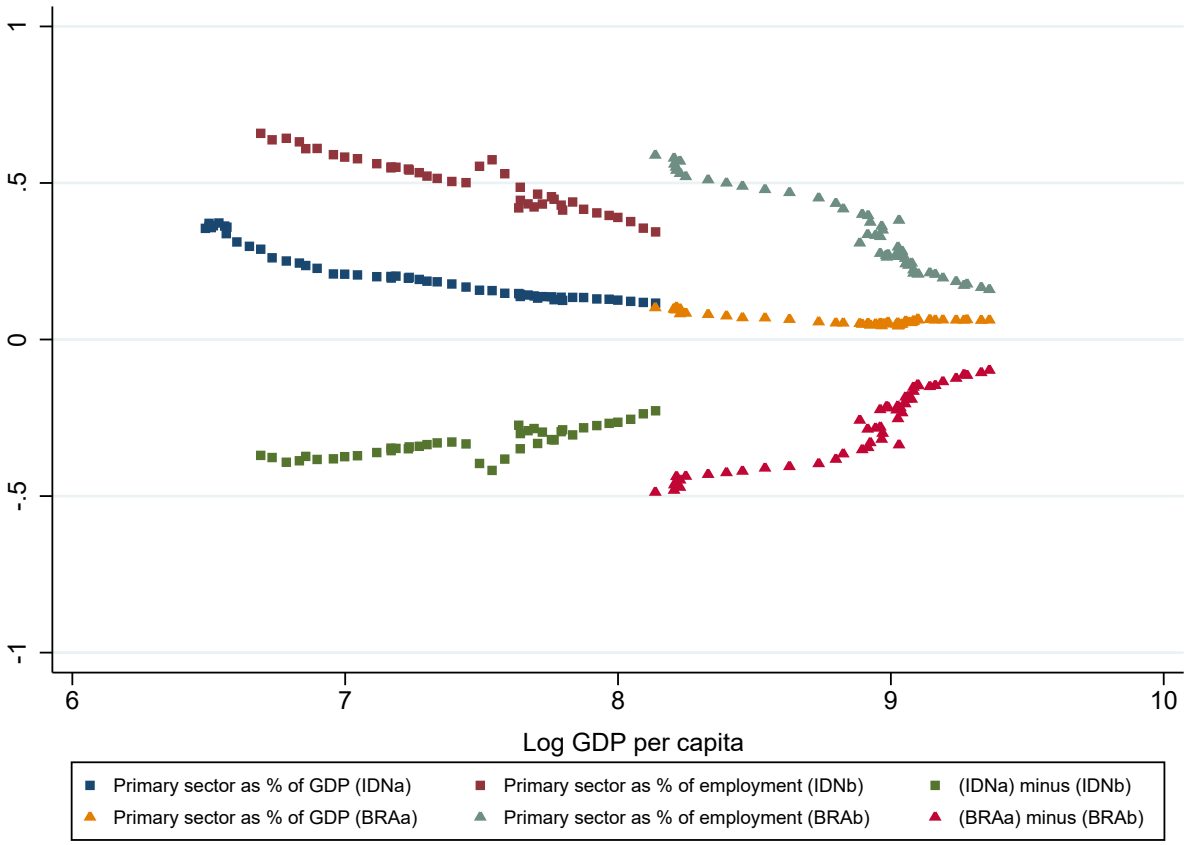


Figure 4: Agricultural transformation per GDP per capita levels of Brazil (BRA) and Indonesia (IDN). Source: Groningen Growth and Development Centre (2014).

between the two shows that in any given year Brazilian agriculture is less important in the economy and as a source of income than in Indonesia. In that sense, Indonesia is playing catch up with Brazil. 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 is ahead of Brazil in relative terms. In short, the transformation process has proceeded further in Indonesia given its development stage (see Fig. 4).

At the same GDP per capita levels, the share of the Indonesian labor force in agriculture is half that of Brazil, and the share of GDP from agriculture is at the same level. In the Indonesian case, this is a clear result of the importance that agriculture was given in the Indonesian development strategy. Already in the young independent state, Sukarno realized the importance of agriculture. By the early 1960s agriculture was in crisis; productivity was low and the sector could not keep up

with demand (Bresnan 1993). With the new regime in place and once the most acute macroeconomic issues had been addressed, agriculture became a top priority for Suharto (Booth 1998). This was perhaps not surprising as it was the dominant sector of the economy, employing two-thirds of the labor force. In short, developing Indonesia meant developing the agricultural sector—feeding millions while also increasing their income. The state initiated investments in new technology, primarily seeds, fertilizers, and pesticides. Investments in production and productivity did increase as a consequence, 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).

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 fourfold. Investments in agriculture were increased and coupled with ambitious extension programs that offered farmers 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 level by setting floor and ceiling prices (Timmer 1996; McCulloch and Timmer 2008). The efforts from the state can be seen in the shift in bias against agriculture , which was true for agriculture in general but particularly for rice (Fane and Warr 2009; Anderson 2009).

In Brazil, the development of a modern agricultural sector had similar contours to the Indone-

sian process. The period after the 1960s saw the adoption of better seeds, insecticides, fertilizers, and machines by Brazilian farms. Klein and Luna (2019) argue that this modernization was largely due to direct government action. Through subsidies, rural credit, minimum price support policies, the regulation of agricultural stocks, and measures to protect local production, farmers were able to acquire new machinery and modernize their production processes. 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 aiming 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 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. While debates concerning the possibility of land reform in Brazil were prevalent throughout the 1960s and 1970s, the military regime effectively put an end to the land reform in Brazil with the notion 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. This urban industry, in turn, was to be fostered by a deep structural transformation bolstered by an import substitution process.

Starting in 1964 with Marshal Castelo Branco, the military regime intended to transform Brazil into a modern capitalist economy and a military power. The military regime combined the old import substitution policies with the expansion of state investments aiming at modernizing and expanding Brazil's industrial base. The import substitution policies of basic industrial products and capital goods–such as steel, copper, and petrochemicals—remained, while the regime promoted large infrastructure projects for hydro and nuclear power, alcohol production, 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 military regime heavily relied on the Brazilian Development Bank (BNDES). Brazil also benefited from significant foreign direct investment and loans provided during a period of particular liquidity in the international market. 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, at least, 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 participation in the export basket rose from 5% to 36% in the period from 1964 to 1973 (Mattei and dos Santos Júnior 2009; 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 (Cavalcante and De Negri 2014), despite a reallocation of industrial labor from manufacturing toward science, engineering, and knowledge-based (SEK) industry[1] (Nassif et al. 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.

With the structural transformation, agriculture grew in absolute terms but decreased in significance to the economy at large. To capture this agricultural transformation and beyond, we turn to the economic complexity of the economy in Figure 5. As is expected, Brazil is ahead of Indonesia.

Two things are worth noting: first, the gap between the two has narrowed significantly in the new millennium, and second, when comparing the economic complexity of the two countries at the same GDP per capita levels, Indonesia is significantly more complex than Brazil. The evolution of the Indonesian case can be seen to have three phases; starting in 1970, it is possible to verify a sharp decline in complexity. This coincides with the oil price increases, which suggests that the economy, particularly exports, became dominated by one commodity. The economic complexity index is derived only from a country's exports. As such, it misses out on the fact that the 1970s saw a rapid structural change, with expanding industries that doubled industry's relative contribution to GDP.

However, the process was oil-fed, with a focus on heavy and capital-intensive industries for the domestic market. The second phase, from 1980–2000 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. It had also become a concern for

[1] 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.

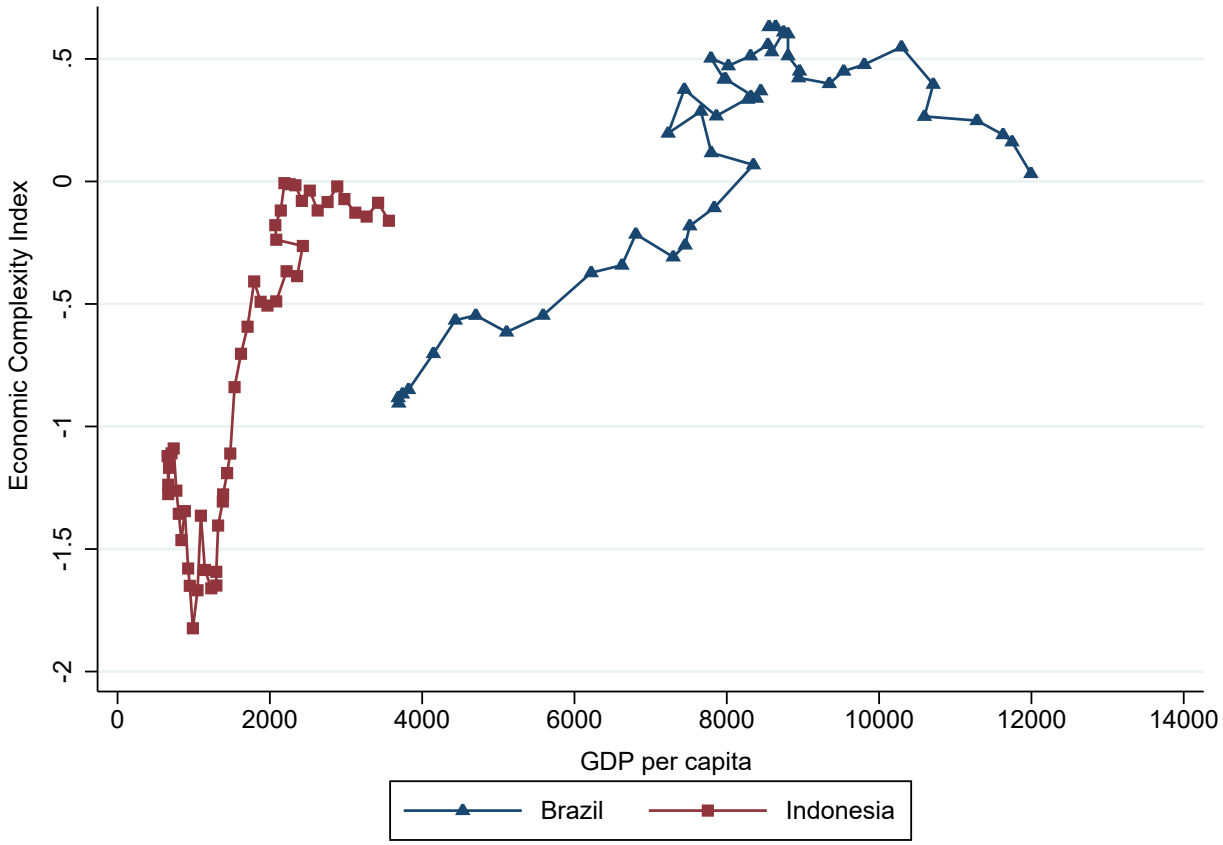


Figure 5: Evolution of the Economic Complexity Index per GDP per capita levels. Source: The Growth Lab at Harvard University (2016).

the technocrats deciding on policy. The second oil shock put the transformative forces on hold, but only temporarily. By the early 1980s, oil prices and revenues were falling, meaning that there was little capital to continue in the same direction. 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. The industry was still dominated by large corporations, although their share did decline (Seibel 2020), as the industry was transformed toward labor-intensive manufacturing for the global, rather than domestic, market. Indonesia thus successfully managed to diversify its exports away from natural resources. This continued through the crisis in 1997–98. In the new millennium, there has been a slow decline in complexity, which can be associated with rising commodity prices and growing concerns about premature de-industrialization (Axelsson and Palacio 2018).

To conclude, both nations pursued a developmental path in which both agriculture and industry were the targets of significant state intervention. The difference, however, lies in the timing of the development and the potential for broad-based economic participation that stems from it. The industrialization of both countries required the rural labor force to be absorbed into the infant industry. This meant that agricultural efficiency had to be pursued as a means to incentivize labor to migrate from rural to urban areas. Indonesia began this process much earlier in its developmental stage while, at the same time, having a more inclusive distribution of factor endowments, which allows for more inclusive development. The complexity of the Indonesian economy has developed rapidly and could soon rival Brazil, which showcased the patterns of industrialization built around import substitution. Consequently, while Brazil achieved strong GDP growth and industrial output, it could not be sustained since one of the foundations of resilience to shrinking was not there.

### 2.1.2 Autonomy

The autonomy of the state is a function of impersonal institutions. This means the rule of law and that vested interests are kept at bay. In a state where the rule of law applies, individuals or interest groups have little influence over, for example, spending or taxation. This has a direct impact on macroeconomic management, expenditures, and revenues and thereby also how resilient the economy is to shrinking.

In Indonesia, although inflation was relatively high and in the double digits for most of the period under study, it has been stable with only a few spikes. After the volatility surrounding 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 inflation 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 with the economy in shambles. 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 consisted of a small group of US-educated economists who 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 1993), and also cut costs by canceling or rescheduling projects.

The increase in oil revenues in the early 1970s allowed Indonesia to invest in development projects, which drove inflation. Yet the country became more efficient in sterilizing the inflow and thus dealt with its second windfall much better. Furthermore, the increased revenues were not, as in Brazil, combined with overspending. Neither did Indonesia, when oil revenues collapsed in the early 1980s, end up in a debt crisis. Debts increased with the initial shock but were quickly brought down again, as Figure 6 shows. Similarly, the financial crisis in 1998 caused a major spike in debt levels that was soon brought back down. This may be explained by the austerity policies of the technocrats in power as well as the institutional restraints on balancing the budget introduced by technocrats in the late 1960s, which remain in place to this day.

While the efficiency of the rule may be questioned (Hill 2000), it nevertheless served as a tool to rein in spending and in a sense give the state a line of defense against vested interests pushing for costly projects or privileges. In the Sukarno era, the government increased salaries and bonuses for civil servants with little regard to the costs. Under Suharto, as evidenced from annual reports from Bank Indonesia, increased salaries were conditioned on the budget allowing for it.[2] 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 cuts, postponement, or even cancellation 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 debts, Indonesia first 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. 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 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.

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

The second strategy for Indonesia was to 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, 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.

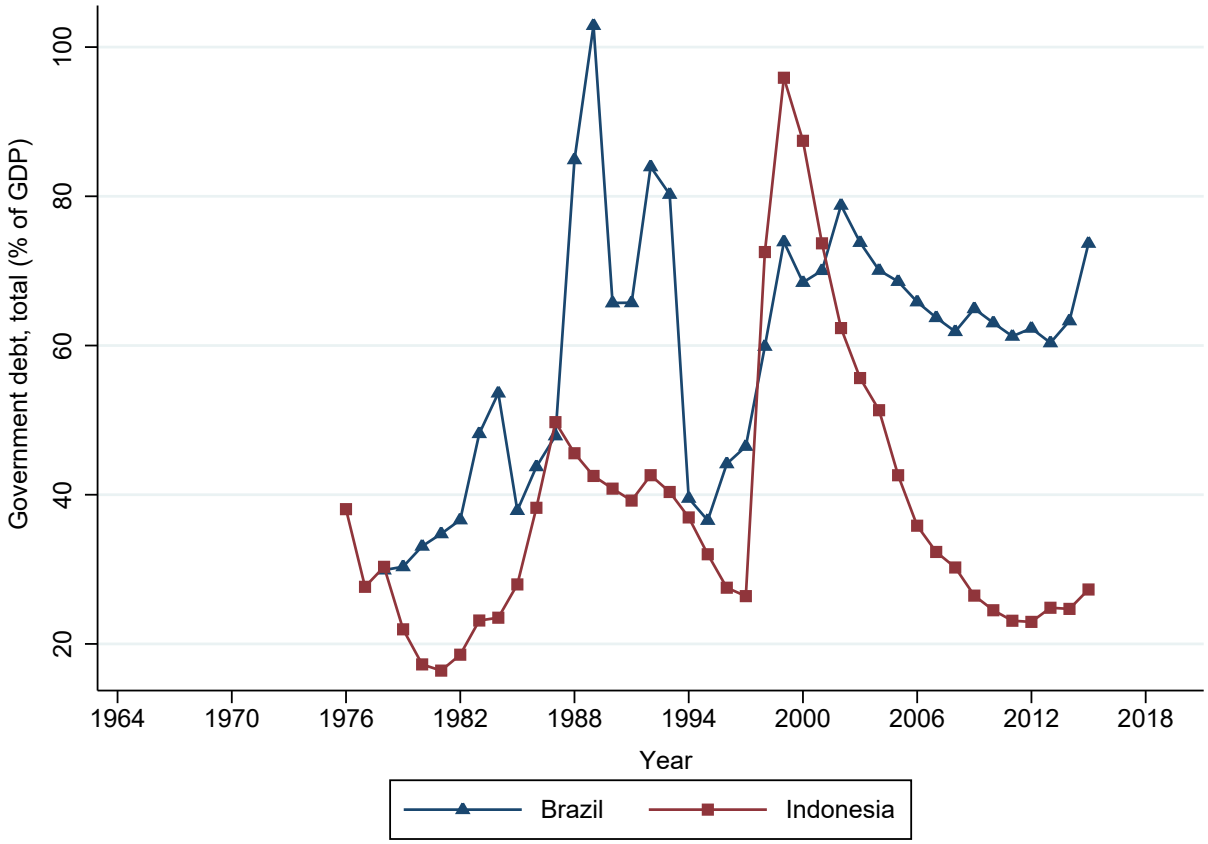


Figure 6: Total government debt (% of GDP). Source: See Figure 1.

In the Brazilian case, the problem was not the government's ability to raise tax, rather its inability to regulate its expenditures. 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, p. 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. Castelo Branco ultimately reached a compromise with the army's hardliners that recognized the results of the elections but meant that Castelo Branco's tenure would adopt much more restrictive policies. Through the Second Institutional Act, 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, he convened an extraordinary commission of jurists that drafted a highly authoritarian constitution.

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; Bresser-Pereira and Nakano 1984; Simonsen 1995; Kearney 2007).

In the first years, the PAEG failed to live up to its own goals. The program aimed for inflation

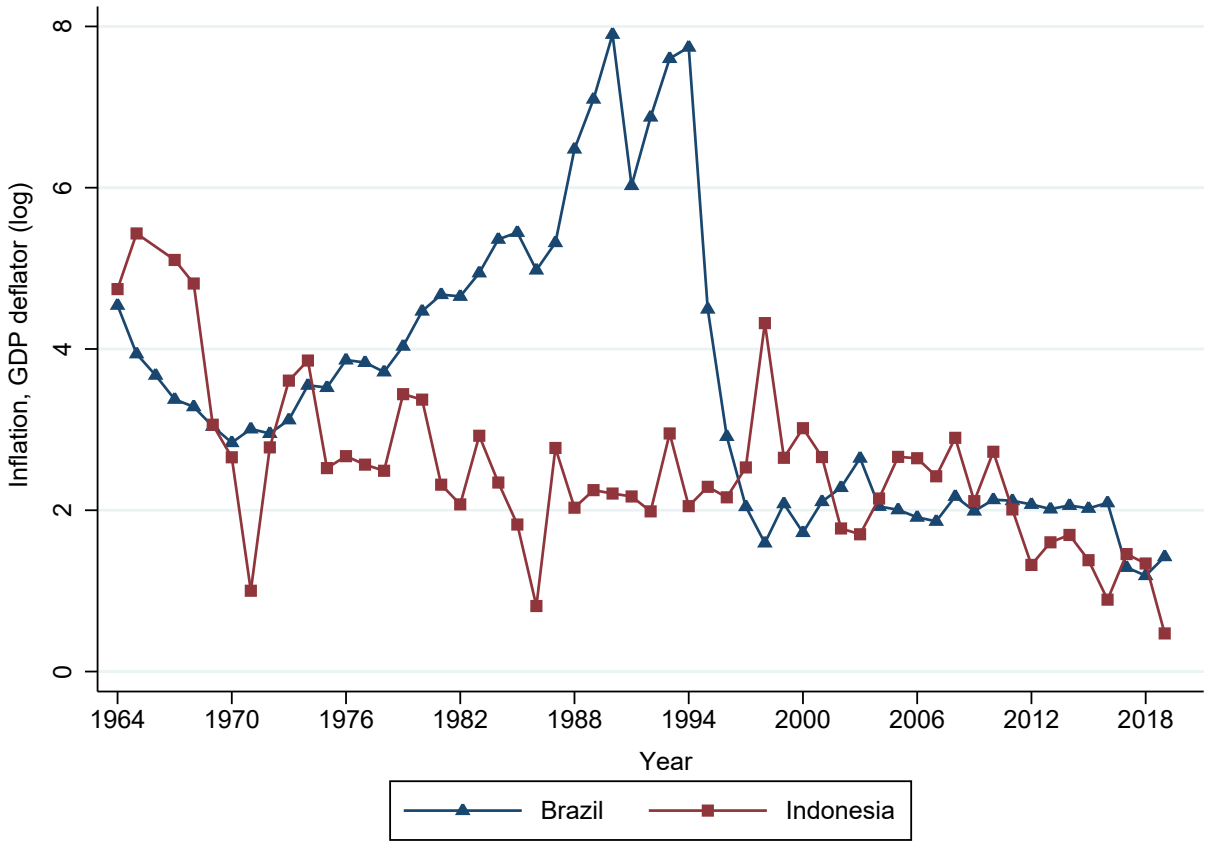


Figure 7: Inflation, GDP deflator (log). Source: See Figure 1.

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 in 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 ´´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 ISI 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 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 Figure 7, 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, p. 23), a weak institutional arrangement 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 six 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 et al. 2021). Low levels of fiscal discipline stem from the bypassing of fiscal laws. Personnel expenditures appear as the Achilles heel of the Brazilian public debt management as the controls on these expenditures are systematically bypassed at the state and federal levels of government by successive modification of accounting standards by State Courts. Such modifications excluded personnel expenditures, pensions, and other pecuniary benefits that increased the remuneration of civil servants from fiscal responsibility laws and other expenditure ceilings (Bonomo et al. 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)

"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 has sought alternative sources of revenue rather than run up deficits. These differences are very much a consequence of different development strategies. Indonesia has built on a more cohesive and broad-based development model, in which industrialization could continue without the same state capital injections. It becomes more important to hold inflation low and to keep vested interests at bay to attract foreign capital; deficits were tolerated but only for brief periods. Ultimately, Indonesia has a much more responsive fiscal and monetary policy shown by the fluctuations of its national debt: it can increase fast but it does also decrease fast. This flexibility is deemed crucial to make the country resilient to economic shrinking. 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.

### 2.1.3 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 dependant on any single commodity or market. 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 Figures 8 and 9 show, from 1964 until 1988, Brazilian inequality indexes were in the lower 50s and increasing. Indonesia at the same time saw its Gini index in the lower 40s 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 even more impressive poverty reduction. Today the share of the population living below 1.90 USD 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. Indonesia is today on the same level as Brazil was at the start of our period. 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.

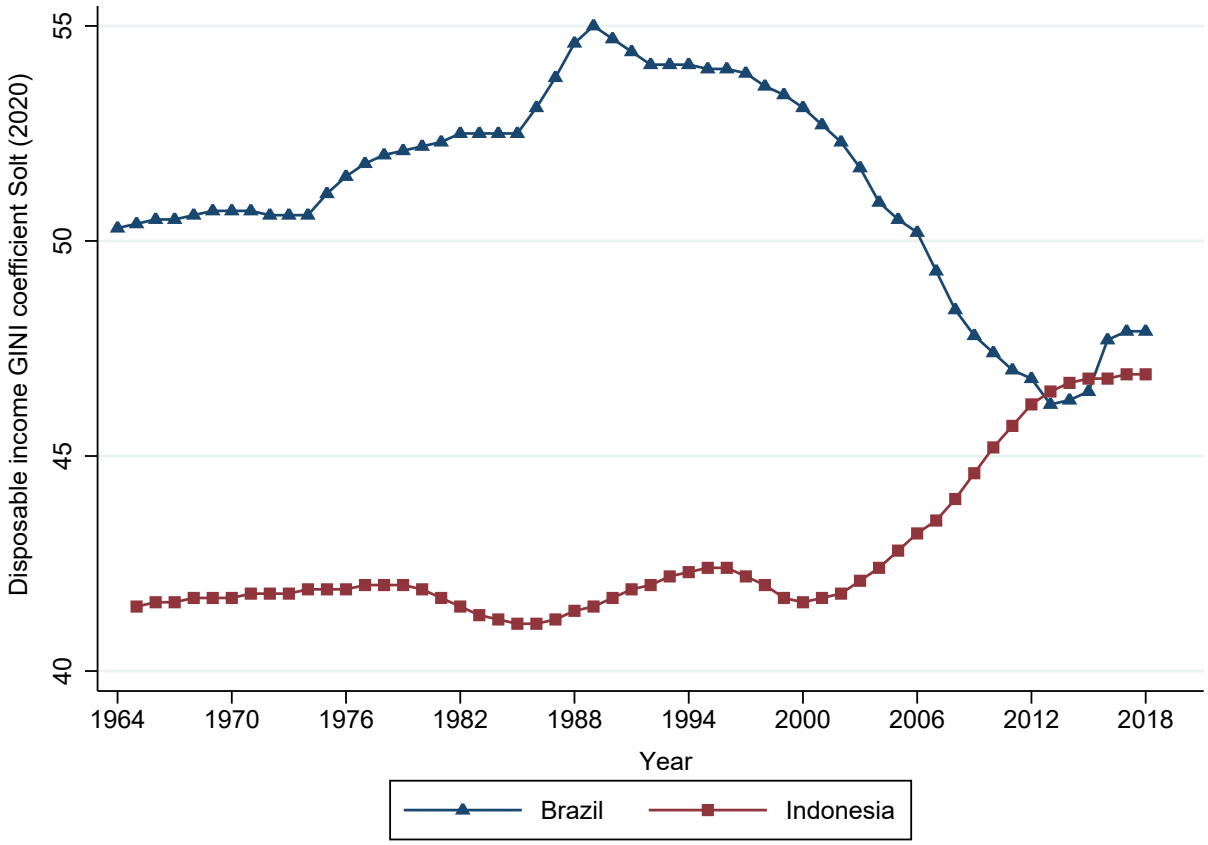


Figure 8: Gini disposable income. Source: Solt (2009).

The Indonesian poverty reduction strategy is very much a function of the development model that Suharto and his technocrats adhered to. 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 farmers could gain access to new markets.

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. 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 high 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 to 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

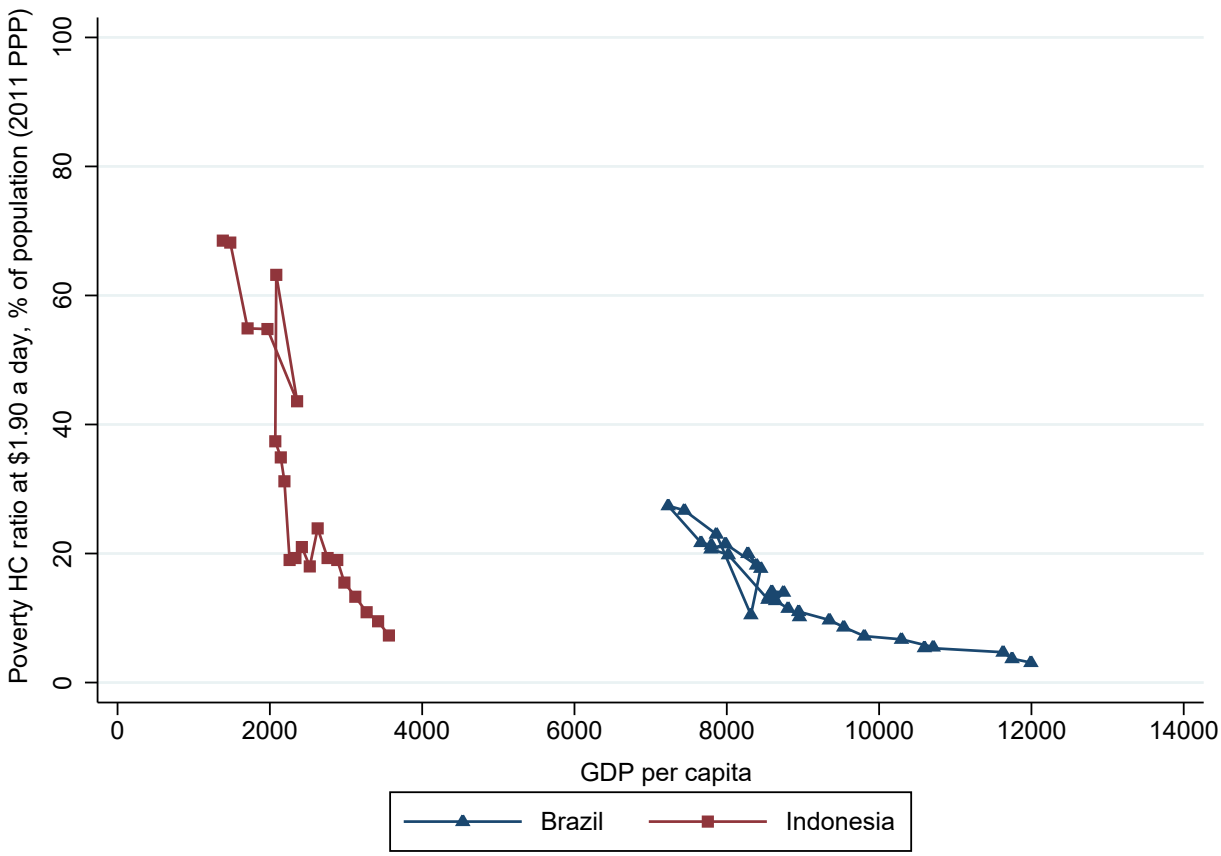


Figure 9: Poverty headcount ratio at $ 1.90 a day over time, % of population (2011 PPP). Source: See Figure 1.

and external pressures. International companies and countries pressured Indonesia into better labor conditions, and minimum wages were 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 percent.[3] (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, p. 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

[3]Nominally they increased eight-fold.

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 1,242 Brazilian reais. Six years later, in 1970, it was 814 reais. A small recovery in the purchasing power occurred subsequently and it reached 878 reais in 1982. However, the recessive adjustment produced after the second oil shock caused the minimum wage purchasing power to plummet, reaching a mere 506 Brazilian Reais in 1992. Unsurprisingly, inequality increase 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 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 dynamics for further resilience to shrinking. In Brazil, on the other hand, we see an unbalanced strategy that catered for the few, with a lopsided industrial policy that did not lend itself to greater participation in the formal economy.

# 3 Discussion

We see that, in relative terms, Indonesia has been more successful in its catching-up process between 1964 and 2010. We argue that this increased 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 an 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.

In terms of social capabilities, Indonesia has consistently outperformed Brazil at any given level of GDP per capita. We can also see how the capabilities are closely interlinked and feed into each other to create a positive upward spiral. 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 thereby their income—a pro-poor growth strategy. 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 autonomonous 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. 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 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." Brazil incurred significant 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 the "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 in tandem, ultimately making the nation much 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.

# 4 Final remarks

In this paper, we set out to understand the relative catching-up experiences of two of the most prominent emerging economies over the past 50 years. At first glance, Brazil is ahead of Indonesia. The country has a higher GDP per capita, lower levels of poverty, has gone further in its transformation process, and has a more complex economy. It soon becomes clear, however, that Brazil is ahead of Indonesia only by having started its development process earlier. If we instead compare the two countries at the same GDP levels, a very different picture emerges with Indonesia

ahead. In comparison with Brazil, the Indonesian transformation was tightly connected to a lack of shrinking episodes. This meant that more people were given access to more production factors, within agriculture or from moving to higher-income activities in the industrial sector. The Brazilian industry employed significantly fewer labor-intensive activities and did not absorb the labor force to the same extent. Industry in Indonesia followed a similar pattern but changed in the mid-1980s with more labor-intensive manufacturing becoming dominant. The Indonesian economy became more diverse and complex at the same time, as it could absorb a broad section of the labor force. By extension, inclusion was fostered in Indonesia until the most recent times. This can also be seen through the poverty elasticity of both countries as poverty has decreased much faster in Indonesia than in Brazil.

Indonesia became increasingly authoritarian in the early 1960s. In 1965, the country suffered a military coup that led to a military dictatorship under General Suharto. Much like Figueiredo , Suharto found himself in charge of an economy out of control. The end of Sukarno had been marked by several years of shrinking, galloping budget deficits, and hyperinflation. The Suharto regime was the opposite in terms of shrinking, with only a handful of years of economic shrinking and throughout his 32-year long rule. While Brazil suffered from oil shocks, increased revenues presented the Suharto regime with great opportunities. The oil windfall was invested in the transformation of a backward agricultural economy into an industrial powerhouse bringing millions of Indonesians out of poverty. The oil money did not bring long-term inflation but rather stability. Brazil, on the other hand, ended up in a cycle of boom years and optimism followed by contraction.

In 1998, the economic crisis struck and political upheaval came with it. Suharto was forced to step down and Indonesia embarked on a journey toward democratization. The crisis also caused many experts to re-evaluate the "miracle" of the Indonesian economy. It was argued that the country's weak institutions could not sustain long-term economic growth and that the Suharto regime could not have ended in any other way (Temple 2003). It would take Indonesia ten years to get back to pre-crisis levels. Notwithstanding, Indonesia soon bounced back and has since not fallen back into an era of chaos, hyperinflation, and recurring episodes of shrinking. Instead, the now-democratic country has shown remarkable resistance to shrinking through the global crises of the past decades. It may well be argued that the "weak" institutions built under Suharto have

helped usher in the continued resilience to shrinking into the new millennium. The observations made by Pritchett (2000) twenty years ago seem to hold for Indonesia today. Brazil, on the other hand, seems to be incapable of aligning its social capabilities to ensure resilience to economic shrinking. Consequently, it fails to catch up and allows itself to be caught up. By using North et al. (2009) notion of institutional development, we conclude that both countries still display a limited access order but Indonesia seems to be the one more successfully achieving its doorstep conditions. Indonesian institutions seem more flexible while, at the same time, their social capabilities seem more developed, allowing the country a much greater degree of resilience to economic shrinking.

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