

# Current Constraints on Growth

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*After ranking among the world's top-performing economies for most of the 20th century, in the early 1980s Brazil entered a long cycle of low and volatile growth that shows no sign of ending. This dramatic slowdown reflects a large drop in labor productivity growth, a symptom of the inability of the Brazilian economy to move a large enough number of workers to higher-productivity jobs, despite their increasing levels of schooling. This chapter discusses three possible explanations for this poor performance: the failure to complete market-oriented reforms, the adoption of industrial policies focused on protecting inefficient incumbents, and the expansion of policies aimed at favoring small, unproductive firms. The chapter concludes by highlighting six policy focus areas for bringing back sustained growth.*

## INTRODUCTION

In 1981 Brazil fell into a recession. Despite clear signs that the country's economic fundamentals had significantly deteriorated, as evidenced by a rising foreign debt and soaring inflation, few believed the crisis would be long-lasting. Skepticism was warranted: Brazil's GDP had not contracted in nearly 40 years, and, throughout the 20<sup>th</sup> century, only as a consequence of major international catastrophes, such as the two World Wars and the Great Depression.

But the good times never did return. Since 1980, brief moments signaled that the good times might be back, but they soon gave way to another crisis. These short boom-and-bust cycles have so fascinated analysts that the dismal performance of the Brazilian economy over this period as a whole has gone nearly unnoticed. Between 1980 and 2017 Brazil grew strikingly little—the country's per capita income rose by just 0.7 percent per year, on average, compared with 1.7 percent in developed countries and 3.0 percent in emerging market and developing economies over the same period. At this rate, it will take Brazil 100 years to double its per capita income.

Following nearly three years of deep recession, Brazil is once again experiencing a moment of hope for a lasting rebound. But what can be done to ensure the country does not once again plunge into a crisis? What can be done to sustain durable and strong growth?

This chapter endeavors to answer these questions, arguing that, while is no silver bullet, a broad set of issues must be addressed. The next section covers Brazil's long-term economic performance and is followed by a discussion of the failed policies of the period after 1980. The final section summarizes the main arguments and suggests six areas that should be the focus of growth-oriented policies.

## STYLIZED FACTS REGARDING ECONOMIC PERFORMANCE

Between 1900 and 1980, Brazil's was one of the world's fastest-growing economies, with GDP expanding by about 5.5 percent per year. Between 1951 and 1980, GDP expanded by an average 7.4 percent per year, more than in most other countries in the world and considerably ahead of the rest of Latin America, trailing only Japan and the Republic of Korea. Since 1981, however, Brazil's economic performance has been mediocre at best (Table 3.1). The drastic growth slowdown that marked the period 1981–93 and the modest growth during 1994–2017 were not unique to Brazil, but in both periods the country performed more poorly than the rest of the world and as badly as the rest of Latin America. Particularly noteworthy is that Brazil's economy has systematically underperformed countries such as Chile and Colombia.<sup>1</sup>

These facts suggest that the post-1980 economic slowdown has deep structural roots that may be predominantly homegrown. That is, most regions in the world grew more slowly post-1980 than before, particularly in the 1980s, but the slowdown was much more pronounced in Brazil than most everywhere else. To better understand the cause of this dramatic deterioration in economic performance, consider these four stylized facts (Table 3.2):<sup>2</sup>

- Demographic growth stayed below that of employment throughout the post-1981 period. Only in 1964–80 was the difference between these two growth rates larger than after 1980. This means that the decline in per capita income growth did not result from an unfavorable demographic change, but rather almost exclusively from slower labor productivity gains.
- Human capital per worker increased more significantly in 1981–2017 than in previous periods.
- Investment as a share of GDP was generally lower after 1980 than in previous periods, causing capital per worker to expand much more slowly.

<sup>1</sup>The Mexican economy, however, has historically followed a path similar to that of Brazil.

<sup>2</sup>Economic growth was decomposed using the Cobb-Douglas production function  $Y = AK^\alpha H^\gamma L^{1-\alpha-\gamma}$ , the inputs of which are labor ( $L$ ), physical capital ( $K$ ), and human capital ( $H$ ), where  $\alpha = 0.3$  and  $\gamma = 0.5$  (Mankiw, Romer, and Weil 1992; Pinheiro and others 2005). Dividing both sides of the equation by  $L$ , taking the logarithm and the derivative over time, yields the following breakdown:

$$\Delta \frac{Y}{L} = \Delta TFP + \alpha \Delta \frac{K}{L} + \gamma \Delta \frac{H}{L}, \text{ where } \frac{d}{dt} \log(A) = \Delta TFP.$$

**Table 3.1. Comparison of GDP Growth from 1930 to 2000***(Percent)*

| Country                   | 1931–50 <sup>1</sup> | 1951–80 | 1981–93 | 1994–2017 <sup>2</sup> |
|---------------------------|----------------------|---------|---------|------------------------|
| Brazil                    | 4.6                  | 6.8     | 2.1     | 2.4                    |
| Argentina                 | 2.9                  | 3.4     | 1.7     | 2.2                    |
| Mexico                    | 4.1                  | 6.4     | 1.7     | 2.5                    |
| Chile                     | 2.7                  | 3.4     | 4.0     | 4.2                    |
| Colombia                  | 3.9                  | 5.2     | 3.7     | 3.3                    |
| Rep. of Korea             | 0.6                  | 7.5     | 9.6     | 4.4                    |
| Japan                     | 1.6                  | 7.9     | 3.9     | 1.0                    |
| United States             | 3.2                  | 3.6     | 3.1     | 2.4                    |
| Latin America & Caribbean | 3.6                  | 5.2     | 2.1     | 2.7                    |
| World                     | 1.8                  | 4.5     | 3.2     | 3.8                    |

Sources: Pinheiro and others (2005); and authors' calculations using IMF data.

<sup>1</sup>1930–50 for Latin America and World.<sup>2</sup>2016 and 2017 values reflect IMF estimates.

- Total factor productivity growth in the post-1980 period was far lower than in all previous periods.<sup>3</sup>

One way to explain these numbers is that, from 1980 onward, Brazil no longer managed to move workers to higher-productivity jobs. Before the 1980s, the country had succeeded in shifting workers across sectors or reallocating them to more productive jobs within sectors. But the country lost its ability to do so; workers who joined the labor force after 1980, although better-schooled than the workers they were replacing, were mostly absorbed by low-productivity sectors, especially traditional services, which saw the greatest increase in number of jobs during this period. Pecora and Menezes-Filho (2014) show that, between 2002 and 2009, skilled workers were in excess supply, so the wage difference between skilled and unskilled workers decreased (see also Menezes-Filho, Fernandes, and

**Table 3.2. GDP, Capital, Labor Force, and Human Capital Growth***(Percent, annual average)*

|   | 1931–50 | 1951–63 | 1964–80 | 1981–93 | 1994–2017 |
|---|---------|---------|---------|---------|-----------|
| GDP   | 5.14    | 6.88    | 7.79    | 2.10    | 2.36      |
| GDP per Capita  | 3.19    | 3.83    | 5.19    | 0.33    | 1.07      |
| Population  | 1.95    | 3.05    | 2.60    | 1.78    | 1.29      |
| Employment  | 1.84    | 2.81    | 3.25    | 2.17    | 1.61      |
| GDP/Worker  | 3.30    | 4.07    | 4.54    | −0.07   | 0.75      |
| <b>Contribution to GDP/Worker Variation (percentage points)</b> |         |         |         |         |           |
| Physical Capital/<br>Worker                                     | 1.04    | 1.76    | 1.71    | 0.13    | 0.23      |
| Human Capital/<br>Worker  | 0.19    | 0.24    | 0.08    | 0.92    | 0.80      |
| Total Factor<br>Productivity                                    | 2.07    | 2.08    | 2.75    | −1.11   | −0.28     |

Sources: Pinheiro and others (2005); and Lee and Lee (2016).

<sup>3</sup>The stagnation of labor productivity (and of total factor productivity) has been reviewed by many Brazilian scholars and is the primary focus of numerous studies. For further reading, see Bonelli, Veloso, and Pinheiro (2017) and the World Bank (2018a).

Picchetti 2006 and Barbosa Filho and Pessôa 2008). Ottoni (2017) presents similar results and shows that workers went to sectors in which their higher schooling was basically lost.<sup>4</sup>

The next three sections analyze three policies that explain why Brazil failed so badly at creating enough higher-productivity jobs: incomplete market reforms, industry policies that protected entrenched companies, and the expansion of policies that favored both formal and informal small companies with low levels of productivity.

## INCOMPLETE MARKET REFORMS

Through most of the period of rapid growth, Brazil relied on an import-substitution development model. Although initially pursued without much policy coordination, import-substitution industrialization became the explicit mainstay of economic policy in the 1950s. Trade policy was designed to favor Brazilian industry by, among other things, manipulating the exchange rate, barring certain imports, and subsidizing exports (Pineiro 2016).<sup>5</sup> The government also relied on state-owned enterprises (SOEs) and public banks, which often supplied industry with low-cost inputs and credit at subsidized rates.

With such widespread incentives, Brazil underwent a rapid structural transformation, reallocating low-productivity agricultural laborers to other, higher-productivity jobs, generally in industry and services. More than 40 percent of the decline in the productivity gap between Brazil and the United States between 1950 and 1980 can be accounted for by this massive structural transformation (Ferreira and Fonseca 2015).

But the economy began to lose steam once the country's sectoral structure approached that of more advanced economies. By then, the perverse incentives embedded in import-substitution policies had begun to hamper growth, and the government turned to propping up growth with public and private debt and tax subsidies. A faltering economy coupled with a rising foreign debt, the second oil crisis, high US interest rates, and foreign investors' growing aversion to Brazilian assets culminated in the 1981–83 crisis.

The economic downturn was then attributed to two interconnected problems. One problem was a lack of control over key macroeconomic variables—as reflected in extremely high inflation and recurrent foreign debt crises, in particular—that paralyzed investment and harmed economic efficiency. Brazil has not entirely overcome these issues to this day, although the Real Plan and the

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<sup>4</sup>Some argue that increased schooling was concomitant with a decrease in average educational quality such that the true increase in human capital was less than the numbers suggest. The World Bank (2018b) supports this analysis and concludes that Brazilian schools do not teach skills that allow students to be competitive and productive workers.

<sup>5</sup>In practice, the combination of import tariffs and export subsidies on manufactured products, together with an overvalued exchange rate, generated a kind of double exchange system that taxed commodity exporters and favored industry.

fiscal reforms of the late 1990s went a long way to ensure macroeconomic stability. The other problem was the lack of public funds to sustain policies that relied heavily on government subsidies. This limited the government's ability to extend subsidized loans and have SOEs invest significantly in areas like infrastructure.

In the 1990s the government enacted several reforms aimed at reducing its influence in microeconomic decisions. It suspended some export-subsidy programs, removed most nontariff barriers on imports, reduced import tariffs, privatized some SOEs, and deregulated various markets. The idea was to give the private sector a greater role in making investment and resource allocation decisions. However, that policy shift was more the result of lack of alternatives than a wholehearted conversion to a market-friendly development strategy, and this weak commitment was reflected in the depth, breadth, and stability of reforms. As a result, the impact of the reforms of the 1990s was positive but modest.

Thus, despite all the reforms, the government continued to intervene heavily in the economy. Public banks still hold great sway, with Banco do Brasil, Brazilian Development Bank (the BNDES), Caixa, Banco da Amazônia, and Banco do Nordeste do Brasil accounting for 42 percent of total assets, 35 percent of equity, and 49 percent of loan portfolios of Brazilian banks in 2017. And the government owns shares in several private companies through the BNDES and SOE pension funds, both of which are controlled by the federal government (Lazzarini 2011).

Furthermore, the government continued to subscribe to the idea of protecting entrenched companies against competition from domestic, international, and new businesses, which weakened not only natural market selection but also incentives to innovate and seek efficiency gains. Examples of this protection include the loans extended by the BNDES. Bonomo, Brito, and Martins (2015) show that the largest, oldest, and most conservative companies were the primary beneficiaries of BNDES lending. The authors find that these companies have the lowest financial cost compared with nonrecipients, but the effects of these loans on investment are statistically insignificant. Lazzarini and others (2015) also find that companies that had received BNDES loans experienced a decline in their cost of capital, but that this had no effect on investment. In other words, by directing loan subsidies almost entirely to conservative, well-established companies that already had access to the credit market, the BNDES created a barrier to entry and was complicit in the private sector not expanding its investments.

In addition to the incompleteness of structural reforms, the unbalanced nature of macroeconomic policy also contributed to Brazil's inability to sustain economic growth. Specifically, the massive increase in public sector spending, which was driven by higher expenditures on social transfers and services—social security, education, health, basic income, and so on—and by the subsidies extended to businesses, began in the mid-1980s and continued unabated in the following decades. The government's fiscal expansionism forced the central bank to keep monetary policy in contractionary mode, especially once inflation was brought under control in 1994. The results were high cost of capital, currency appreciation, and a severe foreign-debt crisis in the late 1990s. Following that period, the

government began to fund its escalating public spending by raising taxes—considerably increasing the complexity and instability of the tax structure—and limiting public investment, which also weakened capital accumulation and the pursuit of efficiency gains.

## THE RETURN OF PRO-MANUFACTURING POLICIES

The modest impact of the market reforms of the 1990s encouraged some politicians and economists to more loudly defend a return to policies aimed at increasing the manufacturing share of GDP. Their primary arguments in support of a larger manufacturing sector included the following:

- Factory workers are more productive than workers in the agriculture and services sectors. Thus, when more people are employed in manufacturing, productivity levels should be higher.
- Manufacturing posts a higher rate of productivity growth, so the greater the share of this sector in GDP, the faster the gains in productivity.
- Manufacturing attracts higher levels of research and development, generating spillovers that benefit other sectors through the spread of ideas and the availability of more technologically advanced capital goods.
- Commodity exports are more volatile than those of manufactured goods; therefore, the more manufactured goods a country sells, the less volatile its balance of trade and exchange rate. Macroeconomic stability fosters a higher rate of investment as a share of GDP.

The ensuing policy prescriptions were then put into practice during the da Silva and Rousseff administrations.<sup>6</sup> The primary instruments of industrial policy in that period included the following (ABDI 2014):

- Higher import tariffs on selected products
- Multiple tax exemptions, including lower taxes on capital goods and construction materials, as well as cuts in social security taxes levied on most manufacturing industries (Werneck 2013)
- Local content requirements in the oil and gas sector, both for Petrobras procurement processes and for drilling operations, as well as preferences for domestic manufactured goods in government procurement contracts (in

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<sup>6</sup>In 2004 President Lula da Silva launched the Industrial, Technological and Foreign Trade Policy Program (PITCE), designed to encourage innovation, increase efficiency, and expand exports of manufactured goods. In 2008, the PITCE was replaced by the Manufacturing Development Policy Program, which was also designed to encourage innovation, competition, entrepreneurship, and exports. During 2011–12 manufacturing policy was revamped under the Brasil Maior Plan, which sought to increase the technological content and exports of manufactured goods. Among its many goals, the Brasil Maior Plan endeavored to raise private investment in science and technology from 0.55 percent to 0.90 percent of GDP and to increase manufacturing as a share of GDP by 1.2 percentage points.

several cases, the government agreed to purchase domestic manufactured goods that cost as much as 25 percent more than identical foreign-made products)

- Massive subsidized credit channeled primarily through the BNDES, including some lines of credit that operated at negative real interest rates (from 2004 to 2015, BNDES disbursements averaged 3 percent of GDP)

Overall, these policies had only a negligible effect on productivity. Indeed, manufacturing has not shown itself to be the propeller of productivity growth that these policies presumed: manufacturing productivity has been steadily decreasing for years, on average by 1.5 percent annually between 1997 and 2015 (Bonelli and Pinheiro 2016). Furthermore, the available empirical evidence does not support the premise that a higher share of manufacturing in GDP would significantly improve average labor productivity. And, one way or another, those policies failed to meet their primary goal of putting the brakes on Brazil's deindustrialization. Two problems in particular seem to have undermined their efficacy.

First, the policies sought to protect entrenched companies from domestic and international competition. Thus, when the government, under da Silva and Rousseff, raised import barriers, it focused its efforts not on nascent industries but on industries in which Brazil had little, or a decreasing, competitive edge. In 2012 the goods that benefited from import tariffs greater than 25 percent were concentrated in the textile, clothing, footwear, automobile, truck, and toy industries (Baumann and Kume 2013). Similarly, the BNDES policy of "national champions" relied on credit subsidies that supported the merger of competitors instead of supporting new entrants, for instance. Therefore, in large part, the government's industrial policy sought not to increase productivity but to keep noncompetitive companies afloat.

Second, the policies pursued in that period produced harmful side effects for the manufacturing sector. Examples abound. Incentives were funded by expansionist fiscal policies, which led to an increase in the unit cost of labor. The growing fiscal deficit and the rapid rise in public debt forced the central bank to keep interest rates high, which caused the exchange rate to appreciate and unfairly harmed those companies that did not have access to subsidized loans. Furthermore, by limiting competition, the government discouraged companies from investing in research and development (Pinheiro 2016). The final outcome was more economic uncertainty and less investment.

Another consequence of the industrial policies pursued by the da Silva and Rousseff administrations was that they discouraged greater integration of Brazilian manufacturing into global value chains. Their local content requirement policies demanded that manufacturers operated vertically integrated with local suppliers, which is inconsistent with integration into global value chains. Indeed, an explicit objective of industrial policy during that period was to deepen the compactness of supply chains, fostering the use of domestically produced intermediate goods. The result, as Rios and Tavares (2013) observe, was that these

policies led Brazilian manufacturers to operate under a standard of vertical integration typical of the mid-20th century.<sup>7</sup>

Finally, the tax benefits extended to Brazilian companies also made it difficult for new competitors to enter the market, because the benefits created a comparative advantage for entrenched companies already profiting from assistance. And these benefits amounted to no small sum. According to the World Bank (2018a), in 2016 the federal government spent nearly 4.5 percent of GDP on a combination of tax exemptions, subsidized loans, and transfers to specific industries and companies. These assistance policies had minimal to no effect on productivity (IDB 2017; World Bank 2018a). The IDB (2017) study is perhaps the most comprehensive attempt to measure the effects of Brazil's manufacturing incentive program.<sup>8</sup> The companies that received support boasted survival rates higher than those of the average Brazilian company, but practically none of the programs managed to increase company productivity.

## PROTECTING SMALL, INEFFICIENT COMPANIES

The growth slowdown can also be explained by endogenous factors: the country's inability to create high-productivity jobs meant that many workers could only find work at small, often informal, companies. In turn, these companies wielded outsized political influence, which led to initiatives ranging from tolerating informal employment and regulatory arrangements to granting a variety of benefits to small businesses, many with low levels of productivity, owing to the lack of scale, capital, technology, and good management.

Thus, another explanation for Brazil's low productivity is the atypically high percentage of small, unproductive companies. These companies continue to operate for much longer than the international average, proof that the Brazilian economy's natural selection process is flawed, because otherwise less productive companies would be weeded out, clearing a path for more productive companies to enter and thrive.

At least three explanations are behind the high number of small, unproductive companies in Brazil. The first is the excessive informality, which enables companies that do not pay taxes or comply with various laws to compete in a market with more productive companies that do honor their legal obligations. Ulyseia (2014) finds that 44.5 percent of informal establishments are unproductive and survive only by avoiding taxes and skirting the law. He also finds that another

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<sup>7</sup>See Ferraz, Gutierrez, and Cabral (2015) for more evidence of the excessive vertical integration of Brazilian industry and the negative consequences thereof on integration into global value chains.

<sup>8</sup>For this study, the authors reviewed data from 34 programs endorsed by nine Brazilian institutions and combined the findings with data from another four government institutions. They reviewed an 11-year period, from 2002 to 2012. Unfortunately, because of the complexity of institutional arrangements for Brazilian manufacturing incentives and the difficulty of correctly identifying causality, the authors were forced to limit their analysis to companies that benefited from just one of the six programs selected.



38.7 percent of those firms are productive enough to survive in the formal sector but prefer to remain informal so they can increase profits. This illustrates the fact that informality also hinders productivity growth by limiting scale, as informal business prefer to stay small to avoid calling the authorities' attention.

The second reason for the existence of so many small, unproductive companies is the legal advantages enjoyed by micro and small businesses. Various tax laws in Brazil, such as the *Simples* and *Supersimples* tax regimes, benefit those companies. Barbosa Filho and Corrêa (2017) find evidence that these benefits keep companies with low levels of productivity in business. Moreover, these policies discourage the growth of efficiently run micro and small businesses, because growth would force them to operate under more hostile tax and regulatory regimes.

Barbosa Filho and Corrêa (2017) find that this pattern of many low-productivity firms coexisting with large, more productive companies also exists at the sector level, particularly in the commerce, hotel, restaurant, and other services industries. They note that low average productivity in these sectors is explained by the high percentage of low-productivity companies. And it is these traditional services industries that have seen the greatest increase in worker schooling (Otoni 2017); that is, most young workers, who are better educated than their parents, are absorbed by businesses with low levels of productivity, which may explain the minimal effect of increased schooling on worker productivity.

The many barriers to closing inefficient companies, starting with an ineffective bankruptcy law, likely compound the problem. Brazil's expensive and slow bankruptcy process discourages the closing of businesses with low levels of productivity, which continue to compete for market share and inputs that could otherwise be used to help more productive businesses to grow. In 2005 Brazil restructured the bankruptcy law, leading to an increase in companies' total long-term debt and a reduction in their cost of debt, with an increase in private lending to companies as a percentage of GDP (Araujo, Ferreira, and Funchal 2012). The law also changed how businesses behave. Ponticelli and Alencar (2016) find that, following the new bankruptcy law, cities with less burdened courts saw a greater increase in loans to the manufacturing sector, business investments, and production.<sup>9</sup> Nevertheless, the current view is that the new law leaves much to be desired, and many of the old problems remain.

Both Ulyssea (2014) and Meghir, Narita, and Robin (2015) find that intensifying the inspections of informal businesses increases overall economic efficiency. Ulyssea (2014) finds that reducing the costs of entering the formal sector is not as effective in reducing informality, even though doing so leads to substantial gains in well-being and increases GDP and wages. And Meghir, Narita, and Robin (2015) show that stepping up inspection increases wages, overall production, and well-being, and does not raise unemployment. These positive effects of expanding inspections of informal businesses can be explained by the fact that, once unproductive businesses are taken out of the market, workers are better

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<sup>9</sup>In other words, those capable to better apply the law and more swiftly try bankruptcy cases.

allocated to more productive jobs and the formal market benefits from increased competition.

These findings show that it makes sense to decrease the amount of money spent on subsidies intended to formalize companies and to invest in inspections and in penalizing those companies that remain informal. Brazil spends tens of billions of reais on policies that formalize businesses and workers under the Simples and MEI (Microempreendedor Individual) tax regimes. These policies do facilitate the crossover to formality, but it is scale, capital, technology, and management that truly make businesses productive. Companies that embrace these elements are almost always formal entities, but their formality is a consequence and not a cause. It is not the assignment of a company tax number or the issuance of a social security card that will cause business and labor productivity in Brazil to increase.

## WHAT CAN BE DONE TO BRING ABOUT CHANGE

As discussed earlier, low Brazilian growth stems from the difficulty to allocate workers to more productive jobs, which results in low investment in physical capital and a drop in total factor productivity. The previous section posited that this scenario is the result of misguided economic policies pursued since 1980, the more damaging of which is, perhaps, the government's ongoing intervention in the economy, playing a major role in corporate decision making and in determining which sectors receive more investment.

These policies have failed to increase productivity and have brought about the negative consequences of drastically increasing public spending, reducing competition, complicating and raising taxes, shrinking government investment, and sustaining a restrictive monetary policy, thereby increasing companies' cost of capital. In turn, limited competition has enabled inefficient companies, both large and small, to survive. As it stands, Brazil has an atypically high share of inefficient companies, a result of tolerance for informality and of well-intended but, in practice, ineffective policies meant to increase productivity.

Considering this diagnosis, what can be done to ensure the country does not once more plunge into crisis?

Brazil must pursue six concurrent policies. First, the government must undertake significant fiscal reforms so that it can pursue a more balanced macroeconomic policy that reduces the high cost of capital borne by Brazilian companies.

Second, Brazil must institute sweeping tax reforms that eliminate the perverse incentives inherent in the current tax structure. This overhaul includes replacing the various taxes currently in place with a single value-added tax on all products in all sectors, with a single tax rate (see Appy 2017). The administrative cost of meeting tax obligations must also be reduced, and frequent changes to tax laws must cease. Ideally, the government must also reduce the tax burden by reining in public spending, which is feasible if the government respects the spending limit

enshrined in the Constitutional Amendment 95, preferably for the 20 years foreseen in this legislation.

Third, other business regulations must improve, specifically regarding legal risk, covering laws and other legislation that need to be better drafted, more stable, and more uniformly interpreted across courts and over time. For infrastructure, in which at least twice as much investment is needed and where efficiency must improve considerably, the problem of legal risk is critical; unless this concern is addressed, it is unlikely that private firms will invest in the sector, notwithstanding the attractive expected rates of return the sector offers.

Fourth, Brazil must embark on a long and broad process of privatization, which entails not only selling SOEs but also divesting the myriad shares held by government banks and SOE pension funds. Furthermore, government banks and development agencies must concentrate their loans and subsidies on socially attractive projects, using more and better evaluations. The new legislation that requires the BNDES to pay market interest rates when borrowing from the Treasury is a first step in the right direction, for this will demand that credit subsidies be included in the government budget and approved by Congress. But further changes are needed. BNDES, for example, could act more like a bank, gathering and processing information and monitoring clients, and less like a clearinghouse for subsidies mandated by the Treasury, a practice that should be restricted.

Fifth, Brazil must better integrate its economy into the world economy. Economic integration will facilitate access to less expensive, more modern capital goods and inputs and will increase effective and potential competition. Better integration and more competition are also essential for the services sector, particularly for financial, insurance, engineering, and similar services. A reduction in average Brazilian tariffs and fewer restrictions on international trade will increase not only imports but also exports and the country's overall economic efficiency (SEAE 2018).

Sixth, Brazil must increase competition to properly allow for the natural selection of more efficient businesses. Competitive pressure will also encourage companies to innovate in technology and management, so that they remain healthily in the market. Striving toward more competition implies abolishing policies that protect entrenched companies, inspecting and correctly penalizing companies that do not follow the rules, and suspending policies that disproportionately benefit small businesses, especially where taxes are concerned.

These reforms must be pursued concurrently; most notably, if competition is increased without creating conditions to increase investments, workers will be pushed out of companies forced to be more competitive and into informal activities or less-competitive sectors, since workers will not remain idle. The magic formula, therefore, consists of simultaneously establishing conditions for those companies with the technology, capital, good management, and scale to grow or enter the market, while putting pressure on those businesses that do not bear these characteristics and show no sign of pursuing them, so that they shut their doors for good. This is exactly what occurred between 2003 and 2009, when

Brazil posted its most recent increase in productivity: 87 percent of the increase came from the transfer of workers from informal to formal businesses in the same sector.

If these six changes are implemented concurrently, Brazil's economy will once again create jobs in which workers can be more productive. But if they are not, it will be difficult to maintain a high and stable rate of growth, and Brazil will run the risk of yet another painful cycle of boom and subsequent bust.

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