

BRAZIL: INVESTMENT, PRODUCTIVITY GAINS & POTENTIAL GROWTH

Salim Hammad

Amidst low investment and stagnant productivity, Brazil has primarily relied on favorable demographics (labor accumulation) to grow. In the face of rapid population ageing and a decline in fertility rates however, Brazil's demographic dividend has been gradually fading. Brazil will have to alter its pattern of growth and find avenues to stimulate capital investments and improve total factor productivity if its economy is to achieve higher medium-term growth prospects (ie. lift potential growth). The administration has embraced this challenge through an ambitious structural reform agenda anchored on two complimentary pillars: enhancing the business environment and transforming the role of the state in the economy. The disruption caused by the Covid-19 pandemic has however slowed down the pace of reform and heightened uncertainty over the path of the economy in coming years. This begs the question of the reasonable timeframe within which productivity-enhancing private investment can become an alternative and durable engine of growth.

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This is the second of two articles devoted to the issue of investment in Brazil. In a previous *Conjoncture* article, entitled "*Investment in times of fiscal adjustment*" (August 2020), we investigated some of the impediments that weigh on investment in Brazil.

In this article, we look at Brazil through the spectrum of three supply-side drivers of medium-term growth: investment in physical capital, demography and productivity. In particular we try to show why given Brazil's demographic transition, lifting impediments to investment will be so crucial to addressing Brazil's productivity challenge. We then turn our attention to aspects of the administration's ambitious structural reform agenda, in particular its focus on mobilizing supply-side solutions to help increase investment incentives. We conclude by offering some remarks regarding potential downside risks to reform implementation, trying to internalize both challenges that predated Covid-19 and others that have arisen since.

Implications of durably weak investment levels for potential output

Drivers of potential output: assessing the Brazilian experience.

Decomposing the drivers of potential output and assessing them in the Brazilian context is helpful to understand why given Brazil's demographic transition, raising investment will be of paramount importance if the country is to sustain higher levels of growth in the medium-term.

Potential output corresponds to the highest level of output that an economy could sustain in the long run with stable inflation¹. It is typically used to estimate the medium to longer-term growth prospects of an economy. Effective (observed) output usually fluctuates above or below potential output giving rise to a positive or negative "output gap" — depending on the over or under use of a country's productive capacity.

As diagram 1 shows, a country's potential output can be expressed as a function of the economy's productive stock of capital, potential employment and potential total factor productivity (TFP)². In other words, the quantity of output that an economy could produce if it were working at its full potential depends on the 1/ available quantity of

1 It is not in that sense the absolute maximum level of output that an economy could produce which would strain productive capacities, put upward pressure on wages (as the demand for labor exceeds supply) and generate inflation. Instead potential output is consistent with a level of unemployment referred to as NAIRU, or non-accelerating inflation rate of unemployment. The level of employment at potential output is therefore often referred to as full employment.

2 We use a Cobb-Douglas production function as a growth accounting framework.

machinery and equipment around as well as infrastructure (factories, electricity grids, etc.) 2/the size of its labor force but also 3/how capital and labor are bundled together to produce goods and services. The quality of capital (the quality of roads for instance), the quality of the labor force (i.e. human capital accumulation) as well as capacity utilization rates are in this framework all captured in TFP.

How does Brazil fare across these three drivers of potential output?

Following, we alternate between theoretical considerations and Brazil's experience to illustrate the weakening trend of potential output estimates over the past decade or so (Chart 1). It helps to also understand why lifting impediments to private investment and implementing policies that stimulate productivity may now be more important than ever if the country wants to be in a position to raise its medium-term growth prospects.

1- Investment and capital stock accumulation: some theoretical considerations. What happens to output if we add one extra unit of capital (input) holding TFP and the quantity of labor constant? The extra amount that the economy can produce with one extra unit of capital (called the marginal product of capital) is a function of a coefficient α (α), in diagram 1, which value is restricted between 0 and 1 and is referred to as the output elasticity of capital. For instance if $\alpha = 0.4$ then for every 1% increase in capital, output would increase by 0.4% holding all else constant³. This analytical framework helps to see how new investment plays a critical role in increasing output by expanding the current productive capital stock of an economy.

The caveat here is that some depreciation of capital will take place over time such that to have a positive impact on output, new investments will have to be sufficiently large so as to both cover the depreciation of the existing capital stock while allowing to further expand it.

Besides, there are some positive compounding benefits to expanding capital in infrastructure as countries which achieve higher levels of infrastructure tend to attract more investment, especially through foreign direct investment (FDI)⁴.

3 The restriction imposed to the elasticity is derived from the usual hypothesis of a constant return-to-scale production function. This means that the output elasticity of labor ($1 - \alpha$) has to be 0.6 meaning that when employment increases by 1% (ie by adding 1% more workers to the economy) output increases by 0.6% holding all else constant. This also means that when both the capital stock and labor are increased by 1%, output increases by 1%. To get the contribution to output growth of each factor of production one can take the factor's growth rate times its growth elasticity.

4 For instance an efficient network of roads and railroads by reducing transportation and logistics costs can help to increase the expected return on investment of a project which requires to frequently move merchandise around a country.



HOW INVESTMENT, DEMOGRAPHY AND PRODUCTIVITY AFFECT POTENTIAL GROWTH

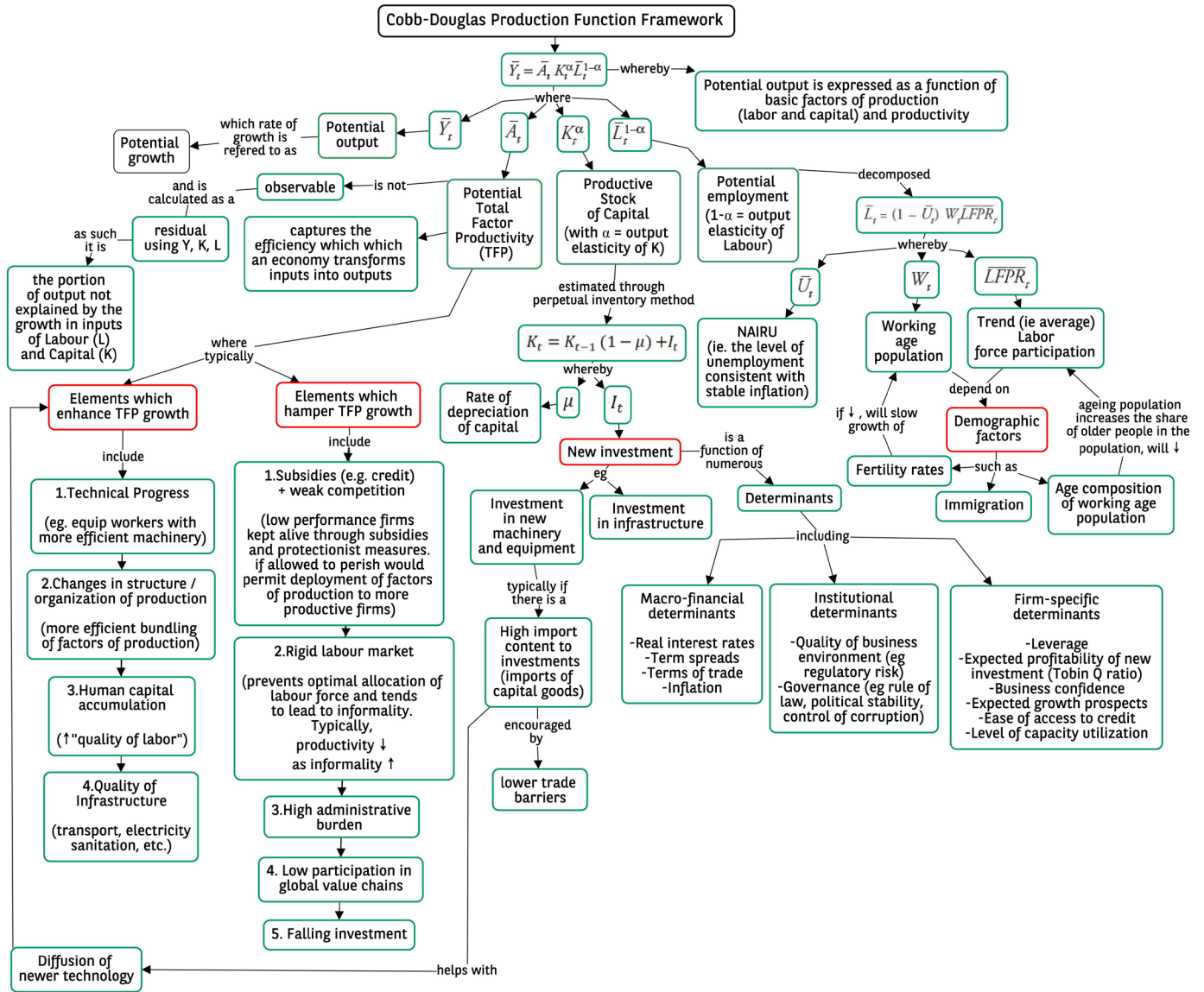


DIAGRAM 1

SOURCE: IMF, OECD, WORLD BANK, VOXEU, BNP PARIBAS

Investment and capital stock accumulation: the Brazilian experience.

Investment in physical capital has played an important role in driving growth over period 1970-2016 with the investment rate amounting to 20% of GDP on average over the period⁵. However, the toll on the private sector of the 2015-16 recession and the post-recession fiscal adjustment has contributed to significantly weaken Brazil's investment rate. The ratio of investment to GDP dropped to 14.7% in 2017 from 20.9% in 2013. After bottoming out in 2017, the investment rate has since been very slow to rebound. To make matters worse, revisions to GDP and balance of payments figures in 2019 showed that the investment and savings rates (Chart 2) were in fact lower than figures previously suggested, by 0.5 percentage point (pp) of GDP (15.5%) and 2pp of GDP (12.1%) respectively (cf *Conjoncture* - August 2020).

Brazil's structurally low investment rate has had adverse effects on capital stock accumulation. In its economic survey the OECD (2018) notes that investment in recent years "has hardly exceeded the depreciation of the existing capital stock, meaning that growth of the productive capital stock has stalled if not declined"⁶. This trend appears to be particularly concerning in the specific case of infrastructure where investment levels were at some point "not sufficient to offset depreciation estimated at ~3% of GDP per annum" according to work by the World Bank⁷. According to the same study, "total investment in infrastructure has been less than 2.5 percent of GDP annually at least since 2000" with the situation only getting worse since the recession with 1/ the fiscal adjustment (as public sector infrastructure investment accounts typically for slightly more than 50% of total investment) and 2/ the gradual scaling back of development bank BNDES' role as the main provider of infrastructure financing⁸. Not surprisingly, the contraction of public investment in the absence of private investment has had detrimental knock-on effects on the quality of infrastructure.

2- Total factor productivity: theoretical considerations. Expanding the capital stock through new fixed investments, by increasing the amount of capital (K) per worker (L) (a process referred to as capital deepening) can also help to increase output by way of increasing labor productivity (Chart 9). For instance as a fixed pool of farmers is equipped with irrigation systems and machines to plant seeds, they are able to produce more output per unit of time worked. There is however a caveat here as these productivity gains are not infinite; as more capital is added to a fixed supply of labor, the marginal output of the capital to labor ratio goes down. Therefore capital deepening, is not a sufficient condition to guarantee long term increases in output. A crucial element is technological progress which is typically supported by investments in research and development.

In the presence of technical change, when new investments are made in machinery and equipment, the latter embody newer technology helping to boost capital productivity (as machines become more efficient). In turn this helps to prop up labor productivity through capital deepening. The bottom line is that investment in physical capital in the presence of technological progress fosters TFP growth.

But this assumes that newer technology is accessible locally which may not be the case. It however can be facilitated through trade liberalization. When capital investments have a high import content, it favors the transfer and adaptation of new technology into domestic production processes. These knowledge transfers can change the structure and organization of production helping to better bundle a country's factors of production in ways that increase TFP above and beyond that which is brought along by the sole effects of technological progress. That is, even if the stock of capital stays constant, new ways of organizing production can increase the efficiency with which a country uses its existing stock of capital. There are of course other avenues through which productivity growth can be achieved (not our focus here) such as increasing investments in human capital (to improve the quality of the labor force), but also improving the efficiency of existing educational investments⁹.

Raising productivity has important developmental benefits. Gains in productivity, since they lower costs of production, can translate into lower prices and higher wages helping to increase standards of living¹⁰.

In fact, the World Bank notes that "productivity growth is the primary source of improvements in standards of living which in turn is the main driver of poverty reduction."¹¹

Total factor productivity: the Brazilian experience. Contrary to other rapidly growing emerging markets (e.g. India and China), average TFP growth in Brazil has been broadly stagnant for the past 30 years (Charts 3 and 4)¹². The contribution of TFP to GDP growth has also been very limited over the years (Chart 7) and has essentially acted as a drag on growth (i.e. negative contribution) over the past decade — reflecting amongst others things, stagnant or falling labour productivity (Charts 5 and 6). This implies that much of the economic and social progress that Brazil has made (in terms of inequality and poverty reduction) in recent decades, was achieved in the absence of major productivity growth¹³. A study by BCG¹⁴ in 2013 showed that over the period 2001-2011 74% of the increase in GDP had rested on the number of people working while labor productivity gains only accounted for 26%. The study also noted how "the low level of investment coupled with the growth of the employed population has led to a stagnant level of stock of capital per employee." Brazil's weak performance in terms of productivity growth can be traced back to many underlying causes — many of which also help explain persistent levels of underinvestment (cf *Conjoncture* August 2020). Widespread policy and market distortions have undermined competition, sustained the survival rate of low productivity firms and led to a suboptimal allocation of resources¹⁵.

9 A typical illustration of weak investment efficiency: Brazil spends ~ 5% of its GDP on education but has comparative less to show for it when compared to OECD countries.

10 It is often typical in development circles to rewrite the production function on a per capita basis which then models income per worker (as an approximation of standard of living). In this context, growth of income per worker would be expressed as a function of both total factor productivity (TFP) and growth of the capital to labor ratio (ie capital deepening)

11 World Bank (2020a), *Lasting Scars of the Covid-19 Pandemic*, Chapter 3, June Issue of Global Economic Prospects. See also World Bank (2020b), *Slow Growth, Policy Challenges*. January issue of Global Economic Prospects.

12 Biljanovska, N., & Sandri, M. D. (2018), *Structural reform priorities for Brazil*, IMF Working paper: WP/18/224. International Monetary Fund.

13 World Bank. (2018), *Brazil: Towards a fair adjustment and inclusive growth*. Public Policy Notes.

14 Ukon, M., Bezerra, J., Cheng, S., Aguiar, M., Xavier, A., & Corre, J. L. (2013), *Brazil: Confronting the productivity challenge*, Boston Consulting Group (BCG).

15 Qian, R., Araújo, J. T., & Nucifora, A. (2018). Brazil's Productivity Dynamics. World Bank document. The author also offer a sectoral decomposition (ie. agriculture, industry and services) of productivity and its dynamics over time. See also World Bank (2018).

5 Spilimbergo, A., Srinivasan, K., & Walutowy, M. F. (Eds.), *Brazil: Boom, bust, and the road to recovery*, International Monetary Fund, 2018.

6 OECD (2018), *OECD economic survey: Brazil 2018*.

7 OECD (2018) and World Bank (2016), *Brazil Systematic Country Diagnostic: Retaking the Path to Inclusion, Growth and Sustainability*, World Bank Group.

8 Data by the Brazilian Central Bank show that in 2015, BNDES accounted for 53% of outstanding infrastructure loans. Other public banks accounted for 28%, while the remaining financing was provided by private lenders (domestic and foreign). See also OECD (2018) for further detail.



CONTRIBUTIONS TO ESTIMATES OF POTENTIAL GROWTH (%)

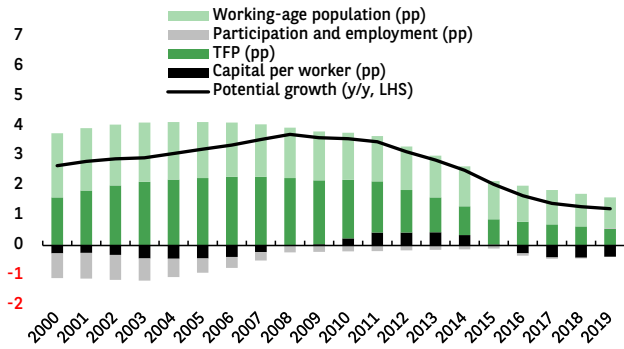


CHART 1

SOURCE: OECD

AVERAGE RATE OF TFP GROWTH SINCE 1980 HAS BEEN CLOSE TO 0

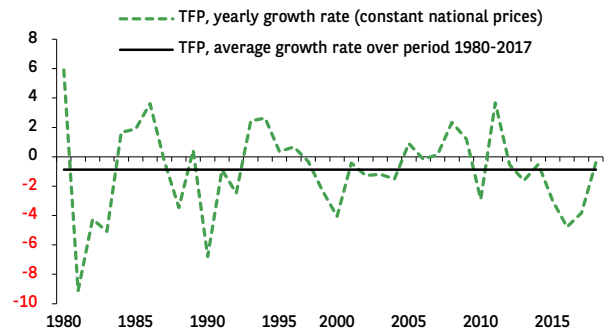


CHART 4

SOURCE: SOURCE: PENN WORLD TABLES, BNP PARIBAS

INVESTMENT AND SAVINGS (% OF GDP)

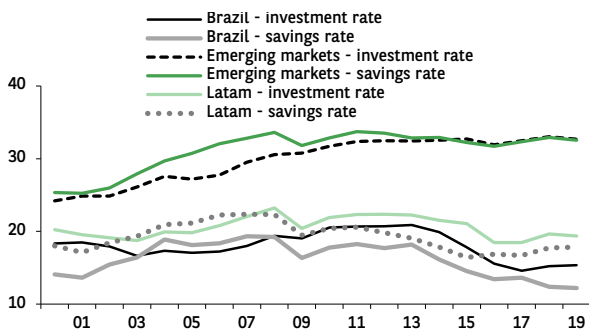


CHART 2

SOURCE: IBGE, IMF

LARGE EMERGING MARKETS : LABOUR PRODUCTIVITY IN THOUSANDS OF USD AT PPP / PERSON EMPLOYED

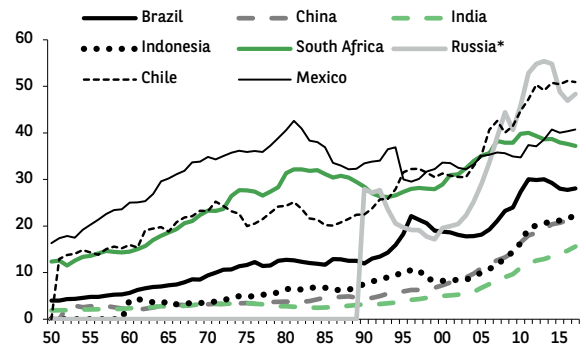


CHART 5

*time series for Russia start in 1990
SOURCE: OECD, PENN WORLD TABLES

TOTAL FACTOR PRODUCTIVITY (INDEX BASE =1954)

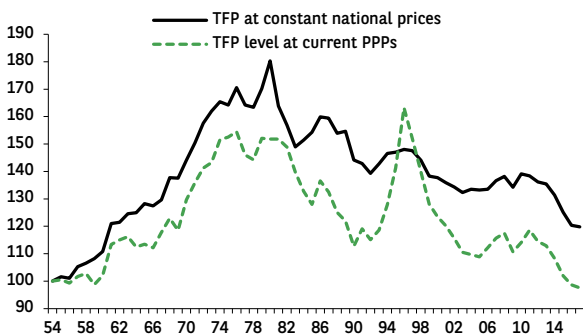


CHART 3

SOURCE: PENN WORLD TABLES, BNP PARIBAS

BRAZIL : STAGNATING LABOUR PRODUCTIVITY

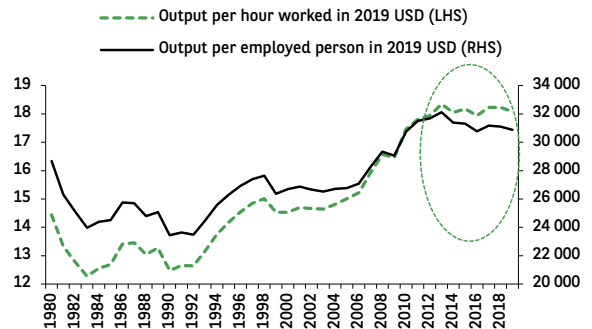


CHART 6

SOURCE: CONFERENCE BOARD



High trade barriers (high effective tariffs and non-trade barriers) and low trade openness (Chart 11), in distorting access to foreign inputs and technologies have also been identified as major constraints productivity improvements¹⁶. The high cost of doing business has also entertained a vicious cycle between low investment and low productivity.

3- Labor force growth: some theoretical considerations. In Diagram 1, potential employment (L) represents the fraction of the labor force that would be working if the economy were operating at full potential. In other words, it represents the number of workers employed that would be consistent with an economy that is neither overheating nor operating under capacity. It is expressed as a function of the potential employment rate (1-NAIRU) times the potential size of the labor force¹⁷.

Ultimately how potential employment varies will primarily depend on the underlying dynamics of the labor force. In turn the size and growth of the labor force will depend on 1/ demographic factors most notably population growth (which is more predictable) but also on 2/ changes in the participation rate (less predictable). Population growth will reflect the stage of demographic transition¹⁸ that a country finds itself in. Typically the stage of the transition will depend on some combination of increase (decrease) of both fertility rates and death rates. When both fertility rates and death rates decrease a country's population starts ageing. Over time, a country's working age population grows more slowly before reaching a tipping point beyond which it starts to decline. At this point, older people make up a larger share of the working age population. But an ageing working age population mechanically affects the profile of the labor force since, as people get older, their propensity to participate in the labor force goes down. Since the labor force depends on both the size of the working age population and the labor force participation rate, if the participation rate decreases so will the labor force. This in turn lowers potential employment and thus potential output.

Labor force growth: the Brazilian experience. There was a time up to the 1960s were the Brazilian population grew by close to 3% per year (Chart 13). Relatively high population growth helped drive output growth just by virtue of having a growing pool of active workers ("the demographic bonus").

However, that bonus has been gradually fading. Between 1972 and 1982 demography accounted for half of economic growth¹⁹. That is for an average real GDP growth of 6% a year, 3 pp was accounted for by labor accumulation. This contribution weakened over time. Between 2002 and 2012 for an average growth rate of 3.6% it now accounted for 1.5 pp. This weakening contribution of labor to growth is reflective of slower population growth which has affected the potential pool of active workers in the population. Since 2000, the population's rate of growth has slowed from 1.4% per year to 0.8% in 2018 (Chart 13). In fifty years, fertility rates have dropped from an average of 6 children

per woman to less than 2 according to data from the United Nations (Chart 14). This drop constitutes the fastest decrease in fertility rates across Latin America over that period.

At the same time, Brazil's population has been ageing rapidly (Charts 15 and 16). As (Canuto et al., 2018) put it : "*while the French took almost 150 years to go from 10% to 20% of persons over 60 in their population, and the British took 65 years, Brazilians will do it in only 25 years—between 2010 and 2035*"²⁰. The number of Brazilians above the age of 60 is estimated to be currently growing by around 4% a year. According to IBGE, current demographic trends indicate that the ratio of [15-64] year old to 65+ year old (ie old age dependency ratio) will increase in the range of 25 to 30 % in 2040 from 12.5% in 2015. This means that the burden of supporting old age dependents for the working age population will increase twofold at a minimum over the next 20 years. By 2060, IBGE anticipates that Brazilians aged 65+ will make up about ¼ of the Brazilian population vs. 9.2% in 2018.

Many of these demographic changes have also taken place much faster than expected. For instance IBGE originally expected that the working age population (15 to 64) would reach its highest proportion in 2023 before gradually coming down as the dependent part of the population (youth and elderly) started to make up a growing share of the population. The squeezing process of the active part of the population has instead started 5 years earlier than expected in 2018. It is now projected to drop from its peak of 69.46% in 2018 to 67.5% in 2030, 65.8% in 2040, 62.7% in 2050 and slightly over 60% in 2060²¹.

After taking population ageing into account, IBGE estimates that the labor force will grow by 0.9% in the next decade but will gradually converge to zero by 2035. The bottom line is that given where Brazil currently finds itself in terms of its demographic transition it can no longer count on the expansion of its employed labor force to grow its economy.

Putting it altogether: what's the damage?

As it stands the combination of stagnant TFP growth, a weak investment rate and slower growth in the working age population has resulted in Brazilian's potential growth rate being constrained at a relatively low level with most estimates hovering in the range of 1.5% to 2.5% prior to the Covid-19 pandemic (versus 3.5 to 4.5% prior to the financial crisis in 2008.)

What would it take then to double Brazil's medium-term growth rate? According to calculations by local bank Bradesco²², to see potential GDP growth in the range of 3%, the labor force would need to grow above the population's growth rate, and the investment rate would need to rise to 21% of GDP, all with a TFP growth of at least 1% (cf. table 1)

Given that the labor force is projected to slow to 0.9% per year over the next decade the 3% potential GDP growth scenario may seem improbable unless significant increases in investment and TFP growth are made²³. According to calculations by the IMF, raising Brazil's growth potential permanently to 4.4 % would require a boost of TFP growth to 2.5%, a rate last achieved over 50 years ago²⁴.

16 See Qian et al (2018) ; OECD (2018) ; Moreira, M. M. (2004), *Brazil's Trade Liberalization and Growth: Has it Failed?* (Vol. 24). Bid-intal and Lisboa, M. B., Menezes Filho, N. A., & Schor, A. (2010), *The effects of trade liberalization on productivity growth in Brazil: competition or technology?* Revista Brasileira de Economia, 64(3), 277-289.

17 Which is equivalent to the working age population times trend labor force participation rate where 1/ the working age population is typically defined as population aged 15 to 65 (but definition varies across countries) and is comprised of the number of active people (ie. employed + unemployed) + number of inactive people (ie. students + retirees + discouraged workers + institutionalized people). Note that inactive people are part of the working age population but not part of the labor force ; and 2/ Labor force participation rate is = number of people in the labor force / number of people in the working age population

18 There are 4 or 5 stages depending on demographic transition model used.

19 Jasper Fernando (2018), *What now, Brazil? The demographic bonus is over – five years early*, Gazeta do Povo

20 Canuto, O., & Dos Santos, T. R., (2018), *Economic effects of the Brazilian constitution*, Novos estudos CEBRAP, 37(3), 417-426.

21 Fernando Jasper (2018).

22 Pereira R.R., de Angelis T.C., Zerbinatti A., D'Atri F., (2020), *Required scenarios to increase potential GDP growth*, Bradesco Depec Highlight.

23 According to Bradesco, even under a scenario where GDP grows at 3% as of 2021, and real gross fixed capital formation grows at 6% per year, the investment rate would only reach 20% of GDP in the second half of the decade.

24 Spilimbergo et al. (2018).



CONTRIBUTIONS TO OBSERVED GDP GROWTH (%)

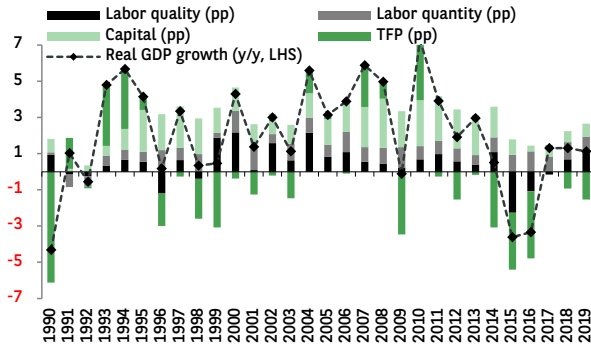


CHART 7

SOURCE: CONFERENCE BOARD

RATE OF CHANGE OF CAPITAL STOCK ACCUMULATION

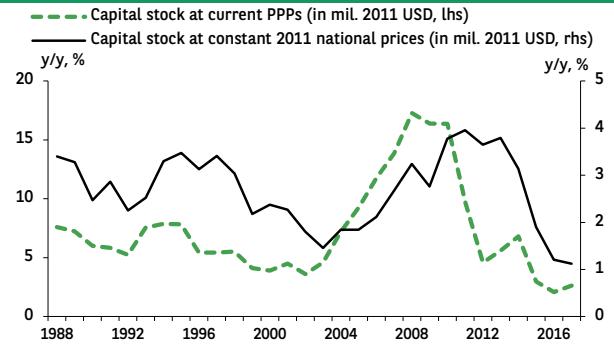


CHART 10

SOURCE: WORLD PENN, BNP PARIBAS

BRAZIL'S REAL GDP GROWTH HAS UNDERPERFORMED WORLD GROWTH

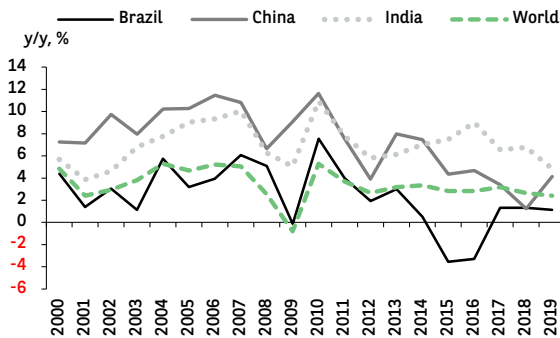


CHART 8

SOURCE: IMF

GDP PER CAPITA VS TRADE OPENNESS

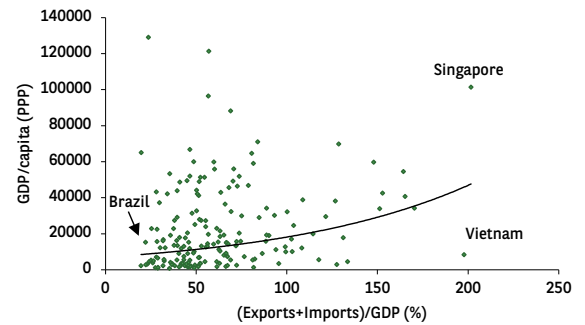


CHART 11

SOURCE: WORLD BANK

CAPITAL DEEPENING VS LABOUR PRODUCTIVITY - 2017 (LOG SCALE)

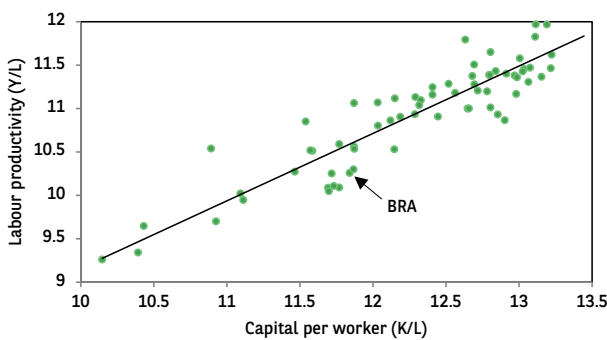


CHART 9

SOURCE: CONFERENCE BOARD, BNP PARIBAS

REAL GDP PER CAPITA GROWTH (%)

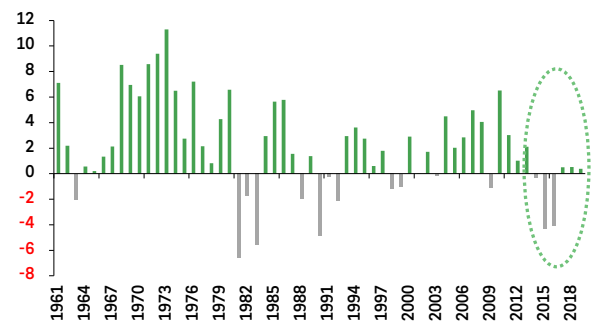


CHART 12

SOURCE: WORLD BANK



POPULATION GROWTH (%)

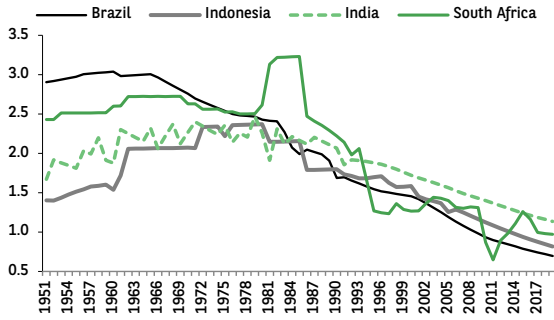


CHART 13

SOURCE: CONFERENCE BOARD

POPULATION IS AGEING RAPIDLY (OLD AGE DEPENDENCY RATIO)

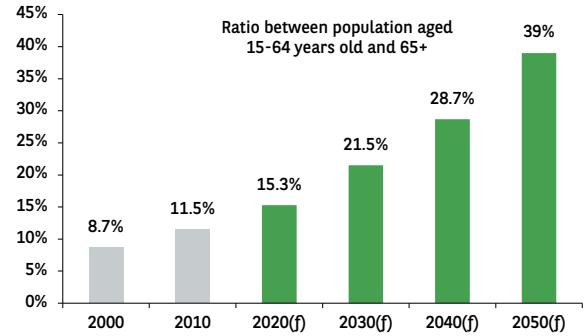


CHART 16

SOURCE: IBGE

DROP IN FERTILITY RATES

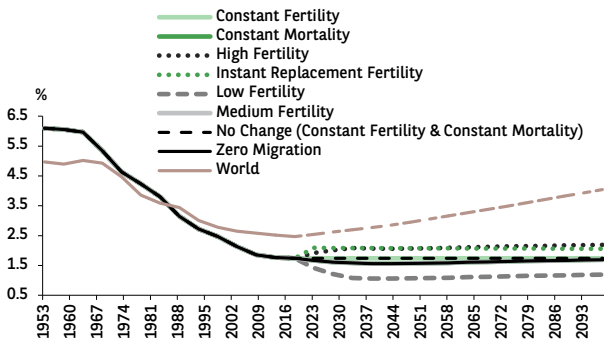


CHART 14

SOURCE: UN WORLD POPULATION PROSPECTS

TOTAL DEPENDENCY RATIOS (CHILD+ELDERLY POPULATION)

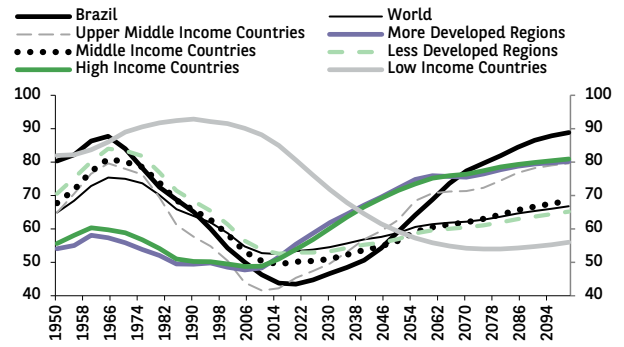


CHART 17

SOURCE: UN WORLD POPULATION PROSPECTS

LIFE EXPECTANCY (ASSUMING MEDIUM FERTILITY)

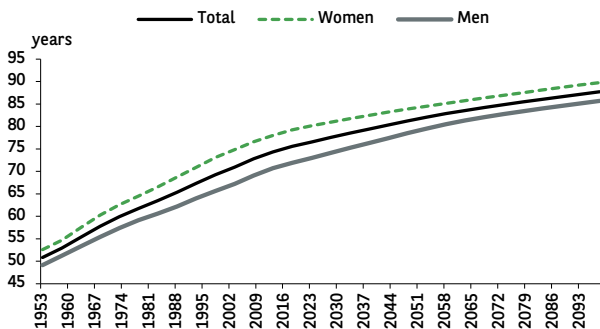


CHART 15

SOURCE: UN WORLD POPULATION PROSPECTS

LABOR PARTICIPATION RATE

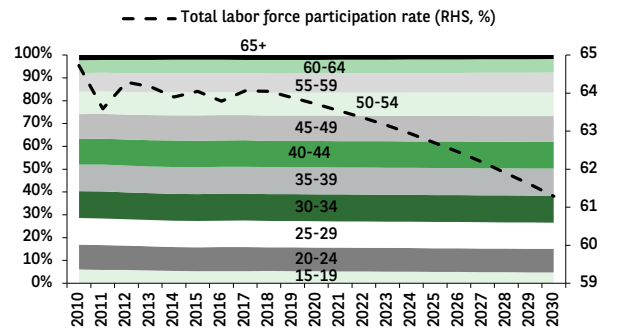


CHART 18

SOURCE: ILO



POTENTIAL GROWTH ESTIMATES UNDER VARIOUS ASSUMPTIONS

TFP growth (0%)		Labor force growth (%)					TFP growth (1%)		Labor force growth (%)				
▼ Investment rate (% GDP)		0.0%	0.5%	1.0%	1.5%		▼ Investment rate (% GDP)		0.0%	0.5%	1.0%	1.5%	
15%		0.2%	0.5%	0.8%	1.1%		15%		1.2%	1.5%	1.8%	2.1%	
19%		0.7%	1.1%	1.4%	1.7%	◀ Potential growth	19%		1.8%	2.1%	2.4%	2.7%	◀ Potential growth
21%		1.0%	1.3%	1.6%	1.9%		21%		2.0%	2.4%	2.7%	3.0%	
23%		1.3%	1.6%	1.9%	2.2%		23%		2.3%	2.6%	2.9%	3.3%	

TABLE 1

SOURCE: BRADESCO

Where to go from here?

The conclusion that stems out of these simulations is that for Brazil to elevate its growth potential, quickly it stands most to gain from increasing TFP. To do that Brazil will need amongst others²⁵:

- to increase capital deepening (ie increasing the ratio of capital to labor) which will ultimately depend on the ability to raise private investment (given the constraints that weigh on public investment)
- to integrate new technologies in its productive apparatus (which also comes with increased investment but could be further bolstered by increased trade openness)
- to make progress on its returns to education (invest in human capital more efficiently to increase the quality of the labor force).

These advancements ultimately depend on the adoption of an ambitious structural reform agenda in particular to better allocate private and public resources.

An ambitious structural reform agenda

Greater investment is one avenue through which productivity improvements can be made. Enduring weaknesses in the business environment however have constrained progress in improving private sector competitiveness and acted as impediments to an expansion of private investment. But so has a low savings rate which has suffered, amongst other things, from a weak public sector fiscal position (cf. *Conjoncture August 2020*).

In this section, we look at the government’s agenda for reducing investment barriers and lifting long-standing obstacles to growth. Transforming the role of the state and creating a better climate for businesses are two central pieces of the government’s ambitious reform agenda. We will address the first point succinctly and focus instead on the second.

Transforming the role of the state

The economic agenda (pre Covid-19) has first and foremost been focused on changing the policy mix away from a combination of “loose fiscal policy and tight monetary policy” which Minister Guedes’ identifies as the main historical driver behind high inflation, double digit interest rates, and years of fiscal instability which have seen expenditures rise to close to 50% of GDP from 18% 40 years ago²⁶.

25 See World Bank (2020b) for a more exhaustive list of policies that can lift productivity.
26 Guedes Paulo (2019). Speech at the Peterson Institute. *Minister Guedes Discusses Brazil’s Economic Agenda*. 26th November 2019.

Flipping the policy mix around has forced authorities to rethink the role of the Brazilian state in society. This has translated into the *Mais Brazil Plan*²⁷. The plan – which lays out a transformation of the role of the state – is organized around a *Federative Pact* thought of as a new institutional framework for fiscal policy²⁸. The pact is supposed to 1/help guide the fiscal adjustment at all levels of government and strengthen local governments (cf. Box 2), but also 2/accelerate the withdrawal of the state from many businesses (cf. Box 1).

PRIVATIZATIONS

- The Economy Ministry intends to privatize 138 of the approximate 400+ state owned enterprises in Brazil
- In 2019, it sold off 35 state assets (BRL 91 bn in auctions and BRL 442 bn in future investments). Some of the projects were inherited from the Temer Administration. Prior to Covid-19, the privatization agenda for 2020 was focused on selling 8 Petrobras refineries (USD10bn), ending the monopoly in postal services and privatizing Electrobras, Latin America’s largest power utility company (on hold now).
- The government also plans to sell minority stakes in some 57 companies including (Tim, Vivo, Itau Unibanco, Santander, Embraer) according to ex-Privatization secretary Salim Mattar.
- In December 2019, BNDES, the state development bank raised approximately BRL 4 bn after selling its shares in 3 companies (car leasing company Unidas, energy company Light and meat producer Marfrig). BNDES originally planned to sell its stakes in at least 4 companies in 2020 including the world’s largest meat producing and processing company JBS and oil giant Petrobras. It hoped to raise BRL 40 bn.

BOX 1

SOURCE: THE BRAZILIAN REPORT

27 *Plano Mais Brazil – Transformação do Estado* (ppt presentation in Portuguese, Ministry of the Economy)
28 Guedes (2019).



THE MAIS BRAZIL PLAN AND THE FEDERATIVE PACT: TRANSFORMING THE ROLE OF THE BRAZILIAN STATE

The *Mais Brazil* plan and Federative Pact are central pieces of the government's reform agenda. They can essentially be organized around a few principles, objectives and reforms that tie up a lot of the government's current or prospective initiatives.

"Responsibilize" the state:

- Make sure that all levels of government are fiscally aware and accountable. Increase checks and balances to ensure financial responsibility:
 - Fiscal Council of the Republic: creation of an oversight body composed of the President, heads of the lower house and Senate, chief justice of the Supreme Court, state governors, mayors, Federal accounts courts. The goal is to meet every 3 months and report on the state of the Union, progress in terms of fiscal adjustment in particular monitor public spending.
- Integrate fiscal rules at all levels of government to guarantee fiscal sustainability.
 - Fiscal Responsibility Law, Spending cap and Golden Rule (which forbids to issue debt to pay for current expenditures).

Shrink and simplify the state: "the size of the government is too big and the quality of expenditure is too low." (Minister Guedes – PIIÉ speech)

- Control the growth of spending, in particular mandatory spending (which at different levels of government often accounts for more than 90% of total spending) to promote fiscal sustainability, rein in the trajectory of public debt, and create space for public investment down the line:
 - Pension and social security reform: 65% of total spending accounts for social security and retirements payments. 70% of expenditure growth over the past 20 years has come from the pension system according to estimates from local bank Itau. An ambitious reform was passed in the fall 2019 with estimated fiscal savings of around BRL 800 bn over 10 years.
 - Administrative reform: undo privileges and generous entitlements systems, freeze the wage bill, change rules for compensation. In September 2020, the government presented a public sector constitutional reform bill. According to Minister Guedes, the proposed reform would allow fiscal savings in the range of BRL 300bn over 10 years.
- Shed state assets to reduce the size of the public sector and the size of the debt:
 - Law to fast track privatizations: reduce the average time necessary to privatize a state-owned company, estimated at 2.6 years.
 - Public funds PEC: Constitutional amendment (PEC) to redirect resources from 281 public funds to the budget to help service the debt. The funds were initially set up to foster the development of specific sectors
- Rationalize expenses and tax structure:
 - Amalgamate municipalities. Incorporate municipalities with less than 5000 inhabitants and for which tax collection represents less than 10% of revenues with neighboring municipalities. Restrictions on creation of new municipalities. There are over 5000 municipalities and many do not "have the capacity nor the revenue base to deliver the services they are responsible for"
 - Tax reform: Brazil has 54 taxes. Simplify tax system, by reducing heterogeneity of taxes across sectors. Reducing rates and expanding the tax base. Unify 7 federal and state taxes into a single Value Added Tax (VAT)

Decentralize and "flexibilize" the state: ("More Brazil and less Brasilia")

- Give the mayors and governors more tools and flexibility to control their expenses and allocate their resources. Define an adjustment plan for states in fiscal crisis:
 - State of Fiscal emergency: many states are dealing with a fiscal crisis but many have their hands tied because the majority of their budgets are earmarked and many spending items are indexed on inflation. A constitutional amendment (PEC) was proposed to validate a state of emergency which would allow states to temporarily suspend (for 2 years) fiscal rules, constitutional entitlements and indexation practices in order to make possible an adjustment of states' finances. If triggered, civil servants promotion or the creation of new positions and tax benefits would not be permitted during this period.
 - Plano Mansueto: aid plan for highly indebted states and municipalities. The plan, named after ex-Treasury Secretary Mansueto de Almeida guarantees financial aid to states and municipalities committed to a fiscal adjustment. It provides a hard adjustment program but relatively favorable repayment terms.
- Provide states with greater resources and autonomy. Over a 15 year period, expectation is for the central government to transfer BRL 400 bn to states and municipalities. It would eventually also stop providing guarantees to states except in their dealings with international organizations:
 - Oil revenue sharing scheme between federal government and the states / municipalities. In 2020 the federal government will transfer 35% of all the royalties, bonuses, auction money and revenues from oil to state and municipalities. According to the government's new formula to decentralize revenues, within 8 years the share allocated to states and municipalities would progressively reach 70% (against 30% in 2019).

BOX 2

SOURCE: MINISTRY OF THE ECONOMY, THE BRAZILIAN REPORT, ARKO ADVICE, WORLD BANK



Creating a better climate for businesses: rolling out supply-side solutions to support productivity improvements

The other large raft of reforms on the administration's agenda concerns the business environment. In diagram 2 an attempt is made to connect different aspects of the government's reform. It helps to work out the avenues through which the process of lifting investment barriers and introducing greater levels of competition can impact productivity, competitiveness and ultimately growth.

The administration ultimately wants to help Brazil climb up the ladder of the World Bank's Doing Business report and that of the World Economic Forum's Competitiveness Report. "Minister Paulo Guedes and his team want to bring Brazil to the top 50 countries in terms of business environment by the end of this presidential mandate"²⁹—from their current position of 124th.

To strengthen the private sector as an engine of growth, the government is taking on two challenges: 1/making investments more cost-effective and 2/raising domestic savings to finance investment, in part, by cutting down public expenditures.

To improve investment incentives, the government has focused on supply-side solutions to help reduce 1/unitary costs of production and 2/risks (most notably legal and regulatory risks). In the latter case, the framework for concessions for instance has been revamped to provide greater protection in licensing agreements. Proposals for a reformulation of concessions and public-private partnership (PPP) legislation as well as a new bidding law are also under review³⁰.

In terms of cost reduction, elements of the agenda are focused on addressing the "Custo Brazil", ie the increased operational cost of doing Business in Brazil., which comes in the way of comparatively high 1/ compliance costs (due to high regulatory and administrative burdens), 2/expensive labour costs (due in part to average and minimum wages growing much faster than labor productivity), 3/ high costs of imported intermediate and capital goods (due to high trade barriers), 4/high cost of capital (cf. *Conjoncture August 2020*) and 5/high logistics and transportation costs (due to the country's infrastructure deficit). Attracting infrastructure investments and developing infrastructure financing³¹ have in particular been at the top of the government's agenda, with a large number of projects currently under review across the country (cf. Box 3).

The lack of savings is also "a binding constraint for investment"³². The reduction of public expenditure at the heart of the government's strategy of shrinking the state could in this regard help 1/reduce "the crowding out" effect (cf. *Conjoncture August 2020*) 2/increase public savings (the projected fiscal adjustment is expected to help the

29 Gamarski R., Andrade V., Biller D. (2019), *Elusive economic growth points to depth of Brazil's economic problems*, Bloomberg, March 28 2019.

30 Other new regulatory frameworks are also expected amongst others in the railway sector, energy, basic sanitation, electricity, purchasing of land by foreigners, bankruptcies, and foreign exchange and capital markets. In 2019, after over three years of stalling, a new legal framework for the telecom sector was approved in Congress. Proposals in the energy sector include a new gas law, revoking Petrobras' preemptive right in the existing sharing regime (which obliges companies to share their profits with the Brazilian state throughout the term of the project). Rethinking the existing model has been made more salient following setbacks in transfer of oil rights in auctions held in November 2019. The auction brought in revenues of ~BRL 70 bn vs ~BRL 106 bn initially expected, of which 90% came from Petrobras.

31 World Economic Forum (2019). *Improving infrastructure Financing in Brazil. Insight Report*, in collaboration with the Inter-American Development Bank.

32 Arnold, J. (2011). *Raising investment in Brazil*. OECD Economics Department Working Papers No 900.

primary balance converge to a surplus) and 3/attract external savings to finance fixed investment (reduced fiscal risks can help attract longer term, more stable types of capital flows to complement the shortfall in domestic savings).

Will the reform agenda materialize?

A critical window of opportunity

There is no question that there is appetite for reform in society. The largest corruption investigation in Brazil's history (*Lava Jato*) galvanized societal anger and resentment towards the elites, increased distrust of institutions and eroded confidence in economic prospects. Surely, the corruption scandal, the political crisis that ensued and the recession made many Brazilians more receptive to the idea that perhaps a radical transformation of the economy and economic policy was necessary to increase prosperity. Data from the Latin Barometer Survey already showed back in 2016 that almost 70% of Brazilian respondents showed support for free markets³³. Pressures are reaching Congress now more than ever in particular through an increasing use of social media. This critical moment in the country's history is an opportunity which the current economic team intends to capitalize on. At the same time, popular buy in is only one of the ingredients of the reform equation. Following we look at a few others and assess whether the administration can be expected to realistically deliver on its programme.

The political economy of structural reforms: some downside risks to Brazil's reform agenda.

Structural reforms are by nature politically difficult because they tend to raise opposition from groups that benefit from the status quo. Most often than not, they lead to strong a political backlash from a variety of stakeholders in society "that gain from market distortions and barriers to competition"³⁴.

Notwithstanding the issue of lobbying—which is endemic to all reform processes—numerous constraints or headwinds had surfaced (or were building up) prior to the pandemic which together had raised questions about the reform agenda's chances of materializing:

- The pace of reforms was already slow prior to Covid-19. The pension reform was certainly a big win for the administration but the reform momentum lost its way shortly after. This was perhaps a missed opportunity as governments tend to enjoy greater political support to implement reforms during their "political honeymoon"³⁵. Many had already started to voice concerns that if reforms were pushed back too far into this year, they risked³⁶ being bogged down into electoral politics ahead of municipal polls in October³⁶ when work in Congress was expected to slow down. Clearly, Covid-19 has since upstaged that concern.
- President's Bolsonaro's touchy relationship with a highly fragmented Congress and ambivalence towards forming governing coalition³⁷ appeared detrimental to building support in

33 Referenced in Biljanovska et al. (2018).

34 Biljanovska et al. (2018). See also OECD (2019), *Economic policy reforms 2019: going for growth*.

35 Furceri, D., Ge, J., Ostry, J. D., Papageorgiou, C., & Ciminelli, G. (2019), *The Political Costs of Reforms; Fear or Reality?* (No. 2019/008) International Monetary Fund.

36 Schipani A. & Stott M., (2019), *Brazil's Congress takes up new economic reform package*. Financial Times (5th November 2019). Note that the elections have since been rescheduled to November.

37 President Bolsonaro had at first rejected the idea of building a stable majority due to the stigma associated with "the old ways" — whereby positions in cabinet, the bureau-



CONNECTING THE DOTS BETWEEN DIFFERENT COMPONENTS OF THE REFORM AGENDA

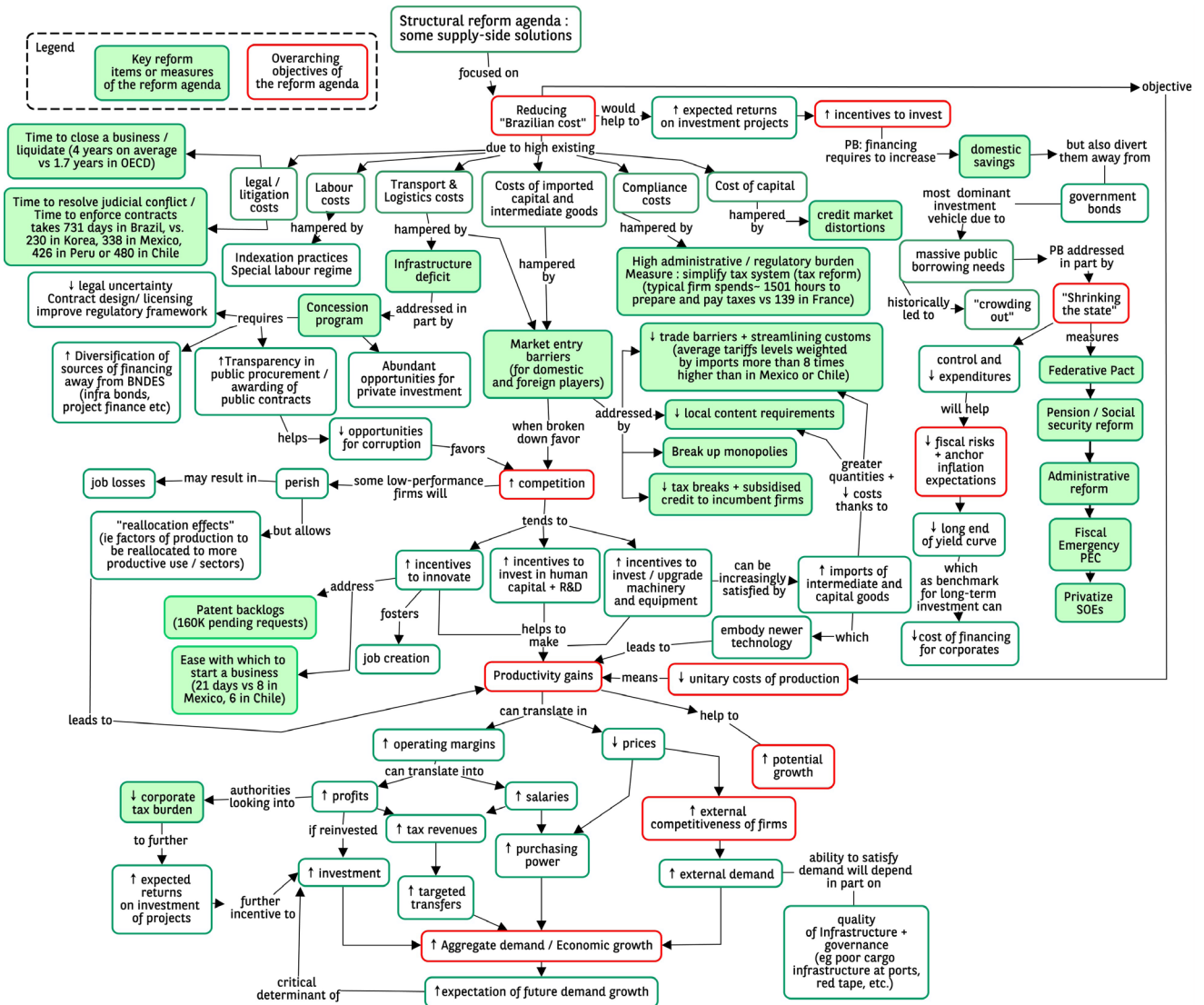
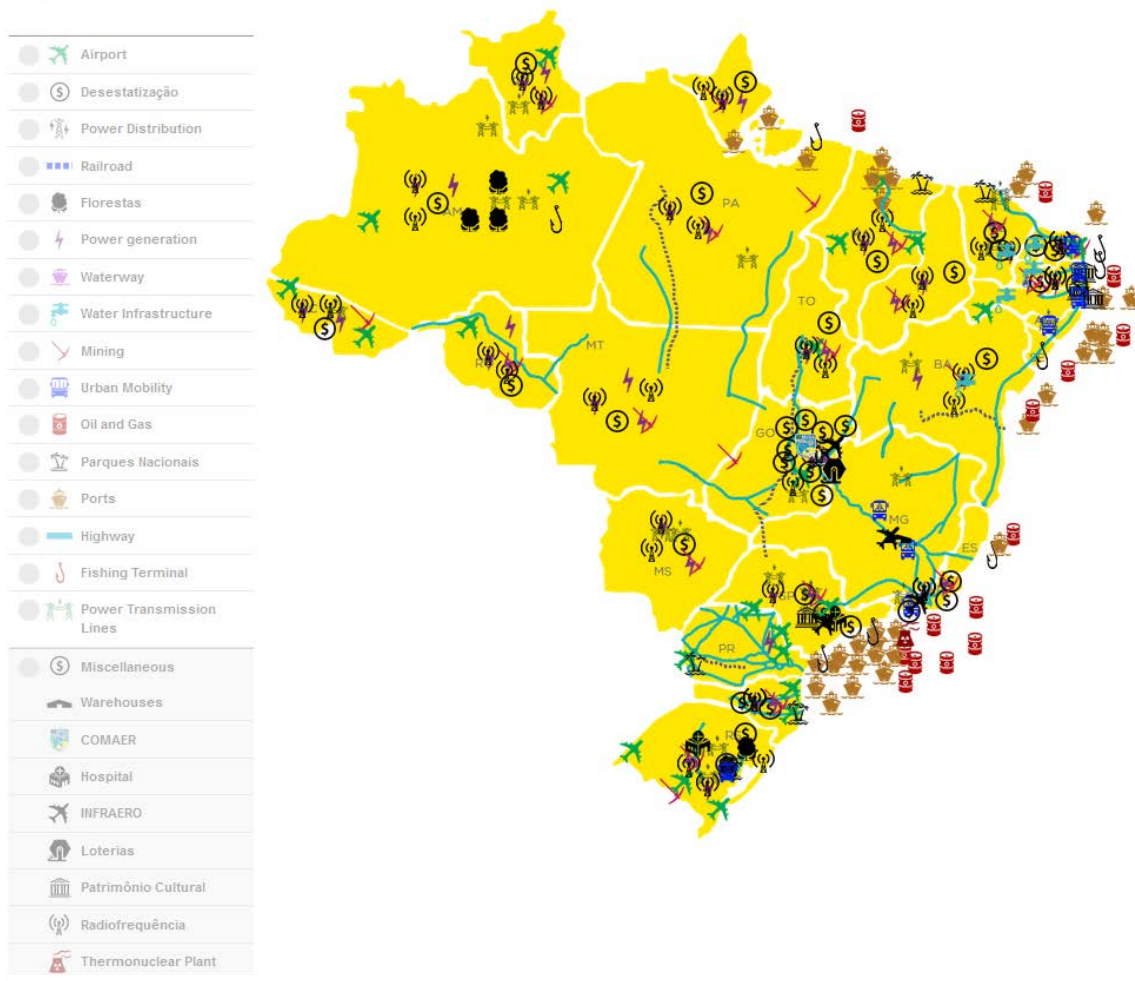


DIAGRAM 2

SOURCE: OECD, WORLD BANK, GSP, BNP PARIBAS

A SIZEABLE PIPELINE OF INFRASTRUCTURE INVESTMENTS

According to Programa de Parcerias de Investimentos (PPI) – the authority established under the Temer administration to manage infrastructure projects – there is currently a pipeline of over 130 projects at different stages of advancement in the country. A large number of sectors are represented (see map). The combined total of investments is estimated to exceed BRL 320 bn. Various investment contract models are being considered across projects including concessions, privatizations, public-private partnership and lease agreements. Progress has been particularly good for airports so far (unlike some other projects). In 2019, 12 airports were successfully auctioned and prior to Covid-19, the government had originally planned to auction another 22 in 2020 (with investments estimated at BRL 6.7 bn). In total through 2022: around 40 airports are expected to be auctioned. Detailed information can be found on the **PPI's website**.



BOX 3

SOURCE: PROGRAMA DE PARCERIAS DE INVESTIMENTOS (PPI)

the legislature especially considering the high threshold of votes required in Congress to alter the course of policy (cf. Box 3). Many have noted a possible contradiction *"between a government that consciously refuses to build a large majority in Congress and one that also needs a large majority to pass crucial economic reforms."*³⁸

- There were—even prior to Covid-19—some interrogations about how truly reformist Congress was. Congress has certainly been surprisingly cooperative. However, it could be argued that Congress' "reformism" has not yet been put to the test aside from the pension reform which had been contemplated for the past two decades and been part of the public discourses for years. It's unclear if newly designed reforms will benefit from the same level of familiarity and more importantly if they will get the same amount of push factor in Congress especially if influential lower house speaker Rodrigo Maia is no longer there to marshal the troops³⁹. Appetite in Congress for privatizing state assets was at best lukewarm. Popular support on the issue could also not be taken for granted as a previous wave of privatizations in the 1990's showed: *"state ownership of enterprises in Brazil was reduced significantly during the 1990s with a series of privatizations that allowed huge transfers of public investments into the private sector and promoted the emergence of huge private conglomerates that were often controlled or owned by foreign investors. This change was embodied in the National Plan for Privatizations, launched in 1990 and sustained through the decade, and led to privatizing CSN in 1993, EMBRAER in 1994, and Vale do Rio Doce Company in 1997. The privatizations sparked arguments within society and among politicians, with accusations of rigged and underpriced sales of companies and diversion of public funds into private accounts; others raised questions about the nature of the privatizations and the institutional and financial relationship that persisted between the state and the SOEs."*⁴⁰

The Covid-19 epidemic has led the administration to put key items of its reform agenda on hold (most notably the tax and administrative reforms). It has been caught up deploying energy crafting and implementing a policy response to limit the impact of the health crisis on the economy. But the Covid-19 crisis has also led to a heightening of both political and social tensions raising additional concerns about the future course of reforms in Brazil:

- The crisis increased tensions between the executive and the legislative branches over management of the epidemic. The President also antagonized state governors who called on Congress to take the lead in managing the crisis. The President maintains a core following of supporters but his popularity has waned with the crisis. His ratings have however regained some grounds with the deployment of emergency aid to support the most vulnerable.
- The country faced a succession of political crises over a short

cracy and other favors are distributed across political parties in exchange for support in Congress. In recent years, Presidential coalitions had increasingly become synonymous with corruption in Brazil.

38 Volpon T. (2019), *What's ahead for Brazil and its pension reform?* Americas Quarterly (July 2019).

39 Rodrigo Maia has been widely credited as the main figure behind the passing of the pension reform. He is expected to step down from his post as speaker at the end of 2020. Stott M., Schipani A., Harris B. (2019). *Brazil reforms: has Jair Bolsonaro missed his moment?* Financial Times (3rd December 2019).

40 Tautz, C. S. F., de Andrade Ramos, F., Pinto, J. R. L., Serra, P. A., & Serra, R. V. (2014), *The "State-of-the-Art" of State-Owned Enterprises in Brazil*. International Budget Partnership. Case study, full report.

THE ECONOMIC COST OF THE BRAZILIAN CONSTITUTION

The Federal Constitution of Brazil (1988) is the third longest in the world according to Comparative Constitutions Project. Its level of detail is a byproduct of the military dictatorship (1964-1988): *"Today, it may seem that it is too detailed, but those [working on it] at the time know that things happened under a regime of forces that we needed never to happen again in Brazil."* As a result the extremely detailed document reflects *"attempts to constitutionalize nearly every aspect of public life"* essentially for protection. This has at times contributed to rigidify policy-making and spending through the constitutional earmarking of public funds.

The Constitution for instance sets minimum amounts of spending on education. (Canuto et al., 2018)—who have taken interest in the economic effects of the Constitution—note: *"Human capital formation is one of the most important factors for economic development [...] This leads many governments to inscribe the promotion of education in their constitutions. Few, however, specify how this promotion will happen as much as the Brazilian constitution [...] Article 212 stipulates that "[t]he Union shall apply, annually, never less than 18%, and the states, the Federal District, and the municipalities, at least 25% the tax revenues, including those resulting from transfers, in the maintenance and development of education." [...] All municipalities must spend the minimum 25% of resources, independently of any of their underlying characteristics such as size or share of youth."*

The Constitution has a built-in mechanism to make changes to its text, namely through PEC (Portuguese acronym) which are Proposed Amendments to the Constitution (some are for permanent measures and others temporary). Those changes need to be discussed and approved by Congress but require a high threshold of votes. Each PEC to be approved must be voted in two rounds in each house of Congress. Approval requires a qualified majority of 3/5th of the votes, equivalent to 308 deputies and 49 senators. The minimum majority must be reached in all four votes.

As many aspects of public policy are enshrined in the Constitution, altering the course of policy can be highly demanding in terms of time and political capital especially given that party allegiances tend to be weak and forming and sustaining coalitions has historically been a key institutional challenge as (Mello et al., 2018) note: *"And that's where the problems start. Brazil's political parties lack coherent ideological agendas; instead, they are loosely knit alliances whose members have no qualms about forming or dissolving coalitions at any time. As a result, members of Congress constantly renegotiate their political loyalties, based largely on the parochial interests of the constituencies they represent. Making matters worse, Brazil's electoral rules allow candidates to switch parties relatively easily, undermining any chance of ideological unity within coalitions. And candidates are elected to Congress based not on the number of votes they receive individually but on the total number their party pulls in. That creates an incentive for politicians to change allegiances on a regular basis: jumping ship for a party led by a popular candidate can often boost less popular aspirants to office (or keep them there). Brazilian politicians thus tend to ride on the coattails of powerful allies instead of focusing on party loyalty, ideological consistency, or the details of policy."* With these points in mind, many have argued that to make Brazil more governable, the country may need an institutional reform to introduce greater levels of flexibility at all levels of government.

BOX 4

SOURCE: PORTAL DO GOVERNO BRASILEIRO, CANUTO ET AL. (2018), MELLO, E., & SPEKTOR, M. (2018). BRAZIL: THE COSTS OF MULTIPARTY PRESIDENTIALISM. JOURNAL OF DEMOCRACY, 29(2), 113-127. ESTRADA G. (2019). QUEL AVENIR POUR LE BRÉSIL ? POLITIQUE INTERNATIONALE N° 163, PRIMTEMPS 2019. ELKINS, Z., GINSBURG, T., & MELTON, J. (2009). THE ENDURANCE OF NATIONAL CONSTITUTIONS. CAMBRIDGE UNIVERSITY PRESS.



period of time. First with the surprise resignation of the Minister of Justice, Sergio Moro—a central figure of the Lava Jato investigations and one of Brazil's most trusted political leaders. Moro resigned after accusing the President of political interference in federal police investigations. Second, in less than a month, two health ministers left their post over disputes over social distancing guidelines. Third, the announcement of a public works programme (the "Pro-Brazil Plan") by Bolsonaro's Chief of staff left many confused about who was in charge of economic policy in the country and signaled a noticeable departure from Minister Guedes' objective of reducing the state's intervention in the economy.

- The fiscal impact of the crisis and the possible extension of relief measures over time have raised concerns about resuming the process of fiscal consolidation.

Many of the aforementioned developments feed into a climate that risk undermining the reform process and risks discouraging potential investors from bidding on projects at a time when Brazil needs to attract foreign capital to reinvent itself. As the government continues to be caught up firefighting Covid-19, time will progress and the window to pass major legislation will gradually close. With that, the aspiration of carrying out multiple reforms at the same time will prove more and more challenging.

Going forward, priority setting will be key. This is especially true given that enacting reforms in times of weak economic activity is hard to begin with and can be politically costly especially if implemented relatively late in the political calendar⁴¹. A study by the IMF on structural reform priorities for Brazil has tried to identify reforms that would have the highest growth payout in terms of impact on productivity at the lowest political cost (ie the largest support among Brazil's population)⁴². The study concludes that banking sector reforms (in particular improving credit allocation) as well as legal reforms should be given high priority as they have strong positive effects on productivity while concurrently being supported by a large proportion of the population.

Selling supply-side solutions in a post-Covid-19 world: a hard sell?

Brazil was spared by the wave of popular protests and social unrest that sprung up through parts of Latin America (Chile, Colombia, Ecuador, Bolivia etc.) in the fall of 2019 and early 2020. Social protection, social justice, redistributive policies, inequality, cost of living, inclusive growth were common themes and driving forces of these movements.

The social consequences of Covid-19 are expected to further heighten many of these concerns across the region. According to a report by ECLAC, poverty, extreme poverty and inequalities will increase in all of the countries of Latin America and the Caribbean's as the result of the pandemic⁴³. The crisis – the report stresses – is likely to disproportionately affect strata of the population facing precarious employment which is high given that roughly half of employment in the region is informal. Informal workers are also more difficult to reach though emergency programs, making them more vulnerable.

In 2019, ECLAC estimates that 19.4% of the Brazilian population lived in poverty and 5.4% lived in extreme poverty. After running multiple scenarios on the possible impact of Covid-19 on GDP, employment

and labour income, they estimate that even in a conservative scenario whereby the change in average household income is less than the change in GDP, poverty and extreme poverty will increase by +2.6 pp and +1.5 pp respectively. In a high scenario (with a change in average household income being greater than the change in GDP) the increase would be +6pp and +2.5pp respectively.

In this context, anticipating an increased expression of social grievances and discontent appears reasonable if not a distinct possibility. While they may not pose a fundamental threat to the reform agenda they will certainly make the government's job of freezing wages, cutting public sector jobs and benefits more difficult. There will also certainly be calls to prop up financial conditions for the poor and pressure to ease the speed of the fiscal adjustment when the government resumes its fiscal consolidation efforts. The Chilean experience has shown that austerity could be a difficult path to go down on. In the current context, advancing the reform agenda without careful consideration for adverse distributional effects of policies could prove costly.

Historically, Brazil has primarily relied on the accumulation of labor and capital as sources of growth and economic development. In that sense its growth has been derived from increasing quantities of its factors of production (ie. extensive economic growth) rather than increasing their efficiency (ie. intensive economic growth or productivity-driven growth).

However, in recent years, the accumulation of capital has been hampered by the 2015-16 recession, the fiscal adjustment and more recently the Covid-19 pandemic. Furthermore, demographic trends suggest that to grow in the future, Brazil will be less and less able to rely on the growth of its pool of workers to contribute to growth. Instead its workers will have to become more productive.

In order to stimulate productivity-boosting private investment, the administration's structural reform agenda has set out to increase investment incentives by cutting down the costs and risks of doing business. To foster the development of the private sector, rebalance fiscal accounts and give greater decision-making power to states, the authorities have also laid the groundwork for a substantial transformation of the role of the state. These initiatives and reform projects are bound to improve the business environment and have beneficial effects on productivity. However, the question is how fast can they be approved and implemented? The recent past has shown that existing challenges to policy implementation were further compounded by the policy response to Covid-19, which temporarily uprooted the government's priorities.

Given these predicaments, the Covid-19 crisis should be seen as an opportunity to speed up reforms and bring about transformative structural changes to the Brazilian economy. In the absence of sustained productivity growth, Brazil's growth potential runs the risk of remaining low for an extended period of time with unintended consequences on standards of living and poverty reduction.

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41 Furceri et al. (2019).

42 Biljanovska et al. (2018).

43 ECLAC, United Nations (2020), *The social challenge in times of COVID-19*. Special report Covid-19. No3.



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