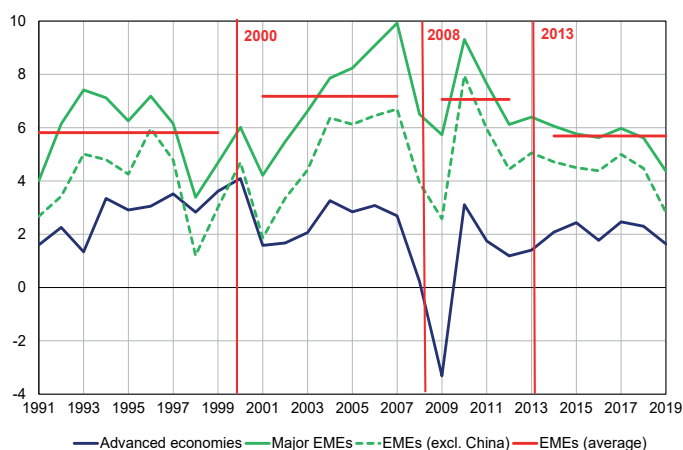


## The Structural Economic Slowdown in Major Emerging Market Economies

*Xavier Coeln*

- Major emerging market economies (EMEs) are seeing a slowdown in their catch-up with advanced economies. After averaging more than 7% from 2000 to 2007, the annual growth rate of major EMEs levelled off to 6.5% from 2008 to 2012 thanks to stimulus policies in the aftermath of the 2008 financial crisis. However, it subsequently fell to an average of about 5% from 2013 to 2019 (see Chart below).
- This slowdown in economic activity is structural in most economies due to the declining dynamism of production factors (labour, capital, total factor productivity), which determine the growth potential of an economy. For nearly ten years, the slowdown has been especially pronounced in Brazil, China and South Africa. Only India and Indonesia, which are further behind in closing the gap with advanced economies, have been able to maintain high, relatively stable growth rates.
- Labour is contributing less to growth due to population ageing and inadequate job creation. Capital accumulation through investment is also losing momentum. Productivity growth spurred by rural-to-urban migration (reconversion of agricultural workers to more productive sectors) and resulting from reforms undertaken in the 1990s and 2000s in most EMEs is petering out in Asia.
- All EMEs have room to raise their potential growth. They can increase the contribution of labour to growth by expanding women's participation in the labour market, and boost investment and productivity by improving education levels and further opening domestic markets.
- The growth trajectory of major EMEs is exposed to a number of risks, such as the rebalancing of China's economy, the reconfiguration of global value chains, the energy transition and the effects of climate change.

Annual growth rate of GDP (%)



Sources: IMF, DG Trésor; latest data point: 2019.

Note: Major EMEs include Brazil, China, India, Indonesia, Mexico, South Africa and Turkey.

# 1. A slowdown in EMEs' catch-up with advanced economies

## 1.1 Growth has weakened over the last decade

Major EMEs<sup>1</sup> share of the global economy has increased significantly in 30 years (see Table 1). Representing around 10% of global gross domestic product (GDP) in the early 1990s (expressed in current dollars), these economies' share had increased to more than 25% in the late 2010s, despite their declining share of the world's population. Among this group and over a long period, China stands out for its high, steady growth and its GDP, which is greater than the combined GDP of the six other countries studied since 2012, in current dollars.

After a period of high and continuous growth (2000-2012), all major EMEs are seeing a slowdown in their catch-up with advanced economies. Adversely impacted by several crises in the 1990s, their growth averaged almost 4% per annum from 1991 to 1999 (see Chart on page 1), and then increased significantly to an average of over 7% from 2000 to 2007. Following the 2008 financial crisis, stimulus policies in many advanced and emerging market economies alike helped maintain a growth rate approaching 6.5% from 2008 to 2012. Since 2013, growth has dwindled to about 5% on average and its decline is virtually universal. Despite this recent slowdown, major EMEs' share of global growth has continued to rise over the last three decades, from one-third in the 1990s to one-

half in the 2010s. Growth of advanced economies has declined to a lesser extent, falling from 2.5% between 2000 and 2007 to 2% between 2013 and 2019. Accordingly, the growth differential between EMEs and advanced economies became markedly smaller in the 2010s, signalling a slowdown in the convergence that had been taking place in the previous decade.

## 1.2 A less favourable international environment

From a trade perspective, many EMEs benefited from China's rise in the 2000s and growth in international trade. Commodity-producing countries (Brazil, Indonesia, South Africa) had a particular advantage during the "supercycle", owing to the rise in international prices and export volumes, particularly goods shipped to China. Below 5% in the early 2000s, China's share of Brazilian exports was more than 25% in 2019 (see Chart 1), with a similar trend observed in Indonesia. The slowdown in Chinese growth (see below) moderated demand for commodities, bringing the supercycle to a halt in 2011 and causing oil prices to plunge in 2014. Among major EMEs, Mexico and Turkey have benefited less directly from China's rise since their economies were more closely tied to the United States and the European Union (EU) respectively, and their economic cycle was more in step with that of advanced countries.

**Table 1: Major EMEs' share of the global economy (%)**

|                                           | 1990-1999  |                | 2000-2009  |                | 2010-2019  |                |
|-------------------------------------------|------------|----------------|------------|----------------|------------|----------------|
|                                           | Major EMEs | of which China | Major EMEs | of which China | Major EMEs | of which China |
| World population                          | 49.4       | 22.0           | 48.0       | 20.4           | 47.0       | 19.1           |
| Global GDP (current dollars)              | 9.0        | 2.3            | 12.9       | 5.2            | 23.2       | 13.3           |
| Global GDP (US dollars, PPP) <sup>a</sup> | 20.0       | 5.6            | 24.2       | 9.9            | 31.5       | 15.7           |
| Share of global growth (US dollars, PPP)* | 35.2       | 17.4           | 44.2       | 26.7           | 51.5       | 31.4           |
| Global trade in goods                     | 6.8        | 1.9            | 11.8       | 5.3            | 19         | 10.2           |

a. Unlike GDP expressed in current dollars, GDP expressed in purchasing power parity (PPP) terms takes into account the price differential between countries.

Sources: IMF, World Bank, DG Trésor calculations.

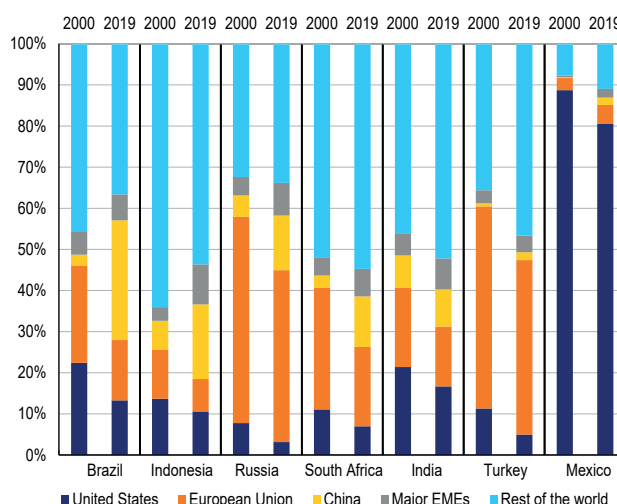
Note: Global trade in goods denotes total global exports and imports.

\* How to read this chart: Over the 2010-2019 period, major EMEs accounted for 51.5% of aggregate global growth.

(1) The countries covered by this paper are G20 EMEs with a sufficiently diversified economy: Brazil, China, India, Indonesia, Mexico, South Africa and Turkey, which accounted for 68% of the total GDP of EMEs between 1991 and 2019.

Monetary policy in advanced economies has long sustained investment in major EMEs. In the 2000s, low real interest rates resulting from accommodating monetary policy in advanced economies and prospects for GDP growth and higher returns in EMEs encouraged more portfolio investment and foreign direct investment (FDI) in these countries. This general trend lost traction, however, after the 2008 financial crisis and more markedly following 2013 and the announcement of tighter US monetary policy (“taper tantrum”). In major EMEs, net inflows of portfolio and foreign direct investment, which averaged around 2.5% of GDP in the 1990s, trended upwards after 2002 (except in 2008), reaching 4.9% of GDP in 2012. This level has since fallen to an average of 3% of GDP between 2015 and 2019.

**Chart 1: Customer countries  
(% of exports in current dollars)**



Source: IMF, DG Trésor.

How to read this chart: In 2000, China made up 2.6% of Brazil's exports. In 2019, this share had increased to 29.1%.

## 2. A structural decline in growth rates

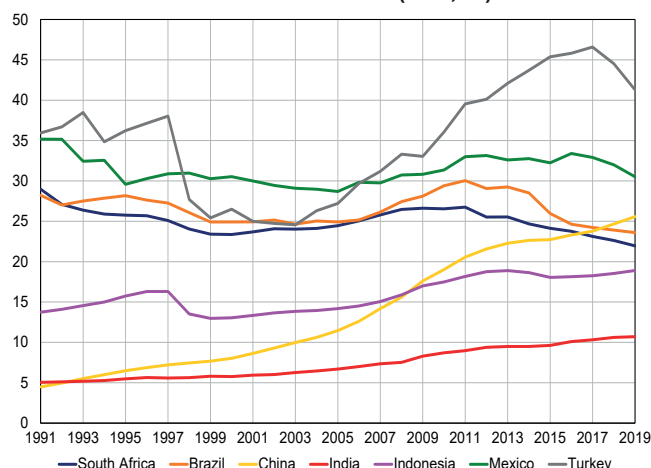
### 2.1 Trends that depend on each economy's initial income level

Given less priority in light of EMEs' generalised catch-up with advanced economies in the 2000s, the issue of the diverging growth trajectories of major EMEs has re-emerged in the last decade. Economies initially at a less advanced stage of catch-up (China, India, Indonesia) saw the highest growth rates in 30 years (see Chart 2) owing to their demographic transition and the growth of their capital stock and total factor productivity (TFP), which were low at the outset (see Box 1). Since 1991, China has experienced unprecedented growth thanks to a high investment rate, rural-to-urban migration (reallocation of agricultural workers to more productive sectors) and the undertaking of structural reforms in the 1990s and 2000s. Although growth in India and Indonesia is lower than in China, it has still been substantial, boosted by rural-to-urban migration, advances in education and a high investment rate, aided by a high rate of return on capital given the more reduced level of development of these economies (see below).

Growth has been mixed in economies initially at a more advanced stage. After suffering a financial crisis in 2001, Turkey implemented structural reforms to its economy that created a favourable climate

for investment and productivity, but which has nevertheless deteriorated in recent years. In Brazil, Mexico and South Africa, growth is hampered by low productivity increases and sluggish investment (with the exception of the supercycle period for commodities in Brazil and South Africa). In these economies, several years of stagnant economic activity have undone the positive effects of the preceding decade, resulting in a slight decline relative to other major EMEs and advanced economies.

**Chart 2: Change in GDP per capita relative to the United States (PPP, %)**



Source: World Bank, DG Trésor.

How to read this chart: In 1991, China's GDP (PPP) per capita was 4.5% of US GDP per capita, compared with 25.5% in 2019.

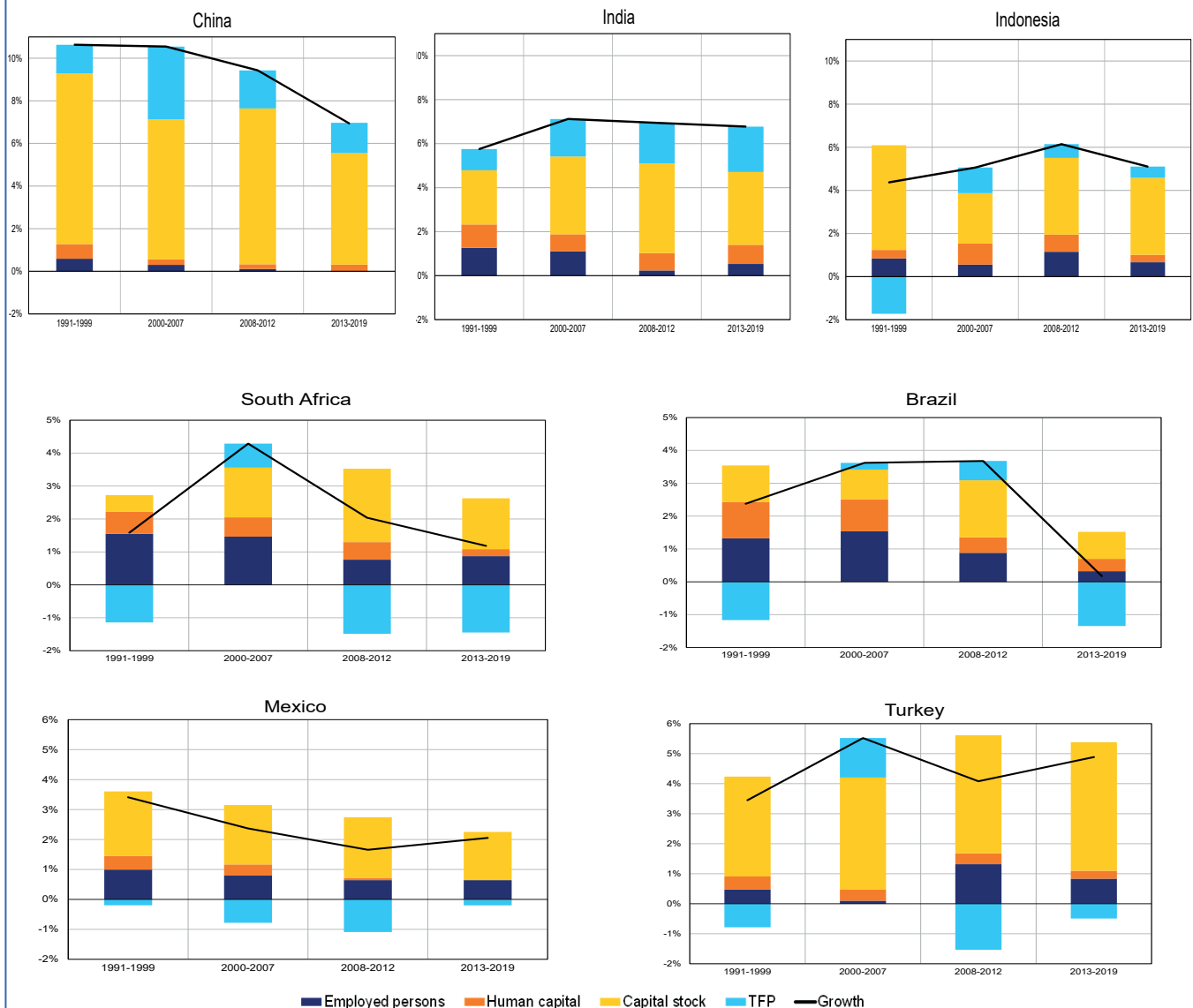
## Box 1: Breakdown of growth

GDP growth can be modelled by the Cobb-Douglas production function, which breaks down GDP growth based on the accumulation of production factors and the total factor productivity (TFP):

$$Y_t = A_t K_t^\alpha (L_t h_t)^{1-\alpha}$$

where  $Y_t$  denotes GDP in period  $t$ ,  $K_t$  the capital stock,  $L_t$  the number of employed persons,  $h_t$  human capital,  $A_t$  TFP and  $\alpha$  the share of return on capital in production. The underlying data used to estimate each factor comes from the International Monetary Fund (IMF) for  $Y_t$ , the International Labour Organization (ILO) for  $L_t$  and  $\alpha$ ,<sup>a</sup> the World Bank for  $K_t$  (with an estimate of the capital stock based on investment flows), and an index developed using data from R. Barro and Jong-Wha Lee<sup>b</sup> for  $h_t$ . TFP is calculated as a residual of the production function. Since it depends on the contribution of other factors, it may vary based on the methods used to estimate these factors. TFP covers both the quality of the allocation of resources across sectors (“intersectoral” productivity growth, see Chart 7) and other, more difficult to measure factors such as technical progress and the ability of the institutional environment to foster growth (“intrasectoral” productivity growth).

Charts: Contribution of production factors to GDP growth (%)



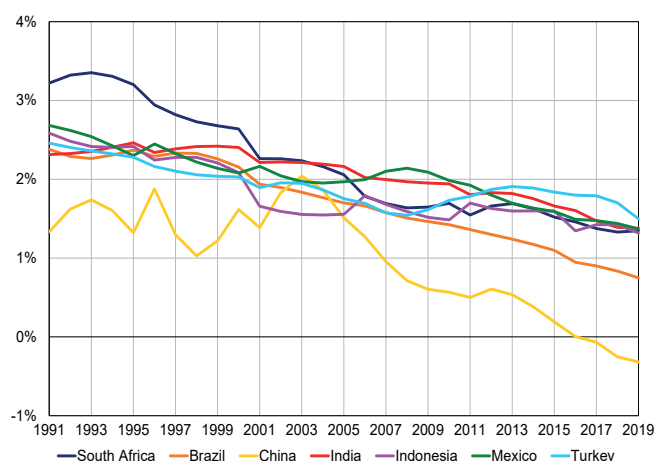
Sources: World Bank, IMF, ILO, R. Barro and Jong-Wha Lee, Penn World Table, DG Trésor calculations.

- $1 - \alpha$  is calculated as the average share of labour income (wages of employees and wages of self-employed workers) in GDP, from 2008 to 2019.
- R. Barro and Jong-Wha Lee (2013), “A New Data Set of Educational Attainment in the World, 1950-2010”, *Journal of Development Economics* (updated in September 2021 for the 1950-2015 period), and R. C. Feenstra, R. Inklaar and M. P. Timmer (2015), “The Next Generation of the Penn World Table”, *American Economic Review*.

## 2.2 A decline in the contribution of labour

Demographics are a growth factor owing to the demographic transition, which refers to when the working-age population – those aged 15 to 64 – grows faster than the total population. However, this trend now plays less of a role in most major EMEs, where population ageing is bringing their demographic structure closer to that of advanced economies. As a result, the contribution of labour to economic growth has declined in a majority of EMEs (see Box 1). This is the case for Brazil, where even though the working-age population continues to grow, its share in the total population peaked in 2018. Demographics have also recently had an adverse impact on growth in China, where two factors are at work: a low birth rate and an early retirement age (female workers retire at 50 and male workers at 60). The demographic transition continues to play a positive role in other countries, particularly India and Indonesia, even though the working-age population in such economies is growing at an increasingly slower pace (see Chart 3).

**Chart 3: Annual growth rate of working-age population (%)**

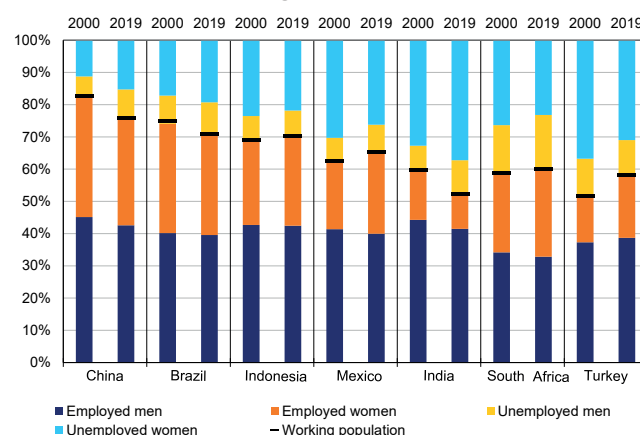


Source: ILO, DG Trésor; latest data point: 2019.

The positive impact of the demographic transition on growth is heightened by higher labour market participation rates (i.e. people transitioning from inactivity to employment) and job creation (which provides workers with jobs): adequate job creation coupled with changes in behaviour, such as women's greater integration into the labour market, supports the contribution of labour to growth. Conversely, if job growth cannot keep up with the number of people entering the labour market, then the demographic transition will have less of an impact, and for a longer period of time where inadequate job creation pushes workers out of the labour market.

Amongst major EMEs, women's integration into the labour market has been significant in Turkey, which reported an 11 percentage-point increase in their participation rate from 2000 to 2019 (reaching 39%, see Box 1). This phenomenon has occurred on a smaller scale in Brazil and Mexico (with an 8 percentage-point rise to 62% and 49% respectively), as well as in South Africa (reaching 54%, representing a 6 percentage-point increase). India stands apart given the contraction in its working-age population, due to the inadequate creation of formal jobs and a low morale among citizens, which has lowered the contribution of labour to growth despite the demographic transition.<sup>2</sup> In addition, women's labour force participation in India is low and on the decline (down 10 percentage points to 22% in 2019).

**Chart 4: Breakdown of the working-age population (aged 15 to 64)**



Source: ILO, DG Trésor; latest data point: 2019.

How to read this chart: In Turkey, the total labour participation rate for men and women stood at 51.5% in 2000; it increased to 58% in 2019. Making up 50% of Turkey's working-age population, women accounted for 28% of the labour force in 2000 (i.e. 14% of all workers), compared to 38.5% in 2019 (19.5% of all workers).

(2) IMF (2019), "India: Staff Report for the Article IV Consultation".



Regarding the labour market, the International Labour Organization (ILO) reports that China has maintained a relatively stable unemployment rate, at around 5%, from 1991 to 2019, as well as India and Mexico (where a large portion of jobs are informal).<sup>3</sup> In South Africa, the unemployment rate has risen from 23% to 27% over the last decade and is a structural vulnerability for its economy, making it difficult to match supply with demand on the labour market owing to a lack of qualified jobseekers relative to the number of job vacancies.<sup>4</sup>

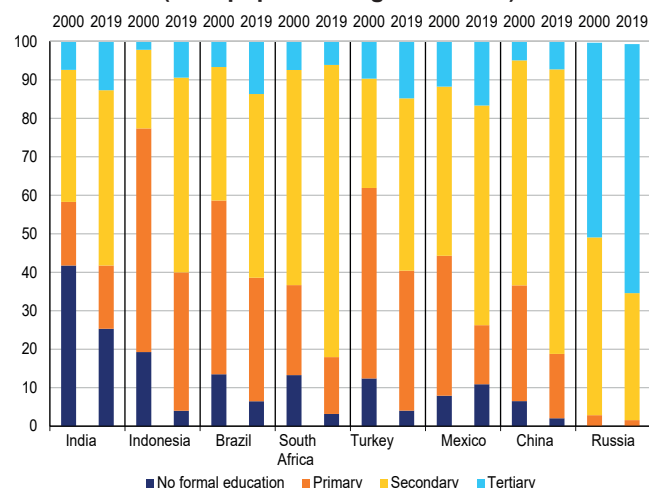
The lower contribution of the labour force to economic growth can be offset by improving human capital. Major EMEs have made huge strides in terms of education, for example. Brazil and South Africa have achieved progress in primary education since the 1990s, leading to a substantial improvement in human capital (see Box 1). From 2000 to 2015, the average number of years of schooling increased significantly in

South Africa (from 7.9 to 10.2 years), Indonesia (from 5.4 to 8.6 years) and India (from 5.3 to 7.4 years), chiefly owing to higher rates of secondary education. Generally, the average level of education aligns with a country's development level, although some countries are an exception to the rule, such as India (where the proportion of people with no formal education remains quite high relative to the total population, see Chart 5) and South Africa (where the number of people with a university degree is low in comparison with the number of students enrolled in secondary school).

### 2.3 Sluggish investment, except in China, Indonesia and Turkey

Capital accumulation plays a pivotal role in the first stages of economic growth.<sup>5</sup> High rates of investment in India and Indonesia (see Chart 6), which are less advanced than other major EMEs, contributed to their robust growth (see Box 1). This was also true for China in the 1990s and 2000s. Since the 2008 financial crisis, the Chinese government has intervened to maintain a high rate of investment relative to the country's development level. While this policy tool has slowed the decline in growth, it has also pushed debt up sharply, a situation difficult to sustain given that debt-fuelled capital spending produces diminishing returns. In addition, such investment targets less productive sectors such as property<sup>6</sup> and can crowd out lending to the private sector at the expense of innovation and TFP. Turkish authorities adopted a similar approach against the backdrop of a structural decline in the growth rate. Since the financial crisis, Turkey's monetary easing has been aimed at supporting lending and ultimately investment, running the risk of leading to a chronically overheated economy and setting off currency crises (2018, 2021). Investment in Brazil and South Africa is correlated with fluctuations in commodity prices, which have dampened growth since the end of the supercycle, and is constrained by a relatively unfavourable business climate (see below).

**Chart 5: Change in education levels  
(% of population aged 15 to 64)**

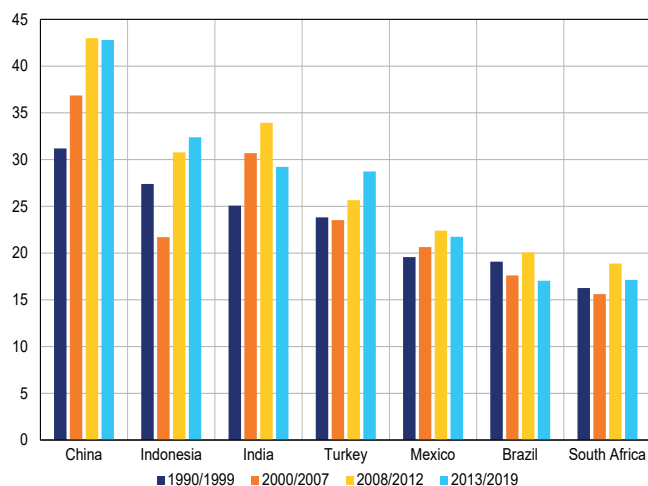


Sources: R. Barro and Jong-Wha Lee, *DG Trésor*.

How to read this chart: In 2000, 34% of India's population aged 15 to 64 were educated at the secondary level, compared to 45.5% in 2019.

- (3) L. Nouaille-Degorce, P. Pillon (2018), "The Persistence of Informal Employment in the South Asian economies", *Tresor-Economics* No. 217.
- (4) IMF (2022), "South Africa: Staff Report for the Article IV Consultation".
- (5) According to the Solow growth model, emerging market and developing economies (EMDEs) have less capital than advanced economies. As a result, the former have greater returns on capital and a higher investment rate, ensuring the start of the catch-up process with advanced economies.
- (6) T. Carré et al. (2022), "China's Dependence on the Property Sector as an Engine of Growth", *Tresor-Economics* No. 311.

**Chart 6: Investment rate (total, gross, % GDP)**



Sources: World Bank, DG Trésor.

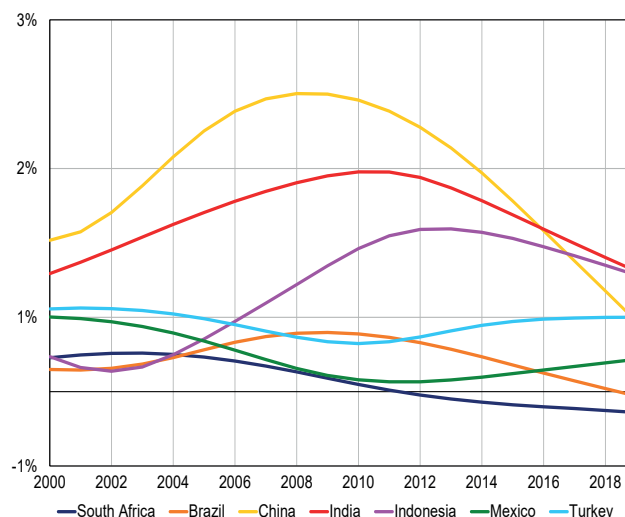
## 2.4 A reform and productivity slowdown

TFP growth incorporates intersectoral and intrasectoral productivity growth (see Box 1). It is particularly difficult to interpret it in commodity-exporting economies, where growth is structurally more volatile and affected by fluctuations in commodity prices. However, as the IMF shows in a 2015 paper, the upswing phase of the commodity cycle induces higher investment, but also hampers TFP, corroborating the “Dutch disease” phenomenon to which commodity-exporting economies are prone.<sup>7</sup>

A portion of productivity growth is attributable to shifts in the sectoral structure of economies. It is boosted in particular by rural-to-urban migration and the reallocation of agricultural workers to sectors where the marginal productivity of labour is higher (in the manufacturing sector and to a lesser degree in the services sectors).<sup>8</sup> This occurred in China (see Chart 7): in 2000, one in two workers were employed in the agricultural sector, compared to roughly 25% in

the manufacturing and services sectors; in 2019, workers in the agricultural sector made up 25% of the labour force, compared to just under 50% in services and over 25% in manufacturing. This trend is also at work in India and Indonesia. In both countries it is the services sectors, where productivity growth is lower than in manufacturing, which have benefited from the reallocation of workers. In China, India and Indonesia, productivity growth from rural-to-urban migration has gradually diminished. In other major EMEs, intersectoral productivity growth is more limited. The contraction of manufacturing employment in South Africa is even the cause of a net negative contribution of the reallocation of labour.

**Chart 7: Labour productivity growth attributable to intersectoral mobility (% of GDP, smoothed)**



Sources: World Bank, DG Trésor; latest data point: 2019.

How to read this chart: Owing to the movement of labour between sectors, China's labour productivity growth exceeded, on average, 1.5 percentage points of GDP per annum from 2004 to 2014. This estimate was calculated using the methodology of M. McMillan and D. Rodrik, based on the movement of labour between the primary, secondary and tertiary sectors.<sup>9</sup>

(7) The “Dutch disease” phenomenon refers to when “a boom in the commodity-producing sector of an economy puts downward pressure on” other sectors. The competitiveness of these sectors is adversely impacted by currency appreciation and the increase in wages and prices in the overall economy. See IMF (2015), “World Economic Outlook – Chapter 2, Where Are Commodity Exporters Headed? Output Growth in the Aftermath of the Commodity Boom”.

(8) W.A. Lewis (1954), “Economic Development With Unlimited Supplies of Labour”, *The Manchester School of Economic and Social Studies*.

(9) M. McMillan and D. Rodrik (2011), “Globalization, Structural Change and Productivity Growth”, *NBER*.

As for intrasectoral productivity growth, TFP has been boosted in many countries through major reforms in the 1990s and 2000s. Alongside growth in foreign trade, these reforms have been credited for considerably raising TFP in the 2000s by promoting competition on domestic markets and financial sector development.<sup>10</sup> China's accession to the World Trade Organization (WTO) in 2001 and Turkey's process of accession to the EU in the 2000s have, for instance, resulted in a host of reforms and facilitated technology transfer by attracting foreign investment. This trend began to peter out in the 2000s and, in the last decade, a more limited number of reforms were undertaken in EMDEs. According to the World Bank, this is partly why growth in TFP has slowed.<sup>11</sup>

In Brazil and South Africa, TFP growth is also structurally constrained by an unfavourable business climate: poor-quality infrastructure, particularly its electricity grid, is a problem in South Africa,<sup>12</sup> while Brazil is being held back by a low level of trade openness (with trade representing 25% of its GDP) and a complex regulatory environment.<sup>13</sup> Moreover, meagre investment in research and development (with R&D expenditures accounting for 1.3% of GDP in Brazil and 0.8% in South Africa) hinders these economies' ability to innovate. In India, based on a report released by the country's central bank, the poor allocation of credit – including the low and declining share provided to the manufacturing sector – and labour market rigidities are inhibiting the creation of formal employment opportunities and TFP growth.<sup>14</sup>

### 3. Some possible reforms to increase growth potential

#### 3.1 The middle-income trap

The weak growth of production factors (labour and capital) is expected to persist in major EMDEs. As it advances further, the demographic transition will gradually curb labour growth, while capital accumulation will slow down due to the gradual catch-up of these economies with their advanced counterparts.

Going forward, given the lower outlook for production factors, growth will have to be more so a product of increased labour and capital efficiency than of the accumulation of these inputs, while the exposure to the middle-income trap (see Box 2) means that most major EMDEs must significantly raise their productivity, at a time when productivity growth is slowing down in a number of them (Brazil, Mexico, Turkey, South Africa).

According to the World Bank, China's growth trajectory should put it on track to pass the threshold of a middle-

income country (i.e. with a gross national per capita income of \$13,205 or more) in the coming years. However, this growth is due in part to China's proactive policy of supporting lending and investment (see above), while the structure of its economy is similar to that of countries exposed to the middle-income trap (low intersectoral productivity growth and a decline in the return on capital and labour force competitiveness). To avoid an overly sharp slowdown in growth and foster the most productive areas of investment, the Chinese government began introducing reforms in 2016 to redirect credit from the housing sector to other sectors<sup>15</sup> and encourage the development of the bond market. But without rebalancing demand, these measures will be inadequate to ensure the sustainability of growth. Most experts agree on the need to accord more importance to household consumption (which accounted for less than 40% of GDP in 2019), particularly through the public sector

(10) IMF (2014), "Anchoring Growth: The Importance of Productivity-Enhancing Reforms in Emerging Market and Developing Economies".

(11) World Bank (2021), "Global Economic Prospects – Chapter 3, Heading into a Decade of Disappointments?".

(12) Organisation for Economic Co-operation and Development (OECD) (2022), "Economic Surveys: South Africa".

(13) Product Market Regulation (PMR) indicators, produced by the OECD and ranking a country's market openness by comparing it to that of the most open economies, have given Brazil and South Africa a score of 2.6 and 2.5 respectively (the average OECD country score is 1.4, while France has a 1.6). In addition, the OECD reports that a benchmark firm in Brazil requires 1,500 hours to pay taxes, as opposed to 315 in the average Latin American country and under 160 in the average OECD country (OECD (2020), "Economic Surveys: Brazil").

(14) Reserve Bank of India (2022), "Annual Report on Currency and Finance – Chapter III, Structural Issues in Rejuvenating Growth".

(15) C. Colin et al. (2020), "Two Decades of Economic Transformation in China", *Tresor-Economics* No. 529.



## Box 2: How much credence should be given to the middle-income trap theory?

The middle-income trap, a concept developed by Gill and Kharas in 2007,<sup>a</sup> describes the situation of countries which are unable to maintain a growth rate high enough to allow them to progress in catching up with advanced economies. According to these authors, middle-income countries can rely neither on the initial growth factors that drive developing economies, such as an abundant labour supply and low wages, nor on the innovation-based productivity growth seen in advanced economies. Other authors have identified slowdown thresholds. For example, Einchengreen, Park and Shin (2013)<sup>b</sup> propose two thresholds: GDP per capita of \$10,000-\$11,000 and \$15,000-\$16,000 (expressed in PPP).

The existence of these thresholds and more generally that of the middle-income trap is a matter of debate, as some view the phenomenon as nothing other than a slow convergence process.<sup>c</sup> Although its deterministic framing is controversial, there is nonetheless general agreement on the middle-income trap's idea that EMEs must implement policies different from those of developing and advanced economies, i.e. ones that target productivity (trade opening, bolstering of market mechanisms and the rule of law, development of financial markets, reduction of barriers to entrepreneurship).

a. I. Gill, H. Kharas (2007), "An East Asian Renaissance: Ideas for Economic Growth", World Bank, Policy Research Working Paper.

b. B. Einchengreen, D. Park, K. Shin (2013), "Growth Slowdowns Redux: New Evidence on the Middle-Income Trap".

c. F.G. Im, D. Rosenblatt (2014), "Middle-Income Traps: A Conceptual and Empirical Survey", World Bank, Policy Research Working Paper.

taking on a greater share of the social expenditure burden, relative to exports (roughly 19%) and investment (43%). At this stage, however, measures to support household consumption are modest and the rebalancing of growth is slow to see results.

### 3.2 Scope to boost employment, investment and productivity

Aside from harnessing demographic growth, ample room exists to increase women's participation in the labour market, as their participation rate continues to be low in some countries, with women in Turkey and Mexico working at rates lower than 40% and 50% respectively, and in India at a rate of less than 25%. Implementing family policies and increasing girls' access to education are some of the recommendations proposed by the World Bank.<sup>16</sup> Overall, major EMEs

now have secondary education rates approaching those of advanced economies (see above) and their main challenge is to increase the number of graduates (i.e. those who complete secondary school) and the number of students going on to higher education.<sup>17</sup>

Reforms can be undertaken to stimulate productivity and investment. The academic literature establishes a positive association between institutional quality, the smooth functioning of market mechanisms and economic growth, which depends on investment, international trade and, ultimately, productivity.<sup>18</sup>

Structural, institutional and market reforms will be all the more decisive for EMEs since they no longer derive benefit from the catch-up factors present at the outset of growth accelerations (see above). Facing a potential "decade of disappointments",<sup>19</sup> the World Bank recently highlighted that reforms are needed

(16) World Bank (2021), *op. cit.*

(17) S. Celik et al. (2020), "Subdued Potential Growth: Sources and Remedies", Policy Research Working Paper.

(18) R. Bluhm, A. Szirmai (2011), "Institutions, Inequality and Growth: A Review of Theory and Evidence on the Institutional Determinants of Growth and Inequality", Innocenti Working Paper, United Nations.

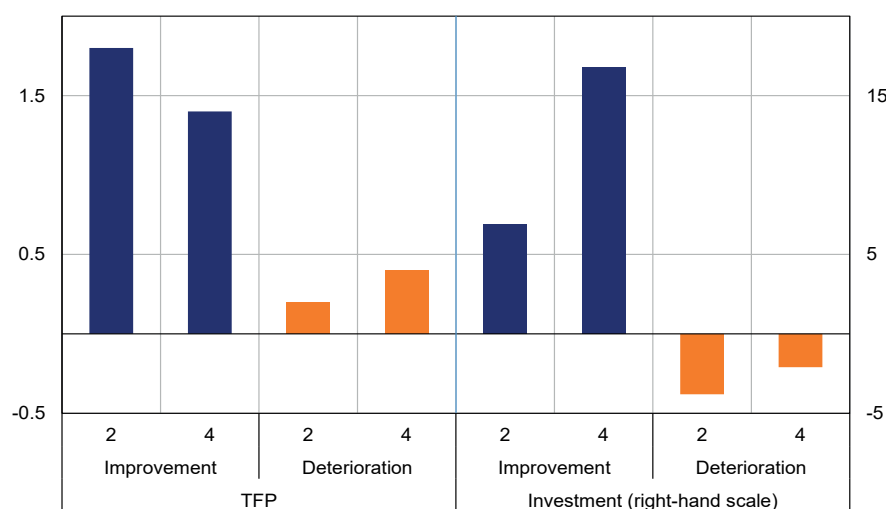
(19) World Bank (2021), *op. cit.*

to ensure convergence with advanced economies. Additionally, it found that significant improvements in governance indicators<sup>20</sup> were, on average, associated with a TFP approximately 1.4 percentage points of GDP higher over a four-year horizon (compared to a period without reform episodes) and a more-than-15% increase in investment (see Chart 8).

Most public policy recommendations issued to EMEs by international institutions focus on bolstering

market mechanisms (e.g. lowering barriers to entry and to competition) and measures addressing corruption and the informal economy, as well as on further integrating EMEs into global value chains. Implementing such types of structural reform could increase potential growth by more than three-fourths of a percentage point in Brazil, and by one percentage point in India,<sup>21</sup> Indonesia<sup>22</sup> and South Africa.<sup>23</sup>

**Chart 8: Difference in TFP and investment two to four years after reform episodes in emerging and developing economies, compared to a scenario without reform episodes**



Sources: World Bank, DG Trésor.

How to read this chart: Four years after a marked improvement in indicators, e.g. Worldwide Governance (a twofold increase on the average increase in the indicator), Doing Business and International Country Risk Guide indicators ("reform episodes"), TFP and GDP are, on average, over 1.4 percentage points of GDP higher compared to a scenario without reform episodes, and the investment rate is 16.8% higher compared to that of a scenario without reform episodes.

(20) World Bank (2021). For Worldwide Governance indicators, a reform episode is defined as a change in the indicator of at least two standard deviations relative to the average change in the indicator within the sample during the reform period (period N). The sample covers 110 EMDEs from 1996 to 2018. For Doing Business indicators, a reform episode is defined as a change in the indicator of at least two standard deviations relative to the average historical change in the indicator in the country in question. The sample covers 67 EMEs from 2006 to 2020. The chart shows the standard deviation of TFP and investment in these countries in years N+2 and N+4, based on a marked improvement or deterioration in the indicators for at least two years (period N), relative to a period of little change in the indicators.

(21) OECD (2019), "Economic Surveys: India".

(22) IMF (2018), "Realizing Indonesia's Economic Potential".

(23) OECD (2022), "Economic Surveys: South Africa".

## 4. Major uncertainties surrounding growth trajectories

Aside from their structurally slower growth, major EMEs are exposed to several major economic uncertainties, especially downward growth trajectories.

In Brazil, China, South Africa and Turkey, capacity to invest is lower now than in recent decades and vulnerable to shocks. In China, according to the Institute of International Finance (IIF), the debt-to-GDP ratio (excluding financial corporations) has increased from almost 240% to more than 295% of GDP between late 2015 and June 2022. Corporate foreign currency debt is a significant point of vulnerability in Turkey's economy,<sup>24</sup> while high levels of public debt in Brazil and South Africa are hamstringing the capacity of their governments to invest. In all major countries, the medium-term effects of the 2020 COVID-19 crisis on corporate balance sheets along with the recent tightening of monetary policy and, more broadly, of global financial conditions, are expected to impact borrowing capacity.

It is thought that the rebalancing of China's economy, which appears to be in the earliest of stages (see above) and the effectiveness of which is under debate, would have an ambivalent effect on other countries. It would adversely impact many exporting sub-sectors that supply China's heavy industry (iron exporters in Brazil and South Africa, and iron and steel exporters in Indonesia), but it would be a boon to sub-sectors producing consumer goods for Chinese households (vegetable oil producers in Indonesia, soya and meat producers in Brazil, and diamond producers in South Africa).

US-China tensions and Russia's invasion of Ukraine have heightened geopolitical risks and are likely to push companies to reconsider their decisions relating to the geographic location of their operations and the structure of their supply chains, hampering the robust international trade that has sustained growth in major EMEs. In advanced economies, the regionalisation of value chains is promoted as a way to secure supply chains. In this context, Turkey and

Mexico, being located on the doorstep of European and North American markets respectively, appear well positioned to benefit from a policy of regionalising supply chains, especially from China. For example, the IMF estimates that US-China trade tensions resulted in a more-than-16% increase in US imports from producers in Mexico whose Chinese competitors were subject to tariffs.<sup>25</sup> Stagnant or declining productivity in Mexico and Turkey could, however, lessen the attractiveness of their economies.

The energy transition may be a boon to metal-exporting economies, but it will disadvantage fossil fuel producers. Substituting fossil fuels with renewable energy sources will increase demand for a number of metals used to conduct and store electricity, e.g. aluminium, copper and so-called electric metals (cobalt, graphite, lithium, nickel). Some major EMEs stand to benefit from this rise in demand. According to the U.S. Geological Survey, China produces half of the world's aluminium, is the leading global producer of refined copper and also produces graphite and lithium. However, its aluminium production is reliant on imported inputs (bauxite, alumina) and its copper reserves are limited relative to the rate at which it consumes the metal. Indonesia dominates the nickel market, accounting for one-third of global output, and also produces cobalt. Lastly, Brazil is a secondary producer of nickel, having large reserves of this metal, and graphite. Brazil, China and Indonesia thus seem to be primed to take advantage of higher global demand for metals necessary for the energy transition. Nevertheless, Indonesia, as a major coal producer, would be impacted by the slowdown and eventual decline in demand for fossil fuels.

Climate change affects all major EMEs, particularly those near the equator.<sup>26</sup> These countries, especially Brazil, India and Indonesia, are believed to be not only the most threatened by climate change, but also the most exposed – given their climate vulnerability – to its indirect effects (e.g. social unrest, political instability, migrant flows).

(24) T. Carré, M. Khater et al. (2022), "Bond Market Borrowing by Non-Financial Corporations", *Tresor-Economics* No. 313.

(25) IMF (2021), "Mexico: Staff Report for the Article IV Consultation".

(26) B. Carantino et al. (2020), "The Economic Effects of Climate Change", *Tresor-Economics* No. 262.

**Publisher:**

Ministère de l'Économie,  
des Finances  
et de la Souveraineté  
industrielle et numérique  
Direction générale du Trésor  
139, rue de Bercy  
75575 Paris CEDEX 12

**Publication manager:**

Agnès Bénassy-Quéré

**Editor in chief:**

Jean-Luc Schneider  
(01 44 87 18 51)  
tresor-eco@dgtresor.gouv.fr

**English translation:**

Centre de traduction  
des ministères économique  
et financier

**Layout:**

Mimose Mellia  
ISSN 1777-8050  
eISSN 2417-9620

**October 2022**

N° 315 Economic Growth and Decarbonisation

Pierre-Louis Girard, Claire Le Gall, William Meignan and Philippe Wen

N° 314 How Crises Are Putting IMF Financial Support to the Test

Léo Besson and Hugo Landot

**September 2022**

N° 313 Bond Market Borrowing by Non-Financial

Thomas Carré, Xavier Coeln, Grégoire de Warren, Marie Khater, Adrien Moutel and Eloïse Villani

<https://www.tresor.economie.gouv.fr/Articles/tags/Tresor-Eco>



Direction générale du Trésor



@DGTresor

To subscribe to *Trésor-Economics*: [bit.ly/Trésor-Economics](https://bit.ly/Trésor-Economics)

*This study was prepared under the authority of the Directorate General of the Treasury (DG Trésor) and does not necessarily reflect the position of the Ministry of Economy, Finance and Industrial and Digital Sovereignty*