The world economy under COVID-19: Can emerging market economies keep the engine running?

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Introduction

COVID-19 has led to profound turmoil and severe disruptions in our lives and economies. Even more than the 2008-2009 global financial crisis (GFC) – which was most directly felt in the United States and in Europe – the ongoing pandemic-induced crisis is affecting nearly all countries around the world. This article provides an overview of the economic developments in emerging market economies (EMEs), with a focus on those that have been systemically important for the world and/or euro area economy: China, India, Brazil, Russia and Turkey. Some of these EMEs, notably India and Brazil, are currently the epicentre of the pandemic.

In section 1, we start by emphasising that the COVID-19 crisis is different from previous modern-day crises, notably because of its origins in a truly global pandemic. Throughout the article, we highlight some important differences with the GFC, another crisis that at the time was believed to be truly different, due to its unprecedented proportions. A decade ago, EMEs succeeded in weathering the crisis rather well and were the engine of the subsequent global recovery. We examine whether they are likely to play that role again throughout the COVID-19 crisis.

Section 2 then discusses and distils some lessons from the experiences of two countries that were among the first to be affected by COVID-19, China and Korea. As leading indicator economies, their virus containment policies and economic developments have been closely monitored. While China and Korea have not been shielded from the global economic fallout of the pandemic, their relatively quick recovery offers a glimmer of hope.

Even before the virus reached their shores, other EMEs already felt the repercussions of the developments in China, East Asia and the advanced economies. The "third wave" of the pandemic (East Asia being in the "first wave" and Europe and the United States being in the "second wave") dealt a severe blow to their already ailing economies. In section 3, the most elaborated of this article, we detail the direct and indirect impacts of the COVID-19 crisis on major EMEs and examine their pre-existing vulnerabilities and crisis policy responses. The road to recovery will be challenging and for many difficult to achieve without international support.

* While responsibility for any errors is our own, we would like to thank Paul Butzen for helpful comments and suggestions, and staff members from the IMF, the BIS and Capital Economics for providing additional data and explanations. The article uses data up to 6 September 2020, unless indicated otherwise.

The final section concludes by explaining why we believe that EMEs will most likely not play the same role of locomotive for the world economy throughout the COVID-19 crisis as at the time of the GFC.

1. This time *is* different

1.1 A pandemic-induced global economic crisis

COVID-19 is the first infectious and deadly disease to turn into a pandemic on a truly global scale, in a short time window. The new coronavirus causing the disease originated in China and spread mostly to other East Asian countries (as well as Iran) in February. Building on their past experiences with epidemiological outbreaks (e.g. SARS and MERS[1]), those countries were better prepared to deal with a health crisis compared to others lacking such recent experience, as they already had high levels of public awareness and voluntary cooperation. They were able to quickly scale up the production of necessary medical and personal protection equipment, and testing and treatment capacity. Finally, East Asian countries successfully rolled out an extensive contact tracing system based on their strengths in the digital economy. However, in a highly interconnected world, this was still not enough to prevent the wide international spread of COVID-19.

The WHO declared the outbreak of COVID-19 to be a pandemic on 11 March. By then the disease had already reached the advanced economies of Europe and the United States. In general, these countries were ill prepared, reacted more slowly, and ended up implementing longer lockdowns as a result. European countries eventually succeeded in flattening the epidemiological curve, although they are still struggling with new outbreaks. The United States by contrast tried to restart its economy before the virus was sufficiently under control and failed on both accounts.

Since May, EMEs have become the pandemic's new epicentre. Parts of Latin America (e.g. Brazil and Mexico) and Asia (e.g. India, Pakistan and the Philippines) have been particularly hard hit (Chart 1, left panel). For these countries, it is more challenging to find an effective way to contain the outbreak.

Economies hit by a COVID-19 outbreak typically follow a similar course. In a state of emergency caused by spiralling rates of new infections, governments respond by imposing lockdowns, bringing most economic activity and community life to a standstill. What follows is a precipitous economic free fall. The economy then stays in a trough while the pandemic growth rate of new infections decelerates to a low value. Once containment policies can be relaxed safely, a slow but steady acceleration in growth materialises, but the pace of economic revival loses momentum well before pre-shock output levels are attained. The economy gets stuck at, say, 90 % of pre-shock output levels, as some sectors struggle to resume operations (including air travel, entertainment, events, hospitality), given the continued need for social distancing. Moreover, uncertainty depresses consumers' and firms' spending. According to some observers, it may take several years to exit this so-called "90 % economy" (Economist, 2020), depending on the timeframe in which a vaccine can be made widely available.

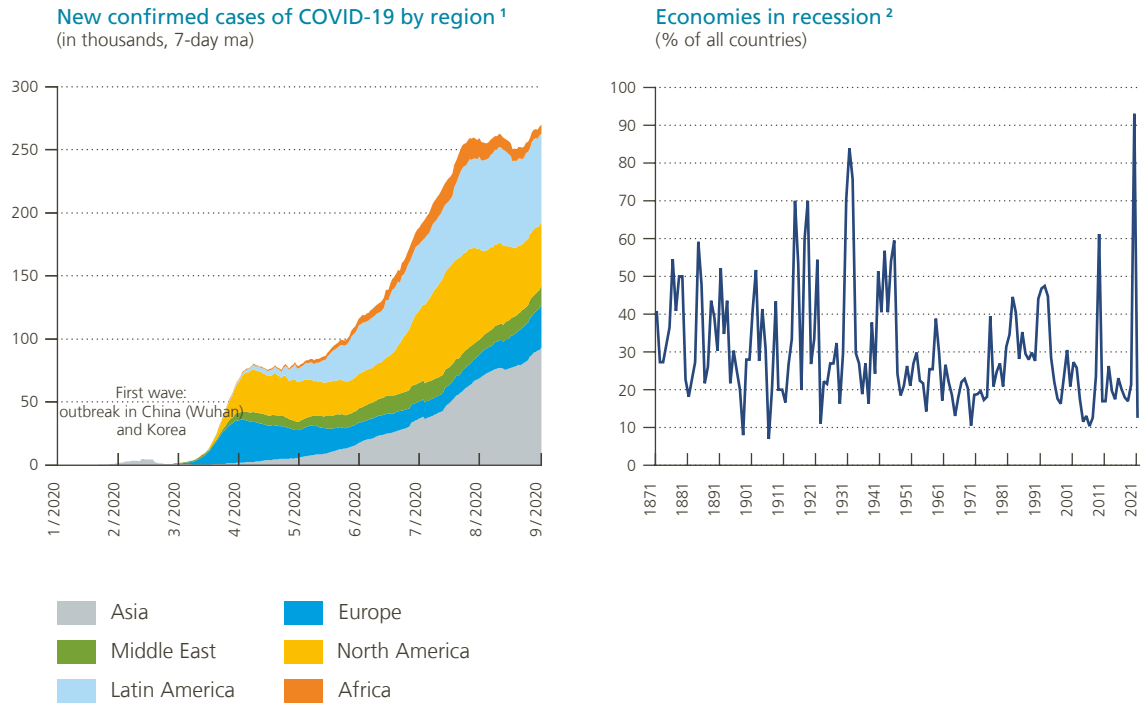
Having spread on a truly global scale, COVID-19 will go down in history as the first pandemic to trigger a global recession on its own. Its scale bears some similarity to the Spanish flu (1918-1920), which is indeed seen as a contributing factor to the prolonged recession of 1917-1921, but which coincided with the conclusion and aftermath of World War I, being itself a major cause of economic destruction (Barro *et al.*, 2020).

Moreover, the resulting economic recession is expected to be the deepest since World War II, and the most synchronised ever recorded (World Bank, 2020). Not only will a large number of countries experience an adverse economic shock associated with an outbreak of COVID-19 on their soil, these shocks will be further reinforced

1 Severe Acute Respiratory Syndrome (SARS) broke out in November 2002. The most affected countries were China, Hong Kong, Taiwan, Singapore and Canada. Middle East Respiratory Syndrome (MERS) started in Saudi Arabia, but also hit Korea in 2014.

Chart 1

The pandemic pushes a record number of countries into recession



Sources: OWID, World Bank.

1 The Middle East consists of Afghanistan, Bahrein, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Oman, Palestine, Qatar, Saudi Arabia, Syria, Turkey and Yemen. The other regions correspond with the geographical continent excluding those countries that are part of the Middle East.

2 Proportion of economies in recession, defined as an annual contraction in per capita GDP.

worldwide via the trade channel, disruptions in global value chains, confidence effects and financial market turmoil (see section 3.2). These direct and indirect effects combined explain why nearly all economies (an estimated 93 % of the total according to the World Bank) will be pushed into a recession in 2020 (Chart 1, right panel).

1.2 Emerging market economies as a driver of the world economy

Emerging market and developing economies (EMDEs)[1] have contributed significantly to global economic growth over the last two decades. Taken together, the group of EMDEs has consistently experienced faster GDP growth than advanced economies, so that EMDEs' combined weight in the world economy has steadily increased over time. As per the IMF's World Economic Outlook (WEO) database, 2008 marked the year when the EMDE share in world GDP, expressed in purchasing power parity or PPP terms, surpassed the share of advanced economies. In 2019 the EMDE share in world GDP stood at close to 60 %.

However, these overall trends mask important underlying country differences. As in the remainder of this article, we zoom in on a selection of large EMEs to examine those in greater detail. Starting from the non-advanced economies included in the G20 and then further narrowing down the sample to countries with systemic

1 The EMDE classification follows the IMF and, at the moment of writing, consisted of 155 (non-advanced) economies, including many low-income countries. The IMF does not formally break down the EMDE category into subgroups of EMEs and non-EMEs.

relevance for the world and/or euro area economy, we are left with a set of five countries: China, India, Russia, Brazil and Turkey.[1] The Annex to this article provides more details on the importance of these countries for global GDP, global trade, euro area trade, euro area value added, and euro area financial claims.

Chart 2 shows how the large and increasing contribution of EMDEs to world GDP growth has to a great extent been driven by China and, in the second instance, India, whose shares of world GDP had increased to 19% and 8% respectively by 2019. Both countries acted as a key counterbalancing force during the 2008-2009 GFC and led the post-GFC recovery. These divergent growth patterns between large EMEs and advanced economies revived the debate about "decoupling".[2] Apart from China and India, most other EMDEs were also growing faster than advanced economies before, during and in the wake of the GFC, but the difference compared to advanced economy growth shrank to a small margin (less than one percentage point) by 2014, when commodity prices collapsed and stayed relatively low thereafter.[3] The share of other EMDEs (excluding China and India) in the world economy stagnated at around 26%. While some large EMEs, including Turkey, maintained or marginally increased their shares, others – including commodity exporters Russia and Brazil – saw their economic weight diminish.

Enter the COVID-19 crisis. This time around it seems highly unlikely that EMEs will take up the role of backstop to the world economy and lead the economic recovery to the same extent as they did during the GFC. Large EMEs, including China and India, are more severely hit by the current crisis, both directly and indirectly (cf. sections 2 and 3). China entered the crisis with lower economic growth, a larger fiscal deficit (heavily biased towards investment), and extraordinarily high corporate leverage (Buysse *et al.*, 2018; IMF, 2019a). Other systemically important EMEs also featured more severe vulnerabilities and disequilibria than on the eve of the GFC. Moreover, the effects of the COVID-19 pandemic came on top of ongoing, more idiosyncratic stress factors in key EMEs. While India was still among the world's fastest growing economies, it had been grappling with severe problems in its non-bank financial sector and an associated credit crunch (IMF, 2020a). Brazil was slowly recovering from a deep recession in 2015-2016, hampered by great uncertainty surrounding fiscal and structural reforms, including those concerning the pension system and energy sector (IMF, 2019b). Russia saw only moderate growth in a context of subdued oil prices and EU-US economic sanctions (Dabrowski and Collin, 2019), and in March 2020 it was fighting an oil price war with Saudi Arabia, triggered by the failure to agree on oil production cuts.[4] Finally, Turkey had just bounced back from a recession in 2018 following an episode of capital flight and sharp currency depreciation. Its recovery was supported by an expansionary fiscal policy and (unsustainably) fast credit provision by state-owned banks (IMF, 2019c). When COVID-19 hit, most major EMEs therefore found themselves in a worse position and had less policy space relative to 2008.

Just how large the contributions of EMEs to global economic growth will end up being in 2020 and the years to come is subject to a much larger-than-usual degree of uncertainty, due to the unique and still unfolding nature of the COVID-19 crisis (cf. section 1.1). Much will depend on the further course of the coronavirus, which is hard to predict, as well as the responses of consumers, businesses and governments. Whereas the IMF's April 2020 World Economic Outlook report projected EMDE GDP growth of –1% in 2020 and +6.6% in 2021, by the time of its June update these figures had been further slashed to –3% and +5.9%. China is the only large EME expected to contribute positively to world GDP growth in 2020, and only marginally so, in contrast to 2008-2009 (Chart 2, right panel). For 2021, the June IMF forecasts imply that China's contribution will be almost as large as that of all advanced economies combined, outstripping its own contribution in post-GFC

1 The other G20 EMEs, which we do not discuss separately in the paper, are Argentina, Indonesia, Mexico, Saudi Arabia and South Africa. Although some international organisations (e.g., the BIS) and certain financial market indices (e.g., Morgan Stanley's MSCI) still categorise Korea as an EME, the IMF and OECD classify it as an advanced economy.

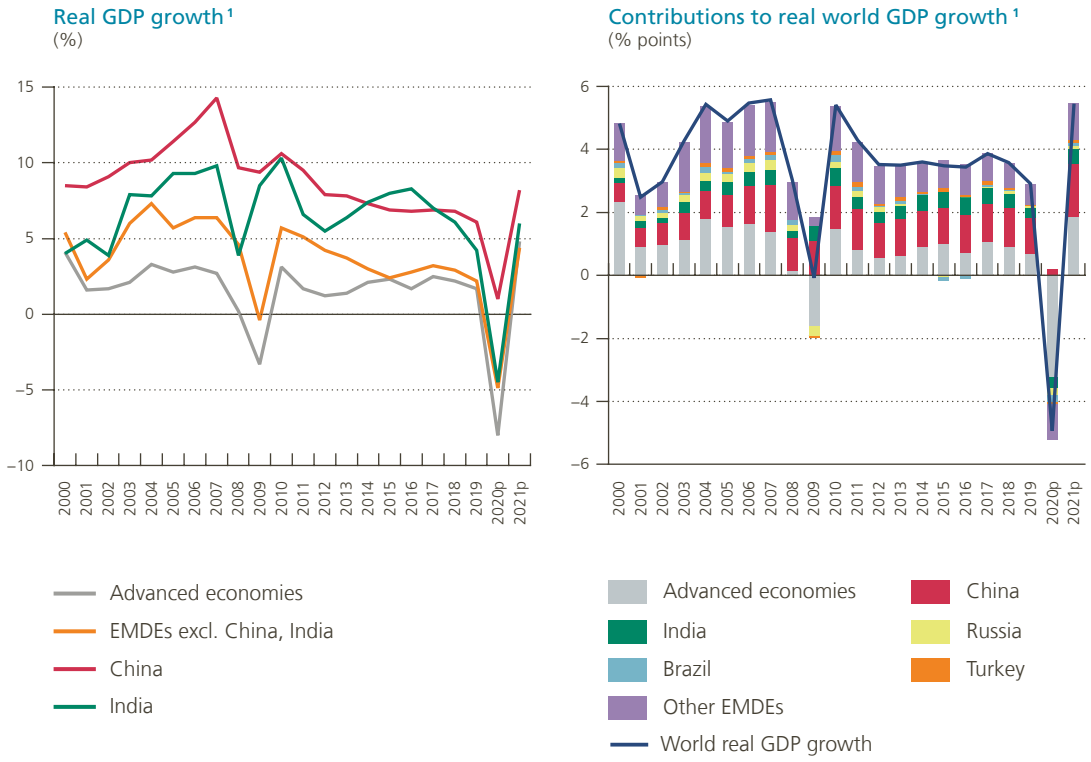
2 Decoupling is generally defined in terms of the (lack of) synchronisation of business cycles. The empirical literature on EME-advanced economy decoupling shows mixed results, depending on the time frame and country samples adopted, as well as on how business cycle synchronisation is measured. Nevertheless, EMEs' relative resilience in the run-up to, during and in the immediate aftermath of the GFC is well documented and believed to have derived from improved institutional and policy frameworks and the availability of fiscal policy space at the time (see Buelens, 2013 and references therein).

3 The steep decline in the price of oil and other commodities between 2014 and early 2016 was the result of a combination of oversupply (including a boom in US shale oil production) and weaker demand (including from China, which gradually shifted away from resource-intensive investment and construction as part of its economic rebalancing efforts) (see Buysse and Vincent, 2015; World Bank, 2018).

4 The oil price war reached a truce with OPEC+ agreements on oil production cuts in April and again in June.

Chart 2

EMEs have contributed significantly to global growth, but will they continue to do so under COVID-19?



Source: IMF (WEO).
1 Growth figures for 2020 and 2021 are forecasts from the IMF WEO June 2020 update.

year 2010. The country's increased weight in the global economy is projected to more than compensate for its lower growth rate in 2021 compared to 2010. Conversely, India, Brazil, Russia and Turkey are all projected to experience deeply negative GDP growth in 2020, between –4.5 % and –9 % (compared to –8 % in advanced economies). The contribution of these four (and most other) EMEs to 2021 global growth is assumed to be positive but smaller than in 2010.[1] It remains to be seen how accurate these projections will turn out to be but, as we will demonstrate in the following sections, there does not seem to be much cause for optimism.

2. Where it all began – Observations from China and Korea

2.1 Strict containment measures

China and Korea were among the first countries to experience serious outbreaks of COVID-19. The first infections by the new coronavirus surfaced in the Chinese city of Wuhan in late December 2019. Confronted with an exponential rise in the number of new infections and deaths, the Chinese government took the drastic decision on 23 January, the eve of the Lunar New Year celebrations, to place Wuhan and the other major cities

1 Together India, Brazil, Russia and Turkey accounted for about 1.1 pp out of 5.4 % global growth in 2010, versus less than 0.8 pp out of 5.4 % in 2021.

in the surrounding province of Hubei under a complete lockdown. Other containment measures to prevent a nationwide spread of the disease included the extension of the Lunar New Year holiday, large-scale domestic travel restrictions, social distancing, and a two-week quarantine period for returning migrant workers. Starting in mid-February, the government gradually lifted restrictions on movement and activity, prioritising essential sectors, regions with low infection rates, and population groups based on ongoing risk assessments. The economic reopening process was completed on 8 April with lifting of the lockdown of Wuhan. As a first mover, China provided the world with a blueprint of a containment strategy, to be replicated by many others.

Drawing on lessons learned from previous recent health crises, Korea responded to its own COVID-19 outbreak with a rather unique and less disruptive containment strategy. The country confirmed its first case on 19 January and experienced a surge in infections in the Daegu region in mid-February. Korea's approach relied on a combination of fast approval of a diagnostic testing set, comprehensive testing, extensive contact tracing, early detection, isolation and treatment of positive cases in treatment support centres or hospitals, and foreign entry controls. Digital tools were an essential part of contact tracing (CCTV recordings, tracing apps and GPS data on mobile phones, credit card transactions) and health service provision (remote services such as telemedicine). At the peak of the COVID-19 epidemic, school closures and social distancing measures were temporarily implemented, but a complete lockdown "Wuhan style" was averted. While the Korean approach has been successful in keeping total infections down, other countries have found it difficult to copy owing to poor preparation, plus a less sophisticated digital economy and perceptions of excessive intrusiveness.

After the first outbreak, both China and Korea have responded promptly to new local outbreaks, successfully limiting their spread. Early detection and immediate, decisive action seem to have been key to that success.

2.2 China and Korea as leading indicator economies?

As China and Korea were the first to impose containment measures and then the first to again loosen them, their economic developments, captured by high frequency indicators, have been closely monitored elsewhere. Chart 3 shows three standard monthly indicators – industrial production, retail sales and export growth – as well as a more novel daily mobility tracker (see below). Indicator values for the euro area (or Germany and France) are added to the graphs, as we expect the euro area economy to follow developments in China and Korea with a lag. The government response to COVID-19 in the euro area countries was heavily inspired by the Chinese approach, but with lockdowns varying in stringency and length between member states.

The mobility trackers are assumed to reflect the stringency of the containment measures, with more severe measures leading to a larger drop in mobility relative to its reference value. We track the evolution of people's mobility in Korea, Germany and France using four anonymised smart phone-based data series made publicly available by Google and Apple, covering different aspects of economic activity (scores for retail shopping and recreation, attending the workplace, driving, and public transport use, all relative to early 2020 reference values). For China, where the service provision by both tech companies is restricted, we employ an alternative indicator given by the average of daily traffic congestion and subway passengers (both expressed as a percentage of their respective 2019 averages), provided by Capital Economics. The mobility trackers confirm that containment measures in Korea were much lighter than in China, and those in Germany lighter than in France (where the lockdown was apparently as stringent as in China and of a longer duration).[1]

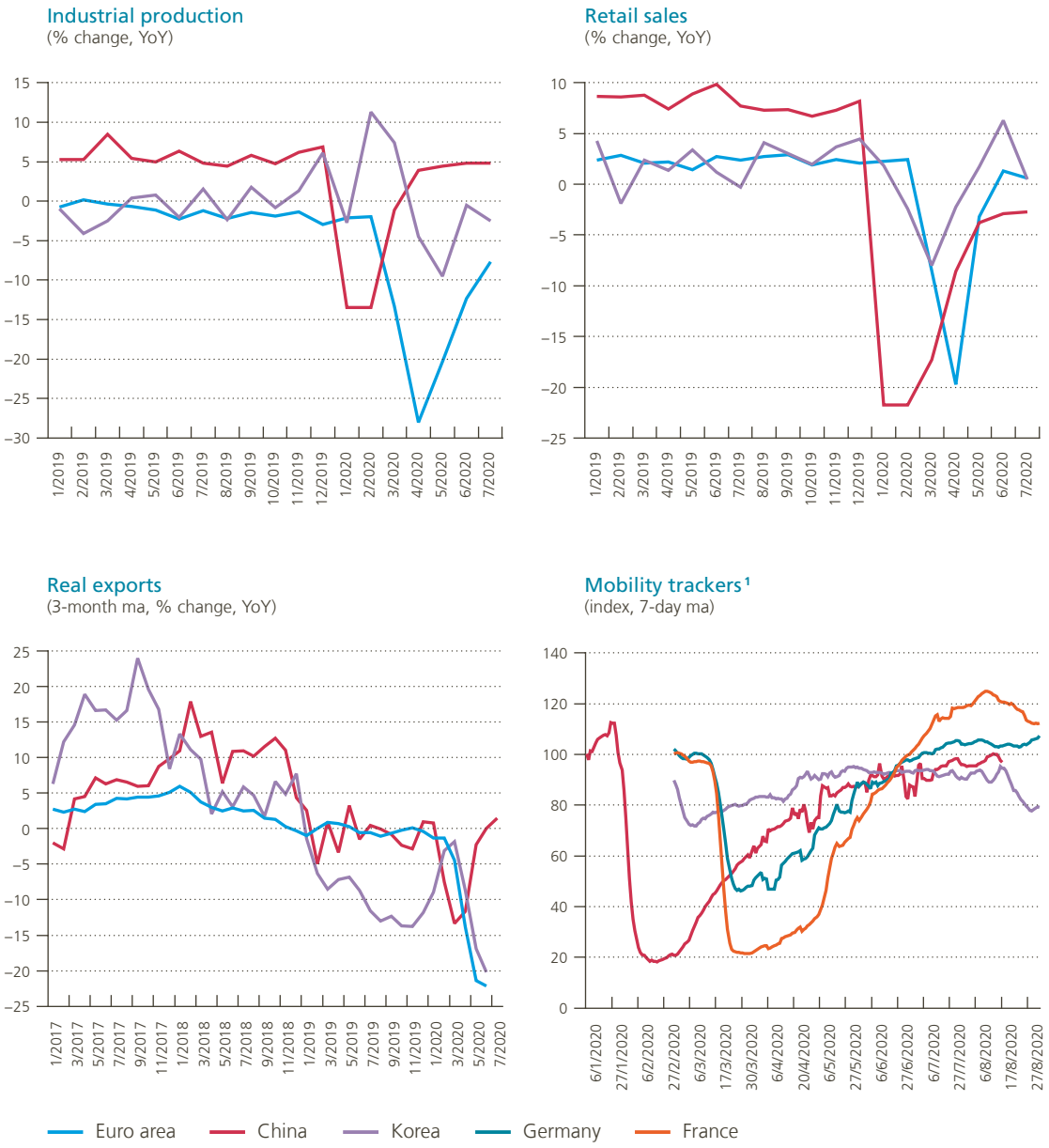
The less disruptive nature of the Korean containment strategy is reflected in the monthly data for industrial production and retail sales in the form of more moderate drops compared to China and the euro area. Korean retail sales contracted around the peak of infections in February-March, as fear of catching the virus caused people

1 Air quality is another indicator that has been used to track the evolution of China's lockdown. We confirm that in February and March, air pollution (as measured by the concentration of nitrogen dioxide) was significantly lower than during the corresponding period in 2019, especially in Wuhan. For a more sophisticated approach, see Cole *et al.* (2020).

to adjust their behaviour and in particular to avoid contact-intensive services, and these behavioural changes tend to increase when the number of infections rises (Aum *et al.*, 2020). Another interesting observation for Korea is that the growth rate of industrial production did not turn (deeply) negative until May, when the virus was already under control domestically. This development is related to a decline in external demand and exports. In contrast to Korea, the contractions in retail sales and industrial production at the peak of infections were spectacular in China and the euro area.

Chart 3

Economic developments in China, Korea and the euro area



Sources: CEIC, Eurostat, Statistical Office South Korea, Bank of Korea, CPB, Capital Economics, Google, Apple, Refinitiv.

1 For China the mobility tracker is defined as the average of traffic congestion across 100 cities and number of subway passengers in 9 major cities (% of 2019 average); For Korea, Germany and France the mobility tracker is defined as the average of Google mobility report scores for categories "retail and recreation", "workplaces", and "transit stations", and Apple routing requests for driving (% of Jan – 6 Feb 2020 week day-specific median).

There are also some notable differences in the patterns of recovery between China on the one hand and the euro area and Korea on the other. In China, the post-lockdown rebound in industrial production has been considerably faster than that in retail sales, whereas the opposite has been true in the euro area and Korea. This partly reflects the different focus of policy and highlights the role of fiscal support in getting economies back on their feet. China has focused on the supply side: ordering the reopening of factories early on, supporting large producers, and boosting public investment. However, China's household demand remains weak due to significant job losses (estimated between 20 and 100 million), which were only partly cushioned by the country's limited social welfare system, and increases in precautionary savings (Zenglein and Kärnfelt, 2020). In contrast, policies in the euro area and Korea have focused on the demand side: providing generous income support to households via state-funded job retention schemes (euro area), or the entitlement of workers on a temporary contract to unemployment benefits (Korea).

For export-oriented economies, lasting disruptions in world trade and global value chains are likely to act as a drag on their recovery. Indeed, Chinese, Korean and Euro area exports have plummeted in recent months, in part due to lockdowns in their trading partners. This dismal export performance is the main driver behind Korea's GDP contraction (–2.9 % year on year) in the second quarter of 2020. By contrast, the outbreak of COVID-19 during the first quarter did not push the corresponding GDP growth (1.3 % year on year) into the red.

After collapsing in the first quarter of 2020 due to interruptions in production, China's export growth recovered surprisingly well during the second quarter. Chinese exports benefited from rising foreign demand for personal protection equipment, of which it is a major global supplier, and work-from-home equipment.

The first quarter of 2020 saw China's first economic contraction since it started reopening its economy in 1978: GDP dropped by 6.8 % year on year. However, China also managed to engineer what looks like a V-shaped recovery in the second quarter, with the economy growing at a rate of 3.2 % again. Investment growth was the main driver of this recovery, with state-owned enterprises taking the lead (Zenglein and Kärnfelt, 2020). Note that these data should be interpreted cautiously, especially when comparing them internationally, because unlike in other countries, non-productive assets are not written down in China, thereby introducing an upward bias in its GDP growth estimates (Pettis, 2020). With the share of fixed investment in Chinese GDP still at about 40 %, this is definitely a concern. Scholars have questioned the reliability of China's real GDP data on other grounds too.[1]

3. The "third wave" – COVID-19 hits other emerging market economies

3.1 Direct effects of the pandemic and containment measures

The initial hope that the majority of EM(D)Es could avoid the pandemic was short-lived, as by the end of March, cases of COVID-19 had surfaced in almost every country. In addition, EMDEs' densely populated cities with clusters of poor people living in precarious conditions provide fertile ground for the spread of the new coronavirus.

Despite containment policies, the health crisis is deepening in India and Brazil as shown by the continuing rise in the number of new cases in India, or the stabilization at a very high level of more than 200 new cases per million inhabitants per day in Brazil as of early September (Chart 4). As before, the stringency of containment measures is proxied by the mobility tracker based on data provided by Google and Apple. We complement this mobility tracker by the Oxford University stringency index, conceived as a government policy response tracker based on a codification of nine types of containment measures.[2] Higher values correspond to more stringent

1 For example, Kerola (2019) compute alternative deflators to derive real GDP data and show that a simple average of all alternative measures indicates that the official growth rate may overstate actual growth by a significant margin, especially since 2014.

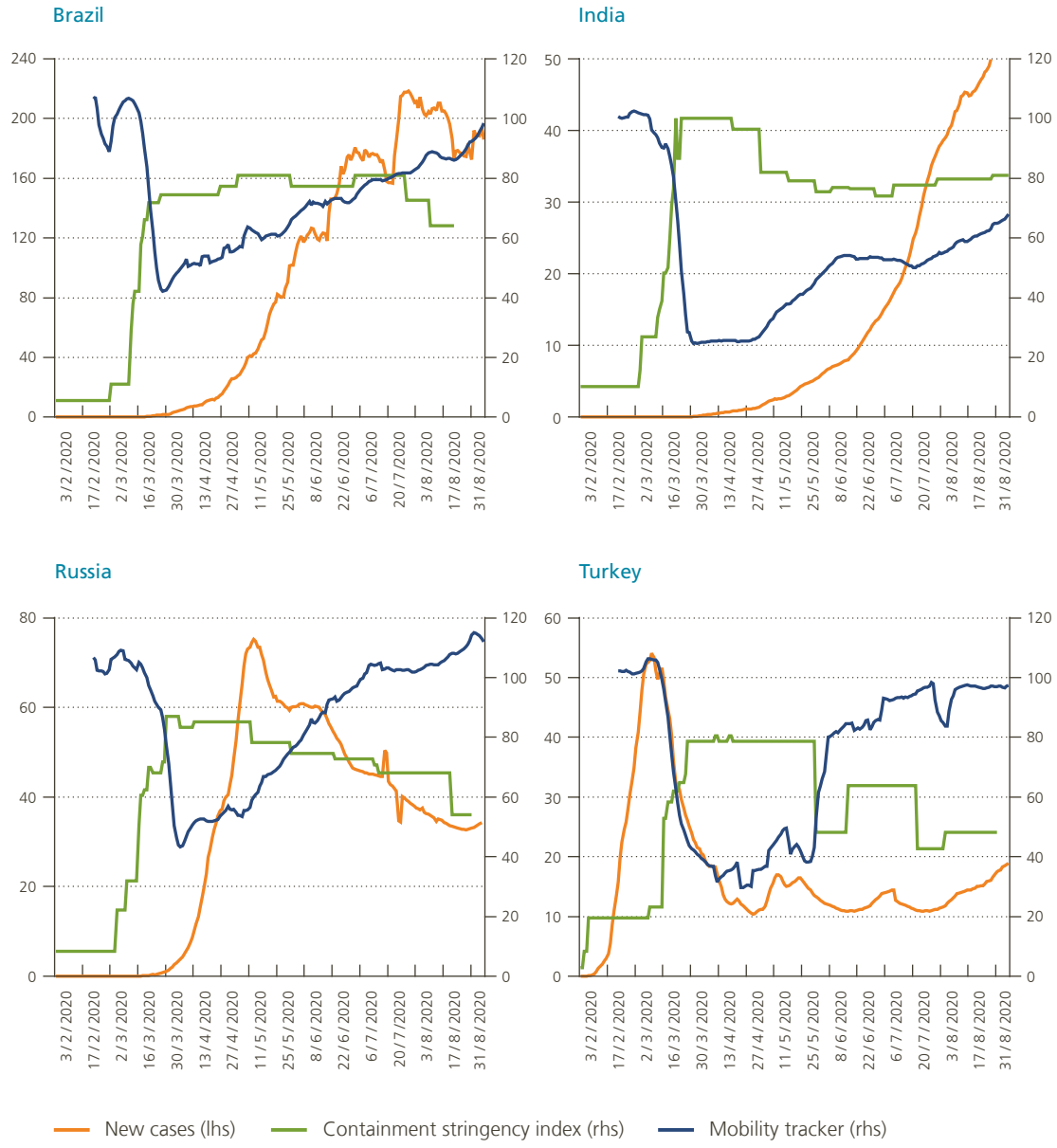
2 The nine containment measures taken into consideration are: closure of schools, workplaces or the public transport system, cancellation of public events, size restrictions on gatherings, domestic and international travel, stay-at-home requirements, and an assessment of public information campaigns.

containment policies. Whenever policies vary at the subnational level, the index is shown as the response level of the subregion with the strictest measures in place.

Brazil is the only country considered here which has adopted a *laissez-faire* approach at the national level, partly because its president believes that the economic costs associated with drastic containment measures would be prohibitively high. However, many Brazilian state governors decided to implement stringent lockdowns when

Chart 4

The spread of COVID-19, government containment responses, and mobility in major EMEs[1]



Sources: OWID, OxCGRT, Google, Apple.

1 New COVID-19 cases (per million inhabitants) and the mobility tracker are expressed as 7-day moving averages. The containment stringency index takes values between 0 (no restrictions) and 100 (hard nationwide lockdown). The mobility tracker is defined as the average of Google mobility report scores for the categories "retail and recreation", "workplaces", and "transit stations", and Apple routing requests for driving (% of Jan – 6 Feb 2020 week day-specific median).

confronted with a rapidly rising number of new cases. This is reflected in Brazil's government policy stringency index which has reached values comparable to those in countries with national lockdowns, and is actually slower to decline.

The other three countries all imposed nationwide lockdowns with severe restrictions on movement at the end of March. With hindsight, the travel restrictions proved to be particularly detrimental in India, where rural migrants got stranded in overcrowded and insanitary urban premises that became hotbeds for infections. When, in late April, the Indian government finally permitted inter-state travel, including for migrant workers, these workers brought the virus to all corners of the country. As a consequence, India's lifting of the nationwide lockdown at the end of May had little impact because many states were forced to implement local or state-wide lockdowns, resulting in only a moderate relaxation of containment policies for the country as a whole.

Russia and Turkey fared much better in containing the virus and were able to exit their nationwide lockdowns in the middle of May and June respectively. Turkey's approach differed from the others in deciding to differentiate lockdown measures between age groups. People older than 65 and young children were required to stay at home at all times. Even after the easing of measures in June, many restrictions continued to apply to these groups. In contrast to other countries, production facilities remained open and people were allowed to go to work if they could not work from home, while schools, bars, restaurants and places of mass prayer were closed. In addition, all major cities were put under a strict curfew during weekends and holidays until the middle of June, when these restrictions on movement were lifted. This approach looks justified by the consideration that – on average – younger populations, the prevalence of "hand-to-mouth" households, the size of the informal economy, limited fiscal capacity and low healthcare capacity are all factors likely to alter the trade-off between saving lives and the economic costs (Ray *et al.*, 2020). Alon *et al.* (2020) use a model to show that EMDEs save fewer lives per lost unit of GDP than advanced economies under a nationwide lockdown.[1]

The mobility tracker for the four countries contains some information about the severity and duration of the lockdown, as well as the normalisation process. The tracker runs a qualitatively similar yet quantitatively different course in the four countries, with the stringent national lockdown that was implemented almost overnight in India being mirrored in the steepest drop in mobility. Lockdowns continue to weigh on economic activity in India and to a lesser extent in Brazil, two countries where the spread of the virus is still at alarming levels. On the other hand, the exit from the lockdown appears to be well advanced in Turkey and Russia, where mobility has regained its pre-lockdown levels.[2]

3.2 Indirect effects through multiple external shocks

Besides the direct consequences of the coronavirus and the resulting containment measures, EMEs were also hit indirectly (and partly before their own lockdowns) through multiple external shocks, creating a "perfect storm" (Hevia and Neumeyer, 2020). Most of these external shocks were similar in nature to those observed during the GFC but typically steeper.

3.2.1 Trade and commodity price decline

One key shock has been the fall in world trade, which suffered from a combination of supply chain dislocations related to virus containment measures (such as the temporary shutdown of many factories in China), weaker

1 Alon *et al.*'s (2020) conclusion is based on an incomplete-markets macroeconomic model with epidemiological dynamics in which the above-mentioned characteristics have been incorporated.

2 The effects of the various containment measures in India, Brazil, Russia and Turkey can also be gleaned from alternative indicators, such as (temperature-corrected) peak-hour electricity consumption. From this indicator it is, for example, also evident that the decline in economic activity was much larger and of longer duration in India than, say, in Russia (McWilliams and Zachmann, 2020).

demand, and new export restrictions (for example, on medical supplies and equipment) (World Bank, 2020).[1] Figures from the Netherlands Bureau for Economic Policy Analysis (CPB) indicate that the world goods trade volume declined by 12.5 % in the second quarter of 2020, on top of a 2.7 % decline in the first quarter. The 12 % fall in world goods trade from March to April 2020 was the sharpest month-on-month drop since the start of data collection in 2007. In June, world trade recouped some of its losses. At this point it is still uncertain whether, over the medium-term, the fall in trade due to the COVID-19 crisis will match or even exceed that observed during the GFC. In 2009, world trade recorded its largest total decline on record so far, plummeting by some 11 % in annual terms. Initially, several international institutions projected at least a similar decline this time around.[2] Notably, in April the WTO projected world merchandise trade in 2020 to contract by 13 % in a relatively optimistic scenario, and by 32 % in a pessimistic scenario of prolonged lockdowns. WTO economists now concede that, in the absence of very adverse developments, the fall in trade volumes is unlikely to reach the worst-case scenario (WTO, 2020).

While the fall in world output in 2020 is set to exceed that in 2009 by a large margin (cf. Chart 2), the trade elasticity of income, i.e., the magnitude of the trade response to the decline in economic activity, is expected to remain lower than in the GFC. This assumption is derived from structural factors, such as the stagnating expansion of global value chains since 2008, as well as the peculiar sectoral composition of output losses in the COVID-19 crisis, with hard-hit services accounting for a much larger share of world output than of world trade. Nevertheless, the fact that a large part of trade still takes place in complex global value chains has important implications for the transmission of trade shocks across countries. Analysis by Cigna and Quaglietti (2020) suggests that as the pandemic unfolded in China, it was China's upstream suppliers, particularly those in the Asian value chain, that were hit first and hardest.

Within services trade, tourism in particular has been severely curtailed by the COVID-19 crisis. As country borders closed, international travel collapsed in March and reached its nadir by the end of April, when the number of commercial flights (tracked by Flightradar24) was only about a quarter of the traffic in early January. The recovery since then has been rather slow. According to the UN World Tourism Organization, there were 300 million fewer international tourist arrivals in January-May 2020 compared to the same period in 2019, translating into a loss of $ 320 billion in tourism revenues. This corresponds to three times the total loss in GFC year 2009 (UNWTO, 2020).

The decline in world trade volumes was accompanied by a steep drop in commodity prices, starting in late January, at the time of the Wuhan lockdown, and then intensifying as the spread of the coronavirus transformed into a pandemic. Oil prices suffered an especially steep drop which was initially magnified by abundant supply (courtesy of an oil price war between Russia and Saudi Arabia, cf. section 1.2).[3] Oil prices gradually recovered from May onwards but are expected to remain close to $ 40 per barrel on average over 2020, according to forecasts by the US Energy Information Administration, the ECB and the IMF. Such prices are much lower than most oil exporters' fiscal break-even prices, i.e., the prices needed to balance the government budget (IMF, 2020c; BIS, 2020). Other commodity prices have also started to recover, at varying speeds. The price recovery has been much faster for industrial metals such as copper and especially iron ore, because of China's boost in infrastructure investment to support its domestic economy (see section 3.4.2).

Chart 5 (left panel) shows the impact of the trade shock on our selected EMEs. In April, India's merchandise exports plummeted by a record 60 % year on year in dollar value terms, testimony to the extreme weakness of external demand for the country's export products (including engineering goods, jewellery and gems) and supply-side restrictions in exporting companies. Russia and Turkey also saw their goods exports shrink by more

1 World trade had already been weakened before the COVID-19 pandemic by the lingering US-China trade war and a deceleration in global investment and manufacturing production (NBB, 2020).

2 See IMF (2020b) and World Bank (2020). Baldwin (2020), who coined the term "Great trade collapse of 2009", has talked about the "*Greater* trade collapse of 2020".

3 On 20 April 2020, the US West Texas Intermediate crude oil benchmark temporarily dropped below zero ahead of May's contract expiry date, due to a lack of available storage capacity.

Chart 5

EMEs were hit by multiple external shocks

Sources: IMF (MCM update from GFSR, WEO), Federal Reserve Board, Refinitiv, OECD.

1 Based on a sample of 15 EMEs with daily data availability. Start of episodes is defined as follows: 15 Sep 2008 (Global financial crisis), 23 May 2013 (Taper tantrum), 25 Jul 2015 (China's FX devaluation), and 21 Jan 2020 (COVID-19).

2 The Federal Reserve EM dollar index is a weighted average of the FX value of the US dollar against the currencies of major EME trading partners of the United States.

than 30 % in both April and May. Brazil's goods exports declined much less, as they were partly supported by a recovery in Chinese commodity demand. While Turkey stands to gain from lower oil prices, it is also among the countries most impacted by the decline in tourism (IMF, 2020d).

3.2.2 Capital outflows and exchange rate depreciations

Given the mounting concerns about the COVID-19 fallout and threats to EMEs' growth models (often dependent on trade, commodity exports and/or global value chains), international investors retrenched. In March alone, more than $ 80 billion in portfolio capital was withdrawn from EMEs, the largest single-month outflow on record and a much more drastic move than during the GFC, the 2013 taper tantrum, or the 2015 Chinese shock devaluation (Chart 5, middle panel).[1] Cumulative portfolio outflows between mid-January and May added up to more than $ 120 billion, or nearly 4 % of asset holdings. By June, the capital from foreign institutional and retail investors started to return, but the recovery remained tepid and uneven. After the initial, broad-based sell-off, investors began to differentiate more among EMEs, taking into account countries' vulnerabilities and prospects. Several countries, including Turkey, were still seeing large capital outflows, whereas others, including China, saw net inflows. In terms of asset classes, EME (hard currency) bond fund flows led the revival as EMEs successfully tapped international bond markets, while equity funds continued to feel pressure. In some EMEs, portfolio outflows were further aggravated by sharp reductions in foreign direct investment. Other (mostly bank-related) investment flows held up in general (IMF, 2020e).

The initially large capital outflows went together with a sharp depreciation of EME currencies, often in spite of significant central bank intervention in foreign exchange markets (BIS, 2020).[2] Over the first quarter of 2020, the Brazilian real and the Russian rouble both lost up to 30 % of their value against the US dollar (Chart 5, lower panel). Whereas the rouble went on to make up part of that loss over the second quarter, the real tanked further and registered a cumulative depreciation of almost 50 % by mid-May, before a correction took place. The Turkish lira also depreciated by 20 % between January and early May. In June and July, EME currencies remained relatively stable vis-à-vis the dollar. The Turkish authorities sold billions of dollar reserves through state banks in an attempt to keep the lira from weakening beyond the symbolic 7 lira per dollar mark, but that attempt was ultimately unsuccessful (Szalay and Samson, 2020). August saw renewed currency depreciation in major EMEs. Similar (often even larger) depreciations of EME currencies were observed during the GFC.

3.2.3 Tightening financing conditions

Unlike in the GFC and most previous financial crises, where problems in the financial sector toppled the real economy, the COVID-19 pandemic saw disruptions in the real economy threatening to overwhelm the financial sector (BIS, 2020). Whereas the early lockdown in China seemed to have little effect on global financial markets, the new coronavirus infection cluster in Italy as of late February led to a rude awakening. In a sharp correction from the widespread optimism of early 2020, the prices of equity and other risk assets nose-dived as investors fled to safety and liquidity. At their low point in March, Morgan Stanley's equity benchmarks for advanced economies (MSCI World) and EMEs (MSCI EM) both traded more than 30 % lower than at the beginning of the year. While these were among the sharpest equity price drops ever observed, in percentage terms the declines reached only about half the magnitude of the peak-to-trough sell-off during the GFC (IMF, 2020f). Global market conditions largely stabilised from the end of March onwards, following the announcement of an array of new measures by the Federal Reserve, the ECB and other central banks in advanced economies and EMEs, and large fiscal stimulus packages.[3] Both the IMF (2020g) and the BIS (2020) note that, by June, the financial market revival was so strong

1 Taper tantrum refers to the financial market panic that followed the US Federal Reserve's announcement in June 2013 that it planned to "taper"/slow down the purchases of Treasury bonds under its quantitative easing programme. In August 2015, the People's Bank of China surprised financial markets with a series of devaluations of the yuan, allegedly as part of its efforts to increase the role of market forces, but triggering large capital outflows.

2 According to Goel *et al.* (2020), in March alone EMEs sold $ 160 billion of foreign exchange reserves through spot and derivative operations. While the amounts in US dollars exceeded those in the 2015 and 2018 crisis episodes and approached GFC levels, as a share of total reserve stocks these interventions were significantly smaller (reflecting significant reserve accumulation in most EMEs in the 2010s).

3 See Boeckx *et al.* (2020) for a detailed overview of the ECB's monetary policy response to the COVID-19 pandemic.

as to raise questions about a possible disconnect between investors' bullish mood and the developments and uncertainty on the ground in the real economy.[1]

Notably, and initially somewhat paradoxically given the coronavirus' origins, China's equity markets held up comparatively well throughout these gyrations, probably as a result of the country's relative success with containing domestic virus outbreaks and its strong economic rebound. In early July, Chinese equities experienced a very steep rally, which appeared to be bolstered by the Chinese government talking up the bull market through state-run media. Along with the foreign money pouring in, the momentum was fuelled by Chinese retail investors who still have few options to build their savings besides buying property or stocks (Stevenson, 2020). The Brazilian, Russian and Indian equity markets all underperformed relative to the MSCI EM benchmark, seeing an even steeper drop in valuations and a slower recovery. The Turkish equity market performance was better than average between January and July 2020, but then worsened with the renewed depreciation of the exchange rate. Credit spreads on hard currency EME bonds also widened considerably in March, especially in Turkey and Brazil, where they were already relatively elevated. Spreads have since narrowed again but typically remain above pre-COVID-19 levels.

3.3 Pre-existing vulnerabilities

The severe health effects and direct and indirect economic impacts of the COVID-19 crisis on EMEs depend partly on pre-existing country characteristics, which can make countries vulnerable because of the resulting *exposure* to particular shocks and/or the effect on countries' *resilience*, i.e., their ability to bounce back from shocks. Another important part of the ultimate impact of the crisis is determined by countries' policy reactions. The next two subsections zoom in on two broadly defined sources of vulnerability: the state of health systems and degree of informality; and EMEs' fiscal and external positions. Section 3.4 discusses EMEs' economic policy interventions, with a focus on fiscal and monetary policy.

3.3.1 Health systems and informality

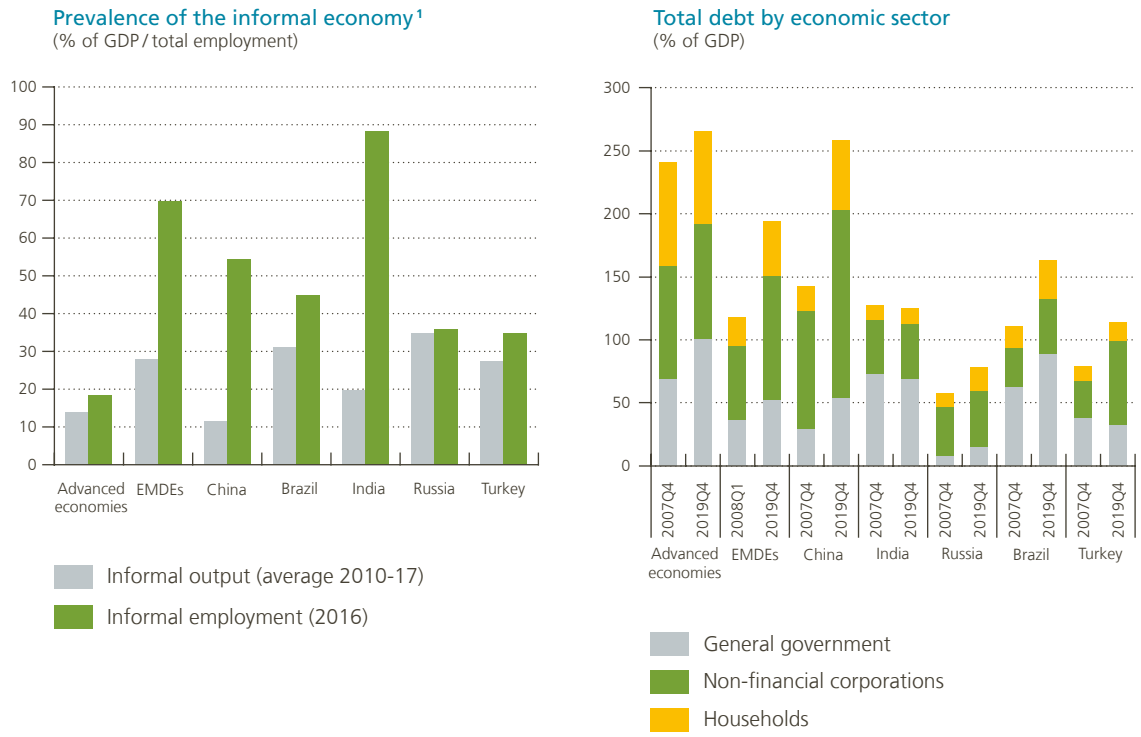
Besides the already mentioned shortcomings in their containment strategies (cf. section 3.1), India and Brazil's difficulties with getting the spread of the coronavirus under control may also be explained by the shortage of health care facilities, especially in their poorest (often densely populated) areas, as well as the relatively high degrees of informality in their economies. Weaker health systems may also be a bottleneck in the rapid distribution of a vaccine, once it becomes available.

Hospital and clinical capacity are typically less developed in EMDEs than in advanced economies, thereby increasing the risk that health care systems are overwhelmed (World Bank, 2020). One common, yet imperfect, measure of hospital capacity is the number of hospital beds in intensive care units (ICU) per thousand persons. The chances of recovering from COVID-19 in fact depend not only on the availability of an ICU bed, but also on the presence of trained doctors, ventilators, appropriate pharmaceuticals, etc. As is evident from figures reported by the WHO, the number of ICU beds varies widely across countries but tends to be lower in EMDEs than in advanced economies. In our sample, India has the lowest number of ICU beds available, followed at a distance by Brazil and Turkey. Russia is a positive outlier, with more ICU beds than in many advanced economies, possibly a legacy of its communist past.

1 Delle Monache *et al.* (2020) contend that, rather than over-exuberant stock investors pricing in a fast economic recovery from the COVID-19 crisis, such high asset valuations mostly reflect a secular decline in the expected return on government bonds. See also Igan *et al.* (2020), who put more emphasis on the role of central banks' unprecedented monetary policy interventions in lifting asset valuations.

Chart 6

EMEs are characterised by high informality and rising debt burdens



Sources: ILO, Medina and Schneider (2019), BIS (Credit statistics).

1 Informal output comprises all economic activities which are hidden from official authorities, for fiscal, regulatory or institutional reasons. Informal employment includes employers and own-account workers in the informal sector, contributing family workers, and employees without formal contracts.

Informality exacerbates the health and economic impacts of COVID-19 through various channels (World Bank, 2020).[1] First of all, informal workers often live and work in crowded places and use cash for their transactions, factors known to enable the spread of the coronavirus. Informal firms also tend to operate in the services sector, which has been harder hit by lockdowns and other containment measures. Workers in poorer countries typically have less scope to engage in teleworking (Dingel and Neiman, 2020), and the inability to work from home is particularly pronounced for the (informally) self-employed, who thus bear a greater cost of social distancing policies (Gottlieb *et al.*, 2020). Moreover, informal workers tend to be excluded from government benefits, such as replacement incomes, which require registration under the national social security system. In addition, informal workers generally have low savings of their own to buffer temporary income losses during containment, making them more prone to fall into poverty. For example, Ray *et al.* (2020) estimate that almost 40 % of Indian households have insufficient savings to get through even a short lockdown of just three weeks.

Estimates by Medina and Schneider (2019) and the ILO confirm that, in our sample of major EMEs, the informal sector accounts for a higher share of total output, and informal workers represent a higher share of total

1 Informality can be expressed in terms of economic activity or employment. The informal or shadow economy comprises all economic activities which are hidden from official authorities, for fiscal, regulatory or institutional reasons (Medina and Schneider, 2019). According to ILO definitions, informal employment includes employers and own-account workers in the informal sector, contributing family workers, and employees without formal contracts.

employment, than in advanced economies (Chart 6, left panel).[1] The prevalence of informal employment is highest in India and second highest in China, due to the relative importance of self-employment (e.g., street vendors in cities and small farmers in rural areas) and casual labour provided by undocumented rural migrants.

3.3.2 Fiscal and external positions

In 2019, EME fiscal balances were on average weaker than before the GFC. The deterioration has been most pronounced in China and in Brazil, where the primary balance turned negative after 2014, following more than a decade of surpluses. In Turkey and India, too, the fiscal policy stance had become more accommodative. Conversely, in Russia the non-oil primary balance had improved considerably in recent years, thanks to ambitious fiscal consolidation. However, the Russian government remains heavily dependent on oil to balance its books and faces tighter financial conditions due to shallow domestic markets and constrained access to international markets under the current financial sanctions (Dabrowski and Collin, 2019). EME current account balances, a proxy of an economy's overall external financing needs, also tended to be weaker in 2019 than in 2008. Turkey represents a notable exception to this, but its "much improved" external position reflects the lagged adjustment of external balances to the lira's sharp depreciation in 2018 (IMF, 2020d).

Even before the COVID-19 crisis, overall debt levels were on the rise in most EMEs. Government, corporate and household debt all increased relative to GDP, but at varying speeds and from different starting points in individual countries (Chart 6, right panel). In line with the increasing fiscal deficits, government debt increased most notably in China and Brazil. The fast rise in EME corporate debt is mostly explained by China, where it includes "shadow borrowing" by Chinese local governments through corporate entities (Ma, 2019), and, to a lesser extent, by Turkey. Household debt also grew significantly in China, but from a relatively low base.

With higher public debts and lower fiscal balances in recent years, EMEs' fiscal space was more constrained than on the eve of the GFC. The COVID-19 crisis itself is expected to add substantially to public debt burdens, due to significantly lower economic growth, a further sharp deterioration in fiscal balances (because of relief packages and other additional spending, plus lower revenues; see further), and possibly the realisation of (state-owned enterprise-related) contingent liabilities (Cantu *et al.*, 2020). In June, the IMF (2020b) projected general gross debt of EMEs to increase by 15 percentage points of GDP on average under its baseline scenario, from 52 % of GDP in 2019 to almost 67 % of GDP in 2021. For some countries, especially those exhibiting other vulnerabilities, the increase could raise concerns about future debt sustainability.[2]

The COVID-19 crisis has again brought into focus two important dimensions of EME debt: first, the degree to which it is denominated in foreign currency, which makes EMEs vulnerable to currency depreciations; and second, the dependence on non-resident investors (Cantu *et al.*, 2020). With respect to the first dimension, most EME governments have now overcome "(domestic) original sin", defined as the inability to borrow domestically long-term, at fixed rates, and in local currency (Hausmann and Panizza, 2011). Indeed, following major crises in the 1990s and early 2000s, EMEs deliberately reduced their exposure to potential currency devaluations by developing their (local currency) government bond markets at home. However, several EMEs still have a substantial share of their internationally issued government bonds denominated in foreign currency. This is less of a problem for a country like Russia, which has ample foreign exchange reserves, than for Turkey, whose international reserves are well below the IMF's suggested reserve adequacy benchmark.[3]

1 The share of informal employment generally exceeds the share of informal economic activity because informal employment is concentrated in sectors characterised by low productivity (and low pay).

2 While advanced economies tend to have larger debt-to-GDP ratios than EMEs (cf. Chart 6, right panel), the latter are believed to exhibit higher "debt intolerance": EMEs start to experience market stress and default pressures at levels of debt that are easily manageable by advanced economy standards, partly because of EMEs' history of serial default and high inflation (Reinhart *et al.*, 2003). Moreover, EMEs' debt structure tends to be more risky than that of advanced economies, including in terms of currency denomination, maturities and foreign ownership (see main text).

3 On Turkey's intricate reserves position, see Setser (2020a).

On the second issue, non-resident investors held close to 20 % of EME local currency government securities as of mid-2019, up from about 10 % back in 2007, according to updated figures from Arslanalp and Tsuda (2014). Foreign investor participation in government bonds is a double-edged sword. On the one hand, it increases the pool of funding and may add to the liquidity of domestic bond markets, thereby lowering borrowing costs, especially when the domestic investor base is less developed. On the other hand, foreign portfolio investment holds risks: it increases vulnerability to global financial shocks, as foreign capital tends to be more fickle in times of stress (cf. section 3.2.2).

Hofmann *et al.* (2020) show that EMEs with higher foreign ownership in their local currency bond markets have experienced significantly larger increases in their local currency bond spreads during the COVID-19 pandemic, with exchange rate depreciation acting as a key aggravating factor. This can be explained by what Carstens and Shin (2019) have called the "original sin redux", i.e., borrowing in local currency from foreign lenders mitigates the currency mismatches for the borrower but shifts them to the lender. EME currency depreciation lowers the value of assets in terms of foreign investors' own currencies (in which their risk limits also tend to be denominated). Large depreciations may therefore prompt foreign investors to engage in asset sales, pushing up EME local currency bond spreads in the process. Such dynamics have indeed played out in recent months.

More so than governments, (non-financial) corporate borrowers in many EMEs have increasingly turned to external sources of funding since the GFC, much of it in bonds and loans denominated in foreign currencies. This exposes them to sudden stops and potentially adverse balance sheet effects (depending on the company's asset structure). While the absolute increase in foreign currency-denominated corporate debt is most spectacular in China, it is also apparent in other EMEs, notably Turkey and Russia whose companies have taken on much additional euro-denominated debt in recent years. One should note that traditional international financial statistics, based on the borrowers' residency rather than their nationality, tend to underestimate the foreign currency debts of firms. These statistics ignore the fact that companies may have issued debt via offshore subsidiaries (Coppola *et al.*, 2020). Avdjiev *et al.* (2020) show that the US dollar-denominated corporate debt of several major EMEs, notably Brazil, China, India and Russia, increases considerably when such offshore debt issuance is taken into account.

3.4 Policy responses

3.4.1 Monetary policy responses

In the first months following the outbreak of the pandemic, the People's Bank of China (PBOC) continued its easing cycle, which had already started in 2018. The policy rate was cut by another 30 bps to 2.2 %, but has remained unchanged since April. Instead, the PBOC has focused more on liquidity injections as a part of its monetary policy response to the crisis. One way to boost liquidity is to reduce the required reserve ratio (RRR). The average RRR has declined by a further 100 bps this year, continuing its longer-term downward trend. In addition, the PBOC has provided ample liquidity to the banking system via the use of open market operations, its standing lending facilities, and direct lending for specific purposes (e.g. SME support).

One striking difference compared to the GFC concerns Chinese credit growth, which peaked near 35 % year on year in late 2009 but shows only timid signs of accelerating in the current crisis (Chart 7, left panel). However, we do notice a pickup in Chinese shadow financing and corporate bond debt issuance. All this suggests that there is still a shift in priorities away from efforts to encourage deleveraging in the financial sector, particularly the shadow financing branch, towards a greater emphasis on maintaining a high growth rate of economic activity. The combination of monetary easing and lower economic growth has led to a jump in the stock of outstanding financing as a percentage of GDP.

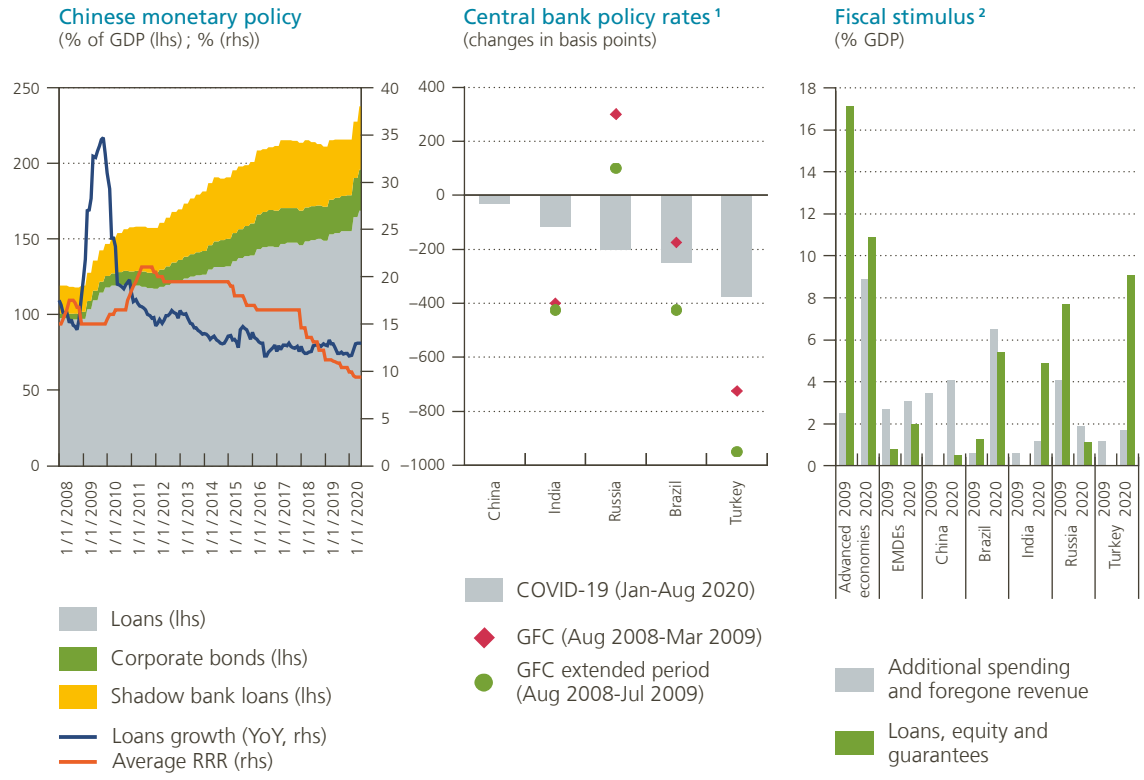
Nevertheless, a comparison of the monetary policy response of the PBOC in the current crisis versus the GFC is not straightforward because the monetary policy framework has been continuously adapted. Empirical research has come to mixed conclusions. Using a dynamic factor model, Funke and Tsang (2020) conclude that China's post-COVID-19 monetary policy is as expansionary as it was at the time of the GFC. In contrast, according to a financial conditions index by Gilhooly *et al.* (2020) which incorporates – in addition to the broad array of policy tools – other factors such as bond yields, money, credit, risk premia, volatility and foreign exchange, current financial conditions are just as accommodative as during the 2015-2016 Chinese financial market scare, but less accommodative than following the GFC, when they became exceptionally loose.

The Bank of Korea cut its policy rate by 50 bps in March 2020 and by another 25 bps in May to 0.5 % and implemented a range of measures to increase liquidity in response to the crisis.

Central banks' room for policy manoeuvre during crises has typically been narrower in EMEs than in advanced economies, due in large part to the challenges posed by big swings in capital flows and exchange rates (BIS, 2020). Cutting interest rates to stimulate the economy may worsen capital outflows and exchange rate depreciation, with possibly adverse balance sheet effects. If inflation expectations are not firmly anchored, depreciation entails the risk of accelerating inflation. However, over time EMEs have adopted more flexible policy frameworks (deviating from textbook models), combining inflation targeting with exchange

Chart 7

EMEs have eased monetary policy and provided fiscal stimulus



Sources: CEIC, National central banks, IMF (Fiscal Monitor, Policy tracker), Refinitiv.

1 The PBOC's monetary policy only shifted towards an interest rate corridor in 2016.

2 Cut-off date for individual countries' fiscal measures in 2020: 13 August. Aggregates for 2020 are taken from the IMF WEO – Fiscal Monitor update of June. For 2009, loans, equity and guarantees are based on pledged amounts taken from the IMF Fiscal Monitor, not actual amounts.

rate intervention, active use of macroprudential tools, and sometimes capital flow management measures (BIS, 2019). This flexibility has made it more feasible to cut interest rates in response to the COVID-19 crisis.[1] The central banks of India, Turkey, Russia and Brazil have all implemented multiple policy rate cuts, unlike during the initial stages of the GFC in the case of the latter two (Chart 7, middle panel).[2]

As the situation deteriorated and financial market turmoil ensued, EME central banks introduced a myriad of additional emergency measures to stabilise financial markets and restore confidence. Following interventions by the Fed, the ECB and other advanced economy central banks, several EME central banks themselves engaged in new long-term asset purchase programmes (often for the first time ever); this was the case in India and Turkey, as well as Mexico, Chile, Colombia, the Philippines, Indonesia, South Africa and a few Eastern European countries. The announcement of quantitative easing (QE) interventions by EMEs had noticeable direct short-term impacts on local currency government bond yields, on average even more so than QE announcements in advanced economies (Hartley and Rebucci, 2020). These positive initial market reactions suggest that the programmes successfully restored investor confidence and did not lead to higher inflation expectations, for example due to fears of fiscal dominance.[3] However, market reactions varied between countries, depending on initial conditions as well as on the scope, size and communication of the QE programmes (Arslan *et al.*, 2020). Some EME central banks, like the Bank of Thailand, even went beyond buying government bonds and launched corporate bond purchase programmes (BIS, 2020).

EME central banks also engaged in liquidity provision through an expansion of standing facilities, a lowering of reserve requirements, and new specialised facilities aimed at SMEs and others. Moreover, some central banks organised foreign exchange (typically US dollar) auctions, and adapted macroprudential rules[4] and other regulations, such as restrictions on bank/corporate dividends, short-selling bans, etc.

Crucial as these central bank responses may have been, they have important limitations. As emphasised by the BIS (2020), central bank tools can provide temporary financing, but cannot transfer real resources. As such, these toolkits can only assist borrowers in surviving if their income losses are not too great. This points to the key, complementary role of fiscal policy.

3.4.2 Fiscal policy responses

In view of the severe economic shocks caused by the pandemic, many governments, including those in the major EMEs, have been forthcoming with emergency measures to safeguard people's incomes and to prevent corporate bankruptcies. The IMF is keeping a record of all measures announced by G20 countries (and beyond). On this basis, the IMF estimated in its June 2020 WEO update that the average discretionary fiscal response including loans, equity injections and guarantees in EMDEs, at 5 % of GDP, was considerable but still less than a third of the size of the average response in advanced economies (Chart 7, right panel). In EMDEs, 60 % of the value of these measures consists of additional spending and delayed or forgone revenues due to discretionary decisions, and have a direct impact on government budgets. The other 40 % covers instruments such as loans, equity injections and guarantees, including through state-owned banks and enterprises. The latter type of support helps maintain solvency and limit bankruptcies but could also further worsen public finances further down the line. The direct fiscal stimulus in EMDEs in the current crisis already exceeds the support they provided in 2009 (Alberola *et al.*, 2020). Furthermore, with the exception of Russia, EMDEs provided very little indirect support in the form of loans, equity injections and guarantees during the GFC (BIS, 2020).

1 For example, using foreign exchange interventions to counteract exchange rate swings and/or macroprudential policy to stabilise domestic financial conditions can take some pressure off interest rate policy, allowing it to be used more countercyclically.

2 The central bank of Turkey may, however, be forced to hike its policy rates in the near future, in view of the continuing capital outflows and pressure on its currency combined with fast dwindling foreign exchange reserves.

3 Dabrowski and Dominguez-Jimenez (2020) point to some of the longer-term risks if EME central banks were to expand such QE programmes.

4 In Brazil, for example, loan provisioning rules were made more flexible and capital buffer requirements were temporarily lowered. In Turkey, the loan-to-value limit on mortgages was increased.

At first glance, the current fiscal stimulus provided by the Chinese government (4.1 % of GDP) seems to be more generous than in 2008-2009 (3.5 % of GDP). And this should be encouraging, because the Chinese response to the GFC – both fiscal and monetary – has been credited with supporting a rapid recovery in many EMDEs (primarily through the commodity price channel) and the global economy in general. Alas, such a cursory comparison is misleading, and digging deeper reveals some important differences between the two episodes of fiscal stimulus, which should lower our hopes.

The total size of the Chinese fiscal stimulus in response to the GFC has been estimated by some observers as high as RMB 4 trillion, or 12.5 % of China's 2008 GDP (Fardoust *et al.*, 2012), much higher than the IMF's estimate. This large discrepancy is partly explained by the fact that the stimulus was spread over several years : the IMF estimates another 2.7 % of GDP of additional stimulus for 2010. Most importantly though, a large part of the discretionary spending took place outside the boundaries of the central government, through the state-owned enterprises at the subnational level (local SOEs are not included in the general government accounts). This occurred because the stimulus had an overwhelming focus on traditional infrastructure investments (transport and energy) and was implemented by the local governments who were eager to meet their growth targets and displayed a lot of creativity for that purpose. Local governments engaged in partnerships with local SOEs for the implementation of these infrastructure investments and created financing vehicles through which they gained access to bank loans. As both local government financing vehicles and SOEs benefited from implicit government guarantees, banks perceived them as low-risk clients and extended new loans on favourable conditions, resulting in strong credit growth (cf. section 3.4.1).

As regards the current crisis, as of 30 July 2020, an estimated RMB 4.6 trillion (or 4.1 % of 2019 GDP) of new discretionary measures have been announced. Of course, more stimulus may follow but the increased leverage since the GFC has reduced Chinese policy space. The first measures announced aimed to boost epidemic prevention and control, as well as the production of medical equipment, to reinforce the social safety network, and to support SMEs. Considering the still limited coverage of the Chinese welfare system and the difficulties in reaching all SMEs, their ability to support growth is uncertain. For this reason, Prime Minister Li Keqiang unveiled the government's intentions to step up investments, particularly in the digital economy, at the beginning of the annual meetings of the National People's Congress on 22 May ; that constitutes a return to China's old recipe for stimulating its economy. As usual in China, the high-level call for action will be implemented by local governments in the form of projects, focused on improving China's "new" infrastructure such as 5G, electric car charging facilities, data centres, artificial intelligence, etc. (Haasbroeck, 2020), sectors in which China wants to develop its own strength but which are less import intensive. In contrast to the previous massive stimulus, investment projects will be financed in a more transparent way through local government bond issuance.[1] Local governments are also allowed to issue more "special purpose" bonds, which provide an off-budget source of financing for infrastructure projects that can be paid off with the cash flow generated by the project. A final difference in relation to earlier stimulus packages is a greater reliance on private sector investments through the involvement of the private, Big Tech companies in cooperation with the government. This design could improve the selection of projects, although there is a risk that their involvement in such government projects could turn the Big Tech companies into "a new generation of SOEs" (Meinhardt, 2020).

In Korea too, fiscal policy has become expansionary in response to the crisis. The IMF estimates its current discretionary response at 3.1 % of GDP, and its indirect support through loans, equities and guarantees at nearly 10 % of GDP.

As explained before, some large EMEs, such as Brazil and India, are still struggling to stop the spread of COVID-19, with dire consequences for their people and economies. A strong and well targeted fiscal response may therefore be warranted to alleviate hardship. This is exactly what Brazil has done : its congress declared a state of "public calamity" and its government suspended compliance with all budgetary rules, allowing it

1 The central government's ministry of finance has set bond quotas for the local governments at RMB 4.73 trillion, including RMB 3.75 trillion in special purpose bonds in 2020.

to pass large emergency packages targeting vulnerable households and SMEs. The accumulated total of new spending measures and forgone revenues now amounts to an impressive 7.3 % of GDP. In addition, Brazil's public banks are expanding credit lines for businesses and households, with a focus on supporting working capital (credit lines add up to 4.5 % of GDP), and the government will back about 1 % of GDP in credit lines. Support measures in India and Turkey are also quite generous, but they predominantly take the form of credit provision and guarantees for businesses and farmers, as well as equity injections into financial institutions, the electricity sector (India) and aviation (Turkey). In Russia, high sensitivity of budget balances to fluctuations in energy prices, and limited access to international capital markets (Dabrowski and Collin, 2019) have impelled its government to act more cautiously, as reflected in a relatively modest direct fiscal impulse. In contrast to others, the Russian government has not (yet) suspended its fiscal rule, which aims to reduce the procyclicality of fiscal policy at the cost of reducing the government's flexibility to react to other shocks.[1]

Beyond the selected economies, it is expected that fiscal balances will deteriorate sharply in all EMDEs, and not only as a result of the discretionary fiscal measures taken in response to COVID-19. Other factors that will put pressure on the budgets include the business cycle, lower commodity revenues and higher external borrowing costs, as global financial conditions remain tighter than they were before the outbreak of the pandemic. This will further constrain EMDEs' room to manoeuvre.

3.4.3 International support

While EMEs have employed their own monetary and fiscal policies as a first line of defence in the battle against the economic fallout from the COVID-19 pandemic, this may not suffice if the crisis persists over a longer period, especially not for those EMEs that are fiscally constrained and/or may experience problems in accessing external finance at reasonable cost, going forward.

With the notable exception of China, which for now seems to be recovering from the crisis largely on its own, EMEs may be counting on policy actions in advanced economies. Indeed, the decisive and extraordinarily large monetary and fiscal stimulus of advanced economies early on in the pandemic has contributed to the stabilisation of global financial markets and allowed (mostly higher-rated) EME governments and companies to issue hard currency debt at an historically high pace in the second quarter of 2020 (Mühleisen *et al.*, 2020). The strength of EMEs' economic recovery will depend heavily on global interest rates remaining low and on a resumption in external demand for their exports from advanced economies. Furthermore, it will be crucial to avoid a rekindling of US-Chinese trade and technology tensions, which could result in new tariffs and other trade restrictions and hamper an internationally coordinated monetary and fiscal response to the crisis, say through the G20.

The most vulnerable EMEs may also have to rely on the "global financial safety net", which encompasses bilateral support from central bank currency swaps, support from regional financing arrangements, and multilateral support including IMF lending (Essers and Vincent, 2017). The US Federal Reserve has been quick to reactivate its GFC-era currency swap arrangements with EMEs Brazil and Mexico, and has initiated a new, temporary Foreign and International Monetary Authorities (FIMA) Repo Facility, allowing a wider range of EME central banks to exchange their holdings of US Treasury bonds into US dollars.[2] Whereas FIMA helps in reducing the risk of central bank fire sales of US Treasuries, it is no substitute for EMEs' self-insurance through reserve accumulation (Garcia-Herrero and Ribakova, 2020). The ECB, too, has opened currency swap lines with Bulgaria and Croatia, and repo lines with Romania, Hungary, Serbia, Albania and North Macedonia. By analogy with FIMA, the ECB also created its own emergency repo facility with wider country eligibility, called the Eurosystem

1 The Russian fiscal rule requires that, while natural resource prices are high (an oil price above $ 42 per barrel), the Federal Treasury uses the surplus to buy foreign exchange, and then sells it once prices fall below the threshold. The National Welfare Fund currently stands at 9.8 % of GDP, and it will be allowed to finance up to about 2 % of the government deficit. The rest of the budget shortfall will be financed through borrowing.

2 Korea and Singapore, which by some accounts still qualify as EMEs, also saw their previous currency swap arrangements with the Federal Reserve renewed. Some EME central banks, including those of Indonesia, Colombia and Argentina, have chosen to communicate on their access to FIMA so as to comfort markets about future dollar liquidity (Garcia-Herrero and Ribakova, 2020) and perhaps to signal the Federal Reserve's approval of their FIMA eligibility.

Repo Facility for Central Banks (EUREP). Whereas these and other central bank swap and repo arrangements may have instilled confidence in some EMEs and brought down cross-currency basis swap spreads, they were largely precautionary. Actual drawing on these facilities by EMEs has been minimal so far.

Meanwhile, the support provided by regional financing arrangements aimed at EMEs, which include the Chiang Mai Initiative Multilateralization, the Latin American Reserve Fund, the Eurasian Fund for Stabilization and Development, and the Arab Monetary Fund, has been almost negligible (Segal and Negus, 2020). Multilateral development banks – most notably the World Bank, the Asian Development Bank and the Inter-American Development Bank – and the IMF have attempted to fill the void.

The IMF in particular has ramped up its central role in the global financial safety net. Between the intensification of the COVID-19 pandemic in late March 2020 and the end of August, the IMF approved a record total of nearly $ 88 billion in financial assistance to 80 EMDEs, and more support is in the pipeline. Most of the IMF arrangements have been structured as rapid-disbursing emergency financing facilities to low-income countries and smaller EMEs. Larger EMEs, most of which do not face an immediate default risk but show balance sheet weaknesses and could use cheap longer-term official financing as a substitute for some of the private capital that has vanished, are keeping the IMF at arm's length (Setser, 2020b). This is partly because of their governments' aversion to the reform programmes that accompany traditional IMF arrangements and/or the perceived financial market stigma attached to seeking IMF support. One notable exception is South Africa, which secured a $ 4.3 billion emergency loan in July, its first IMF arrangement in almost 20 years. Chile and Peru entered into their first ever Flexible Credit Lines (FCLs) of $ 23.9 billion and $ 11 billion respectively, precautionary IMF arrangements aimed at EMEs with very strong fundamentals and policy track records, and Colombia rolled over its existing FCL. Moreover, the IMF has established a new Short-term Liquidity Line (SLL), a revolving backstop facility with strict, FCL-like eligibility, but the instrument has had no takers so far. Several commentators have argued that the IMF could do more to help EMEs weather the COVID-19 crisis, with proposed measures including further tweaking of the terms of existing lending facilities; the creation of new lending instruments with greater access limits, longer repayment periods, and wider country eligibility; and substantial (re-)allocations of Special Drawing Rights (SDRs) to add to countries' international reserves (see e.g., Setser, 2020b; Garcia-Herrero and Ribakova, 2020; Collins and Truman, 2020).[1]

3.5 Near-term economic prospects for emerging market economies

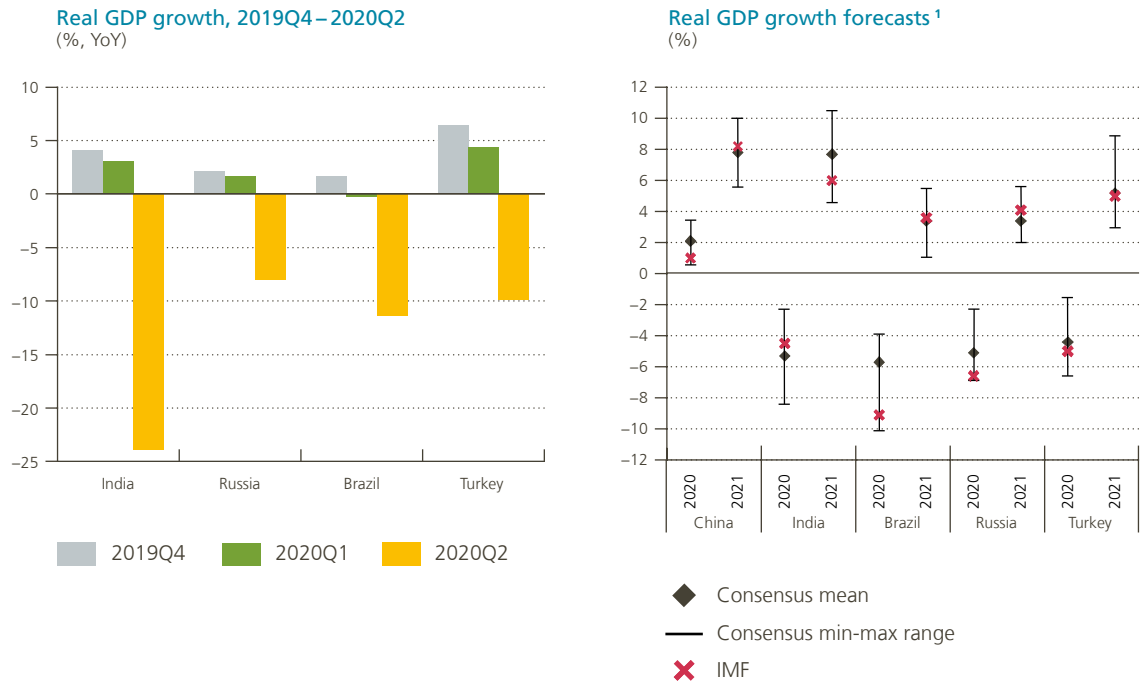
Altogether, the direct and indirect consequences of the COVID-19 pandemic led to unprecedentedly steep drops in EME real economic activity. In contrast to leading economies China and Korea (cf. section 2.2), all other major EMEs' economic growth went deep into negative territory. In the second quarter of 2020, India's GDP plunged by almost 24 % compared to the same period in 2019; Brazil, Russia and Turkey lost between 8 % and 11 % of GDP year on year (Chart 8, left panel). Higher frequency indicators suggest that the economies of these countries bottomed out, and that the recovery was underway in the third quarter of 2020. However, according to the forward-looking purchasing manager indices (PMIs) as of August, expectations for the services sector and for new manufacturing export orders remained downbeat for India and Brazil.

As was the case for advanced economies, EME growth forecasts for 2020 have been increasingly revised downward (cf. section 1.2). These downgrades have been typically much faster and steeper than during the GFC. The latest (June) IMF forecasts for EME growth in 2021 tend to exceed pre-COVID forecasts, reflecting an expected steady recovery from the likely record drops in output in 2020. Whether such a scenario will materialise remains to be seen. Indeed, growth projections remain subject to great uncertainty, much more so than usual. This can be seen from the very wide range of private sector growth forecasts for 2020 and 2021 as

1 The SDR is an international reserve asset created by the IMF. It is not a currency but rather constitutes a potential claim on the freely usable currencies of IMF members, including the US dollar, the euro, the Japanese yen, the British pound and the Chinese renminbi. SDRs are normally allocated to members in proportion to their shares of IMF quotas.

Chart 8

EMEs' recent growth figures and near-term prospects look grim



Sources: IMF (WEO), Consensus Economics, Banco Central do Brasil, Refinitiv.

1 Mean forecasts and forecast ranges as of 10 August 2020 from Consensus Economics (China, India, Russia and Turkey) and BCB survey of market expectations (Brazil). IMF forecasts are from the IMF WEO June 2020 update.

of August (Chart 8, right panel). For example, whereas some forecasters expect growth to fall back to about –2 % for India in 2020, others pencil in a decline of more than 8 %.

Therefore, while EMEs will probably not play the same role of locomotive for the world economy as most of them did during and in the aftermath of the GFC, what their contribution to world growth will be in 2020 and thereafter is still an open question. China is likely to remain a positive growth force in the foreseeable future, if it avoids a second wave and continues its swift, stimulus-fuelled recovery. Conversely, the growth forecasts for India, Brazil, Turkey and Russia suggest that these EMEs will add to the negative drag on the world economy in 2020 and may end up contributing a lot less to global economic growth in 2021 than was expected before COVID-19 struck.

Conclusion

The main conclusion we draw from the overview presented in this article is that, despite larger-than-usual uncertainty about future growth paths, EMEs will most likely not play the same supportive role for the world economy throughout the COVID-19 crisis as at the time of the GFC. Several reasons stand out.

First of all, as we have shown, the COVID-19 crisis is very different from the GFC, or other large crises for that matter. The pandemic-induced global recession is projected to be the deepest since World War II and the most synchronized ever. With the notable exception of China, nearly all major EMEs are expected to experience strongly negative growth in 2020, unlike in 2009. This is the combined result of the severe direct impact the spread of the coronavirus and associated containment measures have had on economic activity in EMEs, as well as of the multiple external shocks that have hit them more indirectly, through the pandemic's bearing on world trade and international financial markets.

Second, certain structural characteristics of EMEs, including weaker health systems and relatively large informal sectors, are making it more difficult for them to get the pandemic under control and are contributing to its economic damage in places such as Brazil and India, where the coronavirus still thrives. Some countries may also struggle to get access to and/or quickly distribute vaccines against COVID-19 once they become available.

Third, major EMEs were already suffering from idiosyncratic stress factors, macroeconomic vulnerabilities, and slowing economic growth before the COVID-19 crisis struck. In fact, if one excludes China and India, EMEs' percentage point contribution to world economic growth had shrunk considerably in recent years, compared to its post-GFC highs.

Fourth, while EMEs have deployed countercyclical monetary and fiscal stimulus, often exceeding their policy responses during the GFC, overall it remains several times smaller than the rescue packages that advanced economies have staged. The ongoing deterioration in fiscal and external positions, exacerbated by the COVID-19 crisis, implies that for many EMEs the initially modest policy space is further shrinking. Hence, EMEs will to a large extent depend on the policy actions of advanced economies for their recovery, including a resumption of demand for their exports and a continued accommodative monetary policy stance by advanced economy central banks, in addition to multilateral support initiatives. Even China, which for now seems to be recovering from the crisis largely on its own, still needs the extra growth impulse from external demand for a solid anchoring of its recovery. There is a real risk that the COVID-19 crisis will be used as an excuse for reshoring and to further ramp up trade protectionism, which would stifle China's and other EMEs' economic growth.

Finally, whereas summer projections still assume a relatively swift recovery and positive contribution of EMEs to world growth in 2021, bringing and keeping the virus under control is a necessary condition. In addition, high and rapidly rising sovereign and corporate debt levels will require deleveraging at some point, weighing on growth over the medium-term.

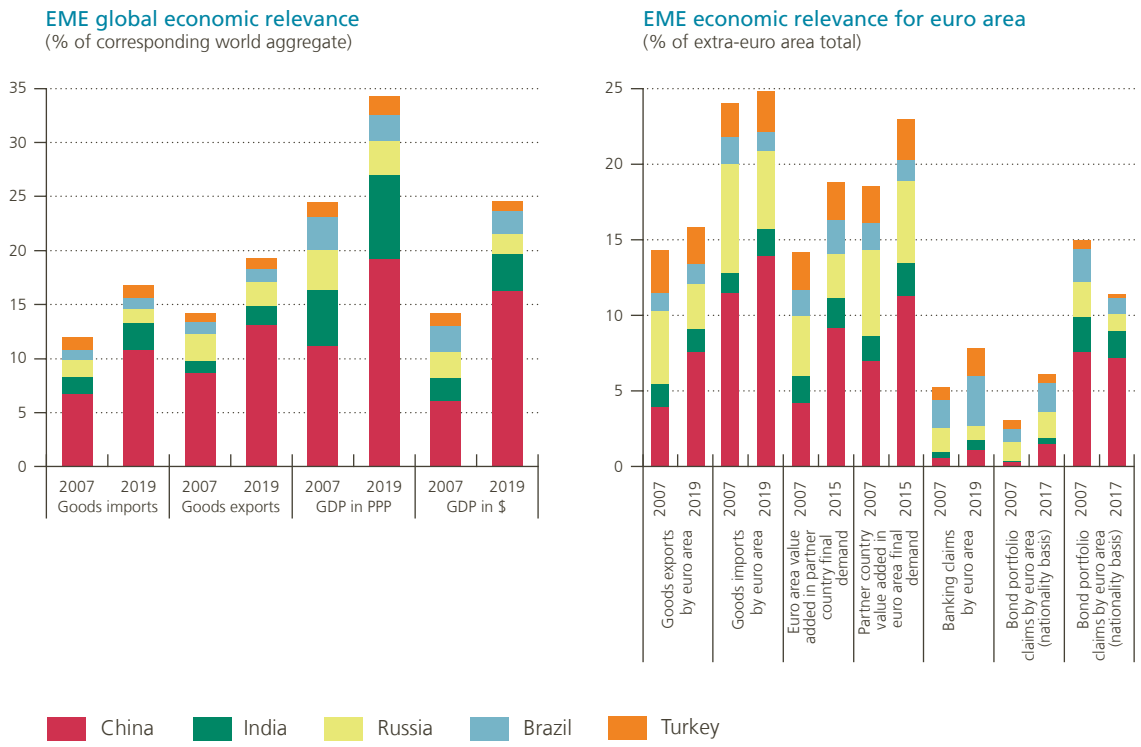
Annex: Selection of emerging market economies

Taken together, China, India, Russia, Brazil and Turkey accounted for over a third (quarter) of world GDP in PPP terms (at market exchange rates), a sixth of world goods imports, and nearly a fifth of world goods exports in 2019.

These five countries are also systemically important for the euro area economy. In 2019 they received over 15 % of extra-euro area exports and represented a quarter of extra-euro area imports by the euro area (non-euro area EU members, the United Kingdom and United States account for large shares, too). In value added terms, the relevance of these countries for the euro area is of a similar order of magnitude. With respect to banking claims by the euro area, these countries (and other EMEs for that matter) are relatively less important, due to tighter euro area linkages with other advanced economies and financial centres, but still far from negligible (especially Brazil and Turkey). When equity portfolio claims are considered on a nationality basis (i.e., correcting for the fact that Chinese and other EME firms often finance themselves through foreign subsidiaries located in tax havens/financial centres), this group of countries represented about 11 % of total extra-euro area holdings in 2017, down from 15 % in 2007.

Chart

China, India, Russia, Brazil and Turkey matter for the world and/or euro area economy



Sources: IMF (WEO), WTO, Eurostat, OECD (TiVA), BIS (CBS), Coppola *et al*. (2020)

Bibliography

Alberola E., Y. Arslan, G. Cheng and R. Moessner (2020), *The fiscal response to the Covid-19 crisis in advanced and emerging market economies*, BIS, Bulletin, 23, June.

Alon T., M. Kim, D. Lagakos and M. VanVuren (2020), *How should policy responses to the COVID-19 pandemic differ in the developing world?*, NBER, Working Paper, 27273, August.

Arslan Y., M. Drehmann and B. Hofmann (2020), *Central bank bond purchases in emerging market economies*, BIS, Bulletin, 20, June.

Arslanalp S. and T. Tsuda (2014), *Tracking global demand for emerging market sovereign debt*, IMF, Working Paper, 14/39, March.

Aum S., S. Y. Lee and T. Shin (2020), *COVID-19 doesn't need lockdowns to destroy jobs: The effect of local outbreaks in Korea*, NBER, Working Paper, 27264, May.

Avdjiev S., P. McGuire and G. von Peter (2020), "International dimensions of EME corporate debt", *BIS Quarterly Review*, June, 1-13.

Baldwin R. (2020), *The Greater Trade Collapse of 2020: Learnings from the 2008-09 Great Trade Collapse,* VoxEU.org, 7 April.

Barro R. J., J. F. Ursua and J. Weng (2020), *The coronavirus and the Great Influenza pandemic: Lessons from the 'Spanish Flu' for the coronavirus's potential effects on mortality and economic activity*, NBER, Working Paper, 26866, April.

BIS (2019), "Monetary policy frameworks in EMEs: Inflation targeting, the exchange rate and financial stability", *Annual Economic Report 2019*, June, Chapter 2, 31-53.

BIS (2020), *Annual Economic Report 2020*, June.

Boeckx J., M. Deroose and E. Vincent (2020), "The ECB's monetary policy response to COVID-19", NBB, *Economic Review*, September.

Buelens C. (2013), "Decoupled and resilient? The changing role of emerging market economies in an interconnected world", NBB, *Economic Review*, September, 23-39.

Buysse K., D. Essers and E. Vincent (2018), "Can China avoid the middle-income trap?", NBB, *Economic Review*, June, 63-77.

Buysse K. and E. Vincent (2015), "Factors explaining emerging economies' growth slowdown", NBB, *Economic Review*, September, 55-71.

Cantu C., T. Goel and J. Schanz (2020), "EME government debt: Cause for concern?", *BIS Quarterly Review*, June, Box, 15-16.

Carstens A. and H. S. Shin (2019), *Emerging markets aren't out of the woods yet*, Foreign Affairs, 15 March.

Cigna S. and L. Quaglietti (2020), "The great trade collapse of 2020 and the amplification role of global value chain", *ECB Economic Bulletin*, 5/2020, July, Box 2.

Cole M. A., R. J. R. Elliott and B. Liu (2020), "The impact of the Wuhan Covid-19 lockdown on air pollution and health : A machine learning and augmented synthetic control approach", *Environmental and Resource Economics*, 76, August, 553-580.

Collins C. G. and E. M. Truman (2020), *IMF's special drawing rights to the rescue*, Peterson Institute for International Economics, Real-Time Economic Issues Watch, 10 April.

Coppola A., M. Maggiori, B. Neiman and J. Schreger (2020), *Redrawing the map of global capital flows : The role of cross-border financing and tax havens*, NBER, Working Paper, 26855, April.

Dabrowski M. and A. M. Collin (2019), *Russia's growth problem*, Bruegel, Policy Contribution, 4 February.

Dabrowski M. and M. Dominguez-Jimenez (2020), *Emerging market central banks and quantitative easing : High-risk advice*, Bruegel, Blog Post, 26 August.

Delle Monarche D., I. Petrella and F. Venditti (2020), *COVID-19 and the stock market: Long-term valuations*, VoxEU.org, 24 August.

Dingel J. I. and B. Neiman (2020), "How many jobs can be done at home", *Journal of Public Economics*, 189, September, 104235.

Economist (2020), "Not quite all there : The 90 % economy that lockdowns will leave behind", *The Economist*, 30 April.

Essers D. and E. Vincent (2017), "The global financial safety net : In need of repair ?", NBB, *Economic Review*, September, 87-112.

Fardoust S., J. Y. Lin and X. Luo (2012), *Demystifying China's fiscal stimulus*, World Bank, Policy Research Working Paper, 6221, October.

Funke M. and A. Tsang (2020), *The People's Bank of China's response to the coronavirus pandemic : A quantitative assessment*, BOFIT, Discussion Paper, 12, May.

Garcia-Herrero A. and E. Ribakova (2020), *COVID-19's reality shock for external-funding dependent emerging economies*, Bruegel, Policy Contribution, 10 May.

Gilhooly R., C. Martinez and A. Watt (2020), *COVID-19 : Putting the Chinese policy reaction into context*, VoxEU.org, 22 June.

Goel R., P. Schneider and C. Sever (2020), *Update on EM reserve operations*, IMF, Global Markets Monitor, Box, 9 July.

Gottlieb C., J. Grobovsek and M. Poschke (2020), "Working from home across countries", *Covid Economics : Vetted and Real-Time Papers*, 8, 71-91, April.

Haasbroeck M. (2020), *Stimulus package reveals China's financial constraints*, MERICS, Short Analysis, 13 July.

Hartley J. S. and A. Rebucci (2020), *An event study of COVID-19 central bank quantitative easing in advanced and emerging economies*, NBER, Working Paper, 27339, June.

Hausmann R. and U. Panizza (2011), "Redemption or abstinence ? Original sin, currency mismatches and countercyclical policies in the new millennium", *Journal of Globalization and Development*, 2(1), August.

Hevia C. and A. Neumeyer (2020), "A perfect storm: COVID-19 in emerging economies", In: S. Djankov and U. Panizza (eds.), *COVID-19 in Developing Economies*, VoxEU.org eBook, CEPR, 25-37.

Hofmann B., I Shim and H. S. Shin (2020), *Emerging market economy exchange rates and local currency bond markets amid the Covid-19 pandemic*, BIS, Bulletin, 5, April.

Igan D., D. Kirti and S. Martinez Peria (2020), *The disconnect between financial markets and the real economy*, IMF, Special Notes Series on COVID-19, 26 August.

IMF (2019a), *People's Republic of China: 2019 Article IV Consultation*, IMF, Country Report, 19/266, August.

IMF (2019b), *Brazil: 2019 Article IV Consultation*, IMF, Country Report, 19/242, July.

IMF (2019c), *Turkey: 2019 Article IV Consultation*, IMF, Country Report, 19/395, December.

IMF (2020a), *Challenges in India's nonbank financial sector*, IMF, Global Markets Monitor, Special feature, 6 May.

IMF (2020b), *World Economic Outlook Update: A Crisis Like No Other, An Uncertain Recovery*, June.

IMF (2020c), *Regional Economic Outlook: Middle East and Central Asia*, April.

IMF (2020d), *External Sector Report: Global Imbalances and the COVID-19 Crisis*, August.

IMF (2020e), *EM Capital Flows Monitor*, 29 July.

IMF (2020f), *Global Financial Stability Report: Markets in the Time of COVID-19*, April.

IMF (2020g), *Global Financial Stability Report Update: Financial Conditions have Eased, but Insolvencies Loom Large*, June.

Kerola E. (2019), "In search of fluctuations: Another look at China's incredibly stable GDP growth", *Journal of Comparative Economics*, 61, 359-380.

Ma G. (2019), *China's high and rising corporate debt: Examining drivers and risks*, MERICS, China Monitor, August.

McWilliams B. and G. Zachmann (2020), *Bruegel electricity tracker of COVID-19 lockdown effects*, Bruegel Datasets, first published on 25 March, available at https://www.bruegel.org/publications/datasets/bruegel-electricity-tracker-of-covid-19-lockdown-effects.

Medina L. and F. Schneider (2019), *Shedding light on the shadow economy: A global database and the interaction with the official one*, CESifo, Working Paper, 7981, December.

Meinhardt C. (2020), *China bets on 'new infrastructure' to pull the economy out of post-COVID doldrums*, MERICS, Short Analysis, 4 June.

Mühleisen M., T. Gudmundsson and H. Poirson Ward (2020), *COVID-19 response in emerging market economies: Conventional policies and beyond*, IMF, Blog, 6 August.

NBB (2020), "Global Economy and euro area", *Report 2019 – Economic and financial developments*, March, Chapter 1.

Pettis M. (2020), *China's economy needs institutional reform rather than additional capital deepening*, Carnegie Endowment for International Peace, China Financial Markets, 24 July.

Ray D., S. Subramanian and L. Vandewelle (2020), *India's lockdown*, CEPR, Policy Insight, 102, April.

Reinhart C. M., K. S. Rogoff and M. A. Savastano (2003), "Debt intolerance", *Brookings Papers on Economic Activity*, 34(1), 1-74, 2003.

Segal S. and O. Negus (2020), *International financial institutions' ongoing response to the Covid-19 crisis*, Center for Strategic and International Studies, Commentary, 24 August.

Setser B. (2020a), *Turkey shows the value of balance sheet analysis*, Council on Foreign Relations, Follow the Money, 5 May.

Setser B. (2020b), *What role should the IMF play in responding to COVID-19?*, Council on Foreign Relations, Follow the Money, 10 June.

Stevenson A. (2020), "Froth returns to China's stock market, echoing the 2015 crisis", *New York Times*, 22 July.

Szalay E. and A. Samson (2020), "Turkish lira hits new low in sharp decline", *Financial Times*, 6 August.

World Bank (2018), "With the benefit of hindsight: The impact of the 2014-16 oil price collapse", *Global Economic Prospects: Broad-based upturn, but for how long?*, January, Special Focus 1, 51-71.

World Bank (2020), *Global Economic Prospects*, June.

WTO (2020), *Trade falls steeply in first half of 2020*, Press release, 23 June.

UNWTO (2020), *World Tourism Barometer*, 18(4), July.

Zenglein M. J. and M. Kärnfelt (2020), *Stimulus measures drive China's economic rebound*, MERICS, Economic Indicators, Q2/2020, 23 July.