



Nathan Sheets, PhD

Chief Economist, Head of Global
Macroeconomic Research



Cathy Hepworth, CFA

Managing Director,
Head of the Emerging Markets
Debt Team



George Jiranek

Associate,
Global Macroeconomic Research

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The Prospects for the Emerging Markets—Looking Beyond the Storm¹

- *While the coronavirus has dealt a painful blow to many of the emerging-market economies, we see the challenges arising from this episode as only one of several sets of factors likely to determine EM vulnerability and performance over the medium term. The deeper drivers will continue to be the varying strength of these countries' underlying macroeconomic fundamentals and differences in the quality of their institutions.*
- *With these issues in mind, our paper assesses the medium-term prospects and challenges for 25 major emerging markets. We consider each country's exposure to the virus (broadly defined), pre-existing macro vulnerabilities, and sensitivity to the generalized downturn in global conditions. We also consider the extent to which policy stimulus has helped to buffer these shocks.*
- *Our work leaves us concerned about EM fiscal performance. The average country in our panel is poised to see a 5% of GDP deterioration in its budget this year. Further, a number of countries—notably including Brazil, Argentina, India, Hungary, and South Africa—entered the episode with already elevated debt levels. The hit from the virus and the contraction in the global economy are likely to exacerbate these challenges.*
- *But we also find some extenuating factors. The stresses across these countries appear to be somewhat dispersed. For example, the countries poised to see the largest hit to their external positions (including the oil exporters) generally entered the period with comfortable surpluses and reserve buffers. Further, we find no systematic relationship between those countries feeling the virus' harshest effects and those that showed the most macro vulnerability before the virus erupted. This gives us confidence that the countries absorbing the virus' most direct hits are reasonably well positioned to navigate through the shock.*
- *Our work leaves little doubt that emerging-market debt will remain an important and attractive asset class. The disruptions from the virus are creating challenges for these countries, but investing in EM has always involved assessing such quantitative and qualitative risk factors. As such, the current episode offers yet another opportunity for investors to evaluate relative value from the perspective of fundamentals and pricing.*

¹ We thank members of the Global Macroeconomic Research team for their exceptional comments and analysis. We particularly thank Gerwin Bell for preparing the concluding box on the coronavirus and emerging markets.

Four Lenses of Assessment

Like other economies around the world, many of the emerging markets are absorbing fallout from the coronavirus—cases and fatalities are rising, and necessary physical distancing is driving a sharp drop in economic activity. Clearly, the trajectory of the virus and the implications of the associated public health measures are of significant concern at present.

Even so, as long-term investors, we remain keenly focused on the underlying fundamentals of these countries and the quality of their policy institutions. Emerging markets must survive the economic storm induced by the virus. But, over time, the storm will pass. And this episode's more lasting effects are likely to be less correlated with the distribution of case counts across countries and more correlated with underlying macro and financial fundamentals.²

To address these issues, our paper considers performance indicators for a broad panel of 25 major emerging-market economies. We assess their medium-term prospects and vulnerabilities through four related lenses:

First, we consider each country's economic exposure to the virus. This includes "direct" effects through the virus' toll on health (proxied by fatalities), but we also emphasize "indirect" channels of transmission, including exposures to the fall in commodity prices and the collapse in global tourism revenues and remittances.

Second, we look at pre-existing macroeconomic vulnerabilities. This examination provides a basis for assessing each country's exposure to the ongoing shock.

Third, we evaluate exposure to the broader deterioration in the global economy. We particularly emphasize the impacts of declining global growth, but our framework also accounts for other factors including the sharp decline in oil prices and moves in the real exchange rate.

Fourth, we review the scope and effectiveness of the EM policy response and the extent to which it may buffer the virus-related shock. We focus on the monetary stimulus that the central banks in these countries have implemented. We also consider the broader international effort led by the IMF.

Our examination of the prospects for these economies yields several conclusions. Across a variety of measures, the vulnerabilities in South Africa and Brazil stand out. In particular, these countries have high levels of government debt and are likely to see a significant deterioration in their

fiscal deficits during the year ahead. Other countries of concern include Pakistan (macro imbalances), Argentina (indebtedness), and India (broad fiscal problems). More generally, we find that the Latin American countries are relatively exposed to the virus and its sectoral fallout, while the vulnerabilities of many of the Asian and Central European countries flow more from their tight linkages to the global economy, particularly through international trade.

Our work also uncovers some mitigating factors. First, we find that the countries being hit hardest by the virus are not necessarily the most vulnerable by other metrics. This increases our confidence that the EMs can successfully manage through this episode. Second, in terms of external performance, those countries likely to see the largest hits to their current accounts (mainly oil exporters) typically entered this episode with comfortable surpluses and ample reserves and, thus, seem well positioned to absorb the shock. Third, while the prospective deterioration in fiscal performance strikes us as quite worrisome, at least part of it reflects conscious decisions by EM governments to support their economies through this disrupted period. Fourth, the central banks in these countries are providing substantial monetary support by cutting rates and in some cases commencing QE programs. In tandem, the IMF has ramped up its financial assistance efforts.

Finally, in our judgment, the market has largely priced in these added risks. In fact, in the face of the initial uncertainties in March, it can be argued that the market sold off indiscriminately. In this context, our paper seeks to better differentiate vulnerabilities across these countries and, thus, help uncover underlying relative value opportunities. Accordingly, in managing our portfolios, we have added to names where we felt the market had mis-priced the direct and indirect impacts of the pandemic (primarily among higher-rated credits). We have also reduced exposures in cases where we judged that vulnerabilities were no longer adequately priced in following the market's rebound from its March lows.

First Lens—Vulnerability to the Virus

Countries' economic vulnerability to the virus may take two related forms. First, we consider the direct effects—what are the data telling us about the virus' health impacts in various countries? How worried should we be about further escalation in the pandemic and second wave infections? A

² For our views on the virus' possible longer-term effects see, ["Five Big Themes that Will Frame the Post-Virus Economy,"](#) June 2020.

harder blow in terms of health effects is likely to translate into additional near-term disruptions and increased economic uncertainties. We examine these issues in more detail in the concluding box. But what's clear is that each country's encounter with the virus has been unique in its timing, intensity, and impact. To capture these variations, we look simply at coronavirus deaths per million (while there are significant imprecisions in the reported cross-country data on the virus' health effects, our sense is that the data for fatalities is somewhat more reliable than that for cases).

The economic costs of managing the virus have been deep and painful, but the early returns suggest that the virus can eventually be contained. A number of economies around the world are starting the process of "getting back to normal," and China—the first country to fight the virus—is further along in its somewhat uneven recovery. While risks of second-wave infections remain, equally important questions pertain to how much scarring the quarantines have created and, particularly, whether businesses will be able to resume production and how long employment and spending will take to return to pre-virus levels.

Second, countries' economic vulnerability to the virus may arise through indirect channels, reflecting the structure of their economies or exposure to specific global industries that have been hit by the virus. To capture such issues, we look at each country's net oil exports as a share of GDP (given that the virus has triggered a sharp drop in oil prices), net remittances and net international tourism revenues relative to GDP (which have been hammered by the disruptions), and the share of services production in the economy (since many services require face-to-face contact).³ Taken together, we see these variables as capturing an economy's indirect or sectoral vulnerabilities.

With this framework in hand, Figure 1 shows rankings for these variables across 25 major emerging-market economies, all of which had 2019 GDP of more than \$200 billion.⁴ Notably, for COVID-19 fatalities Chile, Peru, and Brazil top the ranking (i.e., are most exposed), followed by Mexico and Romania. Even so, the hit to these countries is still less than half that in many European countries and also well below the numbers recorded in the United States. The

least affected countries include Vietnam, Thailand, and Nigeria.

Figure 1: Virus Vulnerability Ranking (2019)

	"Direct" Effects	"Indirect" Effects				Overall	
	Covid Fatalities*	Services	Net Remit.	Net Int'l Tourism	Net Oil Exports	Average Ranking	Total Ranking
Weight:	1/5	1/5	1/5	1/5	1/5		
Mexico	4	3	7	9	11	6.8	1
Colombia	7	6	9	12	5	7.8	2
Brazil	3	1	15	19	8	9.2	3
Peru	2	14	11	10	10	9.4	4
Romania	5	7	6	17	12	9.4	5
Hungary	8	11	10	4	18	10.2	6
South Africa	12	2	18	7	13	10.4	7
Egypt	15	20	2	3	15	11.0	8
Philippines	18	4	1	18	19	12.0	9
Chile	1	5	21	13	20	12.0	10
Turkey	9	12	20	2	22	13.0	11
Poland	13	9	19	8	17	13.2	12
Russia	6	13	23	21	3	13.2	13
Thailand	24	8	13	1	25	14.2	14
Argentina	14	10	17	22	9	14.4	15
Malaysia	21	16	24	5	6	14.4	16
Indonesia	19	23	12	11	7	14.4	17
Iraq	10	24	14	24	1	14.6	18
Saudi Arabia	11	22	25	15	2	15.0	19
Pakistan	16	17	3	16	23	15.0	20
Nigeria	23	19	5	25	4	15.2	21
Vietnam	25	25	4	6	16	15.2	22
India	17	21	8	14	21	16.2	23
China	22	18	16	23	14	18.6	24
Korea	20	15	22	20	24	20.2	25

Source: PGIM Fixed Income. Note: 1=Most Vulnerable; 25=Least Vulnerable

* As of June 30, 2020.

Looking across the four remaining variables, which assess each country's indirect exposure to the virus, the vulnerabilities seem quite dispersed. Different countries are exposed through different channels. Brazil, South Africa, and Mexico are particularly dependent on services; the Philippines, Egypt, and Pakistan, receive large remittance flows; Thailand, Turkey, and Egypt rely heavily on international tourism; and Iraq, Saudi Arabia, and Russia top the chart among oil exporters.

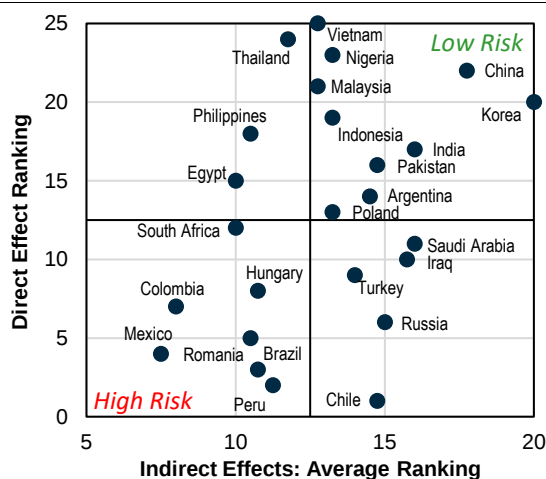
Figure 2 displays a scatterplot showing the interaction between these data. A country's virus fatality ranking is on the y-axis, and its average ranking across services, remittances, tourism, and oil exports is on the x-axis. The six countries in the southwest quadrant have greater than

³ The empirical work below also considers non-fuel commodities, but given the recent rebound in many of those prices the effect through this channel is likely to be muted somewhat. Oil prices have also rebounded but remain well below their pre-virus levels.

⁴ Raw data for these variables are shown in the Appendix. The Czech Republic, Bangladesh, and UAE also had 2019 GDP above \$200 billion, but we saw them as qualitatively different from the other EMs, so they are not included. The 25 countries account for half of global GDP (PPP) and roughly 55-60% of the EMBI Global Diversified Index.

average vulnerabilities to the virus through both the direct and indirect channels. This group includes four Latin American countries (Mexico, Colombia, Brazil, and Peru) plus Hungary and Romania. In contrast, of the 10 countries in the northeast corner, which have less than average vulnerabilities in both dimensions, seven are in Asia.

Figure 2: "Direct" & "Indirect" Virus Vulnerability



Source: PGIM Fixed Income

Returning to Figure 1, the last column brings all of these variables together into a single overall “virus vulnerability” ranking, which we derive simply by averaging the rankings across all five variables. Implicitly, this approach emphasizes sectoral exposures to the virus more than direct fatalities, in line with our view that the structure of the economy and deep fundamentals are likely to be the key determinants of economic performance and returns going forward.

In terms of the overall ranking, Mexico and three other Latin American countries—along with Romania and Hungary—top the list. While the specific mix of vulnerabilities varies across these countries, several of them will likely be hit through multiple channels. In contrast, the Asian economies dominate the bottom third of the list and appear relatively well positioned to weather the current storm. Ironically, given that China was the epicenter of the virus’ first phase, it scores near the bottom. China shows little exposure to any of the direct or indirect channels of the virus’ transmission.⁵

Second Lens—How Vulnerable Were These Countries Before the Virus Hit?

In evaluating the prospects for these countries after the virus has passed, it’s necessary to also consider their economic vulnerabilities before the virus hit. Figure 3 focuses on exactly this issue.

Figure 3: Pre-Existing Macro Vulnerabilities Ranking (2019)

	Current Account Balance	Fiscal Balance	General Govt. Debt	FX Reserve Adequacy	Overall	
					Average Ranking	Total Ranking
Weight:	1/4	1/4	1/4	1/4		
Pakistan	1	1	4	1	1.8	1
Egypt	6	3	3	3	3.8	2
South Africa	7	5	7	2	5.3	3
Argentina	14	11	2	4	7.8	4
Brazil	9	6	1	18	8.5	5
China	18	4	9	5	9.0	6
India	12	2	5	19	9.5	7
Nigeria	5	8	21	9	10.8	8
Romania	2	9	18	15	11.0	9
Hungary	13	18	6	8	11.3	10
Chile	4	14	22	7	11.8	11
Colombia	3	17	11	16	11.8	12
Turkey	19	7	19	6	12.8	13
Mexico	15	15	10	12	13.0	14
Malaysia	20	13	8	13	13.5	15
Indonesia	8	16	20	11	13.8	16
Iraq	11	22	12	21	16.5	17
Vietnam	23	12	14	17	16.5	18
Poland	17	23	13	14	16.8	19
Korea	21	24	16	10	17.8	20
Philippines	16	19	17	20	18.0	21
Peru	10	20	23	23	19.0	22
Saudi Arabia	24	10	24	25	20.8	23
Thailand	25	21	15	22	20.8	24
Russia	22	25	25	24	24.0	25

Source: PGIM Fixed Income. Note: 1=Most Vulnerable; 25=Least Vulnerable

We look at recent data for the current account, fiscal balance, general government debt levels, and adequacy of FX reserves (drawing on the IMF’s Assessing Reserve Adequacy (ARA) exercise).⁶ We rank the countries across these four variables. As above, we also create an aggregate ranking by weighting each variable equally.

One observation that jumps off the page is the extent of Pakistan’s vulnerabilities. It comes in near the top of the list

⁵ This observation requires two caveats. First, as noted, we recognize that there are serious questions about the reliability of data on Covid fatalities as a general matter and, particularly, that fatalities in China may be undercounted. Second, over and above the variables considered in Figure 1, China is dependent on global growth. Our work below assesses the effects on EM vulnerability of shifting global conditions more broadly.

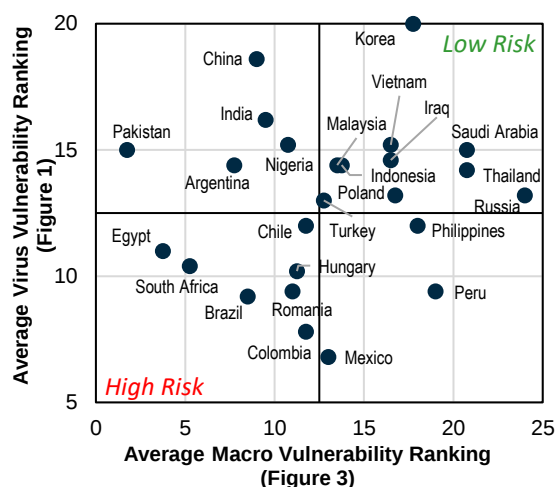
⁶ The IMF’s ARA does not provide assessments for Nigeria, Saudi Arabia, and Vietnam. We construct estimates for these countries based on their performance relative to other countries on months of import coverage and reserves relative to GDP, two commonly used indicators of reserve adequacy.

(most vulnerable) in every category. *Egypt finishes second, with particular weakness in its fiscal and debt position. From there, we find that the next group of countries includes South Africa, Argentina, and Brazil—with each manifesting its own, unique mix of challenges.*⁷

Two oil exporters—Russia and Saudi Arabia—score among the least vulnerable countries on the list. In 2019, oil prices were high enough to comfortably support their external and fiscal positions, and both had high levels of FX reserves. The big question for these countries, which we will examine in the next section, is whether these buffers are sufficient to offset the downturn in oil prices since the virus hit.

Finally, we draw on these observations, as well as the rankings discussed in the previous section, to assess the potential interactions between pre-existing macro vulnerabilities and the vulnerabilities arising from the virus. With this in mind, Figure 4 shows a scatterplot of each country's average macro vulnerability ranking (Figure 3) versus its average ranking for exposure to the virus (Figure 1). *One high-level observation is that countries with greater macro vulnerabilities don't appear any more or any less likely to show vulnerability to the virus. This is good news from the standpoint of sustainability, as those being hit harder by the virus were not necessarily more vulnerable by other metrics.*

Figure 4: Overall Macro and Virus Vulnerabilities



Source: PGIM Fixed Income

More specifically, countries in the southwest quadrant manifest meaningful vulnerabilities by both metrics, with Brazil, South Africa, and Egypt particularly standing out. Countries in the northwest quadrant—such as Pakistan and Argentina—have distinct macro challenges, but they appear relatively well positioned to deal with the virus' effects. Finally, countries in the northeastern quadrant seem prepared to weather the storm by both metrics. Even so, our work in the next section finds that even these countries may not be exempt from the global slowdown.

Third Lens—Sensitivity to the Global Downturn

The previous two sections assessed pre-existing vulnerabilities and sector-specific exposures to the virus. Here, we expand that analysis by looking at exposures to the marked slowdown in the global economy more generally. We also develop a statistical model—and draw on a range of outside forecasts—to assess how the distribution of EM vulnerabilities is likely to evolve during the year ahead.

To address these issues, we estimate a simple econometric framework that links the current account and the fiscal balance to a set of explanatory variables, which includes domestic and global GDP growth, net exports of oil and non-fuel commodities, net international tourism revenues, net remittances, and the real effective exchange rate.⁸ Notably,

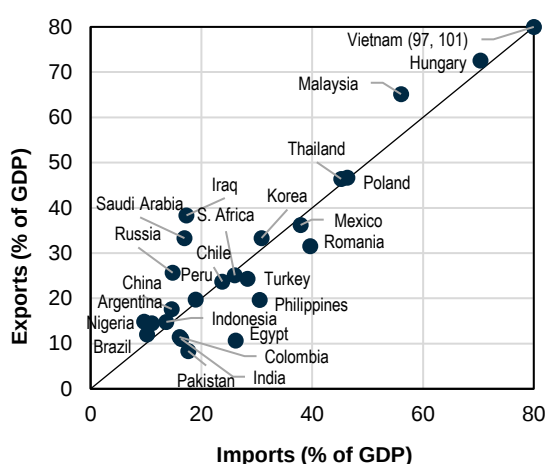
⁷ Notably, China finishes sixth in the ranking due to its large budget deficit (6.4% of GDP) and a weak reserve adequacy assessment from the IMF. Although China holds very substantial reserves in dollar terms, those reserves are relatively low compared with the country's massive stock of broad money.

⁸ The model also includes country fixed effects, but year fixed effects were generally not statistically significant. To minimize simultaneity concerns, the explanatory variables enter only as lags.

we experimented with a number of other explanatory variables, but they did not enter the regression robustly. Even among these variables, tourism and remittances were not significant in the fiscal equation. The data include the same 25 countries and run from 1996 to 2019.⁹

This model allows us to consider evolving global developments and how they might interact with other vulnerabilities. In this context, we take each country's export and import shares (relative to GDP) as key measures of exposure to the global economy and, hence, as important channels of transmission. To calibrate this sensitivity, and allow some variation across countries, we interact our variables for domestic and global GDP growth and the real exchange with each country's trade shares.¹⁰ While there are other channels of transmission, this approach seems to fit the data well. Notably, as highlighted in Figure 5, these shares vary dramatically across countries, with Vietnam and Hungary at around 100% and 70%, respectively, while the shares for many other countries are below 20%.

Figure 5: International Trade (2019)



Source PGIM Fixed Income

We now turn to the model results (Figure 6). The estimated coefficients are generally statistically significant and have the anticipated sign. One important observation is that a decrease in net oil exports of 1% of GDP is associated with a roughly 0.4% of GDP decrease in current account and

fiscal balances. This suggests that as oil prices fall, other spending by oil exporters tends to be compressed as well (but by less than one for one). The interpretation of the coefficients on non-fuel exports and remittances is broadly similar, while the coefficient on tourism is larger—and indicates a roughly one-for-one effect. Our measure of exposure to global GDP growth enters both regressions with positive signs.¹¹ In contrast, stronger domestic GDP growth pushes up imports and, thus, drives a decline in the current account. The fiscal balance improves, however, with stronger tax revenues. Finally, a real appreciation of the currency leads to a deterioration in both the current account and the fiscal balance.

Figure 6: Regression Model Results

	Current Account (% of GDP)	Fiscal Balance (% of GDP)
Domestic GDP Growth "Interaction" (%, Sum of Lags 1-3)	-1.005 (-4.9)	0.790 (2.8)
Global GDP Growth "Interaction" (%, Sum of Lags 1-3)	1.337 (2.6)	0.919 (1.1)
Net Exports of Oil (% of GDP, First Lag)	0.442 (4.2)	0.373 (2.1)
Net Exports of Nonfuel Commodities (% of GDP, First Lag)	0.568 (3.6)	0.266 (3.1)
Net International Tourism (% of GDP, First Lag)	1.047 (3.6)	
Net Remittances (% of GDP, First Lag)	0.478 (1.8)	
Real Effective Exchange Rate "Interaction" (% Change, Sum of Lags 1-2)	-0.142 (-3.4)	-0.102 (-1.5)
Adjusted R-Squared	0.724	0.507
Observations	928*	563

Source: PGIM Fixed Income. Note: Regressions include an unreported constant and country fixed effects. Coefficients are sum of all lags, with T-stats in parentheses. Standard errors are clustered to correct for autocorrelation. *Current account regression includes 20 advanced economies. Observation Period: 1996-2019.

⁹One further wrinkle is important. Moves in global current account balances must respect an adding up constraint, i.e., abstracting from statistical issues, global current account balances must sum to zero. To account for this, and to better capture the features of global adjustment, we expanded the current account regression to also include twenty advanced economies in the estimation.

¹⁰More specifically, we interact global GDP growth with the export share, domestic growth with the import share, and the real exchange rate with the average of the export and import shares. Further, in each instance, we take the square root of the trade share. This reflects our view that a country with exports to GDP of 20% is unlikely to be only one-third as reliant on the global economy as one with exports to GDP of 60%, since other channels—including capital flows and sentiment—are also likely at work. This transformation compresses such differences somewhat. The arguments for domestic growth and the real exchange rate are broadly analogous.

¹¹Quantitatively, for a typical EM in our sample, which has an export share of roughly 25% of GDP, our estimates suggest that a percentage point drop in global growth reduces the current account balance by roughly 2/3 percentage point and the fiscal balance by just under 1/2 percentage point. These strong, but in our view plausible, spillovers highlight the EMs' dependence on the global economy.

Next, we use these coefficients to estimate the effects of the massive recent shocks. How are EM current account and fiscal balances likely to be affected? For this exercise, we assume that commodities prices remain near current levels, with oil prices down a sizable 30% from last year's average and non-fuel commodities down 10%. We also assume that global growth drops 8 percentage points—from roughly 3% last year to around -5% this year (in line with our forecast). The individual country projections also incorporate our views for 2020, augmented as necessary by outside sources. Further, we assume that net international tourism revenues this year plunge 30%, net remittances are down 20%, and that real effective exchange rates remain at their late-June levels.

The implied changes in current account and fiscal balances are in Figure 7, with our econometric projections displayed in the columns labeled "Model." To facilitate comparison and broaden the discussion, we also include the corresponding

forecasts from the IMF, OECD, Citi, and the Institute of International Finance (IIF).

For the current account, there is some dispersion of views on specific countries, but in aggregate dollar terms each of the forecasts, except the IIF's, envisions deterioration in EM performance this year. Given that these countries include a large slug of commodities exporters and countries highly dependent on tourism and remittances, this result is hardly surprising. Consistent with this observation, while our model's output generally is in line with the other forecasts, our projections see greater deterioration in Chile (large non-fuel commodities exporter), Nigeria (oil exports), and Pakistan (recipient of sizable inflows of remittances). Our model may overstate the potential declines in these balances, but nevertheless offers an important cautionary tale.

On the fiscal side, the forecasts see a broad-based and substantial increase in deficits totaling roughly \$1 - \$2 trillion in aggregate, with our model's projections squarely at the

Figure 7: Implied Changes in Current Account and Fiscal Balances (2019 to 2020)

	Current Account Balance (% of GDP)						Fiscal Balance (% of GDP)					
	Model	IMF	OECD	Citi	IIF	Avg.	Model	IMF	OECD	Citi	IIF	Avg.
Argentina	-1.0		1.0	-2.3	1.7	-0.2	-3.3			-4.2	-6.4	-4.6
Brazil	-0.1	0.9	1.2	2.4	1.4	1.2	-3.3	-10.0	-9.2	-11.2	-13.1	-9.4
Chile	-1.4	3.1	4.3	2.1	4.4	2.5	-5.0	-3.7		-7.4	-9.5	-6.4
China	0.8	-0.4	-0.4	-0.7	0.4	-0.1	-4.8	-5.7	-3.9	-0.8	-6.9	-4.4
Colombia	-1.0	-0.4	0.6	0.8	1.0	0.2	-4.7	-0.3	-3.3	-4.8	-6.4	-3.9
Egypt	-2.6	-0.7		-2.1	-0.5	-1.4	-2.5	-0.3		-1.8	-8.5	-3.3
Hungary	-0.2	0.7	-0.4	-0.8	-0.6	-0.3	-8.3	-0.9	-7.9	-2.7	-4.7	-4.9
India	0.7	0.5	1.0	0.7	1.1	0.8	-3.2	-4.7	-2.7	-3.6	-6.6	-4.2
Indonesia	-1.8	-0.5	0.0	0.7	0.5	-0.2	-4.8	-4.1	-5.0	-3.8	-6.3	-4.8
Iraq	-5.5	-20.5		-0.2		-8.7	-10.7	-21.5		-21.5		-17.9
Korea	-0.4	1.3	-1.0	-0.4	0.3	-0.1	-4.3	-2.7	-4.2	-3.7	-4.3	-3.9
Malaysia	-1.5	-3.4		-2.1	-1.2	-2.1	-9.2	-1.0		-2.5	-5.4	-4.5
Mexico	-0.1	-0.1	0.3	1.4	0.5	0.4	-4.9	-3.7		-5.4	-5.2	-4.8
Nigeria	-2.4	0.5		1.1	0.2	-0.2	-5.8	-2.3		-1.0	-4.0	-3.3
Pakistan	-0.9	3.2		3.4		1.9	-2.1	-0.3		-0.3		-0.9
Peru	-0.1	0.5		0.7		0.4	-5.8	-5.7		-6.6		-6.0
Philippines	-0.1	-2.1		-0.1	-0.7	-0.8	-5.7	-1.4		-3.2	-5.9	-4.0
Poland	-0.3	-0.3	0.4	2.5	0.1	0.5	-5.5	-6.0	-10.6	-7.6	-9.2	-7.8
Romania	0.2	-0.8	1.0	2.1		0.6	-5.8	-4.3	-4.8	-4.6		-4.9
Russia	-3.5	-3.1	-11.4	-2.6	-4.5	-5.0	-6.4	-7.4	-5.3	-5.8	-5.1	-6.0
Saudi Arabia	-6.1	-9.4		-2.9	-7.5	-6.5	-10.2	-6.9		-8.1	-13.0	-9.6
South Africa	-0.2	3.2	-0.1	3.2	2.5	1.7	-5.3	-8.5	-3.5	-8.7	-14.0	-8.0
Thailand	-2.2	-1.7		-3.1	-3.4	-2.6	-6.9	-2.6		-3.0	-5.3	-4.5
Turkey	-1.0	-0.7	-0.4	-3.3	-0.4	-1.2	-2.8	-3.1		-3.3	-4.9	-3.5
Vietnam	-2.6	-3.3		-1.6		-2.5	-6.1	-1.9		-1.8		-3.2
Total:												
USD	-77	-199	-182	-96	-2	-135	-1532	-1657	-1117	-1041	-2140	-1586
% of GDP*	-0.2	-0.6	-0.6	-0.3	0.0	-0.4	-4.9	-5.3	-3.5	-3.3	-6.8	-5.0

Source: PGIM Fixed Income. *Percent of GDP for countries in the sample.

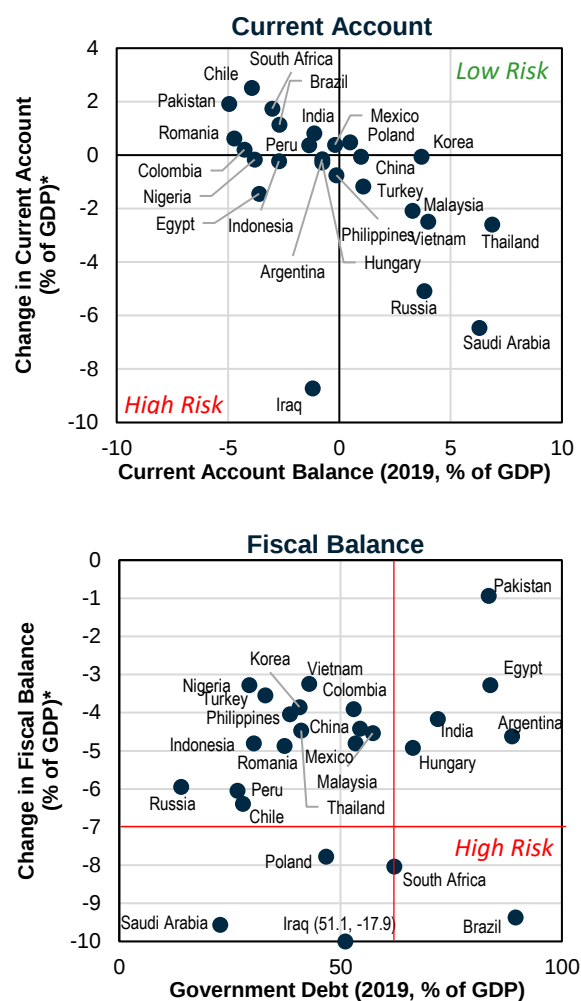
midpoint. Notably, these estimates do not seek to differentiate between the cyclical deterioration in the fiscal position and conscious efforts to provide fiscal stimulus. But two points are clear. First, this surge in deficits represents considerable stimulus, of roughly 5% of GDP on average, relative to maintaining an unchanged fiscal position. By way of reference, the IMF estimates that the “active” fiscal impulse for EM (i.e., from explicit stimulus efforts) is likely to average around 3% of GDP this year. This suggests that roughly 60% of the observed fiscal deterioration comes from explicit government fiscal efforts. Second, getting the deficit back to the pre-virus path is going to be challenging, and underscores the likelihood of higher debt levels in these countries going forward.

In terms of specific fiscal projections, our model sees markedly larger deficits than other forecasts in Hungary, Malaysia, Thailand, and Vietnam—all of which are very open and exposed to the global downturn. In contrast, the model’s projected deteriorations in Brazil and South Africa, two countries that have implemented large stimulus packages, are probably too small. This highlights the importance of supplementing the model’s output with real-world observation and judgment.

The scatterplots in Figure 8 summarize this analysis. The y-axis of these graphs shows the average projected change, across the five sets of forecasts in the previous figure, for the current account (the upper panel) and the fiscal balance (the lower panel). We focus on the forecast averages in the spirit of incorporating a broad a set of perspectives. We see our econometric model as adding value and, in some cases, raising important cautionary flags, but we also respect the more judgmental basis for the other projections. The x-axis of the scatterplots shows each country’s 2019 current account balance (upper panel) and government debt level (lower panel).

The story for the current account that emerges from Figure 8 is encouraging. Many of the countries that are likely to record the sharpest deteriorations—Saudi Arabia, Russia, Vietnam, Thailand, and Malaysia—entered the period with comfortable surpluses. Thus, even if the projected declines materialize, the situation should remain manageable. In contrast, the countries that entered the year with deficits are expected to record either moderate improvements (those in the northwest quadrant) or only slight deterioration. The main exception is Iraq, which ran a small current account deficit in 2019 and is projected to have an enormous deterioration this year, in line with the fall in oil prices. Egypt

Figure 8: Estimated Effects on Key Emerging Markets



*Average of forecasts shown in Figure 7. Source: PGIM Fixed Income

also looks somewhat vulnerable, but it recently agreed to an IMF program that will help support its adjustment.

The fiscal projections point to a challenging outlook. All but one of the countries will see their budgets deteriorate by at least 3% of GDP during the coming year and, in some cases, substantially more. Pakistan is the exception, but it faces concerningly high government debt levels (over 80% of GDP). Five of the countries are expected to see their balances decline by over 7% of GDP. Of these, South Africa and, especially, Brazil stand out as highly indebted as well. Saudi Arabia, Poland, and Iraq are carrying low to moderate debt burdens, but Iraq’s projected fiscal deterioration is exceptionally large (17.9% of GDP). Notably, seven of these countries show debt levels of more than 60% of GDP.

As a bottom line, the data in Figure 8 generally point to greater EM vulnerability in the fiscal space—in terms of both

high debt levels and rising deficits—than in the external space, where the countries feeling the largest shocks appear relatively well positioned. Brazil and South Africa seem likely to face particular fiscal vulnerabilities during the coming year and will require careful monitoring.

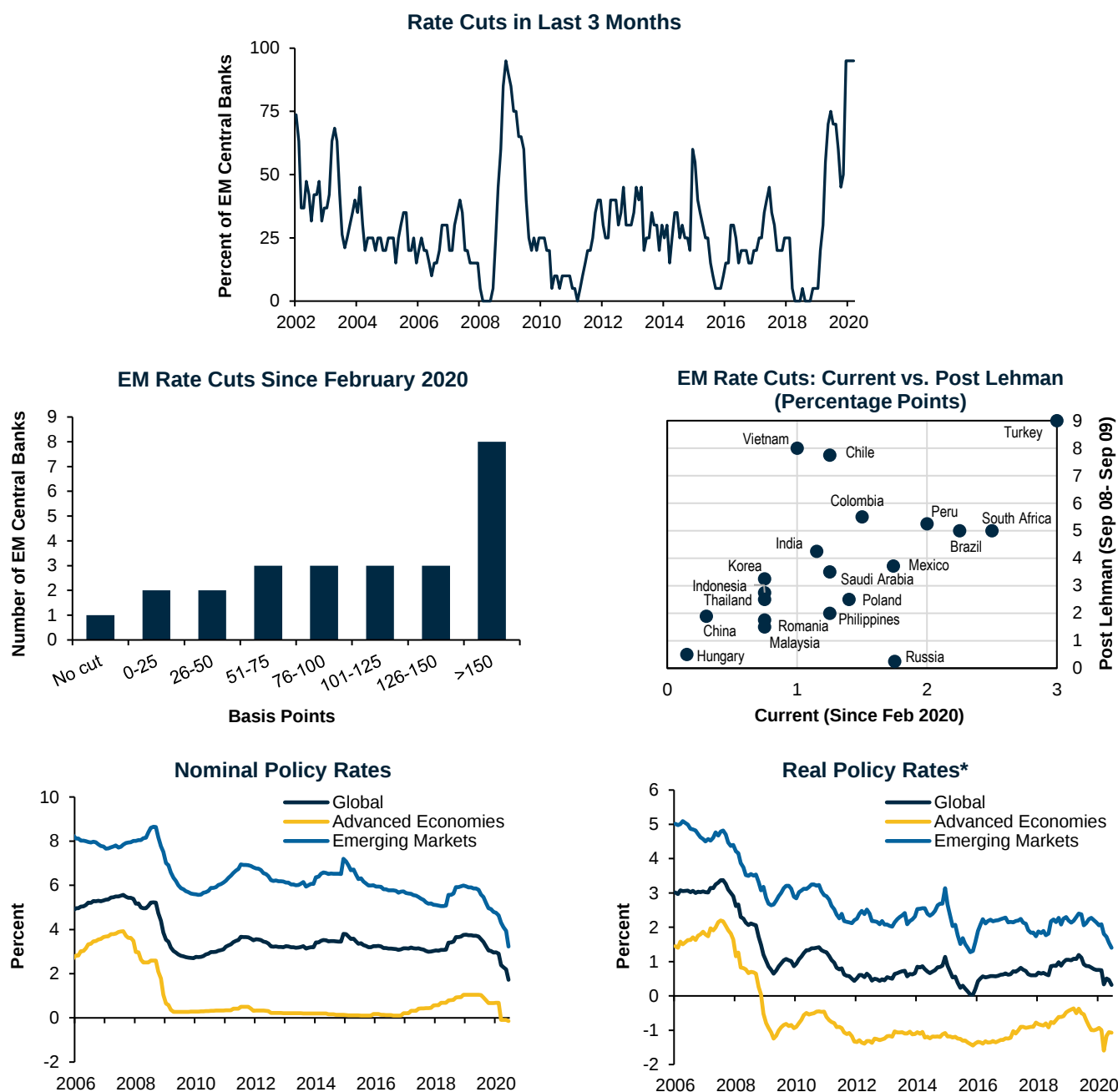
Fourth Lens—The Policy Response

Having documented some of the key vulnerabilities plaguing the EMs, we now turn to the support that domestic and

international policymakers are putting in place. We focus, in particular, on the aggressive response of central banks in these countries and the financing that is being mobilized by the IMF. While the policy response does not eliminate the challenges ahead, it should buffer some of the contractionary effects and, in adverse scenarios, provide a welcome safety net.

Figure 9 provides further perspectives on EM central bank policy actions and the stimulus that has been put in place.

Figure 9: EM Central Bank Policy Easing



* Calculated using trailing 12-month core CPI inflation. Source: Haver Analytics and PGIM Fixed Income

As highlighted in the top panel, these central banks have responded by promptly cutting rates. The past few months have seen the most concentrated easing cycle since the global financial crisis. Further, as shown on the middle-left panel, 20 of the 25 central banks have reduced rates by more than 50 basis points since February, and 8 of them have cut by more than 150 basis points.

The lower panels summarize the EM monetary policy response in terms of nominal and real policy rates. Two observations jump out. First, when the Covid-19 episode began, EM policy rates were already near historically low levels, substantially below settings at the onset of the global financial crisis. Second, and more broadly, the recent policy easing is carrying forward an easing cycle that actually began in the middle of last year, with the Fed's "mid-cycle" adjustment. Both of these observations suggest that EM central banks were, fortuitously, well positioned when the unexpected shock from the virus arrived.

With this in mind, the middle-right panel compares the policy response since February to that which occurred during the global financial crisis. The scatterplot uncovers a striking relationship. To date, EM central banks have generally eased about one-third as much during the current episode as they did during the year following Lehman's collapse. This likely reflects that—as noted—rates were already at low levels as the virus hit and, hence, there was less scope for further easing. But it also suggests that unless economic performance bounces back quickly, additional rate cuts could very well follow, at least if the global financial crisis is a useful point of comparison. We see particular scope for further rate cuts during the year ahead in Russia, Egypt, Mexico, and China. The increasing ability of the EMs to cut rates into the downturn highlights the deepening institutional credibility of their central banks. In previous generations, monetary policy during crisis episodes often had to be tightened to support the currency and pre-empt inflation.

To complement rate cuts, a number of these central banks have also kicked off QE programs. Purchases have been relatively aggressive in Poland (over 4% of GDP), but they are also ongoing in Chile, Turkey, Colombia, South Africa, and in other countries as well. To date, these programs have been primarily geared toward stabilizing markets, rather than to outright monetization of fiscal spending. Whether the

EMs can—or should—cross that critical Rubicon remains an important open question.¹²

We now turn to the international effort to support the emerging markets through this disruptive period. Fully documenting the nature of this response is beyond the scope of our paper, but several points are important. First, the IMF is now engaged and working full throttle. The Fund reports that it has deployed \$250 billion of resources to help address the current turmoil.¹³ In terms of dollars, a good chunk of this has come through its liquidity facilities, which are available mainly to the best-performing EMs. But, in addition, the IMF has received requests from over 100 countries for rapid financing to address virus-related stresses. The Fund has now approved roughly 70 of those requests, with disbursements totaling \$25 billion. While the total is small relative to countries' financing needs and the IMF's total resources, this effort highlights the global scope of the Fund's reach.

Moreover, the IMF is now pivoting into the next stage of its financial support efforts, with recent announcements of much larger \$5 billion adjustment programs with Ukraine and Egypt. More broadly, we expect that the Fund will now formulate a set of larger programs with relatively light conditionality, given the exogenous nature of the downturn. The IMF's balance sheet is much larger than when the global financial crisis erupted, and the IMF Managing Director has made clear that the Fund is prepared to deploy the full force of its financial resources. In parallel, the World Bank is also ramping up its financial assistance.

As a means of offering its members sizable unconditional liquidity, the IMF considered the possibility of distributing another round of Special Drawing Rights (SDRs). In the event, the proposal was unable to garner sufficient political support among its members. Even so, our sense is that an SDR allocation remains an important tool in the IMF's toolkit, and it would be on the table if conditions again deteriorate.

As a second leg in the international effort to support the emerging markets, the G-20 has announced a standstill on debt-service payments from the world's poorest countries to bilateral official creditors. The standstill, which began on May 1 and is slated to run through the end of the year, is estimated by the OECD to save these countries \$16.5 billion in payments. Initially, it was envisioned that debt payments

¹² See "EM Relying on Unconventional Policy Tools," *Macro Notes*, Institute of International Finance, June 24, 2020.

¹³ *Transcripts of IMF Press Briefings*, Gerry Rice, June 4, 2020 (<https://www.imf.org/en/News/Articles/2020/06/04/tr060420-transcript-of-imf-press-briefing>) and June 18, 2020 (<https://www.imf.org/en/News/Articles/2020/06/19/tr061820-transcript-of-imf-press-briefing>).

to private creditors, which total another \$8.5 billion this year, would participate in this effort as well. However, the practical challenges of coordinating this outcome proved infeasible, and this prong of the effort has been shelved.

Finally, the substantial monetary stimulus being provided by the Fed, the ECB, and other DM central banks is also spilling over to the emerging markets through, for example, improved functioning of global markets and generally more stimulative financing conditions, which supports the EMs' debt-management efforts. In addition, several DM central banks have taken actions to directly address emerging-market stresses. For example, the Fed re-opened swap lines with Mexico, Brazil, Korea, and Singapore and also established an EM repo facility. The ECB has opened swap lines with Bulgaria and Croatia and a repo line with Romania. While this direct support has fallen short of what some observers had desired, these actions have been substantive, and it's reasonable to expect that DM central banks would do more if stresses flared back up.

The Bottom Line—Which Countries are Most Vulnerable?

Figure 10 draws together observations from each of the four lenses to assess overall vulnerability. Specifically, we rank each country according to its broad exposure to the virus (Figure 1), pre-existing macro vulnerability (Figure 3), and expected fiscal deterioration (Figure 7). Given our finding that external vulnerabilities seem less threatening, we focus only on these three variables, which we believe will be the key determinants of EM vulnerability during the year ahead.

Figure 10: Tallying Overall Vulnerabilities (Rankings)

	Virus	Pre-Existing Macro	Change in Fiscal Balance	Ave.	Total	Memo: Rate Cuts (bps)
Most Vulnerable:						
Brazil	3	5	3	3.7	1	200
South Africa	7	3	4	4.7	2	250
Romania	5	9	10	8.0	3	75
Hungary	6	10	9	8.3	4	15
Mexico	1	14	11	8.7	5	200
Chile	10	11	6	9.0	6	125
Egypt	8	2	22	10.7	7	300
Argentina	15	4	13	10.7	8	200
Least Vulnerable:						
Philippines	9	21	18	16.0	21	100
Nigeria	21	8	23	17.3	22	100
Thailand	14	24	15	17.7	23	50
Vietnam	22	18	24	21.3	24	100
Korea	25	20	20	21.7	25	75

Source: PGIM Fixed Income

Consistent with the discussion above, Brazil and South Africa stand alone at the top of the list. Their exposures across all three of the measures are significant. However, even for these countries, we see some notable mitigating factors. Both have credible central banks, which—as shown in the last column—are providing monetary support. Further, the deficits in both countries are being domestically financed and largely reflect active efforts to provide stimulus. Brazil has amassed a sizable reserve buffer, while South Africa has opened discussions with the IMF about possible assistance. As such, we will continue to closely monitor developments in these countries, but we are not expecting imminent disruptions.

After Brazil and South Africa, the remainder of the list is more of a mixed bag, with different countries showing different types of vulnerability. For example, Romania, Hungary, Mexico, and Chile—which are next on the list—entered this episode with moderate macro vulnerabilities, but they have since been hit relatively hard by the virus and/or fiscal deterioration. In contrast, vulnerabilities in Egypt and Argentina flow distinctly from their substantial pre-existing macro challenges.

Notably, the five least vulnerable countries include four in Asia plus Nigeria. Nigeria's inclusion is surprising, given its pre-existing macro vulnerabilities and the fact that it's a large oil exporter. But our work suggests that Nigeria is showing remarkable resilience through the recent disruptions, scoring near the bottom for both virus vulnerability and projected fiscal deterioration.

Conclusions and Investment Implications

While the COVID-19 wave has swept over developed and emerging-market economies alike, the EMs seemed to bear a particular blow as stresses materialized in March 2020. These countries were reeling from a marked drop in capital inflows and risk appetite, which was compounded by collapsing global demand. Further, as commodity exporters, many of them also felt pain from the related drop in the price of oil and other commodities.

From an investment perspective, we have aimed to navigate through this turbulence by focusing on the granularities of each country's vulnerabilities, drawing on analysis similar to that in our paper. This effort, in turn,

has unearthed two broad classes of relative-value opportunities.

First, we have had chances to add to some less-vulnerable names that are typically infrequent issuers. Some of these countries, for example, tapped the market to secure long-term fiscal financing. Given the ongoing stresses, this issuance has been priced at spreads significantly wider than prior to the selloff.

Second, many weaker, lower-rated countries have gained access to emergency funding from the IMF or, alternatively, have traded at levels that attractively compensate for a deterioration in fundamentals. In some instances, these countries have also maintained adequate buffers or market access. Drawing on our country assessments, we have increased exposures to a select set of these issuers. Such decisions have been driven in large measure by relative-value considerations, given that emerging-market high-yield spreads trade at historically attractive levels. In tandem, we have also reduced exposure to other lower-rated issuers where either the fundamentals seemed less solid or the pricing was less attractive.¹⁴

While the path of EM spreads through the months ahead remains uncertain, we continue to see scenarios in which EM sovereign debt bounces back over a relatively short timeframe. If so, the current episode would become another entry on a lengthy list of shocks that acutely affected EM sovereign debt, only to then see the asset class recover quickly. This upside possibility is supported by some of the key findings in our paper, particularly that the burden of the current stresses is dispersed across countries and that policymakers are vigorously providing support. Further, in some deep sense, EM financial markets are accustomed to volatility. The very fact that these markets have survived disruptions in the past should aid their resilience through this episode.

¹⁴ Comparing EM-debt asset classes, we continue to find the most opportunity in hard-currency assets. Hedged local bonds outperformed during the initial market downturn, but have lagged the recovery in hard-currency spreads over the past few months. The rebound in EM FX has been relatively uneven.

The EM Experience with the Coronavirus

By Gerwin Bell, PhD, Principal, Lead Economist for Asia, Global Macroeconomic Research Team

The spread of SARS-CoV-2 to EM is raising significant concerns about the ability of EMs to cope. The initial focus was on China, where the virus emerged in Wuhan in late 2019, and then shifted to developed markets. More recently, concerns have turned to the EMs, noting their generally weaker health systems, lack of funding and fiscal space, as well as potential virus spread accelerators, such as the prevalence of intergenerational housing and crowded, informal housing arrangements.

So far, these concerns have not been borne out. While much of press coverage focuses on reported cases, inconsistent testing renders international comparisons case largely meaningless. Analyzing fatalities reduces these inconsistency issues. Figure A depicts per-capita fatalities in major EMs (in bars) comparing them to levels in U.S., Italy, and Japan (dotted lines). Most EM record many fewer per-capita fatalities than DM, some even rival the Japanese experience, which is widely considered to be exemplary.

The perhaps surprising EM experience is also a reflection of the less-than-initially feared toll in developed markets. Early DM reactions were informed by dramatic forecasts of the virus' incidence and lethality (e.g., the Imperial College model), while more benign assessments at the time were dismissed. But now, with the availability of randomly administered antibody tests, which permit an assessment of the true infection incidence, infections are now seen to be an order of magnitude (or more) higher than recorded cases—e.g., one quarter of the population in NYC—and thus result in much lower infection-fatality rate estimates. Finally, linking the quality of countries' public health systems to coping with the virus appears to not be straightforward, as highlighted by the experience of France and Italy, which a WHO study had ranked as the best systems in the world.

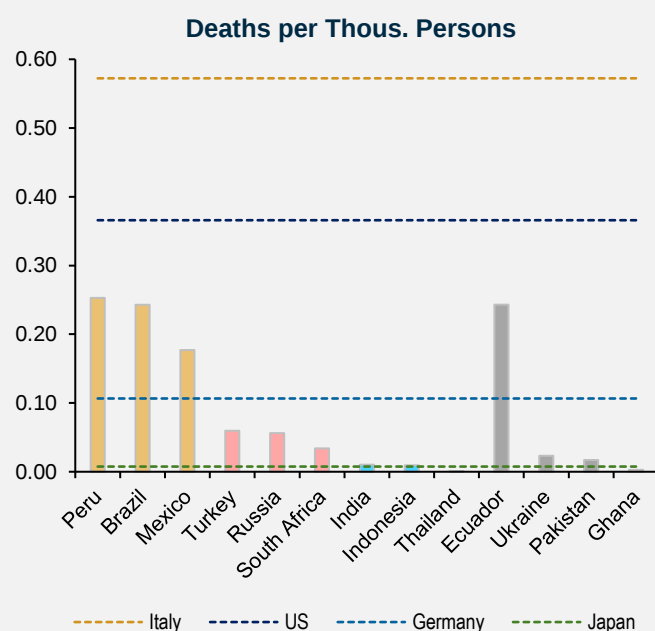
Important other mitigating factors have so far resulted in more favorable EM trends. DM data show the average age of SARS-CoV-2 deaths is some 80 years. EM populations are typically younger with much lower shares of over 80 years old (e.g., 0.7% in South Africa, about a tenth of Italy's share). Adjusting for this fact explains a significant part of the better EM performance, but other factors are also at play, as some well performing EMs like Thailand have older populations. While it is too early to arrive at conclusions, one factor benefitting the EMs is their later outbreak, which permits them to build on lessons from DM. Moreover, some risk factors, such as obesity and diabetes, are usually less prevalent in EMs.

Some regional differentiation has emerged (along similar lines observed in DM). In general, Asian countries record the lowest fatality rates, followed by European countries and the Western hemisphere, a pattern that holds for DM, EM and frontier markets. At this stage, there are only tentative, if not entirely speculative, explanations. Perhaps, past experience with respiratory viruses like SARS and MERS in Asia has resulted in better societal and public health preparedness; or perhaps existing vaccinations in these regions, e.g. against smallpox, lower the incidence of the virus. Only time will tell if these differences hold up and what explains them, but for now, they are somewhat encouraging for EM.

These relatively positive EM trends notwithstanding, there are risks ahead. First, public perceptions are still disproportionately focused on reported cases. With large populations in EM, high case counts should be expected, and up-scaled testing will reveal more of them (even if underlying infections remain the same), but could also trigger perceptions of more severe outbreaks. It is thus important that observers place virus fatalities in the broader context of overall fatalities (Table 1). The second risk is related to the time path of fatalities. In contrast to DMs, which witnessed an initial surge followed by continuing declines, the growth curves in some EMs, notably in Asia, are much flatter. A similar pattern has been visible in Japan, the DM with the lowest fatalities. In any event this issue deserves monitoring.

Public health concerns are now broadening to collateral damage from the lockdowns. EMs have, in general, less developed social safety nets and less fiscal space than DMs. Prolonged lockdowns thus impact the poorest the hardest, and observers have noted unintended consequences on food security, basic health and poverty, while heightened political instability risk remains a concern. Moreover, the sharp drop in global growth also imparts adverse knock-on effects. Against this background, investors should not be surprised if some EMs re-open at an accelerated pace, and, if the initial assessment of lower virus fatalities in EM outlined above holds up, that would even be sound policy.

Figure 1: Per-capita Fatalities from SARS-CoV-2



Data retrieved from Johns Hopkins and is through 6/22/20.

Figure 2: Fatalities in Selected Countries

		Covid Deaths (as of 6/22/20)	Total Deaths (est., 2019)*	Share
DMs:	US	120,402	2,822,390	4.27%
	Italy	34,657	629,842	5.50%
	Germany	8,899	928,041	0.96%
	Japan	955	1,307,169	0.07%
	Brazil	51,271	1,342,064	3.82%
EMs:	Mexico	22,584	750,272	3.01%
	India	14,011	9,895,599	0.14%
	Russia	8,196	1,874,459	0.44%
	Peru	8,223	176,337	4.66%
	Turkey	4,974	452,188	1.10%
	Indonesia	2,500	1,747,700	0.14%
	South Africa	1,991	568,015	0.35%
	Thailand	58	524,768	0.01%
FMs:	Ecuador	4,223	88,606	4.77%
	Pakistan	3,695	1,525,270	0.24%
	Ukraine	1,022	668,747	0.15%
	Ghana	85	227,617	0.04%

* Death rate (as calculated by the UN) x population.

Appendix

Figure A: Virus Vulnerability Raw Data (2019)

	"Direct" Effects	"Indirect" Effects			
	Covid Fatalities*	Services	Net Remittances	Net Int'l Tourism	Net Oil Exports
	Per Million	% of GDP	% of GDP	% of GDP	% of GDP
Argentina	28	55.5	0.0	-1.4	-0.6
Brazil	271	63.0	0.1	-0.9	0.3
Chile	288	57.9	-0.2	0.3	-3.9
China	3	52.2	0.0	-1.8	-2.3
Colombia	61	57.7	2.0	0.3	6.3
Egypt	27	51.4	10.0	3.9	-2.8
Hungary	61	55.5	1.9	3.9	-3.8
India	12	49.1	2.6	0.1	-4.4
Indonesia	10	43.4	0.6	0.4	1.0
Iraq	46	42.0	0.1	-2.6	32.4
Korea	5	53.6	-0.2	-0.9	-5.8
Malaysia	4	53.0	-2.5	2.4	2.0
Mexico	207	60.1	3.0	0.8	-1.4
Nigeria	3	52.0	6.1	-2.8	11.5
Pakistan	19	52.7	7.8	-0.7	-5.3
Peru	283	53.7	1.5	0.7	-1.2
Philippines	11	60.0	10.1	-0.8	-3.9
Poland	38	56.8	-0.1	0.9	-2.9
Romania	85	57.1	3.0	-0.8	-1.7
Russia	63	54.1	-0.7	-1.2	14.2
Saudi Arabia	46	48.4	-4.0	-0.1	28.9
South Africa	41	61.0	0.0	0.9	-2.0
Thailand	1	56.9	0.3	10.0	-6.2
Turkey	60	54.3	-0.1	4.2	-5.0
Vietnam	0	41.1	6.4	1.7	-2.8

*As of 6/29/2020

Figure B: Macro Vulnerability Raw Data (2019)

	Current Account Balance	Fiscal Balance	General Government Debt	FX Reserve Adequacy
	% of GDP	% of GDP	% of GDP	% of Reserves
Argentina	-0.8	-3.9	88.7	82.9
Brazil	-2.7	-6.0	89.5	157.7
Chile	-3.9	-2.6	27.9	92.2
China	1.0	-6.4	54.4	83.0
Colombia	-4.3	-2.2	52.9	138.5
Egypt	-3.6	-7.4	83.8	82.4
Hungary	-0.8	-2.0	66.3	105.5
India	-1.1	-7.4	71.9	166.5
Indonesia	-2.7	-2.2	30.4	110.9
Iraq	-1.2	-0.8	51.1	212.7
Korea	3.7	0.9	40.7	108.4
Malaysia	3.3	-3.2	57.2	115.9
Mexico	-0.2	-2.3	53.4	114.6
Nigeria	-3.8	-5.0	29.4	106.1*
Pakistan	-5.0	-8.8	83.5	32.1
Peru	-1.4	-1.4	26.7	282.0
Philippines	-0.1	-1.9	38.6	203.8
Poland	0.5	-0.7	46.7	131.8
Romania	-4.7	-4.6	37.3	135.4
Russia	3.8	1.9	14.0	309.9
Saudi Arabia	6.3	-4.5	22.8	394.9*
South Africa	-3.0	-6.3	62.2	75.2
Thailand	6.9	-0.8	41.1	220.7
Turkey	1.1	-5.3	33.0	85.9
Vietnam	4.0	-3.3	42.9	148.5*

*Estimated using FX reserves relative to Imports and GDP

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Source(s) of data (unless otherwise noted): PGIM Fixed Income as of July 2020.

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PGIM ジャパン株式会社
金融商品取引業者 関東財務局長（金商）第 392 号
加入協会 一般社団法人 投資信託協会、一般社団法人 日本投資顧問業協会
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