10. Fiscal space: Asia's fiscal safety net has shrunk

Andrea F. Presbitero¹

1. INTRODUCTION

The COVID-19 pandemic hit developing Asian countries (henceforth, developing Asia), causing the first recession in nearly 60 years: the Asian Development Bank (ADB) (ADB 2020a) projected gross domestic product (GDP) growth at -0.7 percent in 2020, with much sharper contractions in South Asia (-6.8 percent) and the Pacific (-6.1 percent). The recovery is expected to be gradual and highly contingent on the development of the pandemic and on the global outlook, which would drive global import demand and capital flows to the region. The COVID-19 crisis is putting public finance under severe stress and has come when debt vulnerabilities have increased substantially in recent years—several countries were already at high risk of debt distress even before the pandemic (UNCTAD 2019; IMF 2020d; World Bank 2020a; Chapter 4 in this volume; Kose et al. 2020). In addition, progress to achieve the Sustainable Development Goals (SDGs) in developing Asia have been so far lower than expected (ADB 2020b), and countries also have to invest massively in infrastructure—the latest estimates of the infrastructure investment gap in developing Asia are close to \$1.7 trillion per year (ADB 2017).

Given the importance of investment spending especially in infrastructure, not only for achieving the SDGs but also to promote inclusive and sustainable growth and mitigate climate change (Thacker et al. 2019), governments should make efforts to preserve investment spending to the extent possible, given the current circumstances. If anything, the case for public investment in developing countries is stronger in crisis and uncertain times when public investment multipliers are likely to be higher (Izquierdo et al. 2019; IMF 2020b). The International Monetary Fund (IMF) recently showed that public investment can help the recovery by sustaining employment, fostering economic activity, and facilitating the transformation to a post-pandemic economy (IMF 2020b).

However, the fiscal response has to take into account the risks that an increase in public investment could pose to debt sustainability, especially for countries that already had limited fiscal space even before the crisis. In addition, limited market access and high borrowing costs (especially for countries with foreign-currency-denominated debts) have constrained the capacity of many developing countries to expand investment. The most recent data show that, on the back of continued decline in global interest rates and the deployment for the first time of unconventional monetary policies by central banks, financial conditions for most emerging and developing economies (EMDEs) have eased after the COVID-19 shock. However, in many emerging markets sovereign bond spreads are still above the pre-COVID-19 levels (and

financing conditions more generally are still tighter), reflecting a deterioration in domestic economic activity (IMF 2020c; World Bank 2020b). Thus, developing countries have to carefully balance the fiscal response to the crisis between the need to preserve social spending and public investment, which serves longer-term targets, and the risks of endangering debt sustainability.

Against this background, this chapter looks at the size of the COVID-19 shock and at fiscal space in developing Asia and other EMDEs to discuss how countries are dealing with the crisis and which policy options protect social and investment spending.² We start by discussing the importance of public investment for growth and development, with a focus on infrastructure spending. We then argue that public investment could deliver large economic effects, especially under certain macroeconomic conditions, although there are caveats which have to be kept in mind when scaling up investment programs. We also discuss new evidence based on ADB investment projects showing pervasive time delays and cost overruns and that projects are likely to absorb more resources than expected when they are undertaken in periods of high growth in public investment. Consistent with the evidence, the literature highlights the risks for debt sustainability of front-loading investment plans, while arguing for a more gradual scaling up.

Section 3 describes in detail the size of the economic shock due to the COVID-19 global crisis, looking both at revisions in economic growth and in the fiscal stance and comparing developing Asia with other developing countries. The response to the shock is not only a function of the size of the economic contraction, but critically depends also on the fiscal conditions in which countries entered the crisis. Hence, we look at different measures of fiscal space, which can be thought of as “the room in a government’s budget that allows it to provide resources for a desired purpose without jeopardizing the sustainability of its financial position [, market access] or the stability of the economy” (Heller 2005). First, we consider the evolution of the overall fiscal balance and public debt since the early 2000s, and then we compute the fiscal sustainability gap (Kose et al. 2017), which measures the fiscal balance required to achieve a given debt target, given the existing macroeconomic environment. We show that, on average, developing countries have to deal with the current crisis from a weaker fiscal position than the one they had before the global financial crisis (GFC). However, we also find that developing Asia was in a better position before the COVID-19 shock than other developing countries, because of a more prudent fiscal policy in recent years. The current crisis (with declining growth and worsening fiscal balances) and trends in development finance (with expected large declines in remittances and private capital inflows) are exacerbating the limited fiscal space already faced by many developing countries (OECD 2020). This trend has important consequences for the capacity to implement countercyclical fiscal policy and for debt sustainability, as we find that limited initial fiscal space is associated with a sharper increase in sovereign bond spreads after the COVID-19 shock.

Then, section 4 delves into the policy response to COVID-19, discussing preliminary evidence and data on discretionary fiscal spending. As expected, we find that countries with more fiscal space have been able to further expand their discretionary fiscal spending. However, there are large differences across countries, both in terms of the envelope of the response and in its composition, especially between above- and below-the-line measures. Second, we look at public investment. In this case, data limitations are more severe, but some preliminary evidence suggests a reduction in budgeted investment, although countries in developing Asia

seem to be better able to insulate public investment from the shock than other developing countries. Finally, an important legacy of the crisis is growing public debt burdens, which could act as an important constraint, especially for low-income economies.

Section 5 moves from these considerations to discuss policy options in light of the SDGs. Given the large financing needs and the infrastructure investment gap, countries have to scale up investment, mobilizing both public and private resources. In the short term, authorities have to prioritize the health crisis, protecting health and social expenditures until the end of the pandemic. In the medium term, priorities should shift back to the original plans, but with the additional constraint of a reduced fiscal space. This would require stronger involvement by the international community, through direct and indirect mobilization of resources and, especially in the case of low-income countries, through a more upfront plan to deal with public debt overhang. The current response is treating the shock as a liquidity crisis, which is dealt with by suspending debt service payments. While this can provide some liquidity support and relax financing conditions, it is likely to be insufficient going forward. As the crisis becomes an issue of solvency, full debt relief should be discussed to increase fiscal space and reduce the debt overhang. Less-indebted countries have more space to borrow and already invest in the short term to improve living standards and to be able to achieve the SDGs. In doing so, the increasing availability of non-concessional sources of financing and the rise of new lenders pose both opportunities and risks. Hence, strengthening the macroeconomic policy framework, developing a sound and prudent debt management strategy (including improving the transparency of government balance sheets), and exploiting capacity building and technical assistance provided by international financial institutions (IMF 2017b) are priorities that would allow the development of a sustainable financing mix (see Chapter 14 in this volume). In this respect, greater reliance on innovative state-contingent debt instruments and a further shift toward local currency and longer-term borrowing could help mitigate vulnerabilities. Finally, the private sector should play a key role in financing the infrastructure gap, and multilateral development institutions can contribute by mobilizing private sector financing and assisting countries in improving project selection, execution, and capacity building.

2. THE CASE FOR SCALING UP INFRASTRUCTURE INVESTMENT

This section provides a short overview of the importance of infrastructure investment for economic development, while also providing some caveats about the risk of scaling up investment programs too fast. There are two main motives for the case for public investment. First, developing countries have to fill a large infrastructure gap to achieve the targets of the 2030 Development Agenda (Gurara et al. 2018; UNCTAD 2014). While the COVID-19 shock will be likely to impose a halt to investment plans, especially in countries with no fiscal space, it is important to minimize long-term consequences. Second, public investment does not only contribute to long-term sustainable development, but could also help the recovery phase—a recent analysis shows that public infrastructure investment has a strong potential to create jobs also in developing countries (IMF 2020b). In particular, other than having traditional Keynesian demand effects, infrastructure investment has the additional advantage that it can change the path of potential output. If a short-run increase in government spending also raises the stock of productive public capital or long-run total factor productivity, then government spending

provides two benefits: Keynesian demand stimulus in the short run and neoclassical supply stimulus in the long run (see Ramey 2020).

The literature on fiscal multipliers suggests that an investment push in the current macroeconomic environment is likely to have large economic dividends. Public investment multipliers, in fact, are higher in recessions (Auerbach and Gorodnichenko 2012; Fatás and Summers 2018; IMF 2020a), when monetary policy is loose (Christiano et al. 2011; Ramey and Zubairy 2018), and in periods of high uncertainty (IMF 2020b). Moreover, as countries with a low initial stock of public capital have significantly higher public investment multipliers, public investment in developing countries is likely to carry high returns (Izquierdo et al. 2019). Two potential concerns are that investment multipliers are likely to be lower when the fiscal position is weaker and public debt higher (Huidrom et al. 2019; Ilzetzki et al. 2013) and when public investment efficiency is low.³ Hence, the case for public investment would critically depend on the fiscal stance and require upfront policies to restore fiscal space before planning to increase investments.

2.1 Long-Term Effect of Infrastructure Investment

Infrastructure investment is a key component of the 2030 Development Agenda.⁴ However, the interest around infrastructure is not new (Rosenstein-Rodan 1943) and, over the last two decades, a large body of literature has analyzed the potential development gains from investing in infrastructure. Improvements in infrastructure could raise productivity, stimulate private investment (Cavallo and Duade 2011), and facilitate domestic and international trade (Bougheas et al. 1999), thereby promoting sustainable growth (Esfahani and Ramirez 2003; Agenor 2010; Calderon and Servén 2010). In particular, Calderon et al. (2015) estimate that a 10 percent increase in infrastructure provision increases output per worker by about 1 percent in the long run. Closer to the recent developments in Asia, Yang et al. (2020) show that the Belt and Road Initiative (BRI) could spur regional growth and development by promoting infrastructure investment.

Recent work done with granular data on transportation networks finds positive long-run effects on economic activity. Jedwab and Storeygard (2021) study transportation investments in Africa since 1960 and show that increased market access enhances city growth, favoring urbanization. The historical experience of colonial Africa and India sheds light on how infrastructure investment shapes economic activity. The analysis of railroads in Ghana and Kenya shows that infrastructure investment can produce long-term economic gains by reducing trade costs and integrating markets, potentially transforming the economic landscape in poor, remote regions with high trade costs (Jedwab and Moradi 2016; Jedwab et al. 2017). Similar findings have been shown for colonial India, where railroads decreased trade costs and inter-regional price gaps and increased interregional and international trade as well as real income level (Donaldson 2018). Recently, the BRI represents a good setup to assess how transport infrastructure could promote growth. De Soyres et al. (2020) calibrate a structural general equilibrium model and show that transport projects, by reducing trade costs, could increase GDP by up to 3.4 percent.

But the gains from infrastructure investment are not always spread equally. While increased access to essential services could reduce inequality, foster inclusion, and support poverty reduction efforts (Calderon and Chong 2004; Calderon and Servén 2010), micro-level evi-

dence shows that the distributional effect of infrastructure investment could vary. For instance, Khandker et al. (2009) look at road improvement projects in Bangladesh and find overall positive effects on output and poverty reduction; they also show that the poorest households are those benefiting the most. Similarly, Jedwab and Storeygard (2021) find evidence of heterogeneous effects of transportation investments in Africa, which seem to favor small and remote cities. The extensive highway network built in the People's Republic of China (PRC) since the 1990s has also differentiated spatial effect on economic activity, with winners and losers. Large cities in the center of a dense regional highway network grow faster and specialize in business services and manufacturing, while the hinterlands grow more slowly and become relatively more specialized in agriculture (Baum-Snow et al. 2017). Similar concerns are raised by the analysis of the BRI, whose gains, although positive on aggregate, are unevenly distributed across countries, with some economies potentially losing from the infrastructure investment (De Soyres et al. 2020). These findings point to the importance of anticipating distributional effects of infrastructure projects and planning offsetting measures if such effects are expected to be negative.

2.2 Inefficiencies and Capacity Constraints

While a large body of empirical studies suggests that investment in infrastructure could deliver long-term gains, the historical analysis of previous episodes of investment scaling up suggests some caution. For example, in the 1980s, a wave of public-financed infrastructure investment delivered poor results in terms of short- and long-run economic growth, mostly because of cost overruns, corruption, and poor maintenance (Arezki et al. 2017; Warner 2014). After this negative experience, the private sector started playing a more prominent role in financing infrastructure investment, partly through public-private partnership. However, this shift ended up generating an increase in construction and maintenance costs in several developing countries (Estache and Fay 2007).

Understanding what drives the outcome of individual projects is a daunting task, and the evidence indicates that most of the variation in the data is due to project characteristics (Denizer et al. 2013). In particular, measures of project preparation and planning are generally associated with better project outcomes. However, the quality of local institutions and macro-economic conditions matter, too, and contribute to explain the poor records of public investment booms. In particular, projects are less likely to be successful when undertaken in periods of rapid scaling up of public investment (Isham and Kaufmann 1999; Presbitero 2016), as it could be in a scenario needed to meet the infrastructure investment gap, which is estimated at 2.4 percent of GDP in developing Asia (ADB 2017).

To better understand why projects could turn out less successful than expected, some studies have documented the pervasiveness of delays in project execution and of cost inflation and have looked at the factors which may explain these patterns (Flyvbjerg 2009; Ahsan and Gunawan 2010; Serebrisky et al. 2017; IMF 2020b). A recent analysis of World Bank investment projects (IMF 2020b) shows that more than 40 percent of projects cost more than estimated and about three-quarters are completed in a longer-than-expected time frame. In addition, project delays and cost increases are more severe for projects that are approved and undertaken when public investment is significantly scaled up.

Notes:
GDP = gross domestic product.
Panel A reports the share of investment projects that are completed with time delays and costs higher than those estimated at appraisal. For projects with time delays and additional costs, the columns on the right-hand side report the average time delay and cost overrun. Time delay is the difference between the final length of the project and the estimated one, divided by project length. Cost overrun is the difference between actual and estimated costs divided by the estimated cost. Panel B is a binned scatterplot. A regression of cost overrun against public investment as share of GDP, controlling for per capita GDP (in logs), real GDP growth, log of population, a measure of public investment efficiency, a large set of project-level characteristics, and year and sector fixed effects, gives a coefficient on the public investment variable of +1.23 (p-value = 0.00). To generate the binned scatterplot, starting from the sample of 262 projects, the cost overruns (y-axis) and the public investment variable (x-axis) are regressed against controls and fixed effects. The x-residuals are grouped into 25 equal-sized bins, then the charts plot for each bin, the mean of the cost overrun within each bin, holding the controls constant. The solid line is the linear fit of the Ordinary Least Squares (OLS) regression of the y-residuals on the x-residuals.

Sources: ADB project level data; and IMF World Economic Outlook.

Figure 10.1 Time delays and cost inflation in investment projects

Data from a sample of projects financed by ADB in the region between 1986 and 2016 show a similar picture. First, the majority of projects are completed later than planned and the delay is often substantial: almost three-quarters of projects are completed with a 50 percent increase on the original time frame. Data on cost overruns, available for a smaller set of projects, indicate that about two-thirds of projects cost more than estimated at appraisal, although the magnitude of the cost increase is relatively small (Figure 10.1, panel A). In addition, there is a strong positive association between cost overruns and the share of public investment over GDP (Figure 10.1, panel B), even taking into account the effect of project-level and macroeconomic characteristics. In particular, cost overruns tend to be large when public investment is above 10 percent of GDP. This result is consistent with a study on the unit costs of infrastructure projects, which shows that they increase when public investment is close to 10 percent of GDP (Gurara et al. 2020).

This body of evidence suggests that scaling up public investment too much and too fast can lead to absorptive capacity constraints and cost inflation, undermining the returns from public investment (Buffie et al. 2012; Berg et al. 2013; Presbitero 2016). Thus, while an investment push could stimulate the economy, help the recovery from the pandemic crisis, and make progress toward the SDGs, any plan has to be carefully designed and implemented. Focusing on maintenance spending and on existing projects that can be executed quickly and with limited administrative costs could provide immediate benefits in terms of jobs and growth. At the same time, planning a gradual scale-up over the medium term by identifying a pipeline of projects and a set of areas where investment is needed to help the transition to a more inclusive and resilient economy could minimize the potential effects of absorptive capacity constraints and make the investment plan fiscally viable.

3. THE COVID-19 SHOCK AND FISCAL SPACE

Not all countries have enough fiscal space to undertake a large expansion of public investment. Budgetary constraints are expected to become more critical because of the COVID-19 outbreak, which is severely affecting the countries in the region through multiple contemporaneous domestic and external shocks—other than the immediate health shock, economies are hit by commodity price shocks, tighter financial conditions, capital flow reversals, and possible reduction in donors' aid budgets. While the case for infrastructure investment is strong for achieving the SDGs and coping with the ongoing crisis, limited fiscal space is likely to constrain the way in which governments can deal with the COVID-19 shock. Not only could this have short-term implications, but also longer-term effects if investment programs are curtailed or delayed.

3.1 The Extent of the Economic and Fiscal Shock

We measure the extent of the macroeconomic shocks due to COVID-19 by comparing the IMF projections from the October 2019 vintage (pre-COVID-19) with those released in June 2020. We look at changes in real GDP growth and in the fiscal balance (measured as a share of GDP). On average, the economic contraction due to the COVID-19 shock in developing Asia is about 7.4 percentage points, smaller than in non-Asian countries, where the GDP growth revision is −9.7 percentage points, on average. However, the fiscal shock has also been

smaller, 5.4 percent versus 6.1 percent of GDP. Figure 10.2 plots the size of the fiscal and growth shocks and points out that, while developing Asian countries seem to behave in line (if not better than other countries) in terms of growth, the fiscal shock has been particularly large, especially in a few countries.⁵ In the following, we provide measures of initial fiscal conditions and we discuss the preliminary evidence about the fiscal reaction to the crisis, to understand what the implications and the priorities for the 2030 Development Agenda could be.

Notes:
GDP = gross domestic product; IMF = International Monetary Fund; WEO = World Economic Outlook.
The chart plots the COVID-19 growth and the fiscal shocks separately for Asian and non-Asian countries. Shocks are computed as differences in the 2020 real GDP growth rate and the fiscal balance (as a share of GDP) between the IMF WEO forecasts published in June 2020 (post-COVID-19) and October 2019 (pre-COVID-19). Data for Afghanistan and Myanmar were valid as of 14 December 2020 and may have changed thereafter because of major recent events affecting both countries.
Sources: IMF World Economic Outlook, different vintages.

Figure 10.2 The COVID-19 shock in developing countries

3.2 Fiscal Space

To understand how countries can cope with the negative COVID-19 shock, and especially whether they can protect investment and social spending, it is crucial to look at the macroeconomic conditions before the shock. In this context, a key concept to measure the capacity of countries to mitigate the impact of an adverse shock is fiscal space. This is a multidimensional concept, which is difficult to operationalize in just one indicator or in a common threshold. As noted in the Introduction, a simple and clear definition is that fiscal space measures “the room in a government’s budget that allows it to provide resources for a desired purpose without jeopardizing the sustainability of its financial position [, market access] or the stability of the economy” (Heller 2005). In practice, discretionary fiscal policy could take the form of either

an outright fiscal stimulus or a slower pace of fiscal consolidation, and having fiscal space implies that such policy change neither undermines debt sustainability nor triggers a negative response by financial markets.

Notes:

GDP = gross domestic product; IMF = International Monetary Fund; WEO = World Economic Outlook.

The charts show the median public debt-to-GDP ratio (panel A) and overall fiscal balance over GDP (panel B) for two group of countries: developing Asia and other EMDEs.

Source: IMF World Economic Outlook.

Figure 10.3 *Fiscal stance*

At first approximation, public debt can be taken as a proxy for fiscal space. From the viewpoint of this analysis, which looks at the capacity to invest, large public debt stocks could have three main adverse effects on the economy. First, as shown in the early contributions on debt overhang (Krugman 1988; Sachs 1989), high public debt could depress investment decisions, as agents anticipate that future returns will be used to serve the debt. Second, a high public debt limits the capacity to undertake countercyclical fiscal policy and run large primary balances (Bohn 1998; Laubach 2009). Third, a high—and increasing—public debt is a source of vulnerability and risk, making countries more exposed to financial crisis and undermining debt sustainability, especially in EMDEs which borrow in foreign currency (Kraay and Nehru 2006; Manasse and Roubini 2009; Bassanetti et al. 2018). In particular, a higher (and increasing) public debt is associated with a sharper increase in borrowing costs in response to domestic and global shocks (Presbitero and Wiriadinata 2020), exposing countries to a higher likelihood of adverse dynamics of the interest rate–growth differential, which affects debt sustainability.

These results are relevant in the current context, in which public debt has been rising, especially in some countries (e.g., Armenia, Maldives, and Pakistan, among others). Overall, developing Asian countries are better positioned than other EMDEs. In fact, while public debt for the median country was close to 35 percent of GDP in both groups from the GFC until 2014, in the most recent years the increase in public debt has been much sharper outside developing Asia, with public debt in 2019 being 53 percent of GDP in the median non-Asian country and 41 percent in the median developing Asian country (Figure 10.3, panel A).⁶ This trend reflects differences in the fiscal stance: the overall fiscal deficit in (the median) developing countries outside Asia ranged between 2.6 percent and 4 percent of GDP in the post-GFC period, while (the median country in) developing Asia managed to keep the deficit between 1 percent and 2.5 percent of GDP (Figure 10.3, panel B).

To look more carefully at the capacity to use the fiscal level to mitigate negative shocks, we follow Kose et al. (2017) and we use the fiscal sustainability gap (*FS GAP*) as a key measure of fiscal space. The fiscal sustainability gap is the difference between the overall fiscal balance (*FB*) and the one required to stabilize the debt-to-GDP ratio (*DEBT*) at a given target. More formally:

$$FS\ GAP = FB - \left(\frac{-g}{1+g} \right) DEBT^* \quad (10.1)$$

where g is the growth rate of nominal GDP. This indicator is constructed using the (yearly) observed values of the fiscal balance and growth, plus a public debt target, which—in line with Kose et al. (2017)—we define as the long-run average computed separately for advanced and emerging markets, and developing economies. As such, the fiscal sustainability gap provides a simple snapshot of the adjustments that may be needed to reach a given debt target, depending on macroeconomic conditions. Looking at the period around the GFC, as well as years around financial crises, Kose et al. (2017) show that the fiscal sustainability gap, as well as other indicators of fiscal space, improved in many EMDEs over the years prior to the crisis, but deteriorated during and after the crisis, because of increasing public debts, widening deficits, and slowing growth.

In line with those trends, Figure 10.4 shows that fiscal sustainability improved, for both Asian and other EMDEs, in the run-up to the GFC and sharply deteriorated thereafter. By contrast, the trend has reversed in recent years. After a quick rebound after the GFC, the fiscal sustainability gap started declining—and henceforth the fiscal position became less sustainable—especially in EMDEs outside developing Asia. As a result, many countries entered the COVID-19 crisis not from a strong and improving fiscal position, but from a weak and worsening one. That said, it is worth noting that developing Asia had a *positive* (although decreasing) gap between 2017 and 2019.

Notes: The chart shows the median fiscal sustainability gap for two groups of countries: developing Asia and other EMDEs. The fiscal sustainability gap is computed as in Kose et al. (2017); see main text for details.

Sources: IMF World Economic Outlook; and Kose et al. (2017).

Figure 10.4 Fiscal sustainability gap

Figure 10.5 plots the distribution of the fiscal sustainability gap before the COVID-19 pandemic (as of the end of 2019) to before the GFC (as of the end of 2007), separately for countries in developing Asia and for the other EMDEs. The figure shows that the distribution shifted considerably to the left between 2007 and 2019, especially for non-Asian developing countries. Before the GFC, 93 percent of countries had fiscal space (e.g., a positive gap) and more than half of the sample had a gap larger than 5 percent of GDP. Instead, in 2019 the share of countries with a positive gap more than halved to 44 percent—meaning that the majority of countries had no fiscal space—and those with a gap larger than 5 percent of GDP declined to 10 percent.

Notes:
EMDEs = emerging and developing economies; GFC = global financial crisis.
The chart plots the distribution of the fiscal sustainability gap separately for developing Asia and other emerging and developing countries, both in 2007 (pre-GFC) and 2019 (pre-COVID-19). The fiscal sustainability gap is computed as in Kose et al. (2017). See main text for details.
Sources: IMF World Economic Outlook; and Kose et al. (2017).

Figure 10.5 Fiscal sustainability gap before crises

Thus, EMDEs as a group have to face the COVID-19 shock starting from a significantly weaker fiscal position than at the time of the GFC. However, unlike that crisis, developing Asia now looks to be in a relatively better position than other EMDEs, mostly because several countries have run smaller fiscal deficits in recent years (Figure 10.3, panel B).

To give more granularity to the analysis, we split the sample of developing Asian countries into three groups based on the value of the fiscal sustainability gap in 2019. Countries in which the gap is below -2 percent of GDP are labeled as no fiscal space countries, while those with a gap above 2 percent of GDP are labeled as high fiscal space countries. Those in between are countries with limited fiscal space.⁷ Table 10.1 lists these countries, together with selected summary statistics. Differences in the fiscal balance and public debt between country groups are large: in the run-up to the crisis (taking the 2017–2019 average), those with no fiscal space have an average public debt at 49 percent of GDP and run a deficit of 5.8 percent of GDP, while those with high fiscal space have a public debt at 36 percent of GDP and run a surplus of 4.2 percent of GDP (Figure 10.6). In interpreting these data, one should keep in mind the limitation of the fiscal sustainability gap. While this indicator provides a good approximation of the degree of fiscal space in the aggregate, it could be affected by country-specific factors, which make its interpretation at the country level less straightforward. First, the gap is

computed based on a given debt target, common for a large set of countries, meaning that the resulting gap could be biased for countries with an equilibrium debt level far from the target. Second, some countries—such as some Pacific islands (Chapter 5, this volume)—face liquidity problems, more than solvency issues, which are not reflected in the fiscal sustainability gap.

Table 10.1 Fiscal space in developing Asia

		Public Debt (% GDP)	Fiscal Balance (% GDP)	GDP Growth (%)
Country	FS Gap 2019	Average Over 2017–2019		
		High Fiscal Space		
Armenia	3.0	51.7	−2.5	6.8
Azerbaijan	9.3	19.7	4.2	1.3
Cambodia	4.3	29.0	0.1	7.2
Kazakhstan	2.7	20.1	−0.8	4.2
Kiribati	9.5	21.6	6.4	1.8
Marshall Islands	5.1	25.3	3.0	4.3
Federated States of Micronesia	17.8	20.3	18.6	1.4
Mongolia	4.8	69.5	0.2	5.9
Nauru	15.3	57.5	23.3	0.4
Samoa	4.1	49.6	0.2	0.8
Tonga	3.8	43.6	2.4	1.5
Turkmenistan	4.2	29.4	−1.1	6.3
Uzbekistan	6.9	23.3	1.2	5.2
Vanuatu	6.0	50.9	3.9	3.5
		Limited Fiscal Space		
Afghanistan	1.3	7.3	0.0	2.6
Bangladesh	−0.8	34.5	−4.4	7.8
Bhutan	0.6	106.3	−2.5	4.6
Georgia	−0.2	46.6	−1.0	4.9
Indonesia	0.8	30.0	−2.2	5.1
Kyrgyz Republic	0.9	55.9	−1.5	4.2
Myanmar	−0.8	37.6	−3.1	6.2
Nepal	−1.0	28.8	−4.8	7.3
Philippines	1.3	39.1	−1.3	6.4
Tajikistan	1.8	47.6	−3.6	7.3
Thailand	0.8	41.6	−0.4	3.5
Viet Nam	0.3	44.5	−2.9	7.0
		No Fiscal Space		
People’s Republic of China	−2.8	49.8	−5.0	6.6
Fiji	−4.9	45.6	−4.1	2.6
India	−4.4	70.2	−6.7	5.8
Lao People’s Democratic Republic	−2.6	57.9	−5.1	6.1

		Public Debt (% GDP)	Fiscal Balance (% GDP)	GDP Growth (%)
Country	FS Gap 2019	Average Over 2017–2019		
Malaysia	−2.0	55.7	−3.0	5.0
Maldives	−2.1	66.6	−5.7	6.4
Pakistan	−9.1	74.1	−7.0	4.2
Papua New Guinea	−2.3	35.9	−3.1	2.5
Solomon Islands	−2.0	9.9	−2.2	3.5
Sri Lanka	−6.7	82.8	−5.9	3.1
Timor-Leste	−16.2	7.3	−31.2	−0.5
Tuvalu	−7.3	29.2	8.9	4.8

Notes:
FS = fiscal sustainability; GDP = gross domestic product.
The table reports the fiscal sustainability gap in 2019, computed as in Kose et al. (2017) and the average of public debt as a share of GDP, fiscal balance as a share of GDP, and real GDP growth over the period 2017–2019 for developing Asian countries. Countries are split into three groups depending on the 2019 fiscal sustainability gap. See text for details. Data for Afghanistan and Myanmar were valid as of 14 December 2020 and may have changed thereafter because of major recent events affecting both countries.
Sources: IMF World Economic Outlook; and Kose et al. (2017).

Notes:
GDP = gross domestic product; IMF = International Monetary Fund.
The chart plots the mean of fiscal balance (as a share of GDP) and of public debt (as a share of GDP and divided by 10 to improve readability) for three groups of countries with no, limited, or high fiscal space, measured by the fiscal sustainability gap. The sample includes developing Asian countries. The fiscal sustainability gap is computed as in Kose et al. (2017) and refers to 2019. Country-level values for public debt and fiscal balance are averages over the period 2017–2019. See main text for details.
Sources: IMF World Economic Outlook; and Kose et al. (2017).

Figure 10.6 Fiscal space in developing Asia ahead of the COVID-19 shock

Notes:

PRC = People's Republic of China.

Panel A plots daily values of the median sovereign bond spreads for 15 developing Asian countries and 54 other EMDEs, separately. Panel B plots daily values of the median sovereign bond spreads for selected developing Asian countries. Sovereign bond spreads are 7-day moving averages.

Source: Bloomberg.

Figure 10.7 Sovereign bond spreads

Another indicator of fiscal space is market access, as it provides daily information on market sentiment and on the sovereign's capacity to tap international capital markets. Sovereign bond spreads increased sharply in March 2020 when WHO declared COVID-19 a pandemic and, even after a rapid decline started in April, they stabilized at a level significantly larger than pre-COVID-19. The increase in borrowing costs has been more severe for developing Asia than for other EMDEs—possibly reflecting the fact that the pandemic started in Asia—although by the summer, the gap in the median spread between the two country groups narrowed significantly (Figure 10.7, panel A). Also, even across developing Asia there is large variation across countries: while spreads in the PRC increased from about 180 basis points (bps) to a maximum of 260 bps and then declined to around 210 bps, the increase in India has been larger (from 120 bps to a peak of more than 400 bps), and spreads reached values close or above 1000 bps in Papua New Guinea, Tajikistan, Uzbekistan and Pakistan (Figure 10.7, panel B). What is more interesting, though, is that the increase in sovereign bond spreads following the COVID-19 shock has been stronger in countries starting from a weaker fiscal stance, consistent with the

existing evidence that borrowing costs increase more in response to a global shock in countries with higher public debt ratios (Presbitero and Wiriadinata 2020). The change in sovereign bond spreads between early April 2020 (at the peak of the increase) and 4 February 2020 (when the WHO Director-General asks the United Nations (UN) Secretary-General to activate the UN Crisis Management Policy in response to the virus), in fact, is positively correlated with the ex-ante level of the public debt-to-GDP ratio (Figure 10.8, panel A) and negatively correlated with the ex-ante fiscal sustainability gap (Figure 10.8, panel B).

4. PRELIMINARY EVIDENCE OF THE FISCAL RESPONSE

The severity of the economic and fiscal shocks due to COVID-19 is likely to affect investment plans set up to achieve the SDGs. The need to protect social spending to attenuate the effect of the pandemic and the lack of fiscal space might imply a cut back on public investment, with potential long-term consequences. At the same time, at least in the short term, access to emergency financing from the IMF and debt service relief—granted from the IMF and also from official bilateral creditors through the Debt Service Suspension Initiative (DSSI)—provides liquidity to meet urgent spending in health and social programs. Between April 2020 and October 2020, the IMF has provided \$489 million in debt service relief to 29 countries and approved \$102 billion of emergency financing to 82 countries, using the Rapid Credit Facility and the Rapid Financing Instrument.⁸ In addition, bilateral official creditors have granted debt service suspension for about \$12 billion to developing countries through the DSSI.⁹

Discretionary fiscal spending increased in the region, at levels slightly higher than in other developing countries. According to recent data collected by IMF (2020b), while the global response to the shock has been close to 12 percent of GDP, equally split between additional spending (or forgone revenues) and liquidity support, including contingent liabilities, these numbers are lower in EMDEs. The median (average) fiscal response in EMDEs has been 3.8 percent (5.7 percent) of GDP. The median (average) country in developing Asia increased spending by 4.5 percent (5.4 percent) of GDP, although there is large variation across countries (Figure 10.9).¹⁰

For instance, Thailand's response is close to 12.5 percent of GDP, split between additional spending in health, transfers to those affected by COVID-19, a stimulus package for the tourism sector, tax reliefs, and guarantees and subsidized loans for small and medium-sized enterprises. On the other hand, Viet Nam increased spending by only 1.7 percent of GDP through quasi-fiscal operations—directed at reducing energy prices and the cost of credit—cash transfers to the poor and workers who lost their job, and tax and fee rebates to firms.¹¹ The fiscal response of the PRC and India has been of 5.9 percent and 7 percent, respectively. However, while the PRC's additional spending is mostly above the line, India's discretionary measures have been concentrated in equity infusions to small and medium-sized enterprises and credit guarantees.

Interestingly, and in line with expectations, the size of the discretionary fiscal response is indeed correlated with the conditions in which countries entered the COVID-19 pandemic. For the 20 developing Asian countries for which data are available there is a positive correlation between the fiscal sustainability gap and the amount of discretionary fiscal spending as a share of GDP (Figure 10.10), confirming the importance of prudent and sound fiscal policy in tranquil times to be able to mitigate adverse shocks.

Notes:

EMDEs = emerging and developing economies; GDP = gross domestic product; IMF = International Monetary Fund.

The charts plot the change in sovereign bond spreads after the COVID-19 shock against public debt over GDP in 2019 (panel A) and the fiscal sustainability gap in 2019 (panel B), computed as in Kose et al. (2019). See the main text for details. The change in sovereign bond spreads (7-day moving averages) is computed between 3 April 2020 and 4 February 2021. The World Health Organization Director-General asked the UN Secretary-General on 4 February to activate the UN Crisis Management Policy in response to the virus. Results are robust to alternative dating choices.

Sources: Bloomberg; IMF World Economic Outlook; and Kose et al. (2017).

Figure 10.8 Sovereign bond spreads post-COVID-19 and initial fiscal space

Notes:
GDP = gross domestic product; Lao PDR = Lao People's Democratic Republic; PRC = People's Republic of China.
The discretionary fiscal spending includes additional spending and forgone revenues, as well as loan, equity and guarantees, put in place after the COVID-19 shock. Data for Afghanistan and Myanmar were valid as of 14 December 2020 and may have changed thereafter because of major recent events affecting both countries.
Source: IMF (2020b). Data available at: <https://www.imf.org/en/Publications/FM/Issues/2020/09/30/october-2020-fiscal-monitor>.

Figure 10.9 Discretionary fiscal spending after COVID-19

For instance, countries with the highest gap (e.g., more fiscal space), such as Nauru, the Federated States of Micronesia, Azerbaijan, and Uzbekistan are among those that have been able to deploy a larger discretionary fiscal response. By contrast, countries with a negative gap (e.g., no fiscal space such as Pakistan, Papua New Guinea, Bangladesh, and Nepal) reacted to the shock with a very small discretionary fiscal stimulus.

Notes:

ARM = Armenia; AZE = Azerbaijan; PRC = People's Republic of China; GDP = gross domestic product; GEO = Georgia; IND = India; INO = Indonesia; KAZ = Kazakhstan; MON = Mongolia; MYA = Myanmar; MAL = Malaysia; NAU = Nauru; NEP = Nepal; PHI = Philippines; SAM = Samoa; SOL = Solomon Islands; TAJ = Tajikistan; THA = Thailand; TKM = Turkmenistan; UZB = Uzbekistan; VIE = Viet Nam.

The fiscal sustainability gap is computed as in Kose et al. (2017) and refers to 2019. The discretionary fiscal spending includes additional spending and forgone revenues, as well as loan, equity and guarantees, put in place after the COVID-19 shock, as shown in Figure 10.9. Data for Myanmar were valid as of 14 December 2020 and may have changed thereafter because of major recent events affecting the country.

Sources: IMF (2020b); IMF World Economic Outlook; and Kose et al. (2017).

Figure 10.10 Fiscal gap and discretionary fiscal spending

Turning to capital spending, since we lack comprehensive data on actual investment programs (especially in infrastructure) post-COVID-19, we rely on a systematic review of the most recent data published by the IMF in its country reports and on the data on gross fixed public capital formation published in the October 2019 and October 2020 vintages. We use the October 2020 data as they are the latest observation, while the October 2019 data are the last observations before the COVID-19 crisis. Figure 10.11 plots the distribution of these revisions, separately for developing Asia and the other EMDEs. These preliminary data indicate that in 15 out of 24 countries in developing Asia (for which data are available) public investment in 2020 is expected to contract with respect to the pre-COVID-19 projections. In the median country the downward revision is only 0.2 percent of GDP and only four countries have recorded a large downward revision (Cambodia, Sri Lanka, Tajikistan, and Viet Nam—three of which had

limited or no fiscal space in 2019, see Table 10.1). By contrast, in some countries (including the PRC), public investment levels are expected to be higher than projected in the fall of 2019. Consistent with our discussion on fiscal space, the outlook in developing Asia is better than in other EMDEs, where almost 70 percent of the countries revised public investment spending downward, with a median decline of 0.6 percent of GDP and large contractions in several countries (e.g., Bolivia, Burkina Faso, Dominica, Niger, Suriname, Uganda, and Zambia, all beyond a revision of –3 percent of GDP).

Notes:
EMDEs = emerging and developing economies; GDP = gross domestic product; IMF = International Monetary Fund.
The chart plots the change in public investment over GDP in 2020 between what was published in the October 2020 and the October 2019 vintages of the IMF World Economic Outlook.
Source: IMF World Economic Outlook, different vintages.

Figure 10.11 Public investment around the COVID-19 shock

To complement this preliminary evidence, we look at the experience around the GFC to understand how public investment reacted to the global crisis, depending on the initial level of fiscal space. In this case, we average public investment (as a share of GDP) between 2005 and 2006 (pre-GFC) and between 2008 and 2009 (post-GFC) and compute the change in public investment between the post- and pre-GFC averages. Figure 10.12 plots this change against the fiscal sustainability gap in 2007 (pre-GFC) and shows a strong and positive association between the two variables, suggesting that entering the crisis with a weaker fiscal position is associated with a lower level of public investment (compared with the precrisis level). This piece of evidence, together with the observation that countries start, on average, from a weaker fiscal position than before the GFC, suggests that the COVID-19 crisis could result in lower public investment in the years to come, undermining the progress toward the SDGs.

Notes:

EMDEs = emerging and developing economies; GDP = gross domestic product; GFC = global financial crisis. The chart plots the financial sustainability gap in 2007 against the change in public investment over GDP between 2008–2009 and 2005–2006 for 108 EMDEs.

Sources: IMF World Economic Outlook; and Kose et al. (2017).

Figure 10.12 Public investment and discretionary fiscal spending around the GFC

5. POLICY OPTIONS

The evidence discussed in this chapter, while based on preliminary data and therefore not conclusive, indicates that developing countries have been hit by the COVID-19 pandemic in a macroeconomic context which is characterized by (1) weaker fiscal stance than before the GFC, with a number of countries already at risk of debt distress; and (2) large financing needs to fund infrastructure and social spending to achieve the SDGs by 2030. As expected, there is an association between (limited) fiscal space and a country's borrowing costs and its capacity to respond to the shock through discretionary fiscal expenditures. Moreover, the experience of the GFC indicates that a weaker initial fiscal position is likely to translate into a larger decline in public investment and, more generally, a weak fiscal position is likely to reduce the returns from public investment.

Moving from this evidence and looking forward, it would be critical to assess the medium-term implications of the shock on public sector finances, to ensure that the appropriate policies are put in place to restore debt sustainability—if this has been undermined—and to scale up investment to meet the targets set by the 2030 Development Agenda. Also, for countries with sufficient fiscal space, there is an opportunity to take advantage of the low global interest rate environment to undertake public investment projects to mitigate the effect of the shock, as fiscal multipliers are likely to be higher than in normal times. However, as multipliers are sensitive to the fiscal stance (Huidrom et al. 2019; Ilzetzki et al. 2013), preserving long-term debt sustainability remains a priority also for these countries, given the uncertainty

on the recovery and the risks of tightening global financial conditions (IMF 2020a). There are three main issues which deserve scrutiny.

First, in the immediate, *rising government debts* need to be addressed. This issue is at the center of the policy discussion. The international community has so far provided debt service suspension—through the IMF debt service relief and the G20 DSSI—which can liberate resources to use for mitigating the effect of the crisis and reducing sovereign bond spreads, with potential positive effects on external financing (Lang et al. 2020). A debt moratorium is the right response to a liquidity crisis and, in this respect, the DSSI has been successful, although so far it has seen limited participation by the PRC (the country with the largest debt service due) and no participation at all by private creditors, which in some countries hold a nontrivial share of external public debt. However, as the crisis continues and the recovery lags, the effects on potential output become more likely and severe; in which case a liquidity crisis could translate into a solvency one. Even in a world of low interest rates, which are also compressed by the expansionary unconventional monetary policy in both advanced and emerging markets (see IMF 2020c; and World Bank 2020b), debt sustainability could become an issue if economic growth stagnates. The short-run contraction has been unprecedented and the shape of the recovery remains highly uncertain. Among low-income countries, many were already at high risk of debt distress (IMF 2020d; World Bank 2020a) and more moved from moderate to high risk recently as the pandemic has affected liquidity and solvency indicators.¹² Similar patterns can emerge also among middle-income countries. In this context, debt service relief will not be enough and debt stock will need to be reduced to mitigate the debt overhang and restore fiscal space, in order to create room to scale up public investment.

Unlike in past experiences, we confront a truly exogenous shock in this case, rather than of domestic macroeconomic policies, which could make the case for debt relief stronger, politically more feasible, and less subject to moral hazard. Moreover, debt restructuring should be faster and more inclusive than in the past, to avoid another “lost decade” in development (Bulow et al. 2020). The current discussion led by the G20 is going in that direction,¹³ following numerous calls by academics, practitioners and policy makers, although several challenges have to be addressed, notably the change in the creditor composition, with a large and dominant share (in some countries) held by emerging donors (e.g., the PRC) and commercial creditors.

The second key issue is the choice of *financing options*. Given the large investment gap and the limited amount of aid, countries need to diversify their funding sources. Aiming primarily for debt sustainability, country authorities should assess the benefits and costs of different options. The financing mix would depend on investment needs, fiscal space and access to international capital markets. On the one hand, the low global interest rate environment can allow for relatively cheap borrowing in countries with sound fundamentals and better prospects for recovery, but a weak fiscal position would caution against a large fiscal expansion, at least for some countries; and for them, international assistance and an expansion of grants and concessional lending would be a fundamental countercyclical source of external financing to balance the drop in government revenue and external private finance inflows. However, notwithstanding political commitment in support of a global sustainable recovery, budgets in donor countries are also under pressure and this could translate into a decline of foreign aid (OECD 2020). In this respect, multilateral institutions should step up their lending capacity. While progress has been made—the IMF, for instance, has so far approved more than \$100 billion in lending in response to the pandemic crisis—the large financing needs and the rapid

depletion of foreign exchange reserves in many countries call for bolder interventions. In this sense, a new special drawing rights allocation, as proposed by many commentators, would allow developing countries to have access to hard currencies at a much lower interest rate than borrowing on international markets (Gallagher et al. 2020; Plant 2020). Multilateral development banks could also play a key role by catalyzing private sector lending and mitigating risks and paving the way for other investors to enter new markets (World Bank 2018). A recent analysis based on syndicated lending—including loans for infrastructure projects—shows that for each US dollar lent by multilateral development banks, private creditors (i.e., commercial banks) can lend up to \$7.00 (Broccolini et al. 2020).

Debt management and financing strategies should take into consideration the sources of risks and vulnerabilities (see Kose et al. 2020, among others, for an extensive discussion of the main issues). Relying heavily on instruments denominated in domestic currency can reduce the exposure to global shocks and limit the changes in debt stocks and repayment flows due to exchange rate movements. However, as countries are slowly graduating from the original sin, one should not dismiss risks coming from local currency bonds (Du and Schreger 2016; Griffiths et al. 2020). A second shift should go toward greater reliance on domestic and longer-term debt, although one has to balance the risks in terms of crowding out of private sector credit (if banks end up being the largest holders of domestic debt) with the benefit of a lower exposure to foreign, more volatile, creditors. Moreover, the deepening of domestic financial markets necessary to absorb an increase in domestic debt requires time and a strengthening of institutions to improve regulation and supervision of financial markets (see Chapter 14, this volume). Finally, state-contingent debt instruments could play a much larger role in the stock of sovereign debt. The academic and policy discussion on these instruments is not new and has pointed out the potential benefits as a countercyclical and risk-sharing tool, even though the take-up so far has been limited (Borensztein and Mauro 2004; Ferrarini 2008; IMF 2017a). For instance, the COVID-19 crisis, at least at the beginning, had the effects of a liquidity crisis and could have been dealt with by using bonds with a floating grace period (Cohen et al. 2008), which would give to the debtor the right to postpone debt repayments for a specific period in case an adverse shock hits the economy. Such instruments would allow for a sort of “automatic restructuring”, without the need for debt negotiation, which is often long and costly.

The final point relates to the design of *investment plans*. We argue that the case for public investment is still relevant, even in crisis time, as it could help the recovery. The timing, composition and size of the investment plan critically depend on the country-specific fiscal space and access to domestic and external financing. A common theme is that the evidence reviewed in this chapter, as well as data on ADB-financed projects, shows that scaling up of public investment should be gradual to avoid absorptive capacity constraints that lead to cost inflation and time delays in project execution, affecting the likelihood of project success and, more generally, reducing the growth dividend of public investment. Hence, country authorities should carefully design investment plans that, in the short term, prioritize maintenance and the termination of existing projects or the implementation of those already in the pipeline. In the medium term, existing evidence shows that a front-loaded public investment surge can induce debt sustainability risks (Buffie et al. 2012). Again, the timing and size of these plans will depend on the degree of fiscal space, with some countries prioritizing the reduction of debt vulnerabilities. A common recommendation for developing countries and the interna-

tional community (bilateral and multilateral donors as well as the private sector) is that more resources for public (infrastructure) investment are a priority and an opportunity to promote inclusive development, achieve the SDGs, and facilitate the digital and climate transformation. In this respect, the scaling up of investment should be gradual and go together with capacity building and improvements in project selection and execution and in the efficiency of public investment.

6. CONCLUSIONS

The COVID-19 pandemic crisis hit developing Asian countries, causing the first recession in nearly 60 years. This unprecedented shock is putting public finance under severe stress and comes during a time when debt vulnerabilities have increased substantially in recent years, and at a point where several countries were already at a high risk of debt distress even before the pandemic. In addition, progress to achieve the SDGs in developing Asia has so far been lower than expected, and countries also have to invest massively in infrastructure.

Given the importance of investment spending to promote inclusive growth and sustain the recovery, governments should make efforts to preserve public investment to the extent possible, given the current conjuncture. At the same time, the fiscal response to the crisis has to consider the risks that an increase in public investment could pose to debt sustainability, especially for countries which already had limited or no fiscal space even before the crisis.

Our analysis shows that developing countries have to deal with the current crisis starting from a weaker fiscal position than they had before the GFC. However, Asian developing countries are in a better position than other developing countries, thanks to a more prudent fiscal policy in recent years. The current crisis and trends in development finance could further reduce fiscal space, weakening the capacity to implement countercyclical fiscal policy and undermining debt sustainability.

Policy options would depend on the extent of fiscal space. In developing countries with no fiscal space, debt relief and increased concessional lending by multilateral and bilateral donors could contribute to reduce the debt overhang and rebuild fiscal space in the short run, to allow investment to pick up in the recovery phase. Countries with fiscal space could instead develop a prudent borrowing strategy to preserve public investment plans also in the short term, by diversifying their financing sources. In this respect, a shift toward state-contingent debt instruments and an increase in long-term and local currency debt could mitigate the future vulnerability to external shocks.

NOTES

1. The views expressed therein are those of the authors and do not necessarily reflect the views and policies of ADB, its Board of Governors or the governments they represent. The author thanks Benno Ferrarini, Marcelo Giugale, and Juan Pradelli for commissioning this chapter and giving helpful feedback; and Nicolas Depetris-Chauvin and Ugo Panizza for helpful comments. The usual disclaimers apply.
2. In particular, we collect data on 38 countries in developing Asia (based on the classification specified in ADB 2020a). Appendix Table 10A.1 lists the 38 countries covered in the analysis, together with the 93 non-Asian EMDEs (according to the IMF income classification). In the following we use the expression “other EMDEs” and “other developing countries” interchangeably.

Macroeconomic data are collected primarily from the IMF World Economic Outlook, but also from other sources, listed in the notes to each chart.

3. However, Berg et al. (2019) show that the potential negative effect of low efficiency on the growth dividend of public investment can be offset by the positive effect due to capital scarcity, providing an argument against any blank recommendation to reduce public investment in low-efficiency countries.
4. This section draws on Gurara et al. (2018).
5. The visual impression is confirmed by the fact that the correlation between the fiscal and the growth shocks (equal to 0.46) is significantly lower (and equal to 0.13) in Asian countries.
6. Computing averages across groups show even larger differences, as public debt in 2019 is 60 percent of GDP in non-Asian countries and 42 percent in developing Asia.
7. Formally, all countries with a negative gap have no fiscal space. However, as our measure is a function of $DEBT^*$, which is a (non-observable) target, it is hard to interpret the precise values of the index. Also, to take into account that yearly data may be volatile and since we care about significant deviation, in both directions, from the zero, we take two extreme groups and consider all countries for which the gap is moderate (in both ways) as countries with limited fiscal space.
8. See the most recent information at IMF. IMF Financing and Debt Service Relief. <https://www.imf.org/en/Topics/imf-and-covid19/COVID-Lending-Tracker> (accessed 15 December 2020).
9. See the most recent information at The World Bank. COVID 19: Debt Service Suspension Initiative. <https://www.worldbank.org/en/topic/debt/brief/covid-19-debt-service-suspension-initiative> (accessed 15 December 2020).
10. The most recent ADB estimates (as of 2 November 2020) of the size of the total policy packages in response to the COVID-19 pandemic—including government support to income, credit creation, liquidity and equity support, and direct lending—are at \$3.7 trillion in developing Asia, which amounts to about 15 percent of GDP, about half the size of the response in advanced economies (estimated at 32 percent of GDP). While these estimates include both fiscal and monetary policy interventions, they confirm the smaller response in developing Asia compared with advanced economies.
11. These numbers have to be interpreted with caution. The ADB COVID-19 Policy Database (available at <https://covid19policy.adb.org>), for instance, indicates a similar fiscal response for Thailand (\$44 million, while the IMF reports \$45 million, excluding contingent liabilities), but a larger package in Viet Nam (\$13 million versus \$6 million).
12. See Pazarbasioglu (2020).
13. See the IMF position at Pazarbasioglu (2020) and the G20 Statement of 13 November 2020. <https://www.sciencespo.fr/psia/sovereign-debt/2020/11/13/document-g20-common-framework/> (accessed 15 December 2020).

REFERENCES

- Agenor, P.R. 2010. A Theory of Infrastructure-Led Growth. *Journal of Economic Dynamics and Control*. 34, pp. 932–50.
- Ahsan, K. and I. Gunawan. 2010. Analysis of Cost and Schedule Performance of International Development Projects. *International Journal of Project Management*. 28, pp. 68–78.
- Arezki, R., P. Bolton, S. Peters, F. Samama and J. Stiglitz. 2017. From Global Savings Glut to Financing Infrastructure. *Economic Policy*. 32(90), pp. 221–61.
- Asian Development Bank (ADB). 2017. *Meeting Asia's Infrastructure Needs*. Manila.
- Asian Development Bank (ADB). 2020a. *Asian Development Outlook 2020 Update: Wellness in Worrying Times*. Manila.
- Asian Development Bank (ADB). 2020b. *Fast-Tracking the SDGs: Driving Asia-Pacific Transformations*. Manila.
- Auerbach, A. and Y. Gorodnichenko. 2012. Measuring the Output Responses to Fiscal Policy. *American Economic Journal*. 4, pp. 1–27.
- Bassanetti, A., C. Cottarelli and A.F. Presbitero. 2018. Lost and Found: Market Access and Public Debt Dynamics. *Oxford Economic Papers*. 71(2), pp. 445–71.

- Baum-Snow, N., J. Vernon Henderson, M.A. Turner, Q. Zhang and L. Brandt. 2017. Does Investment in National Highways Help or Hurt Hinterland City Growth? *Journal of Urban Economics*. 115, 103124.
- Berg, A., R. Portillo, S. Yang and L.F. Zanna. 2013. Public Investment in Resource Abundant Developing Countries. *IMF Economic Review*. 61(1), pp. 92–129.
- Berg, A., E. Buffie, C. Pattillo, R. Portillo, A.F. Presbitero and L.F. Zanna. 2019. Some Misconceptions About Public Investment Efficiency and Growth. *Economica*. 86, pp. 409–430.
- Bohn, H. 1998. The Behavior of US Public Debt and Deficits. *Quarterly Journal of Economics*. 113(3), pp. 949–63.
- Borensztein, E. and P. Mauro. 2004. The Case for GDP-Indexed Bonds. *Economic Policy*. 19(38), pp. 166–216.
- Bougheas, S., P.O. Demetriades and E.L.W. Morgenroth. 1999. Infrastructure, Transport Costs and Trade. *Journal of International Economics*. 47, pp. 169–89.
- Broccolini, C., G. Lotti, A. Maffioli, A.F. Presbitero and R. Stucchi. 2020. The Mobilization Effects of Multilateral Development Banks. *World Bank Economic Review*. Forthcoming.
- Buffie, E., R. Portillo, L.F. Zanna, C. Pattillo and A. Berg. 2012. Public Investment, Growth, and Debt Sustainability: Putting Together the Pieces. *IMF Working Paper*. No. 12/144. Washington, DC: IMF.
- Bulow, J., C. Reinhart, K. Rogoff and C. Trebesch. 2020. The Debt Pandemic. *Finance & Development*. Fall 2020 Issue.
- Calderon, C. and A. Chong. 2004. Volume and Quality of Infrastructure and the Distribution of Income: An Empirical Investigation. *Review of Income and Wealth*. 50, pp. 87–105.
- Calderon, C. and L. Servén. 2010. Infrastructure and Economic Development in Sub-Saharan Africa. *Journal of African Economies*. 19(s1), pp. i13–i87.
- Calderon, C., E. Moral-Benito and L. Servén. 2015. Is Infrastructure Capital Productive? A Dynamic Heterogeneous Approach. *Journal of Applied Econometrics*. 30, pp. 177–98.
- Cavallo, E. and C. Duade. 2011. Public Investment in Developing Countries: A Blessing or a Curse? *Journal of Economic Dynamics and Control*. 39, pp. 65–81.
- Christiano, L., M. Eichenbaum and S. Rebelo. 2011. When is the Government Spending Multiplier Large? *Journal of Political Economy*. 119, pp. 78–121.
- Cohen, D., H. Djoufelkit-Cottenet, P. Jacquet and C. Valadier. 2008. Lending to the Poorest Countries: A New Counter-Cyclical Debt Instrument. *OECD Development Centre Working Paper*. No. 269. Paris: OECD Development Centre.
- De Soyres, F., A. Mulabdic and M. Ruta. 2020. Common Transport Infrastructure: A Quantitative Model and Estimates from the Belt and Road Initiative. *Journal of Development Economics*. 143, 102415.
- Denizer, C., D. Kaufmann and A. Kraay. 2013. Good Countries or Good Projects? Macro and Micro Correlates of World Bank Project Performance. *Journal of Development Economics*. 105, pp. 288–302.
- Donaldson, D. 2018. Railroads of the Raj: Estimating the Impact of Transportation Infrastructure. *American Economic Review*. 108(4–5), pp. 899–934.
- Du, W. and J. Schreger. 2016. Local Currency Sovereign Risk. *Journal of Finance*. 71(3), pp. 1027–70.
- Esfahani, H.S. and M.T. Ramirez. 2003. Institutions, Infrastructure, and Economic Growth. *Journal of Economic Development*. 70, pp. 443–77.
- Estache, A. and M. Fay. 2007. Current Debates on Infrastructure Policy. *Policy Research Working Paper*. No. 4410. Washington, DC: World Bank.
- Fatás, A. and L.H. Summers. 2018. The Permanent Effects of Fiscal Consolidations. *Journal of International Economics*. 12, pp. 238–50.
- Ferrarini, B. 2008. Proposal for a Contingency Debt Sustainability Framework. *World Development*. 36(12), pp. 2547–65.
- Flyvbjerg, B. 2009. Survival of the Unfittest: Why the Worst Infrastructure Gets Built—and What We Can Do about it. *Oxford Review of Economic Policy*. 25(3), pp. 344–67.
- Gallagher, K., J.A. Ocampo and U. Volz. 2020. IMF Special Drawing Rights: A Key Tool for Attacking a COVID-19 Financial Fallout in Developing Countries. Future Development Blog. Washington, DC: Brookings Institution. Accessed at: <https://www.brookings.edu/blog/future-development/2020/03/26/imf-special-drawing-rights-a-key-tool-for-attacking-a-covid-19-financial-fallout-in-developing-countries/>.

- Griffiths, J., U. Panizza and F. Taddei. 2020. Reducing Low-Income Country Debt Risks: The Role of Local Currency-Denominated Loans from International Institutions. ODI Briefing Note. May. London: Overseas Development Institute.
- Gurara, D., V. Klyuev, N. Mwase and A.F. Presbitero. 2018. Trends and Challenges in Infrastructure Investment in Developing Countries. *International Development Policy*. 10.1.
- Gurara, D., K. Kpodar, A.F. Presbitero and D. Tessema. 2020. On the Capacity to Absorb Public Investment: How Much is Too Much?. *IMF Working Paper*. No. 20/48. Washington, DC: IMF.
- Heller, P. 2005. Understanding Fiscal Space. *IMF Policy Discussion Paper*. No. 05/4. Washington, DC: IMF.
- Huidrom, R., A. Kose, J. Lim and F. Ohnsorge. 2019. Why Do Fiscal Multipliers Depend on Fiscal Positions? *Journal of Monetary Economics*. 114. pp. 109–125.
- Ilzetzki, E., E. Mendoza and C. Vegh. 2013. How Big (Small?) Are Fiscal Multipliers? *Journal of Monetary Economics*. 60, pp. 239–54.
- International Monetary Fund (IMF). 2017a. State-Contingent Debt Instruments for Sovereigns. *IMF Policy Paper*. May. Washington, DC.
- International Monetary Fund (IMF). 2017b. The Medium-Term Debt Management Strategy: An Assessment of Recent Capacity Building. *IMF Policy Paper*. July. Washington, DC.
- International Monetary Fund (IMF). 2020a. *World Economic Outlook: The Great Lockdown*. Washington, DC.
- International Monetary Fund (IMF). 2020b. *Fiscal Monitor: Policies for the Recovery*. October. Washington, DC.
- International Monetary Fund (IMF). 2020c. *Global Financial Stability Report: Bridge to Recovery*. October. Washington, DC.
- International Monetary Fund (IMF). 2020d. The Evolution of Public Debt Vulnerabilities in Lower Income Economies. *IMF Policy Paper*. No. 20/003. Washington, DC.
- Isham, J. and D. Kaufmann. 1999. The Forgotten Rationale for Policy Reform: The Productivity of Investment Projects. *The Quarterly Journal of Economics*. 114(1), pp. 149–84.
- Izquierdo, A., R. Lama, J.P. Medina, J. Puig, D. Riera-Crichton, C. Vegh and G. Vuletin. 2019. Is the Public Investment Multiplier Higher in Developing Countries? An Empirical Exploration. *NBER Working Paper*. No. 26478.
- Jedwab, R. and A. Moradi. 2016. The Permanent Effects of Transportation Revolutions in Poor Countries: Evidence from Africa. *Review of Economics and Statistics*. 98(2), pp. 268–84.
- Jedwab, R. and A. Storeygard. 2021. The Average and Heterogeneous Effects of Transportation Investments: Evidence from Sub-Saharan Africa 1960–2010. *Journal of the European Economic Association*.
- Jedwab, R., E. Kerby and A. Moradi. 2017. History, Path Dependence, and Development: Evidence from Colonial Railroads, Settlers, and Cities in Kenya. *Economic Journal*. 603. pp. 1467–94.
- Khandker, S.R., Z. Bakht and G.B. Koolwal. 2009. The Poverty Impact of Rural Roads: Evidence from Bangladesh. *Economic Development and Cultural Change*. 57(4), pp. 685–722.
- Kose, A., S. Kurlat, F. Ohnsorge and N. Sugawara. 2017. A Cross-Country Database of Fiscal Space. *Policy Research Working Paper*. No. 8157. Washington, DC: World Bank. Accessed at: <http://documents1.worldbank.org/curated/en/601211501678994591/pdf/WPS8157.pdf>.
- Kose, A., P. Nagle, F. Ohnsorge and N. Sugawara. 2020. *Global Waves of Debt: Causes and Consequences*. Washington, DC: World Bank.
- Kraay, A. and V. Nehru. 2006. When is External Debt Sustainable? *World Bank Economic Review*. 20, pp. 341–65.
- Krugman, P. 1988. Financing Versus Forgiving a Debt Overhang. *Journal of Development Economics*. 29(3), pp. 253–68.
- Lang, V., D. Mihalyi and A.F. Presbitero. 2020. Borrowing Costs After Debt Relief. Manuscript. Accessed at: https://papers.ssrn.com/sol3/Papers.cfm?abstract_id=3708458.
- Laubach, T. 2009. New Evidence on the Interest Rate Effects of Budget Deficits and Debt. *Journal of the European Economic Association*. 7(4), pp. 858–85.
- Manasse, P. and N. Roubini. 2009. “Rules of Thumb” for Sovereign Debt Crises. *Journal of International Economics*. 78, pp. 192–205.

- Organisation for Economic Co-operation and Development (OECD). 2020. *The Impact of the Coronavirus (COVID-19) Crisis on Development Finance*. Paris: OECD Publishing.
- Pazarbasioglu, C. 2020. Current Sovereign Debt Challenges and Priorities in the Period Ahead. IMF Views & Commentaries. <https://www.imf.org/en/News/Articles/2020/11/16/vc111620-current-sovereign-debt-challenges-and-priorities-in-the-period-ahead> (accessed 15 December 2020).
- Plant, M. 2020. Making the IMF's Special Drawing Rights Work for COVID-19 Economic Relief. *CGD Notes*. 6 May. Washington, DC: Center for Global Development.
- Presbitero, A.F. 2016. Too Much and Too Fast? Public Investment Scaling-Up and Absorptive Capacity. *Journal of Development Economics*. 120, pp. 17–31.
- Presbitero, A.F. and U. Wiriadinata. 2020. Public Debt and r-g at Risk. Working Paper. Accessed at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3710776.
- Ramey, V. 2020. The Macroeconomic Consequences of Infrastructure Investment. In E. Glaeser and J. Poterba (eds), *Economic Analysis and Infrastructure Investment*. Chicago, IL: University of Chicago Press.
- Ramey, V.A. and S. Zubairy. 2018. Government Spending Multipliers in Good Times and in Bad: Evidence from US Historical Data. *Journal of Political Economy*. 126(2), pp. 850–901.
- Rosenstein-Rodan, P.N. 1943. Problems of Industrialization of Eastern and South-Eastern Europe. *Economic Journal*. 53, pp. 202–211.
- Sachs, J. 1989. The Debt Overhang of Developing Countries. In G.A. Calvo, R. Findlay, P. Kouri and J. Braga de Macedo (eds), *Debt Stabilization and Development*. Oxford: Basil Blackwell.
- Serebrisky, T., A. Suarez-Aleman, C. Pastor and A. Wohlhueter. 2017. *Increasing the Efficiency of Public Infrastructure Investment Delivery*. Washington, DC: Inter-American Development Bank.
- Thacker, S., D. Adshead, M. Fay, S. Hallegatte, M. Harvey, H. Meller, N. O'Regan et al. 2019. Infrastructure for Sustainable Development. *Nature Sustainability*. 2, pp. 324–31.
- United Nations Conference on Trade and Development (UNCTAD). 2014. *World Investment Report 2014*. Geneva.
- United Nations Conference on Trade and Development (UNCTAD). 2019. *Trade and Development Report 2019*. Geneva.
- Warner, A. 2014. Public Investment as an Engine of Growth. *IMF Working Paper*. No. 14/148. Washington, DC.
- World Bank. 2018. Mobilization of Private Finance by Multilateral Development Banks and Development Finance Institutions 2017. June. Washington, DC.
- World Bank. 2020a. *Global Economic Prospects, January 2020: Slow Growth, Policy Challenges*. Washington, DC.
- World Bank. 2020b. *Global Economic Prospects, June*. Washington, DC.
- Yang, G., X. Huang, J. Huang and H. Chen. 2020. Assessment of the Effects of Infrastructure Investment under the Belt and Road Initiative. *China Economic Review*. 60, 10141.

APPENDIX 10.1

Table 10A.1 Economies covered in the analysis

Developing Asia		
Azerbaijan	Kyrgyz Republic	Sri Lanka
Afghanistan	Malaysia	Tajikistan
Armenia	Maldives	Thailand
Bangladesh	Marshall Islands	Timor-Leste
Bhutan	Federated States of Micronesia	Tonga
Cambodia	Mongolia	Turkmenistan
People's Republic of China	Myanmar	Tuvalu
Fiji	Nauru	Uzbekistan
Georgia	Nepal	Vanuatu
India	Pakistan	Viet Nam
Indonesia	Papua New Guinea	
Kazakhstan	Philippines	
Lao People's Democratic Republic	Samoa	
Kiribati	Solomon Islands	
Other (Non-Asian) Emerging Markets and Developing Economies		
Albania	Eswatini	Mozambique
Algeria	Ethiopia	Namibia
Angola	Gabon	Nicaragua
Belarus	The Gambia	Niger
Belize	Ghana	Nigeria
Benin	Grenada	North Macedonia
Bolivia	Guatemala	Paraguay
Bosnia and Herzegovina	Guinea	Peru
Botswana	Guinea-Bissau	Romania
Brazil	Guyana	Russian Federation
Bulgaria	Haiti	Rwanda
Burkina Faso	Honduras	Sao Tome and Principe
Burundi	Iran Islamic Rep.	Senegal
Cabo Verde	Iraq	Serbia
Cameroon	Jamaica	Sierra Leone
Central African Rep.	Jordan	South Africa
Chad	Kenya	South Sudan
Colombia	Kosovo	St Lucia
Comoros	Lebanon	St Vincent and the Grenadines
Congo, Dem. Rep.	Lesotho	Sudan
Congo, Rep.	Liberia	Suriname

Other (Non-Asian) Emerging Markets and Developing Economies		
Costa Rica	Libya	Tanzania
Cote d'Ivoire	Madagascar	Togo
Djibouti	Malawi	Tunisia
Dominica	Mali	Turkey
Dominican Republic	Mauritania	Uganda
Ecuador	Mauritius	Ukraine
Egypt Arab Rep.	Mexico	West Bank and Gaza
El Salvador	Moldova	Yemen Rep.
Equatorial Guinea	Montenegro	Zambia
Eritrea	Morocco	Zimbabwe

Source: Authors.

Note: Data for Afghanistan and Myanmar were valid as of 14 December 2020 and may have changed thereafter because of major recent events affecting both countries.