



21-12 Overheating Debate

Why Not in Japan?

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June 2021

Note: The authors thank Adam S. Posen for his guidance and Jérémie Cohen-Setton, Simeon Djankov, Joseph E. Gagnon, and Takeshi Tashiro for their helpful comments. All errors are the authors' own.

INTRODUCTION

An intense debate has erupted over whether the unprecedented size of the US fiscal stimulus will cause the US economy to overheat and generate high inflation. [Lawrence H. Summers](#) and [Olivier J. Blanchard](#), in particular, have warned of the adverse inflationary implications of the recently enacted American Rescue Plan. However, some economists, notably [Paul Krugman](#), argue that overheating due to fiscal expansion is far from certain, while others, including [Joseph E. Gagnon](#), believe that even if the stimulus did overheat the economy, the resultant surge in inflation would be temporary. Policymakers, too, are unconvinced that persistently high inflation is a risk. Treasury Secretary Janet L. Yellen has repeatedly dismissed inflationary concerns; she recently [stated](#) that she expects any price increases in the near term to be transitory. This view is shared by Federal Reserve Chair [Jerome H. Powell](#), who sees one-time price increases—stemming largely from “base effects,”¹ energy price increases, and supply-chain bottlenecks—as having no lasting effects on inflation.

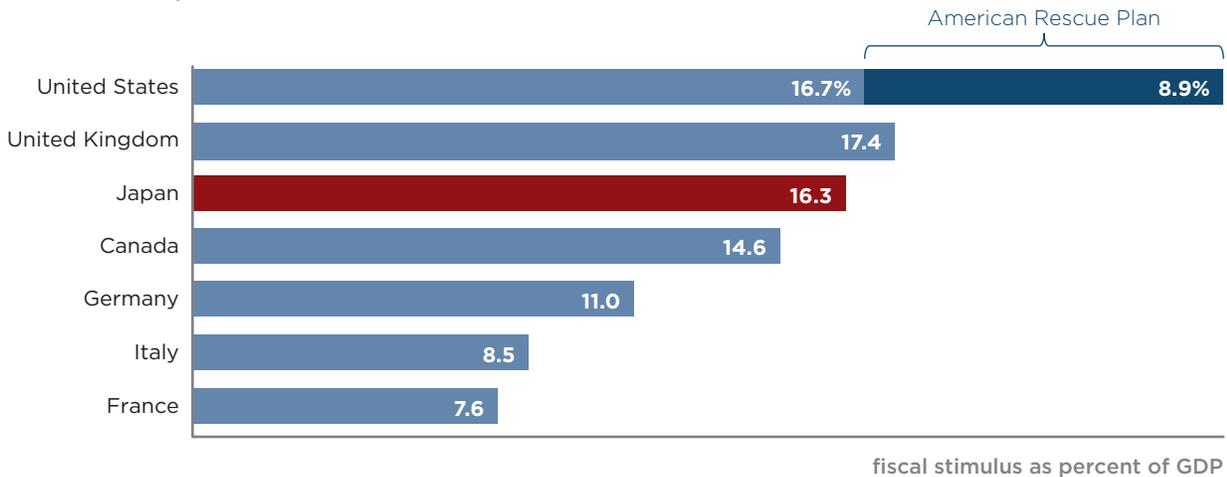
To date, the debate about overheating has focused primarily on the United States, even though many other developed countries responded to the COVID-19 crisis with economic stimulus packages of unprecedented scale. By some measures, Japan stands out: The [International Monetary Fund's \(IMF\) COVID-19 Policy Tracker](#) and some media [reports](#) have indicated that the estimated total amount of its three consecutive stimulus packages exceeds 50 percent of GDP, a

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¹ The base effect is the effect the reference point has on a comparison between two points. Because inflation was low in the initial months of the pandemic, increases the following year appear higher than they would had inflation the previous year been higher.

number about twice as high as the US fiscal packages, which together represent approximately 26 percent of GDP (see figure 1).² No one, however, seems to be actively raising overheating concerns for Japan.

Figure 1
Total COVID-19-related fiscal stimulus as percent of 2020 GDP in G7 countries, end-March 2021



Notes: Total stimulus includes additional spending and forgone revenue announced or taken as of March 17, 2021, as reported in the [IMF's Fiscal Monitor database](#), as well as further fiscal stimulus implemented as of the end of March 2021, which is our cutoff date, and some emergency and recovery measures missing from the database. International support measures of about £2.4 billion are excluded from the UK stimulus numbers (see table A1 in the appendix for detailed calculations). Some other fiscal packages announced by national governments before the end of March 2021 and missing from the Fiscal Monitor database are not added, because they had not been approved by national parliaments as of the end of March and were therefore subject to amendments by legislators. Moreover, some of them still lack specifics and thus (1) some parts of these packages may be below the line, and (2) others may not be directly linked to COVID-19 (see table A2 in the appendix for details).

Sources: [IMF's Fiscal Monitor Database of Country Fiscal Measures in Response to the COVID-19 Pandemic](#), [Office for Budget Responsibility \(UK\)](#), [Ministry of Finance of Japan](#), and [Committee for a Responsible Federal Budget](#); GDP data via Macrobond from [Cabinet Office of Japan](#), [French National Institute of Statistics & Economic Studies \(INSEE\)](#), [German Federal Statistical Office \(Statistisches Bundesamt\)](#), [Italian National Institute of Statistics \(Istat\)](#), [Statistics Canada](#), [UK Office for National Statistics \(ONS\)](#), and [US Bureau of Economic Analysis \(BEA\)](#).

This Policy Brief uses IMF data (with a few adjustments) to show that the US fiscal stimulus is the largest among the Group of Seven (G7) countries relative to GDP, justifying the attention economists have given it. Although Japan's headline number cited above looks astonishingly high, the actual size of its discretionary fiscal measures is about 16 percent of GDP (see figure 1), a number substantially smaller than the total size of the US fiscal stimulus. In fact, the United Kingdom is estimated to spend more than Japan as a proportion of GDP, but even the UK stimulus program markedly lags behind that of the United States. If additional stimulus measures currently making their way through the legislative process in Canada are counted (see table A2 in the appendix), Japan's fiscal stimulus

² Numbers expressed as percentages of GDP are based on estimates of 2020 nominal GDP from national sources.

would rank even lower and would amount to only being *average* in size among G7 countries. Given this and the lackluster performance of its economy in the first quarter of 2021, it is unlikely that Japan will find itself in overheating territory any time soon.

COMPONENTS OF JAPAN'S FISCAL STIMULUS

Historically, fiscal programs announced by the Japanese government tend to stretch their stimulative content (Posen 1998). This time is no different.

The total project scale of the three stimulus packages announced in 2020 is estimated to exceed 300 trillion yen (over 50 percent of GDP). However, some parts of these stimulus packages are borne by the private sector while some others are unlikely to have direct impacts on the Japanese economy. Spending that increases aggregate demand and thus has a stimulative effect is referred to as *Mamizu* (clear water)³ in Japan, but not every measure included in fiscal support can be classified as such.

Figure 2 shows the components of Japan's COVID-19 fiscal packages. Two points stand out. First, the headline size of Japan's stimulus includes expenditures by the private sector, which the government encourages through the provision of various incentives. These contributions from private industries magnify the project scale of stimulus packages.

Second, the headline number also includes an off-budget Fiscal Investment and Loan Program (FILP), which offers fiscal loans, industrial investment, and government guarantees, and is funded by government-affiliated financial institutions. It is used mainly for liquidity support to affected industries and small and medium-sized enterprises (SMEs). Such liquidity support is essential, but it has only indirect effects on GDP.⁴

Excluding both of these components from Japan's stimulus packages leads to our practical measure of *Mamizu*, consisting of fiscal expenses by the national and local governments.⁵ This definition of *Mamizu* roughly corresponds to the additional spending and forgone revenue included in the [IMF's Fiscal Monitor Database of Country Fiscal Measures in Response to the COVID-19 Pandemic](#). The total amount of *Mamizu*, 101 trillion yen, is thus similar to the IMF's total after adjustments for Japan's COVID-19 Contingency Fund.⁶ We therefore use the IMF data in the rest of our analysis.

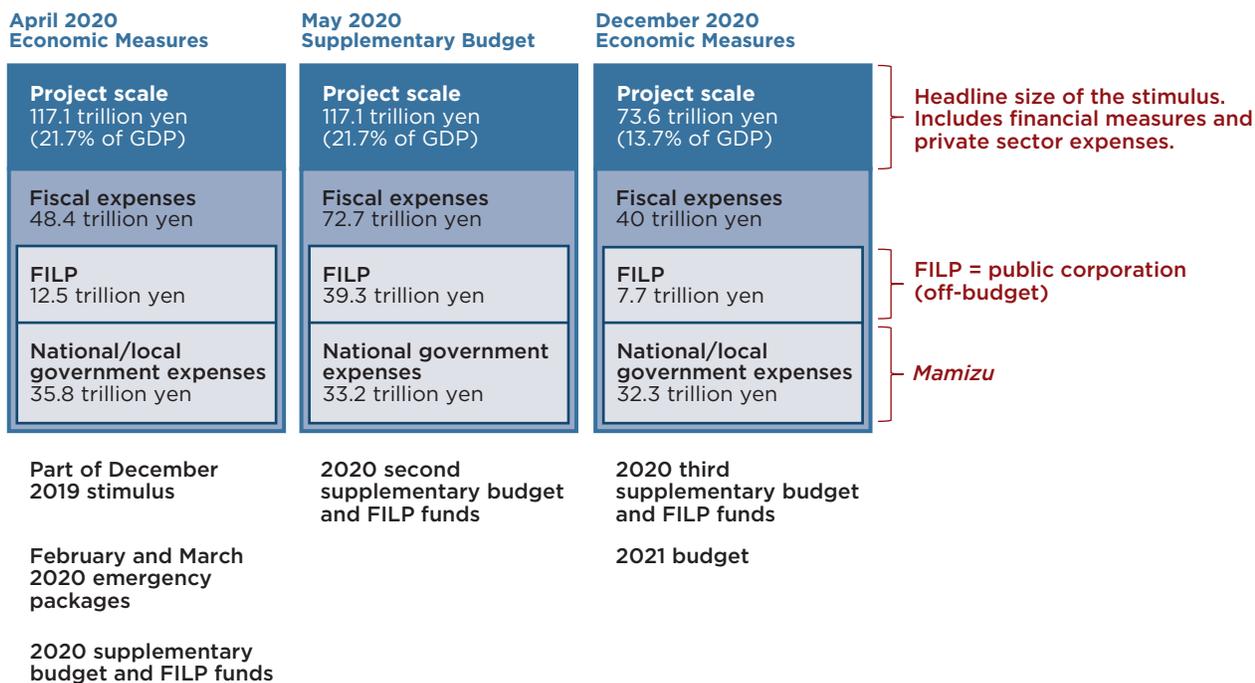
3 It is widely acknowledged in Japan that the effects of a fiscal stimulus package should be measured by *Mamizu*, a concept that has evolved over time. In the past, *Mamizu* was calculated as the total stimulus package minus spending the following year, purchase of land for future public works, and other asset transfers; it represented the amount that potentially increased GDP. In recent years, fiscal expenses by the national government or the national government and local governments have often been referred to as *Mamizu*. In this Policy Brief, *Mamizu* is defined as the fiscal expenses of the national and local governments.

4 It should also be noted that [Japan's first stimulus package](#) included 10 trillion yen of fiscal expenditures already planned before the COVID-19 pandemic (Comprehensive Economic Measures planned in 2019).

5 One could also make other adjustments. For example, contingency funds could be treated differently, depending on the methodology used.

6 The IMF's Fiscal Monitor database includes only actual use of the COVID-19 Contingency Fund; the numbers in figure 2 include total amounts allocated to the fund.

Figure 2
Japan's COVID-19-related stimulus packages



FILP = Fiscal Investment and Loan Program

Note: All percentage numbers are relative to 2020 GDP.

Sources: [Cabinet Office of Japan](#) and the [Ministry of Finance](#).

CROSS-COUNTRY COMPARISON OF COVID-19-RELATED STIMULUS PACKAGES

To compare the magnitudes of fiscal support across G7 countries, we use the IMF’s Fiscal Monitor database, which provides the size along with the breakdown of COVID-19-related fiscal measures announced or taken by governments in selected economies as of March 17, 2021. The database organizes fiscal support measures into various types, depending on their implications for a country’s budget balance and government debt. We focus on additional spending and forgone revenue (“above the line” measures, excluding accelerated spending and deferred revenue), because (a) these measures better capture a country’s current fiscal stance by immediately affecting budget deficits and (b) they allow for a better comparison of G7 packages to the Japanese fiscal stimulus.

Other support measures, such as tax deferrals, equity injections and provision of nonforgivable loans and guarantees, also affect economic activity, but their impact may be more muted. Tax deferrals, for example, eventually come due and thus offer only temporary relief. Programs providing guarantees, loans, and equity injections may be taken up by businesses only partially, which is why counting them can greatly overstate actual fiscal support (see [Anderson et al. 2021](#)). For instance, out of €100 billion reserved in Germany’s Economic Stabilization Fund, which was set up in March 2020, for recapitalization of firms, only €8 billion had been taken up by the end of March 2021. Moreover, guarantees typically do not have immediate implications for public finances (they only create contingent liabilities), while loans and equity injections may have little

or no upfront effect on fiscal deficits (they are “below the line” measures). We therefore do not include these items in our analysis.

To the additional spending and forgone revenue we add further fiscal stimulus implemented from March 17 to March 31, 2021 and some emergency and recovery measures missing from the IMF’s database based on our reading of the underlying data (see table A1 in the appendix for the calculations). For Japan, we add 2.2 trillion yen of the Contingency Fund tapped on March 23, 2021.⁷ For the United States, we add \$37 billion worth of Paycheck Protection Program (PPP) loans that appear not to have been included in the IMF database.⁸ For the United Kingdom, we include 130 percent capital allowances super deduction with an estimated total cost of £27 billion over the next three fiscal years. We also exclude from the UK number international support measures of about £2.4 billion, which are not expected to directly affect its economy. Results, scaled by 2020 GDP, are presented in figure 1.

As can be seen from figure 1, the United States has embarked on by far the largest fiscal stimulus program of all G7 countries. The total cost of its stimulus measures, including the recently enacted \$1.9 trillion American Rescue Plan, is estimated to be as high as 26 percent of the 2020 GDP. The United Kingdom comes next but lags noticeably behind the United States, with the total cost of its fiscal support reaching around 17 percent of GDP. The size of Japan’s fiscal stimulus is even further below that of the United States’ and stands at about 16 percent of GDP. Immediately behind Japan are Canada with some 15 percent of GDP and European Union member states—Germany, Italy, and France—whose stimulus packages are projected to cost approximately 8-11 percent of GDP.

SHARE OF FISCAL STIMULUS ALREADY DISBURSED IN JAPAN AND THE UNITED STATES

To further gauge the risk of overheating in Japan relative to the United States, it is important to examine how much of authorized fiscal stimulus has been already spent in these countries. The United States had disbursed about 40 percent of the authorized fiscal stimulus by the end of 2020, according to data from the [Committee for a Responsible Federal Budget](#).⁹ If committed funds are added, this

7 The IMF’s Fiscal Monitor database counts Japan’s actual use of the COVID-19 Contingency Fund. Japan secured a total of about 9.65 trillion yen as contingency funds in fiscal 2020 (April–March). As 2.2 trillion yen of these contingency funds were used on March 23, 2021, we add this amount to fiscal expenditures reported in the IMF’s Fiscal Monitor database, which are as of March 17, 2021.

8 PPP loans are not excluded from our analysis, because of their forgivable nature.

9 In line with our earlier methodology, we exclude loans from data compiled by the Committee for a Responsible Federal Budget, except for PPP loans, which are included because of their forgivable nature. Although the total amount of fiscal stimulus calculated this way does not exactly match the calculations used in figure 1, the two numbers are very close. We rely on dates shown in this database to determine when funds were committed or disbursed. Where dates are missing, we make several assumptions to fill them in. For example, some funds authorized as part of the CARES Act, which became law on March 27, 2020, are assumed to have been committed/dispursed in the second quarter of 2020, as it is unlikely, though possible, that they were committed/dispursed right after the CARES Act was signed into law (at the end of the first quarter of 2020). In some cases, funds are assumed to have been committed/dispursed the same quarter the legislation was passed (especially when the law entered into force at the beginning of a quarter or funds were committed but not yet dispursed). In other cases, dates of commitment/dispurement close to dates of adjacent similar items are used. The database was accessed on April 5, 2021.

number rises to 59 percent (9.8 percent of GDP). By the end of the third quarter of 2020—that is, before passage of the [\\$900 billion](#) Coronavirus Response and Relief Supplemental Appropriations Act, in December 2020—roughly 48 percent of approved stimulus had been disseminated and 69 percent (8.4 percent of GDP) had been either committed or disbursed. As of April 2, 2021, about half (48 percent) of the total fiscal stimulus, including the American Rescue Plan, enacted in March 2021, had been distributed, with 62 percent of funds (16.0 percent of GDP) either committed or disbursed. The United States thus still has a significant share of fiscal stimulus waiting to be spent in the coming months—10–13 percent of GDP, depending on whether committed amounts are added to disbursed funds. Coupled with an anticipated increase in consumer demand as the economy reopens, the distribution of these funds might put pressure on price levels in the short run.

The likelihood of overheating in the United States looks even greater if we compare fiscal stimulus to output gap forecasts. In its February 2021 [10-year economic projections](#), the Congressional Budget Office estimated that the output gap in the United States will amount to -1.8 percent of potential GDP in 2021. These projections do not take into account the American Rescue Plan, which represents about 8.9 percent of actual 2020 GDP and 8.2 percent of potential 2021 GDP. If spent entirely in 2021, the American Rescue Plan alone could fill the gap with as small a fiscal multiplier as 0.22.¹⁰ Applying a more [realistic fiscal multiplier](#) should push US output above its potential level and contribute to the risk of overheating.

In Japan, more than 70 percent of major items¹¹ of the first two packages had been committed or disbursed by November 2020, and about 90 percent had been committed or disbursed by February 2021, according to [the Cabinet Office](#). Cash handouts and subsidies for domestic travel and dining supported the recovery of private consumption during 2020. The effects of cash transfers have run their course, however, and the spread of the virus during January–March 2021 forced Japan to suspend the service consumption subsidies. Looking ahead, 4 trillion yen of public investment (excluding FILP)—about 0.8 percent of 2020 GDP—and the extension of subsidies for domestic travel in the third supplementary budget are expected to contribute to demand in the coming months, as long as the infection is contained. Other expenditures are mainly for liquidity support and corporate transformation; they will have a limited effect on pushing up demand in the short run. Japan’s risk of overheating therefore appears to be not high.

Japan’s recent economic performance also suggests that overheating is unlikely. Japan’s economy shrank by [1.3 percent](#) quarter-to-quarter (1.9 percent year-over-year) between January and March of 2021, as a result of the plunge in consumer spending as the country still struggles to contain the virus and to roll out its vaccination program. This contributed to the widening of the output gap,

¹⁰ The multiplier is calculated as 1.8 percent of the output gap over 8.2 percent of fiscal stimulus, both relative to 2021 potential GDP.

¹¹ Aggregate fiscal expenses of the major items of the first two packages were about 35.5 trillion yen (6.6 percent of 2020 GDP). Major items include cash handouts to residents, lump-sum transfers to affected firms, expansion of work subsidies, and transfers to local governments. We exclude subsidies for financial institutions’ lending, because the Cabinet Office survey shows its project scale, not its fiscal expense.

which according to [the Cabinet Office's](#) recent estimates reached -4.7 percent of potential GDP in the first quarter of 2021, down from -3.3 percent in the preceding quarter. Given this, the likelihood of seeing the economy at or above its potential in the near term seems low.

CONCLUSION

Comparing the scale and economic impact of stimulus packages across countries is difficult, for several reasons. First, the effects on output are likely to differ from country to country; because the amount of slack in the economy differs, the size of fiscal measures alone cannot reveal how large the economic impact of stimulus will be. Second, different countries prioritize different measures. Third, government discretionary measures seek to supplement existing automatic stabilizers, which differ widely across countries; we do not cover them in this analysis.

These challenges notwithstanding, compiling data on stimulus packages can clarify some misconceptions and help policymakers make better-informed decisions. The analysis presented in this Policy Brief shows, based on publicly available information, that the size of Japan's stimulus spending is much lower than the widely reported headline number. The risk of overheating in Japan appears to be much lower than it is in the United States.

APPENDIX

This appendix shows fiscal stimulus measures related to COVID-19 in the Group of Seven (G7) countries (table A1) and additional measures announced in four of them: Canada, Germany, Italy, and the United States (table A2).

Table A1
Total COVID-19-related fiscal stimulus in G7 countries, end-March 2021

Country	Amount	Sources
<i>Canada (in billions of Canadian dollars):</i>		
Additional spending and forgone revenue	323	IMF ^a
Total stimulus	323	
Nominal GDP in 2020	2,204	Statistics Canada
Total stimulus as percent of GDP	14.6%	
<i>France (in billions of euros):</i>		
Additional spending and forgone revenue	174	IMF ^a
Total stimulus	174	
Nominal GDP in 2020	2,277	French National Institute of Statistics & Economic Studies (INSEE)
Total stimulus as percent of GDP	7.6%	
<i>Germany (in billions of euros):</i>		
Additional spending and forgone revenue	367	IMF ^a
Total stimulus	367	
Nominal GDP in 2020	3,332	German Federal Statistical Office (Statistisches Bundesamt)
Total stimulus as percent of GDP	11.0%	
<i>Italy (in billions of euros):</i>		
Additional spending and forgone revenue	140	IMF ^a
Total stimulus	140	
Nominal GDP in 2020	1,652	Italian National Institute of Statistics (Istat)
Total stimulus as percent of GDP	8.5%	

Country	Amount	Sources
<i>Japan (in trillions of Japanese yen):</i>		
Additional spending and forgone revenue	85.5	IMF ^a
+ COVID-19 Contingency Fund used from March 17 to March 23, 2021	2.2	Ministry of Finance, Japan
Total stimulus	87.7	
Nominal GDP in 2020	539.1	Cabinet Office of Japan
Total stimulus as percent of GDP	16.3%	
<i>United Kingdom (in billions of pounds)</i>		
Additional spending and forgone revenue	343	IMF ^a
+ Capital allowances super deduction ^b	27	Office for Budget Responsibility, Economic and Fiscal Outlook, March 2021
- International support	-2	IMF ^a
Total stimulus	368	
Nominal GDP in 2020	2,112	UK Office for National Statistics (ONS)
Total stimulus as percent of GDP	17.4%	
<i>United States (in billions of US dollars):</i>		
Additional spending and forgone revenue	5,328	IMF ^a
+ Paycheck Protection Program (PPP) and Health Care Enhancement Act – PPP loans missing from IMF's Fiscal Monitor database	37	COVID Money Tracker, Committee for a Responsible Federal Budget
Total stimulus^c	5,365	
Nominal GDP in 2020	20,937	US Bureau of Economic Analysis (BEA)
Total stimulus as percent of GDP	25.6%	

a. [Fiscal Monitor Database of Country Fiscal Measures in Response to the COVID-19 Pandemic](#).

b. This item includes amounts expected to be incurred over the next three fiscal years.

c. We do not adjust for the proportion of PPP loans that might not be forgiven, which appears to be small. Statistics provided by the [US Small Business Administration](#) show that as of May 10, 2021, only \$0.8 billion of 2020 PPP loans had not been forgiven (or merely 0.15 percent of 2020 PPP loans totaling \$521.2 billion). Some \$84.3 billion worth of 2020 PPP loans were still under review for forgiveness, and applications for \$176.8 billion of 2020 PPP loans had not been yet received.

Note: All GDP data from sources accessed via Macrobond.

Table A2

Additional fiscal measures related to COVID-19 announced in Canada, Germany, Italy, and the United States

Country	Amount	Sources
<i>Canada (in billions of Canadian dollars):</i>		
Recovery Plan for Jobs, Growth, and Resilience ^a	50	Department of Finance, Canada
as percent of GDP	2.26%	
<i>Germany (in billions of euros):</i>		
Corporate aid and extra investments to help counter COVID-19 ^a	49	Federal Ministry of Finance, Germany
as percent of GDP	1.48%	
<i>Italy (in billions of euros)</i>		
Urgent measures related to the emergency from COVID-19	31	Presidency of the Council of Ministers, Italy
as percent of GDP	1.88%	
<i>United States (in billions of US dollars):</i>		
American Jobs Plan: Measures to protect Americans from future pandemics	30	White House, US
as percent of GDP	0.14%	

a. This item includes amounts expected to be incurred over the next three fiscal years.

Note: This table lists additional fiscal packages announced by national governments before the end of March 2021 (our cutoff date) and not included in the Fiscal Monitor database. We do not include them in table A1 and figure 1 because these packages had not been approved by national parliaments as of the end of March and were therefore subject to amendments by legislators. Moreover, some of them still lack specifics and thus (1) some parts of these packages may be below the line, and (2) others may not be directly linked to COVID-19. Only amounts judged to be directly linked to COVID-19 are included in this table.

Sources: For GDP (accessed via Macrobond): Statistics Canada, German Federal Statistical Office (Statistisches Bundesamt), Italian National Institute of Statistics (Istat), and US Bureau of Economic Analysis.



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