

23-8 How did Korea's fiscal accounts fare during the COVID-19 pandemic?

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The COVID-19 pandemic raised extraordinary challenges in every country. This Policy Brief examines the effects of COVID-19 and public policies in response to the pandemic on the fiscal accounts of advanced economies in 2020–21, with a specific focus on Korea.¹

Key policies adopted by Korea in response to the pandemic were common to most advanced economies. By far the largest actions were transfers to households, firms, and workers to support spending in the face of lockdowns and falling consumer sentiment. Also important were increased resources for public health measures such as testing, tracing, quarantines, and vaccine rollouts. Changes to tax rates in most advanced economies were relatively small, chiefly consisting of temporary deferrals in 2020. In addition, Korea increased some property-related tax rates in 2020 for reasons unrelated to COVID-19.

In terms of the increase in overall spending during the pandemic, Korea's experience was close to the median for the advanced economies. However, Korea enjoyed buoyant tax revenues from strong equity and property markets. The net effect was a much smaller decline in Korea's fiscal balance than occurred in most other advanced economies.

Thanks to a strong public health response, Korea suffered fewer deaths from COVID than most other advanced economies, and it was able to impose fewer restrictions on mobility, both of which enabled Korea to avoid the sharp recession in 2020 that many other advanced economies experienced. In addition, Korea enjoyed relatively strong demand for its exports.

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¹ The Policy Brief does not examine the fiscal position in 2022 because COVID effects and policy responses were diminishing, Russia's invasion of Ukraine and the subsequent spike in global commodity prices complicates the analysis, and the data for 2022 are still preliminary.

Korea's relatively good economic performance suggests that it had less need for expansionary fiscal measures under the pandemic than other advanced economies. However, Korea arguably did not make sufficient use of monetary and fiscal policies prior to the pandemic as evidenced by its failure to achieve its inflation target for several years in a row.

KOREAN FISCAL POLICY RESPONSES TO THE COVID-19 PANDEMIC

According to the International Monetary Fund (IMF), based on programs announced as of September 2021, total additional public spending and foregone revenues in response to COVID-19 were about 6.4 percent of Korean GDP.² Korea's government spent about 14 trillion won (0.7 percent of GDP) in additional spending on public health measures, including support for medical institutions and quarantined households, expanding diagnostic and treatment facilities, promoting vaccine development, promoting testing and tracing, and rolling out vaccines. The government spent 106 trillion won (5.5 percent of GDP) for additional spending on transfers to households and businesses, increases in the spending needs of various social safety net programs, and the launch of the Korean New Deal for digital and green investment.³ Temporary tax cuts and reduced rental fees on public properties cost the government just over 3 trillion won (0.2 percent of GDP).

According to the IMF, accelerated spending and deferred taxes in 2020 amounted to 33 trillion won (1.7 percent of GDP), but most of this amount was reversed in late 2020 and early 2021. About 90 percent of this category reflects deferred taxes, and 10 percent is accelerated spending.

Finally, Korea's government made and guaranteed loans to small- and medium-sized enterprises and bought stocks and bonds of larger firms. These operations totaled about 196 trillion won (10.1 percent of GDP). They are not included in budgetary expenses because they reflect asset purchases without an explicit subsidy. The ultimate budgetary costs are unknown at this time but will surely be far lower than the size of the loans and purchases.

Focusing on the on-budget items and excluding temporary deferrals, it is clear that the overwhelming share of Korea's fiscal response to COVID-19 occurred through expenditures and not through revenues (tax cuts). This is a pattern that is repeated across most (but not all) advanced economies.⁴ In particular, in every G7 economy, fiscal transfers to households, workers, and firms composed the lion's share of the fiscal response. Spending on public health measures was significant but always much less than half of spending on transfers. Tax rate changes were usually small, except for some temporary deferrals of 2020 taxes.

2 Data are from the IMF's Database of Fiscal Policy Responses to COVID-19.

3 Although dealing with climate change and digital technologies is not, in principle, related to COVID-19, the Korean government used the pandemic as a justification for accelerating spending on these goals. See David Vetter, "South Korea Embraces EU-Style Green Deal For COVID-19 Recovery" in *Forbes*, April 16, 2020.

4 Data are from the IMF's Database of Fiscal Policy Responses to COVID-19.

COMPARISON OF ECONOMIC GROWTH AND INFLATION ACROSS ADVANCED ECONOMIES

This section places Korea's economic performance during the pandemic in the context of 23 advanced economies.⁵ Table 1 displays growth and inflation rates in advanced economies over this period. Column 1 displays GDP growth rates in 2020. All economies except Taiwan experienced declines in GDP in 2020, often by historically large amounts. Korea's GDP decline of 0.7 percent was considerably smaller than the median decline of 3.9 percent. Column 2 displays GDP growth rates in 2021. All economies recovered to some extent in 2021. GDP often grew faster in economies that saw larger declines in 2020. Column 3 displays the average growth rate in 2020–21 in order to compare the overall growth impacts of the pandemic. Economies in table 1 are ranked by the average growth rates in column 3. Korea's average growth rate of 1.7 percent was substantially higher than the median growth rate of 0.4 percent.

Korea also had good performance on inflation during these years. In 2020 Consumer Price Index (CPI) inflation was below 2 percent for all economies in table 1, with many of them experiencing negative inflation (column 4). Korea's 2020 inflation rate of 0.5 percent was close to the median value. Inflation rates bounced back sharply in 2021, with a median value of 2.5 percent (column 5). Korea's 2021 inflation rate of 2.5 percent was at the median value for these advanced economies and reasonably close to its 2 percent target.

Overall, Korea's economy performed better than most other advanced economies during the pandemic, especially as it avoided the sharp recession in 2020 that hit other advanced economies. Since 2021, Korea's growth has slowed and inflation has risen, reflecting the impact of the Ukraine war on global commodity prices and some slowing of Chinese growth. Nevertheless, Korea's growth in 2022 and 2023 (IMF projection) is close to the average for advanced economies, and Korea's inflation is lower than average.⁶

5 We include all advanced economies in the IMF World Economic Outlook Database with 2022 GDP of at least US\$100 billion with the following exceptions: eastern European transition economies (Czech Republic, Slovak Republic), a major oil exporter (Norway), a country with major data definitional issues (Ireland), and economies with a recent major debt crisis (Greece, Puerto Rico). It should be noted that Hong Kong and Puerto Rico are territories of China and the United States, respectively, but they are treated as separate economies in the IMF database.

6 According to the IMF World Economic Outlook Database (April 2023), Korea's GDP growth in 2022 and 2023 is estimated at 2.6 and 1.5 percent, respectively, compared to advanced economy averages of 2.7 and 1.3 percent. Korea's CPI inflation of 5.1 and 3.5 percent during these years is less than the advanced-economy averages of 7.3 and 4.7 percent. (These projections are for all advanced economies and are not limited to the 23 economies in table 1.)

Table 1
Growth and inflation in advanced economies, 2020–21 (percent)

Economy	2020 GDP growth	2021 GDP growth	Average 2020–21 GDP growth	2020 CPI inflation	2021 CPI inflation
<i>Taiwan</i>	3.4	6.5	5.0	-0.2	2.0
<i>Israel</i>	-1.9	8.6	3.4	-0.6	1.5
<i>Singapore</i>	-3.9	8.9	2.5	-0.2	2.3
<i>New Zealand</i>	-1.5	6.1	2.3	1.7	3.9
Korea	-0.7	4.1	1.7	0.5	2.5
<i>Australia</i>	-1.8	5.2	1.7	0.9	2.8
<i>Sweden</i>	-2.2	5.4	1.6	0.7	2.7
<i>United States</i>	-2.8	5.9	1.6	1.3	4.7
<i>Denmark</i>	-2.0	4.9	1.4	0.3	1.9
<i>Switzerland</i>	-2.5	4.2	0.9	-0.7	0.6
<i>Netherlands</i>	-3.9	4.9	0.5	1.1	2.8
Median	-3.9	5.5	0.4	0.4	2.5
<i>Belgium</i>	-5.4	6.1	0.4	0.4	3.2
<i>Finland</i>	-2.4	3.0	0.3	0.4	2.1
<i>Canada</i>	-5.1	5.0	-0.0	0.7	3.4
<i>Hong Kong</i>	-6.5	6.4	-0.0	0.3	1.6
<i>Germany</i>	-3.7	2.6	-0.5	0.4	3.2
<i>France</i>	-7.9	6.8	-0.6	0.5	2.1
<i>Austria</i>	-6.5	4.6	-0.9	1.4	2.8
<i>Italy</i>	-9.0	7.0	-1.0	-0.1	1.9
<i>Japan</i>	-4.3	2.1	-1.1	0.0	-0.2
<i>Portugal</i>	-8.3	5.5	-1.4	-0.1	0.9
<i>United Kingdom</i>	-11.0	7.6	-1.7	0.9	2.6
<i>Spain</i>	-11.3	5.5	-2.9	-0.3	3.0

CPI = Consumer Price Index

Note: Economies are ranked according to the data in column 3.

Sources: IMF, [World Economic Outlook Database](#), April 2023; and authors' calculations.

COMPARISON OF COVID FISCAL RESPONSES ACROSS ADVANCED ECONOMIES

Table 2 displays changes in the fiscal balances of the advanced economies in 2020–21. Column 1 displays the changes in the fiscal balance in 2020. Column 2 displays the changes in the fiscal balance in 2021, and column 3 displays the net change over the two years. Changes in the first three columns are expressed in percent of 2019 GDP to improve comparability in the presence of sharp changes in GDP in 2020–21. Economies are ranked in order of the net change shown in column 3.

Fiscal balances fell in 2020 in all 23 economies, with an average decline of 5.9 percentage points and a median decline of 5.7 percentage points. Korea's decline of 2.6 percentage points is considerably smaller than the median for these economies. Balances rose in all economies in 2021, with an average rise of 2.9 percentage points and a median rise of 2.4 percentage points. Korea's rise of 2.2 percentage points is close to the median. Over the two years (column 3), fiscal balances in nearly all of these economies fell by an average of 3.1 percentage points and a median of 2.9 percentage points. Italy experienced the largest decline, at -7.5 percentage points; Hong Kong had a small increase of 0.6 percentage point. Korea had only a tiny decline of 0.4 percentage point, much smaller than the median decline for these economies.

At first glance, it would appear that Korea's fiscal response to COVID-19 was rather weak. However, fiscal balances were affected by more than just policy responses to the pandemic. In particular, fiscal balances were affected by the 2020 recession and 2021 recovery. Korea's relatively strong growth may have contributed to stronger revenues and a smaller fiscal deficit despite its large pandemic-related expenditures.

To check this possibility, column 4 displays changes in cyclically adjusted balances calculated by the IMF between 2019 and 2021. These balances control for the effects of recessions and recoveries in GDP in two ways (Fedelino, Ivanova, and Horton 2009): First, they are scaled by potential GDP instead of actual GDP. Second, they remove changes in expenditures and revenues that are estimated to result automatically from changes in GDP relative to potential. For example, when GDP rises relative to its potential value, tax revenues rise relative to potential GDP.⁷ In principle, cyclically adjusted balances should reflect discretionary changes in fiscal spending and tax rates, including in response to COVID, rather than the automatic effect of fluctuations in GDP on the fiscal balance.⁸

Table 2 does not display changes in cyclically adjusted balances in 2020 and 2021 separately because the IMF estimates for the changes in potential GDP during these years differ wildly across economies for no apparent reason. Potential GDP drops sharply in 2020 and rebounds in 2021 in some economies, but it grows steadily in others. Steady growth of potential GDP is the normal assumption. (See box 1 for a discussion of potential GDP estimates.) These

7 For most economies, the IMF assumes that expenditures do not respond to changes in GDP and that revenues increase by a proportional amount.

8 This result assumes that expenditures and revenues remain constant as a percent of GDP whenever GDP grows at its potential rate.

Table 2
Changes in general government fiscal balances, 2020–21

Economy	Change in balance in 2020 (percent of 2019 GDP)	Change in balance in 2021 (percent of 2019 GDP)	Change in balance in 2020–21 (percent of 2019 GDP)	Change in cyclically adjusted balance in 2020–21 (percent of potential GDP)
<i>Italy</i>	-7.4	0.0	-7.5	-5.8
<i>United States</i>	-8.1	1.1	-6.9	-4.7
<i>Austria</i>	-8.3	1.6	-6.7	-4.2
<i>United Kingdom</i>	-10.0	3.9	-6.1	-2.0
<i>Germany</i>	-5.8	0.4	-5.4	-4.4
<i>Canada</i>	-10.4	5.7	-4.7	-3.1
<i>Netherlands</i>	-5.4	0.9	-4.5	0.5
<i>Belgium</i>	-6.7	2.8	-3.9	-2.3
<i>France</i>	-5.5	1.8	-3.6	-3.1
<i>Spain</i>	-6.0	2.4	-3.6	-1.0
<i>Japan</i>	-5.7	2.7	-3.0	-2.8
Median	-5.7	2.4	-2.9	-2.0
<i>Portugal</i>	-5.6	2.7	-2.9	-1.5
<i>Australia</i>	-4.2	1.8	-2.5	-2.1
<i>Singapore</i>	-10.2	7.8	-2.4	-2.8
<i>Finland</i>	-4.5	2.6	-1.9	-0.9
<i>Switzerland</i>	-4.3	2.4	-1.9	-1.6
<i>New Zealand</i>	-1.9	0.6	-1.3	-2.2
<i>Sweden</i>	-3.3	2.7	-0.6	-0.1
<i>Taiwan</i>	-1.3	0.7	-0.6	-0.7
Korea	-2.6	2.2	-0.4	-0.4
<i>Denmark</i>	-3.9	3.7	-0.2	-1.3
<i>Israel</i>	-6.8	6.6	-0.2	0.7
<i>Hong Kong</i>	-8.3	8.9	0.6	0.6

Note: Economies are ranked according to the data in column 3.

Sources: IMF, [World Economic Outlook Database](#), April 2023, and authors' calculations.

concerns are less severe when comparing 2021 with 2019. According to column 4, Korea had among the smallest fiscal policy responses to COVID over these two years, with a decline in the adjusted balance of only 0.4 percentage point. The reason for this surprising result is that the IMF estimate for Korea's potential GDP grew faster between 2019 and 2021 than in most other advanced economies. Thus, the increase in Korea's fiscal expenditures was smaller when scaled by potential GDP. Moreover, Korea's GDP did not rise relative to potential; thus, cyclical factors are unable to explain the rise of Korea's public revenues as a share of GDP.

Indeed, Korea's government revenues far exceeded the growth of GDP in 2021. In August 2020, Korea raised taxes on real estate and on property transactions, part of the Moon administration's long-running attempts to cool off rising property prices.⁹ This tax increase was not related to the pandemic and it did not appear to have the desired effect as real estate prices continued to rise in 2021. Higher tax rates on property doubtless contributed to strong tax revenues, but rising property prices and a high level of transactions appear to have been even more important. The IMF Staff Report for the 2022 Article IV Consultation with Korea (IMF 2022, 18) states that "the fiscal deficit was smaller than projected . . . due to overperforming tax revenues from the strong economic recovery and buoyant asset markets." Most other advanced economies had only minimal discretionary changes in tax rates, and they generally did not experience the buoyancy of tax revenues that Korea did.¹⁰

A better guide to Korea's fiscal response to the pandemic is what happened to expenditures. Table 3 displays changes in expenditures in 2020–21 across the advanced economies. Column 1 displays the changes in expenditures in 2020, column 2 displays the changes in expenditures in 2021, and column 3 displays the net change over the two years. As in table 2, changes in the first three columns are expressed in percent of 2019 GDP. Economies are ranked in order of the net change shown in column 3.

Expenditures increased in all 23 economies in 2020. Korea's fiscal expenditures increased 2.8 percentage points, below the median value of 4.9 percentage points. However, Korea's expenditures continued to increase in 2021, above the median of 1.4 percentage points, as a few economies began to reduce spending. Over the two years, Korea's expenditures rose 5.3 percent of 2019 GDP, close to the median value of 5.8 percentage points. Column 4 displays the change in expenditures relative to trend nominal GDP to control for differences in trend growth across countries.¹¹ Korea's expenditure growth of 3.0 percentage points is equal to the median value among these advanced economies.

9 See Tom Kwon, Song Hee Oh, and Jae Woo Kim, "Recent Korean tax law changes will increase tax burdens for investors in Korean residential real estate" in International Bar Association Taxes Committee Publications at <https://www.ibanet.org/article/BA51A729-4D36-4FD4-98D3-8F7CB0536ADB>.

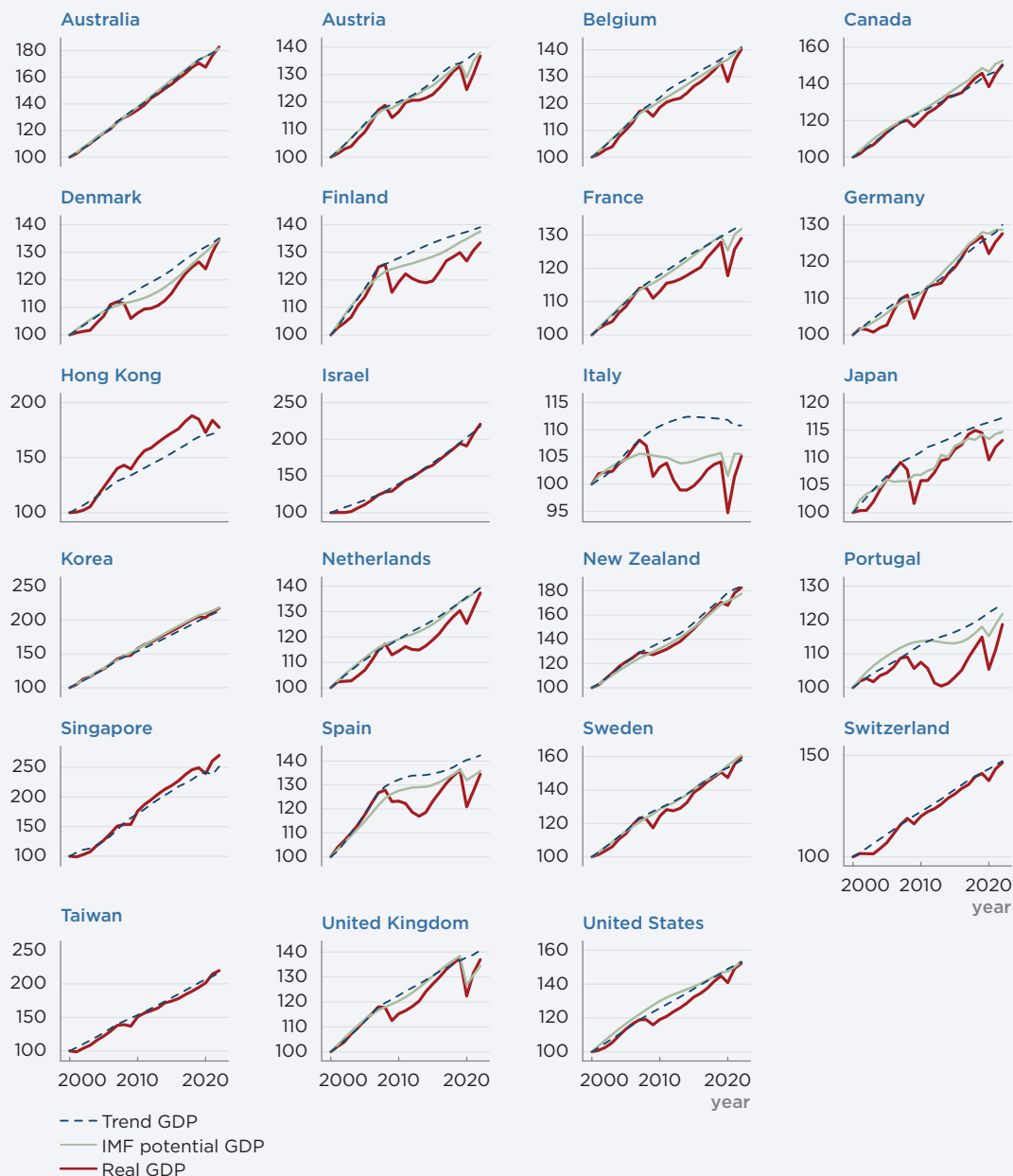
10 Israel, New Zealand, and Spain also experienced increases in tax revenues of more than 2 percentage points of GDP from 2019 to 2021. As in Korea, income and property taxes accounted for a large share of the increase. Unlike Korea, New Zealand and Spain also had strong value-added tax (VAT) revenues, and Spain had a notable increase in social security revenues. Denmark experienced higher corporate profit tax revenues that were partially offset by weaker VAT revenues, but it also saw a strong increase in nontax revenues. Sources: IMF, Fiscal Monitor; Organization for Economic Cooperation and Development Revenue Statistics database.

11 Box 1 describes how trend GDP is calculated.

Box 1 Estimating potential GDP

An estimate of potential GDP is necessary to construct output gaps and perform cyclical adjustments. The IMF uses simple statistical smoothing techniques, such as the Hodrick-Prescott filter, combined with input from country experts to construct potential output for each advanced economy (Aiyar and Voigts 2019). Figure B1 displays real GDP, the IMF's estimate of potential GDP, and an alternative estimate based on Friedman's plucking model of the business cycle (Dupraz, Nakamura, and Steinsson 2022).

Figure B1
Real GDP and estimates of trend or potential, 2000–22 (index, 2000=100)



Source: IMF, [World Economic Outlook Database](#), April 2023; and authors' calculations

Box 1 Estimating potential GDP (continued)

The alternative estimate of potential that we propose, “trend GDP,” derives from a log-linear interpolation of real per capita GDP between assumed cyclical peaks in 1980, 1990, 2000, 2007, and 2028.¹ Data for 2028 are taken from the April 2023 IMF forecast.²

An undesirable feature of the IMF estimates, especially from the perspective of cross-country comparisons, is that the 2020 COVID recession is associated with declines in potential GDP for many, but not all, economies. Note, for example, the sharp decline in Austria’s potential GDP in 2020 versus no decline in Belgium’s potential GDP, despite similar movements in actual GDP. It seems more reasonable to assume that COVID pushed the economy temporarily below potential rather than that it caused wildly different drops in potential that lasted only one year.³ In any case, for a cross-country comparison one needs a consistent treatment across countries.

1 For Hong Kong, Korea, Singapore, and Taiwan, the 2000 peak is replaced by 1997 because of the effect of the Asian financial crisis on their GDPs in 1998–2000.

2 IMF, [World Economic Outlook Database](#), April 2023.

3 Doubtless, enforced lockdowns did reduce potential economic output to some extent. But the declines in GDP in 2020 mainly reflect a sudden drop in demand for consumer services.

Considering that revenue policy responses to COVID in advanced economies were far smaller than expenditure policies, and that most revenue measures were focused on 2020, column 4 of table 3 reflects a good comparative guide to differences in COVID fiscal responses between 2019 and 2021.

Figure 1 shows that Korea’s net general government debt at the end of 2021 was far lower than average for these advanced economies. Korea had considerable room for expansionary fiscal policy before the pandemic, and it retains that room. Indeed, Korean CPI inflation was below target for seven years in a row before 2020, suggesting that Korea would have benefited from more stimulative monetary and fiscal policies.

However, there are two factors that suggest Korea has less fiscal room than figure 1 implies. First, Korea is projected to have the most rapidly aging population among these advanced economies over the next 30 years, which will tend to raise spending on health care and pensions while reducing revenues from workers (Kirkegaard 2021).¹² Second, reunification of the Korean peninsula, should it occur, would be relatively more costly for South Korea than reunification of Germany was for West Germany (Noland 2012, 37–38).

The Bank of Korea lowered its official monetary policy interest rate by 0.75 percentage point to 0.5 percent in early 2020. Central banks in other advanced economies also quickly lowered their policy rates to near zero if they were not already near zero at the start of the pandemic. In late 2021, the Bank of Korea was one of the first central banks in advanced economies to begin raising policy rates as inflation rose above target. Given the normal lags in the operation of monetary policy, this tightening is not likely to have had much effect on growth or inflation in Korea in 2021.

12 Average age in Korea is projected to rise 13.5 years by 2052, compared to increases of 5 years in Japan and 6 years in the United States, for example (DESA 2022).

Table 3*
Changes in general government expenditures, 2020–21

Economy	Change in expenditures in 2020 (percent of 2019 GDP)	Change in expenditures in 2021 (percent of 2019 GDP)	Change in expenditures in 2020–21 (percent of 2019 GDP)	Change in expenditures in 2020–21 (percent of trend GDP)
<i>United States</i>	8.2	2.8	10.9	6.9
<i>Canada</i>	9.8	-0.6	9.2	4.0
<i>Austria</i>	5.8	2.8	8.6	4.7
<i>Italy</i>	4.2	4.3	8.6	7.4
<i>United Kingdom</i>	8.5	-0.1	8.4	5.0
<i>Germany</i>	4.4	3.7	8.2	4.7
<i>New Zealand</i>	3.8	3.6	7.3	2.9
<i>Australia</i>	5.1	2.2	7.3	3.2
<i>Netherlands</i>	4.7	2.2	6.9	3.5
<i>Spain</i>	4.3	2.4	6.8	4.3
<i>Belgium</i>	4.7	1.7	6.4	2.7
<i>Israel</i>	5.9	-0.1	5.8	1.5
Median	4.4	1.5	5.8	3.0
<i>Denmark</i>	4.2	1.2	5.4	1.4
Korea	2.8	2.5	5.3	3.0
<i>France</i>	2.9	2.3	5.2	1.7
<i>Portugal</i>	3.6	1.4	5.0	2.3
<i>Finland</i>	3.4	1.5	4.9	2.0
<i>Japan</i>	5.8	-1.0	4.8	4.2
<i>Singapore</i>	9.1	-4.4	4.7	3.6
<i>Sweden</i>	2.8	1.4	4.2	0.4
<i>Switzerland</i>	3.9	-0.0	3.9	2.9
<i>Hong Kong</i>	7.3	-4.3	3.0	2.3
<i>Taiwan</i>	1.8	0.8	2.6	0.9

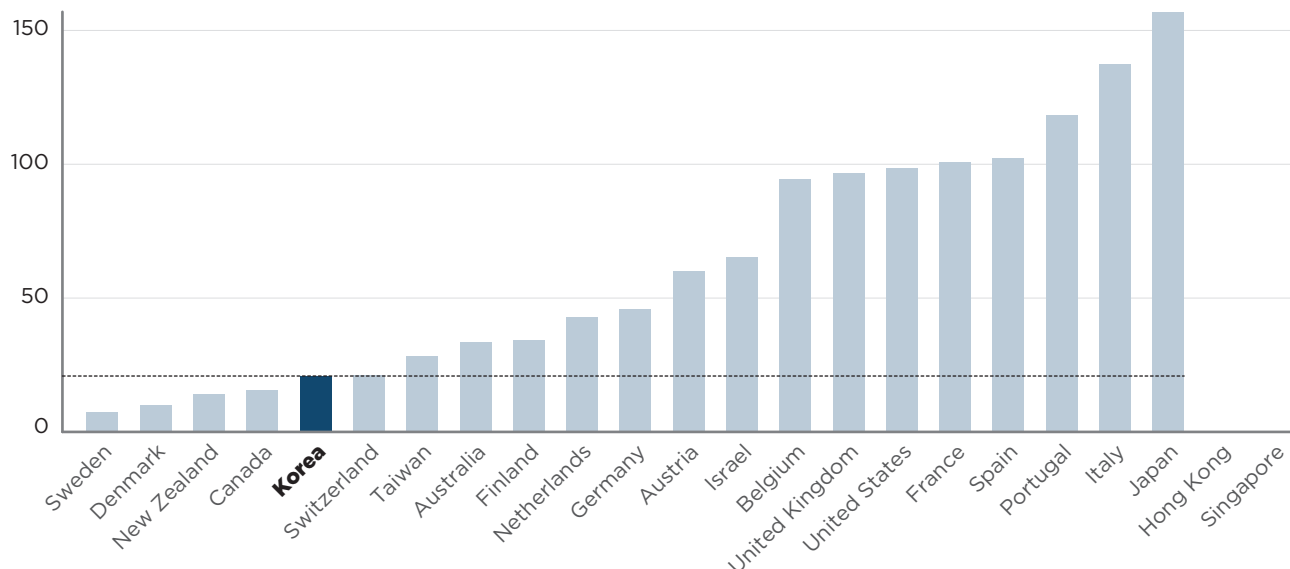
Note: Economies are ranked according to the data in column 3.

Sources: IMF, [World Economic Outlook Database](#), April 2023, and authors' calculations.

*Table revised on August 1, 2023.

Figure 1
General government net debt in 2021

percent of GDP



Note: Hong Kong and Singapore data are not available.

Source: IMF, [World Economic Outlook Database](#), April 2023.

HOW DO COVID FISCAL RESPONSES COMPARE WITH ORDINARY CYCLICAL RESPONSES?

In constructing cyclically adjusted fiscal measures, the IMF seeks to separate the effects of automatic stabilizers from those of discretionary fiscal actions. Taxation based on income or economic activity gives rise to the most important automatic stabilizer: the tendency for revenues to rise with GDP. Depending on the progressivity or regressivity of the tax system or differences in tax rates on different types of income, revenues might rise proportionally more or less than cyclical swings in GDP. In practice, the IMF assumes a proportional rise based on its reading of the data (Fedelino, Ivanova, and Horton 2009). The main automatic stabilizer on the spending side is the unemployment benefits system, but this is a very small share of GDP, and the IMF typically assumes that fiscal expenditures do not automatically move in response to swings in GDP.

The data provide support for the IMF approach. Equations 1 and 2 display results of panel regressions on our dataset over the pre-COVID period from 1980 through 2019.

$$(1) (EXP/NGDPT)_{it} = \alpha_i + 0.020 \times GAP_{it} \quad \text{Within } R^2 = .00 \quad 804 \text{ observations} \\ (.083)$$

$$(2) (REV/NGDPT)_{it} = \alpha_i + 0.363 \times GAP_{it} \quad \text{Within } R^2 = .19 \quad 804 \text{ observations} \\ (.052)$$

Subscripts i and t refer to economies and years, EXP is fiscal expenditures, REV is fiscal revenues, $NGDPT$ is trend nominal GDP, α_i refers to a full set of economy fixed effects, and GAP is the gap between actual and trend GDP relative to trend GDP. (Trend GDP is defined in box 1 and displayed in figure B1.) Heteroskedasticity-robust standard errors of the coefficient estimates are shown in parentheses. The expenditure coefficient is not significantly different from

zero. This is consistent with the IMF assumption of a zero cyclical effect on expenditures.¹³ The revenue coefficient is statistically significant at the 1 percent level.¹⁴ A value of 0.363 is consistent with a proportional tax rate of 36.3 percent.

The large increases in expenditures shown in table 3 demonstrate that the fiscal response to COVID and the COVID-induced recession was exceptionally strong by historical standards.

For most advanced economies, changes in revenues between 2019 and 2021 were slightly stronger than would be expected from proportional automatic stabilizers. Changes in GDP relative to our trend GDP imply a small decline in the value of revenues as a share of trend GDP, with a median decline of 0.4 percentage point.¹⁵ But the actual values of revenues as a share of trend GDP rose by a median amount of 0.5 percentage point. Korea's revenues performed particularly strongly, rising 2.6 percent of trend GDP compared to a prediction of a 0.3 percentage point decline based on proportional automatic stabilizers.¹⁶

ECONOMIC IMPLICATIONS OF FOREIGN DEMAND AND PUBLIC HEALTH RESPONSES TO COVID

A number of recent papers examine the impact of COVID on GDP across countries.¹⁷ The number of COVID cases or deaths reduces GDP by discouraging people from working. Policy restrictions on mobility to reduce infections also reduce GDP. Foreign demand for a country's exports has a significant impact on growth; countries dependent on tourism, for example, saw large drops in tourism exports and GDP.

Column 1 of table 4 shows that cumulative death rates as of December 2021 were quite different across the advanced economies. Korea had one of the better public health responses, with a relatively low death rate (Chorzempa and Huang 2021, Hundt 2021). This response doubtless contributed to Korea's relatively strong GDP performance. It also reduced the need for fiscal stimulus in Korea.

Column 2 displays the restrictiveness of official policies to reduce mobility and interpersonal contact as captured by the Oxford Stringency Index averaged over 2020–21. A higher number indicates greater mobility restrictions. Korea's value of 51.9 is below the median. Countries with lower death rates generally had less restrictive policies, an indication of the success of other public health measures, such as masking, contact tracing, and quarantining infectious individuals.

13 To check for an endogenous effect of expenditure or revenue policy changes on GDP, we also tried two-stage least squares using a full set of year effects as instruments to capture the common component of business cycles across economies. The EXP coefficient dropped to -0.185, but it was not statistically significant. This small coefficient may reflect the effect of unemployment insurance programs or the systematic use of discretionary spending programs to counter recessions.

14 In a two-stage regression the REV coefficient rose slightly to 0.406, and it remained highly significant.

15 This calculation is not based on equation 2, which imposes the same revenue effect on all countries. We instead follow the IMF approach in which the output gap has a bigger effect in countries with larger initial revenue to GDP. These estimates are thus the change in the output gap between 2019 and 2021 times the ratio of revenues to GDP in 2019.

16 Although GDP grew more strongly in Korea than in most other advanced economies, the automatic stabilizer effect on revenues as a share of trend GDP is similar to that in other advanced economies because Korea's trend GDP also rises faster than in most other advanced economies.

17 See the literature review and empirical results in Gagnon, Kamin, and Kearns (2023).

Table 4
Measures of public health and external demand, 2020–21

Economy	Cumulative COVID deaths as of December 2021 (per thousand people)	Oxford Stringency Index, 2020–21 average	Average export growth in 2020–21 (percent)
<i>United Kingdom</i>	2.6	59.7	-4.9
<i>Belgium</i>	2.4	53.2	4.0
<i>United States</i>	2.4	58.0	-3.6
<i>Italy</i>	2.3	67.5	0.3
<i>Spain</i>	1.9	58.4	-2.8
<i>Austria</i>	1.9	58.5	-0.5
<i>Portugal</i>	1.8	61.6	-2.7
<i>France</i>	1.8	55.3	-4.2
<i>Sweden</i>	1.5	49.8	2.5
<i>Switzerland</i>	1.4	49.2	3.3
<i>Germany</i>	1.3	58.8	-0.3
Median	1.2	58.0	0.0
<i>Netherlands</i>	1.2	58.5	0.6
<i>Israel</i>	0.9	59.0	5.9
<i>Canada</i>	0.8	64.4	-3.7
<i>Denmark</i>	0.5	48.1	1.0
<i>Finland</i>	0.3	42.4	-0.9
Korea	0.1	51.9	4.6
<i>Japan</i>	0.1	41.6	0.0
<i>Singapore</i>	0.1	49.7	6.1
<i>Australia</i>	0.1	60.6	-5.8
<i>Taiwan</i>	0.0	32.9	8.7
<i>Hong Kong</i>	0.0	61.6	5.2
<i>New Zealand</i>	0.0	43.0	-7.9

Note: Economies are ranked according to the data in column 1.

Sources: Our World in Data, [COVID-19 Data Explorer](#); IMF, [World Economic Outlook Database](#), April 2023; and authors' calculations.

Column 3 displays the growth of export volumes in each economy, a measure of how supportive the external environment was for growth. Korea had excellent export growth in 2020–21, in part reflecting its high exposure to the relatively strong Chinese economy.

Korea's strong performances on all measures displayed in table 4 are key factors behind the country's relatively mild 2020 recession. They also reduced the need for fiscal support.

CONCLUSION

Korea undertook a number of important fiscal steps to fight the COVID-19 pandemic and to support households and businesses in 2020–21. Yet Korea's overall fiscal balance fell much less than the fiscal balances of other advanced economies. This outcome was driven by special factors unrelated to the magnitude of Korea's fiscal response to the pandemic.

This Policy Brief shows that the increase in Korea's government expenditures relative to GDP was close to the median value across advanced economies in 2020–21. However, Korea's fiscal revenues rose more strongly than in most other advanced economies despite few discretionary changes to tax rates, reflecting strong revenues from asset-based taxes in an environment of rising asset prices. The serendipitous surge in revenues offset much of Korea's pandemic-related increases in expenditures, leading to a smaller decline in the fiscal balance.

Korea's GDP rose more strongly in 2020–21 than GDP in most other advanced economies, reflecting strong foreign demand for Korean exports and a better public health response, which minimized COVID mortality and necessitated fewer restrictions on mobility. In particular, the 2020 recession was much milder in Korea than elsewhere. Given Korea's relatively good economic growth during the pandemic, it arguably needed a smaller increase in fiscal expenditures than other advanced economies. On the other hand, Korea's net public debt is much lower than the median among advanced economies, potentially giving it greater scope to use fiscal policy to stabilize economic growth, although Korea does face unique long-run fiscal challenges. Prior to the pandemic, Korea arguably was not using fiscal and monetary policy aggressively enough to achieve maximum sustainable growth and its 2 percent inflation target. In light of Korea's postpandemic growth slowdown and better-than-average inflation performance, macro policymakers should be careful not to overdo the fight against inflation.

On balance, Korea's fiscal response to the pandemic was roughly comparable to the typical response in other advanced economies. Yet its public health response was much better than the typical response in other advanced economies.

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