

ANALYSIS
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Global Fiscal Policy in the Pandemic

Introduction

The U.S. and global economies have recovered surprisingly quickly from the debilitating COVID-19 pandemic. Two years after the pandemic first struck, much of the world has recovered the output and employment lost during the severe recession suffered at the start of the pandemic and is well on the way to returning to full employment. This strong performance is due in significant part to the vaccines and other therapies rapidly developed to fight the virus, but also to the quick and massive global monetary and fiscal policy response.

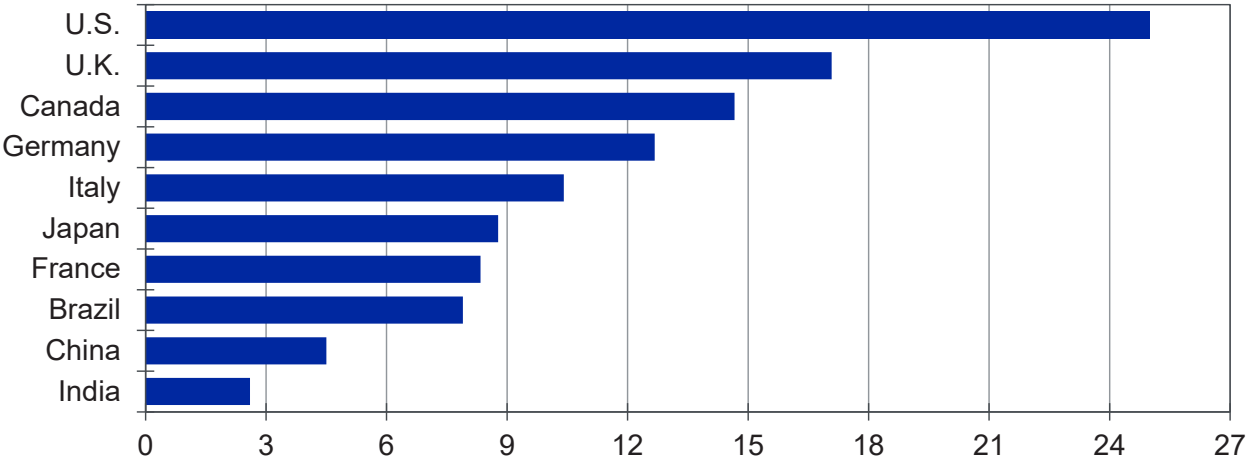
Global Fiscal Policy in the Pandemic

The U.S. and global economies have recovered surprisingly quickly from the debilitating COVID-19 pandemic. Two years after the pandemic first struck, much of the world has recovered the output and employment lost during the severe recession suffered at the start of the pandemic and is well on the way to returning to full employment. This strong performance is due in significant part to the vaccines and other therapies rapidly developed to fight the virus, but also to the quick and massive global monetary and fiscal policy response.

In this paper, we focus on the contribution of the global fiscal policy response to the pandemic. We use the Moody's Analytics Global Macroeconomic Model to construct a counterfactual scenario in which governments in the world's 10 largest economies—accounting for more than two-thirds of global GDP—do not provide economic support to households and businesses during the pandemic (see Chart 1). We compare this counterfactual scenario to our baseline, most likely, scenario, which includes the macroeconomic impact of fiscal policies implemented by governments.

Chart 1: Governments Step Up

Fiscal support during COVID-19 pandemic, % of 2019 GDP



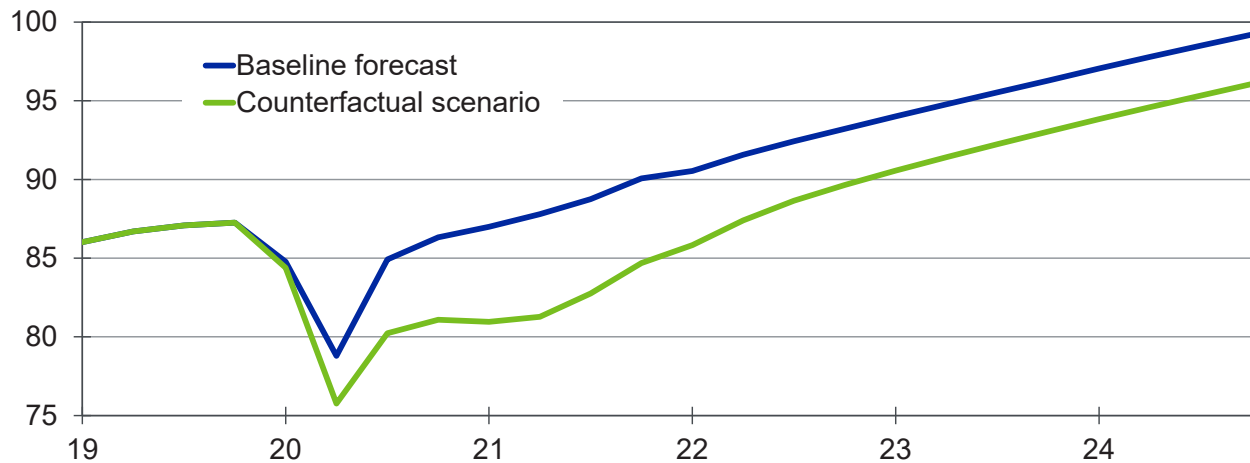
Source: Moody's Analytics

The macroeconomic consequences of governments failing to help their economies during the pandemic would have been devastating. Global real GDP would have fallen twice as much in 2020, and while the economy would have begun to recover in 2021, growth would have been half of what it actually was (see Chart 2). There would have been 40 million additional unemployed

workers in 2021 and stubbornly high joblessness thereafter (see Chart 3). And the global economy would forever be diminished, never fully recovering the output lost during the pandemic.¹

Chart 2: Deeper Fall, Weaker Recovery

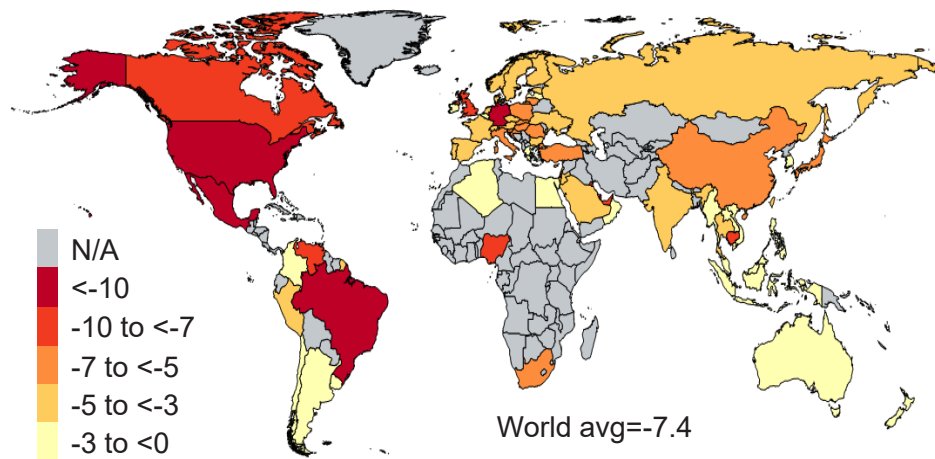
Global real GDP, 2012\$ tril, SAAR



Source: Moody's Analytics

Chart 3: Severe Contractions Everywhere

Peak impact on real GDP, %



Source: Moody's Analytics

What if?

The counterfactual scenario we have constructed assumes national governments never implemented the emergency discretionary fiscal measures they have actually put in place since the pandemic hit at the start of 2020. This includes a wide range of policies that broadly encompass

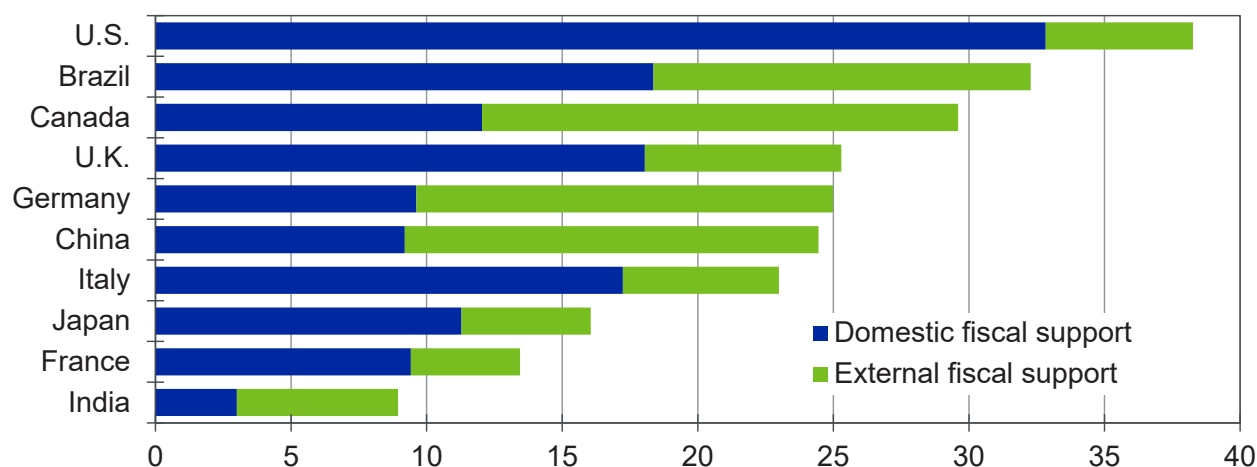
¹ This is known as hysteresis, which is a reduction in the economy's potential due to a significant economic shock such as a pandemic. This occurs because of the large number of business failures and bankruptcies, permanent job loss, credit problems, and reduced mobility of labor and capital. Once hysteresis sets in, it is difficult to reverse. Hysteresis effects are built into the Moody's Analytics model of the global economy.

transfer payments to households and businesses, tax cuts, aid to subnational governments, and public infrastructure and other direct spending.

To quantify this counterfactual scenario, we have simulated the Moody's Analytics Global Macroeconomic Model.² The model links more than 70 countries through international trade, global financial markets, exchange rates, consumer sentiment, and capital flows. The model is simulated assuming an absence of fiscal support for each country by itself, and for all 10 countries at once. By so doing, we are able to determine the spillover effects from one country's policies on the rest of the world. Nearly half the countries benefited more from fiscal support provided by other countries than they did from their own fiscal support (see Chart 4).

Chart 4: Fiscal Policy Knows No Borders

Cumulative real GDP impact, % of GDP, 2020-2024



Source: Moody's Analytics

We make several simplifying assumptions in these simulations. First, we assume the course of the pandemic and the development and rollout of vaccines proceeded as they did. Second, monetary policy is determined endogenously in the model. That is, global central banks set interest rate and balance sheet policies based on their reaction functions that account for the economy's performance, inflation, inflation expectations, and financial conditions.³ Finally, we restrict the scope of fiscal measures to include only those that explicitly address the fallout from the pandemic.⁴

United States

No other nation responded more aggressively to the pandemic than the U.S. (see Table 1). In total, the fiscal support was well over \$5 trillion, equal to nearly 25% of GDP. This compares with less

² This analysis is based on the February 2022 vintage of the Moody's Analytics global macroeconomic forecasts.

³ A central bank's reaction function is the estimated historical relationship between the bank's monetary policy and the economic, financial and other variables that monetary authorities use to set monetary policy.

⁴ Fiscal legislation that broadly seeks to invest in an economy's long-run potential was excluded. Some examples are the Build Back Better agenda in the U.S. and the Recovery and Resilience Facility in Europe. We even left out a handful of measures from pandemic-era legislation in Japan that were not explicitly tied to the virus. Additionally, our analysis includes only fiscal measures that have a direct impact on budget deficits. Liquidity supports, which were substantial in many countries, for example, were excluded.

Table 1: U.S. Fiscal Response to COVID-19

Legislation	Actions	\$ bil
Coronavirus Preparedness and Response Supplemental Appropriations Act	Funding for healthcare agencies and testing, funding for vaccine and other therapies across various agencies, subsidized SME loans.	8.3
Families First Coronavirus Response Act	Tax credits to firms for COVID-19-related paid sick leave and paid family medical leave; food assistance via Supplemental Nutrition Assistance Program and Special Supplemental Nutrition Program for Women, Infants, and Children; federal assistance for increased state unemployment insurance benefits; expand Medicare and Medicaid coverage to COVID-19 tests.	192.0
Coronavirus Aid, Relief, and Economic Security Act	Household cash transfers, federal assistance to expand state unemployment insurance benefits, grant-convertible loans to SMEs under the Paycheck Protection Program, grants to states and municipalities via \$150 bil Coronavirus Relief Fund, student loan deferrals, expand Medicaid coverage to telehealth services, various tax deferrals and credits.	1,756.0
Paycheck Protection Program and Health Care Enhancement Act	Addition of \$320 bil to Paycheck Protection Program, loans to smaller financial institutions, grants for hospitals, additional funding for states/municipalities for COVID-19 testing.	484.0
President Trump's Executive Orders	Extension of plus-up to federal unemployment insurance benefits amounting to \$300 per week, with an additional \$100 to be provided by states. Additional executive orders extend student loan deferral for loans held by Department of Education, declare temporary payroll tax holiday, instruct government agencies to assist renters and homeowners with eviction orders.	174.0
Coronavirus Response and Relief Supplemental Appropriations Act	Extension of unemployment insurance benefits by \$300 per week through March 14; second round of stimulus checks; additional funds allocated for Paycheck Protection Program, virus-combat and vaccination efforts, supplemental nutrition programs, emergency grants to entertainment venues, relief for airline workers, increased federal spending on transportation.	915.0
American Rescue Plan Act	Stimulus checks of up to \$1,400, extends weekly unemployment insurance top-ups through the beginning of September, additional provisions for renter and homeowner relief, increased outlays for state and local governments, expansion of tax credits, financial assistance to businesses and healthcare providers.	1,821.0
	U.S. total	5,350.3

Sources: CBO, CRFB, JCT, Moody's Analytics

than 18% of GDP in the U.K., the country that provided the next most fiscal support, and the approximately 10% of GDP provided by all countries across the globe on average.

The unrivaled U.S. fiscal response was motivated in part by the nation's meaningfully weaker automatic fiscal stabilizers—tax and spending policies that automatically counteract declines in economic activity without direct action by lawmakers—compared with those in other advanced economies.⁵ It was likely also motivated by lessons learned during the financial crisis a little over a decade ago, when the policy response was slower in coming and much smaller, contributing to what was a painfully slow economic recovery.^{6 7}

The U.S. economy's rapid recovery was due to not just the scale of the fiscal support by fiscal policymakers but also how quickly they responded to the pandemic. The pandemic slammed the U.S. in February 2020, the massive CARES Act was passed into law in late March, and no more than one month later over \$1 trillion in fiscal support was already disbursed to households and businesses.

5 N. Girouard and C. André (2005), "Measuring Cyclically-adjusted Budget Balances for OECD Countries," OECD Economics Department Working Papers, No. 434, OECD Publishing, Paris, https://read.oecd-ilibrary.org/economics/measuring-cyclically-adjusted-budget-balances-for-oecd-countries_787626008442. M. Dolls, C. Fuest and A. Peichl (2012), "Automatic stabilizers and economic crisis: US vs. Europe," Journal of Public Economics, Elsevier, Vol. 96(3), <https://www.sciencedirect.com/science/article/abs/pii/S0047272711001642>.

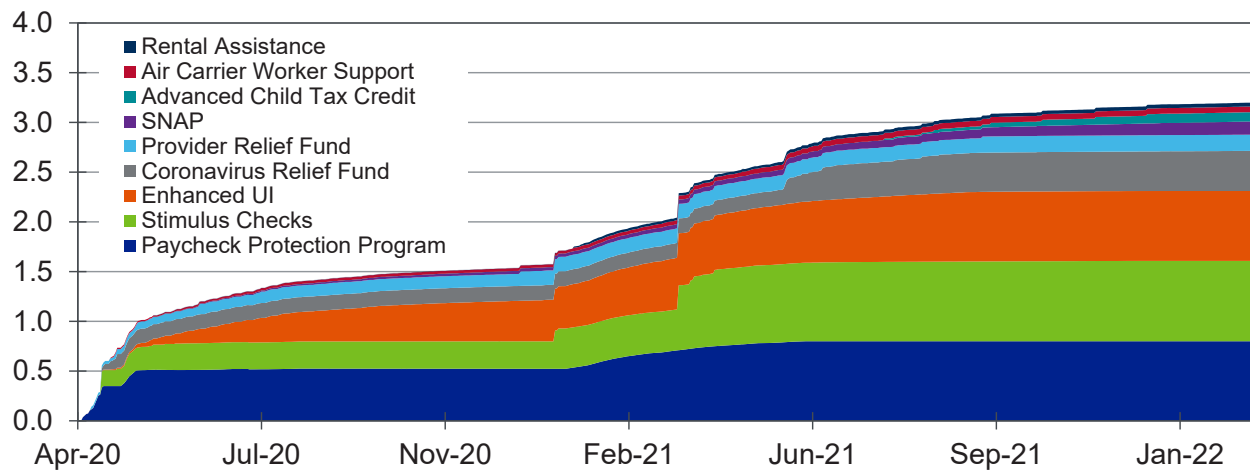
6 U.S. discretionary fiscal support during the financial crisis, including the Recovery Act that was passed into law in February 2009 and some modest additional support, totaled less than 10% of U.S. GDP.

7 See "[Blinder and Zandi: Policy Responses to Great Recession a Resounding Success](#)," white paper for Center on Budget and Policy Priorities, October 2015.

There was a similar ramp-up in fiscal support in early 2021, largely via the American Rescue Plan, which was passed into law in March 2021 (see Chart 5).

Chart 5: Rapid Ramp-Up in U.S. Support

Cumulative U.S. pandemic relief, \$ tril

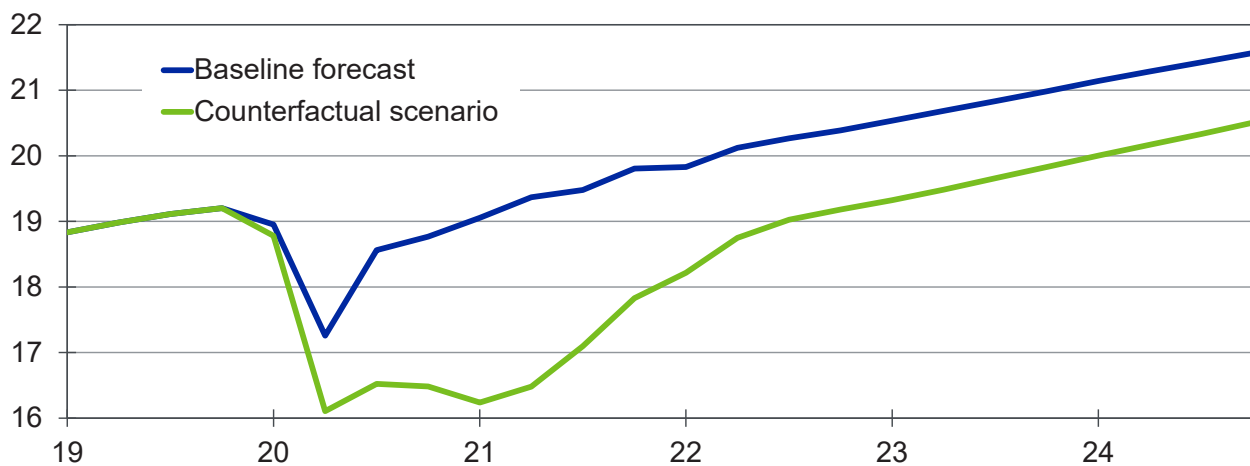


Sources: BEA, CRFB, HHS, SBA, U.S. Treasury, Moody's Analytics

In the counterfactual scenario where this fiscal support was not provided, real GDP falls by a stunning 11% in calendar 2020, more than three times its actual decline. The economy would have also succumbed to a double-dip recession in early 2021 (see Chart 6). A recovery begins in earnest in the second half of 2021, but even then, the economy never fully returns to its pre-pandemic path, as real GDP is permanently reduced.

Chart 6: Double-Dip Recession in the U.S.

U.S. real GDP, 2012\$ tril, SAAR



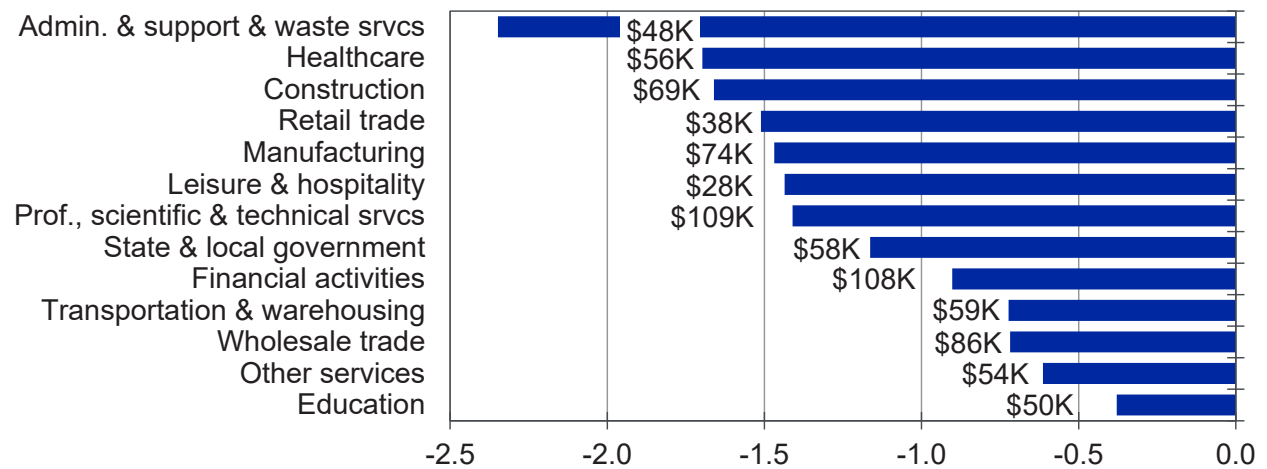
Sources: BEA, Moody's Analytics

The impact on the U.S. job market would have been equally grim. The economy is currently on track to recoup all the jobs lost during the pandemic recession by late this year. Without government

support, this milestone would not have been achieved until summer 2026. Low-wage workers, who have suffered most financially during the pandemic, would have been set back even further, since they work in industries that have desperately needed government support during the pandemic. This includes administrative and support services, healthcare, retail trade, and leisure and hospitality (see Chart 7). The weaker job market means that unemployment remains stuck in the double digits through 2021, declines only slowly thereafter, and ultimately never returns to its pre-pandemic full-employment unemployment rate (see Chart 8).⁸ Moreover, with the economy operating with high unemployment for an extended period, wage growth sharply slows to an all-time low.⁹

Chart 7: Low-Wage Industries Most Hurt

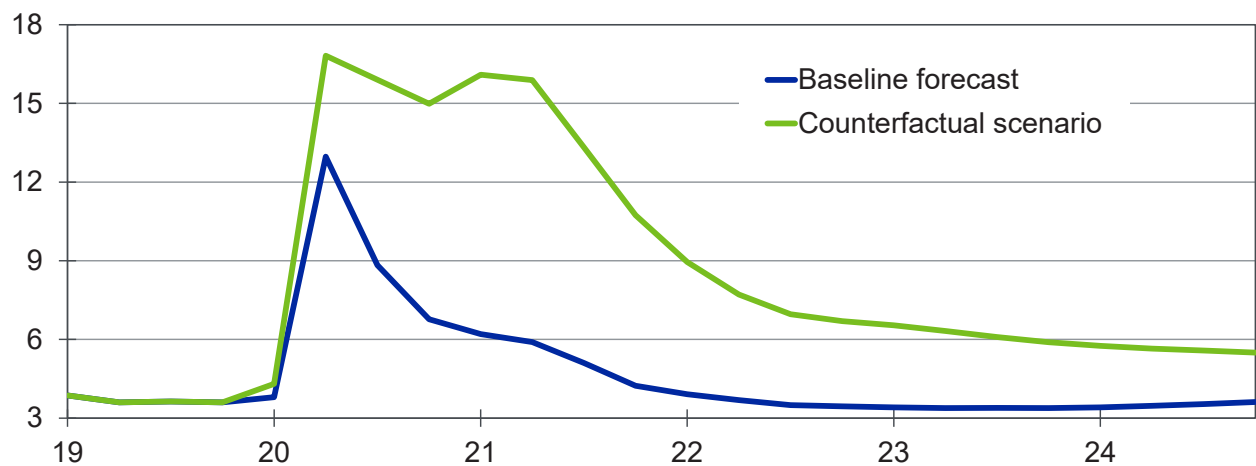
U.S., jobs lost without government support, mil, 2021



Sources: BEA, BLS, Moody's Analytics Note: Figures are avg industry wage in 2020. Avg for all industries was \$66K.

Chart 8: Stubbornly High Unemployment

U.S. unemployment rate, %, SA



Sources: BLS, Moody's Analytics

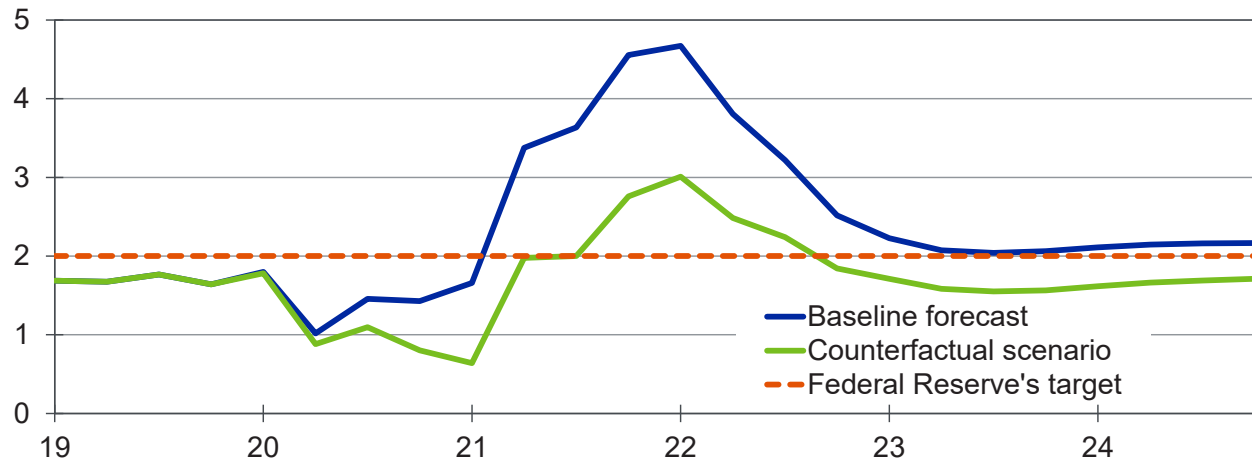
⁸ We estimate the full-employment unemployment rate, or nonaccelerating inflation rate of unemployment, at 3.5%.

⁹ Wages as measured by the Bureau of Labor Statistics' Employment Cost Index.

In the counterfactual scenario, inflation picks up in early 2021 as the distribution of vaccines prompts a reopening of the economy and a surge in consumer demand. However, it falls back below the Federal Reserve's inflation target by the second half of 2022. The Fed is not struggling with uncomfortably high inflation as it is now. Rather, it contends with uncomfortably low inflation, as in the decade after the financial crisis (see Chart 9).

Chart 9: Return of Too-Low Inflation

U.S. core PCE deflator, % change yr ago

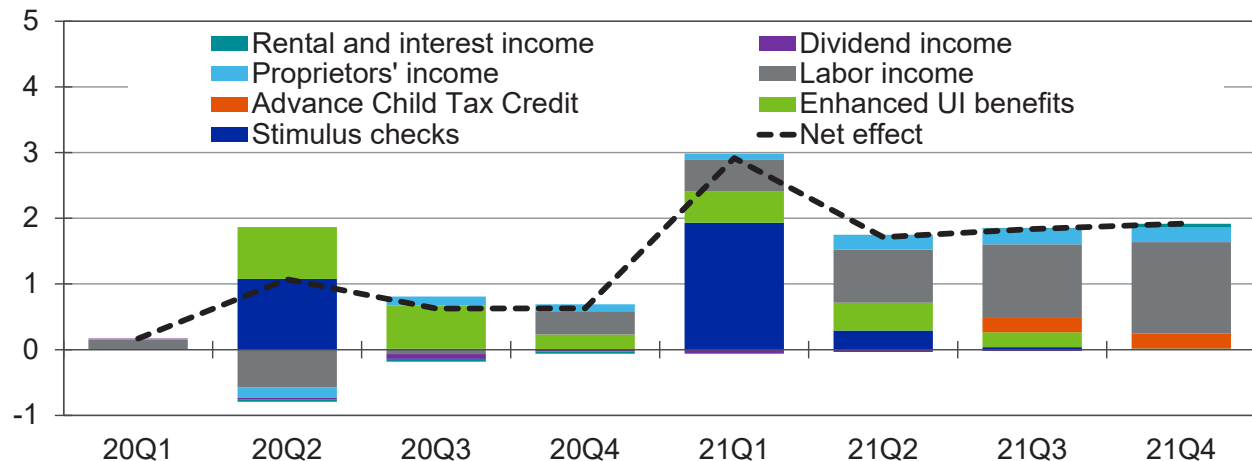


Sources: BEA, Moody's Analytics

Household finances have benefited enormously from government support. Thanks mostly to stimulus checks, enhanced unemployment insurance, and rental and food assistance, personal incomes declined only briefly at the very start of the pandemic (see Chart 10). If households had not received this help, real disposable income would have plunged in 2020 and would not fully recover until summer 2023.

Chart 10: Household Incomes Get Boost

U.S. personal income, \$ tril, SAAR, change from 2019Q4

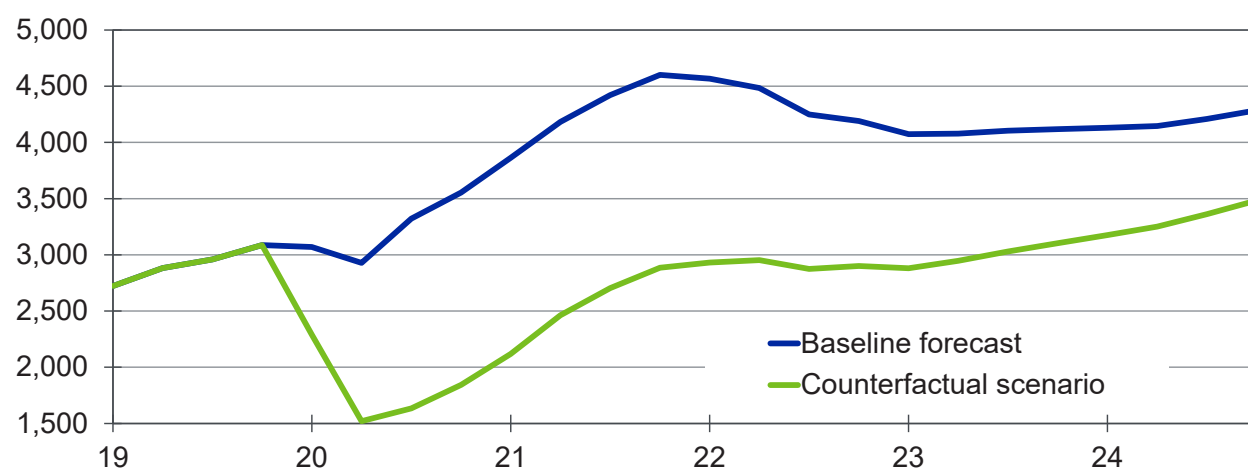


Sources: BEA, U.S. Treasury, Moody's Analytics

Household wealth would also have been significantly diminished, as the Standard & Poor's 500 stock price index would have plunged, cut in half peak to trough (see Chart 11). Consumers are dour now despite the strong economic recovery, but confidence would be at an all-time low if fiscal policymakers had not stepped up.

Chart 11: Stock Prices Get Crushed

S&P 500 composite, 1941-1943=10



Sources: S&P, Moody's Analytics

American Rescue Plan

Arguably the most controversial of the U.S. fiscal support packages was the nearly \$2 trillion American Rescue Plan that became law in March 2021. The ARP has been criticized as being too large, overstimulating an already fast-improving economy and significantly contributing to the currently uncomfortably high inflation.

This perspective is not consistent with our results. Without the ARP, the U.S. economy would have come close to suffering a double-digit recession in spring 2021. Based on a simulation of our macro model assuming no ARP, real GDP declines in the second quarter of 2021 and ekes out only a small gain in the third (see Table 2). Because of the weakened economy, unemployment rises back over 7% in summer 2021 and remains materially higher after that (see Chart 12).¹⁰

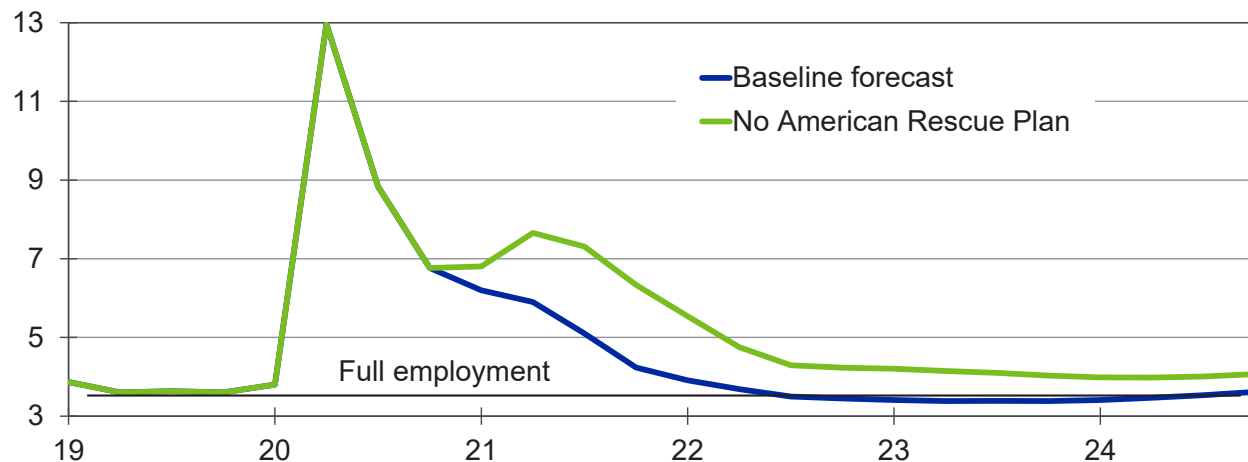
The ARP is responsible for adding well over 4 million more jobs in 2021, and the economy is currently on track to recovering all the jobs lost in the pandemic by the second quarter of this year. If there had been no ARP, it would have taken another year for the economy to recover all of these jobs.

The ARP has contributed to the acceleration in inflation by supporting increased consumer demand, but this occurred almost entirely in the first half of 2021 when higher inflation was not considered a problem (see Chart 13). Indeed, at the time it was even viewed positively, as many businesses were simply re-establishing the prices they had previously cut when the pandemic

¹⁰ Because of the much weaker economy, the Fed keeps the federal funds rate target at the zero lower bound and engages in quantitative easing through the end of 2022.

Chart 12: More Unemployment Without ARP

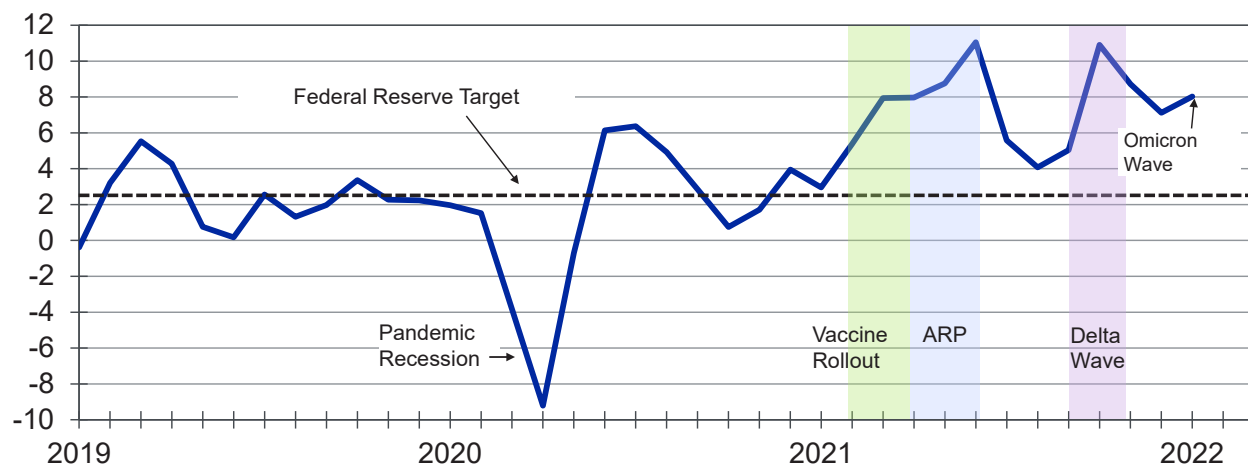
U.S. unemployment rate, %, SA



Sources: BLS, Moody's Analytics

Chart 13: Don't Blame ARP For High Inflation

Consumer price inflation, annualized % change



Sources: BLS, Moody's Analytics

caused the economy to shut down. Moreover, inflation had been much too low for comfort since the global financial crisis more than a decade earlier. The Federal Reserve and other global central banks had been struggling to lift inflation back up to their targets.

Inflation only became uncomfortably high when the Delta wave of the pandemic hit in late summer last year. This inflation was a surprise, but so too was the Delta variant, as it came immediately on the heels of the vaccine rollout and widespread optimism that the pandemic was more-or-less behind us.

Delta slammed consumer demand, as it prompted renewed self-quarantining and border restrictions, which by itself would moderate inflation, but it also severely disrupted supply. Global supply

Table 2: The Macroeconomic Impact of the American Rescue Plan

	Real GDP				Nonfarm employment				Unemployment rate				Consumer price inflation						
	No American Rescue Plan		Difference		Baseline		No ARP		Difference		Baseline		No ARP		Difference				
	Baseline	Ann. growth	2012\$ bil	Ann. growth	2012\$ bil	Mil	Change, mil	Mil	Change, mil	Ths	%	Baseline	No ARP	1982-1984=100 growth	Ann. growth	1982-1984=100 growth	Ann. growth	Difference	
2020Q1	18,952	(5.1)	18,952	(5.1)	0	151.9	0.308	151.9	0.308	0	3.8	3.8	3.8	0.0	258.5	1.0	258.5	1.0	0.0
2020Q2	17,258	(31.2)	17,258	(31.2)	0	133.8	(18.103)	133.8	(18.103)	0	13.0	13.0	13.0	0.0	256.5	(3.1)	256.5	(3.1)	0.0
2020Q3	18,561	33.8	18,561	33.8	0	140.5	6.688	140.5	6.688	0	8.8	8.8	8.8	0.0	259.4	4.7	259.4	4.7	0.0
2020Q4	18,768	4.5	18,768	4.5	0	142.5	1.998	142.5	1.998	0	6.8	6.8	6.8	0.0	261.0	2.4	261.0	2.4	-0.0
2021Q1	19,056	6.3	18,864	2.1	-191	143.7	1.262	142.7	0.219	-1,043	6.2	6.8	6.8	0.6	263.4	3.7	263.3	3.6	-0.0
2021Q2	19,368	6.7	18,828	(0.8)	-540	145.2	1.453	142.1	(0.622)	-3,118	5.9	7.7	7.7	1.8	268.8	8.4	268.5	8.0	-0.1
2021Q3	19,479	2.3	18,835	0.2	-644	146.9	1.695	142.8	0.714	-4,099	5.1	7.3	7.3	2.2	273.1	6.6	272.6	6.3	-0.2
2021Q4	19,806	6.9	19,185	7.7	-621	148.6	1.733	144.5	1.678	-4,154	4.2	6.3	6.3	2.1	278.6	8.2	277.8	8.0	-0.3
2022Q1	19,829	0.5	19,327	3.0	-503	150.4	1.757	146.8	2.302	-3,609	3.9	5.5	5.5	1.6	281.8	4.6	280.8	4.4	-0.3
2022Q2	20,123	6.1	19,757	9.2	-367	151.7	1.371	148.9	2.172	-2,808	3.7	4.8	4.8	1.1	284.1	3.3	282.9	3.0	-0.4
2022Q3	20,266	2.9	19,959	4.1	-308	152.6	0.842	150.2	1.231	-2,418	3.5	4.3	4.3	0.8	286.0	2.7	284.6	2.4	-0.5
2022Q4	20,390	2.5	20,082	2.5	-308	153.2	0.640	150.8	0.622	-2,436	3.4	4.2	4.2	0.8	287.7	2.5	286.2	2.2	-0.5
2023Q1	20,537	2.9	20,228	2.9	-309	153.8	0.607	151.3	0.526	-2,517	3.4	4.2	4.2	0.8	289.4	2.3	287.6	2.1	-0.6
2023Q2	20,685	2.9	20,379	3.0	-306	154.3	0.470	151.8	0.453	-2,534	3.4	4.1	4.1	0.8	290.9	2.2	289.1	2.0	-0.6
2023Q3	20,835	2.9	20,532	3.0	-303	154.7	0.383	152.2	0.413	-2,504	3.4	4.1	4.1	0.7	292.6	2.3	290.6	2.1	-0.7
2023Q4	20,984	2.9	20,688	3.1	-296	155.1	0.376	152.6	0.448	-2,431	3.4	4.0	4.0	0.6	294.2	2.3	292.0	2.1	-0.7
2024Q1	21,141	3.0	20,856	3.3	-285	155.4	0.326	153.1	0.441	-2,316	3.4	4.0	4.0	0.6	295.8	2.1	293.5	2.0	-0.8
2024Q2	21,288	2.8	21,015	3.1	-273	155.6	0.272	153.5	0.393	-2,195	3.5	4.0	4.0	0.5	297.5	2.3	295.0	2.1	-0.8
2024Q3	21,427	2.6	21,164	2.9	-263	155.9	0.229	153.8	0.339	-2,085	3.5	4.0	4.0	0.5	299.2	2.3	296.6	2.2	-0.9
2024Q4	21,569	2.7	21,312	2.8	-257	156.0	0.164	154.0	0.242	-2,008	3.6	4.1	4.1	0.5	300.9	2.3	298.3	2.2	-0.9
2025Q1	21,706	2.6	21,452	2.6	-254	156.2	0.115	154.2	0.161	-1,961	3.7	4.1	4.1	0.4	302.6	2.3	299.9	2.2	-0.9
2025Q2	21,834	2.4	21,582	2.4	-252	156.3	0.099	154.3	0.138	-1,922	3.8	4.2	4.2	0.4	304.4	2.3	301.6	2.2	-0.9
2025Q3	21,964	2.4	21,713	2.5	-250	156.4	0.102	154.5	0.143	-1,882	3.8	4.3	4.3	0.4	306.2	2.4	303.3	2.3	-0.9
2025Q4	22,098	2.5	21,851	2.6	-247	156.5	0.103	154.6	0.146	-1,839	3.9	4.3	4.3	0.4	307.9	2.4	305.0	2.3	-1.0
					0														
2020	18,385	(3.4)	18,385	(3.4)	-0	142.1	(8.748)	142.1	(8.748)	0	8.1	8.1	8.1	0.0	258.8	1.2	258.8	1.2	0.0
2021	19,427	5.7	18,928	3.0	-499	146.1	3.950	143.0	0.846	-3,104	5.4	7.0	7.0	1.7	271.0	4.7	270.5	4.5	-0.2
2022	20,152	3.7	19,781	4.5	-371	152.0	5.877	149.2	6.163	-2,818	3.6	4.7	4.7	1.1	284.9	5.1	283.6	4.8	-0.4
2023	20,760	3.0	20,457	3.4	-303	154.5	2.489	152.0	2.810	-2,497	3.4	4.1	4.1	0.7	291.8	2.4	289.8	2.2	-0.7
2024	21,356	2.9	21,087	3.1	-270	155.7	1.276	153.6	1.622	-2,151	3.5	4.0	4.0	0.5	298.4	2.3	295.8	2.1	-0.8
2025	21,900	2.5	21,649	2.7	-251	156.3	0.571	154.4	0.821	-1,901	3.8	4.2	4.2	0.4	305.3	2.3	302.4	2.2	-0.9

Sources: BEA, BLS, Moody's Analytics

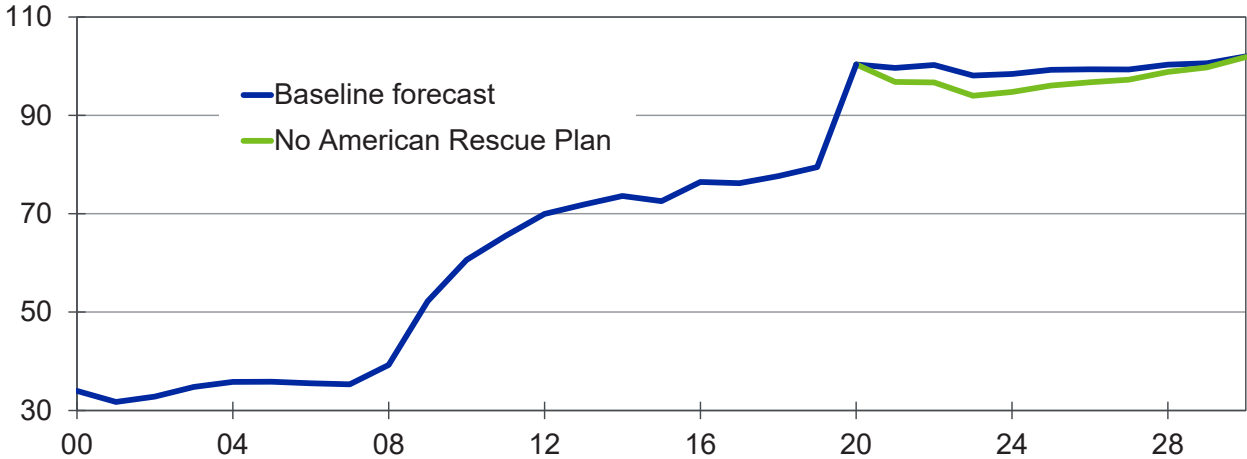
chains were badly scrambled, as this wave of the pandemic was especially hard on Southeast Asia, which was lightly vaccinated at the time, and where most supply chains begin.

The job market was also roiled by the Delta wave, as some 8 million people told the [Bureau of Census' Pulse Survey](#) last September that they weren't working because they were either sick, taking care of someone who was sick or fearful of getting sick. This is largely why so many open positions have gone unfilled, particularly for lower-wage jobs in industries where workers are in close contact with their patrons, such as retailing, restaurants, healthcare and education and childcare services. Wage growth has sharply accelerated, as employers struggled to keep their businesses staffed, especially for these type of jobs. The Omicron wave further complicated efforts to get workers back on the job, as in January at the peak of that wave, some 12 million people told Census they weren't working because of the virus.

Although the ARP was costly to U.S. taxpayers, without it, the ultimate cost to them would have been equally as large. Because of the weaker economy and automatic fiscal stabilizers, tax revenues would have been lower and government outlays higher. By the end of this decade, the nation's debt burden would have been as large as it will end up being with the ARP (see Chart 14).

Chart 14: Debt Burdens As Heavy Without ARP

U.S. public debt outstanding, % of GDP, fiscal year



Sources: BEA, U.S. Treasury, Moody's Analytics

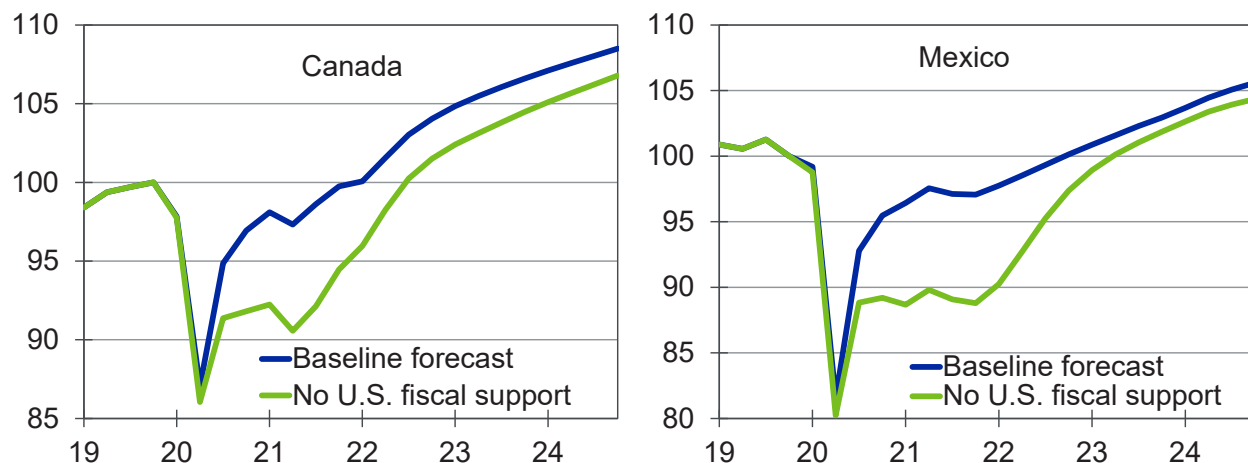
Canada and Mexico

Canada's and Mexico's economies have benefited enormously from the massive fiscal support provided by the U.S. The Canadian and Mexican economies are closely linked to the U.S. economy through trade, investment and immigration flows. These links are particularly important for the North American vehicle industry, because autos dominate trade between the U.S. and the rest of the continent. Without the fiscal support provided in the U.S., nearly 6 million fewer new vehicles would have been sold in the U.S. in 2021, which, combined with an overall reduction in U.S. goods consumption, would have slammed the Canadian and Mexican economies.

Without pandemic-related fiscal support in the U.S., real GDP in 2021 would have been 8% lower in Mexico and 6% lower in Canada (see Chart 15).

Chart 15: Spillovers From U.S. Fiscal Policy

Real GDP, 2019Q4=100



Source: Moody's Analytics

Advanced economies

Governments in other advanced economies have also marshaled substantial fiscal support in response to the pandemic (see Table 3). Job retention schemes have been an especially favored policy. These schemes helped cover the wages paid to workers who, instead of being laid off, were put on furlough or had their hours cut. Germany, France, Italy and Japan already had short-time work schemes but either increased eligibility or boosted the generosity of benefits, or did both. The pandemic spurred the U.K. government to stand up a new scheme, while Canadian policymakers introduced a new wage subsidy covering a fixed percentage of wages regardless of hours not worked.

These job retention schemes not only maintained incomes and supported consumer demand but also significantly limited the rise in unemployment. With the exception of Canada, jobless rates increased meaningfully less in these advanced economies than in the U.S., where expanded unemployment insurance benefits were the primary mechanism to support beleaguered workers.¹¹

Keeping more workers on payrolls also ensured fewer difficulties getting people back to work as economies reopened, limiting disruptive labor shortages and the resulting wage and price pressures. Though inflation has increased substantially in most advanced economies, this helps explain why it has been less than in the U.S.

Advanced economies also did not hold back in buttressing household incomes via other social safety net programs. Most notably, the Japanese government issued cash payments to residents and an extra child allowance.

¹¹ U.S. small businesses, those with 500 or fewer employees, did receive grants to maintain their payrolls through the Paycheck Protection Program.

Table 3: Fiscal Response to COVID-19 in Other Advanced Economies

Euro Zone	Provisions	USD bil	
Germany	Supports for firms and workers (STW benefits, grants, transfers, etc.)	283.5	
	Supports for public agencies and services	143.1	
	Tax cuts and deferrals	63.7	
	Public investment	15.9	
	Germany total	506.2	
France	Supports for firms and workers (STW benefits, grants, transfers, etc.)	117.6	
	Public investment	87.2	
	Tax cuts and deferrals	30.1	
	France total	234.9	
Italy	Supports for firms and workers (STW benefits, grants, transfers, etc.)	142.1	
	Tax cuts and deferrals	32.5	
	Public investment	24.6	
	Supports for public agencies and services	16.8	
	Italy total	216.0	
Japan	Provisions	USD bil	
	Cash payment of ¥100K to Japanese residents and extra child allowance of ¥10K per child	138.5	
	Employment adjustment subsidies	97.4	
	Containment measures for COVID-19	51.7	
	Revitalization to cope with COVID-19 and other business supports	42.3	
	Support affected sectors in the form of discounts and vouchers	30.5	
	Supporting medical treatment providers	27.6	
	Measures to prevent the spread, build out medical treatment, and develop pharmaceuticals	23.1	
	Cash payments to SMEs and sole proprietors	21.2	
	Establishing rent support grant for SMEs	18.7	
	Additional payments to low-income single parent households	1.3	
	Deferred taxes and social security contributions and easing of property taxes for SMEs	-0.0	
	Japan total	452.2	
	U.K.	Provisions	USD bil
		Funding for National Health Service	207.9
		Coronavirus Job Retention Scheme	101.7
		Self-Employment Income Support Scheme	37.0
Additional transfers to devolved administrations		35.2	
Direct grants to small businesses in most affected sectors		25.2	
Property tax (business rate) holiday for firms in affected sectors		24.2	
Expanded Universal Credit and Working Tax Credit Schemes		13.4	
VAT reduced at 5% for hospitality, accommodation, and attractions until the end of Sep 2021, at 12.5% until Mar 2022		9.6	
Temporary cut on stamp duty land tax until June 2021		6.6	
Fuel Duty: one year freeze in 2021-22		5.6	
Rent support by increasing the Local Housing Allowance		5.6	
Public sector and social housing decarbonization and Green Homes Grant		5.3	
Bring forward public infrastructure spending to FY2020/21		5.3	
Boost of active labour market policies		3.8	
Waiver of VAT and customs duties on critical medical imports		2.9	
Support for culture, charities and sport		2.9	
Funding to cover the National Minimum Wage for 25 hrs a wk for 6 mos		2.7	
Alcohol Duty: one year freeze in 2021-22		2.1	
Deferral of VAT for 2020Q2 until June 21		2.0	
Eat Out to Help Out		1.1	
Deferral of income tax (self-assessment) of the self-employed until the end of January 2021		0.9	
Extension the window for starting deferred payments through the VAT New Payment Scheme by up to 3 mos		0.6	
Funding of 40,000 traineeships and 27,000 job coaches		0.6	
Statutory Sick Pay Rebate Scheme		0.5	
U.K. total		502.7	
Canada		Provisions	USD bil
	Canada Emergency Wage Subsidy	76.9	
	Canada Emergency Response Benefit	64.0	
	Support to Health System	46.5	
	Canada Recovery Benefits	17.7	
	Canada Emergency Business Account	11.2	
	Enhancements to Employment Insurance	7.9	
	Enhanced GST Credit	4.3	
	Canada Emergency Rent Subsidy and Lockdown Support	3.4	
	Other Measures to Support Vulnerable Canadians (Transfers)	2.9	
	Other Direct Support Measures	2.8	
	Canada Emergency Student Benefit	2.3	
	Wage Top-Up for Essential Workers	2.3	
	Income Tax, Sales Tax, and Customs Duty Payment Deferrals	2.3	
	Other Support for Businesses (Direct Govt Outlays)	2.0	
	Other Support for Businesses (Transfers)	2.0	
	10% Temporary Wage Subsidy	1.9	
	One-Time Payment for Seniors Eligible for OAS and GIS	1.9	
	Canada Emergency Commercial Rent Assistance for Small Business	1.6	
	Enhanced Canada Child Benefit	1.5	
	Regional Relief and Recovery Fund	1.1	
	Air Sector	1.0	
	Other Measures to Support Vulnerable Canadians (Direct Govt Outlays)	0.8	
	Support for Persons with Disabilities	0.7	
Supporting Community Service Organizations	0.6		
Support for Innovative Businesses	0.5		
Support for Workers in the Live Events and Arts Sectors	0.2		
Canada total	260.4		

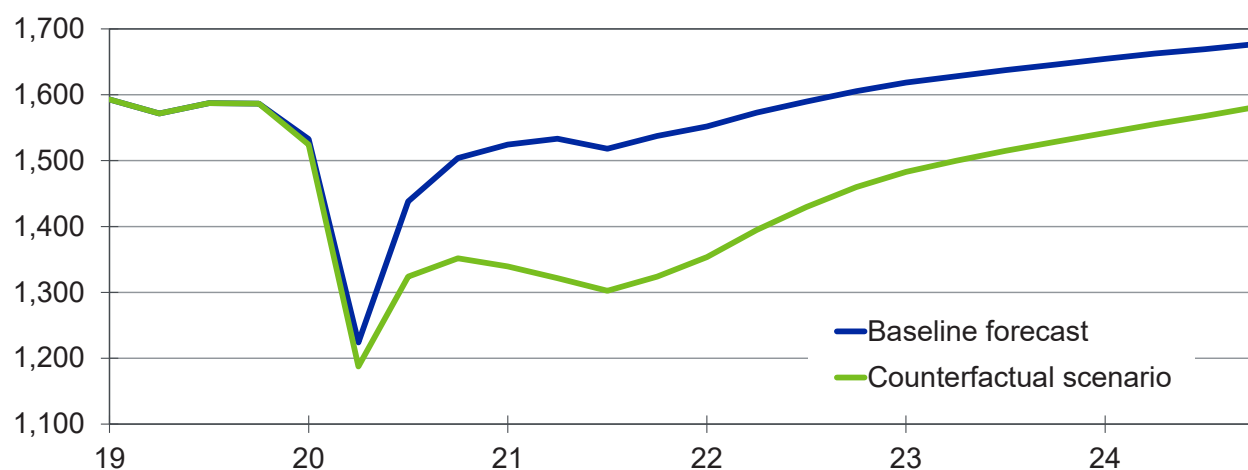
Sources: Bundesministerium der Finanzen, Department of Finance Canada, HM Treasury, IMF, Kantei, Ministère de l'Économie et des Finances, Ministero dell'economia e delle Finanze, Moody's Analytics

Some advanced economies were somewhat hampered by budget constraints in providing support. Italy, for example, had less fiscal space for direct spending and therefore relied more heavily on loan guarantees. The EU was able to work around budgetary constraints through joint stimulus measures that were funded by mutualized debt obligations. Our analysis does not include the impact of Europe's Recovery and Resilience Facility, but these plans supported market confidence, which in turn kept interest rates low and allowed countries to spend more than would have otherwise been the case.

Advanced economies also benefited from fiscal support in other countries. In Europe, these spill-over effects were most evident in Germany, where the country's fiscal measures were not much greater, as a share of GDP, than those in France and Italy. German exports, particularly of vehicles, have been significantly buoyed by global demand that would have been substantially diminished without the fiscal help provided around the world (see Chart 16).

Chart 16: German Exports Are Crushed

Real German exports, 2015€ bil, SAAR



Sources: Destatis, Moody's Analytics

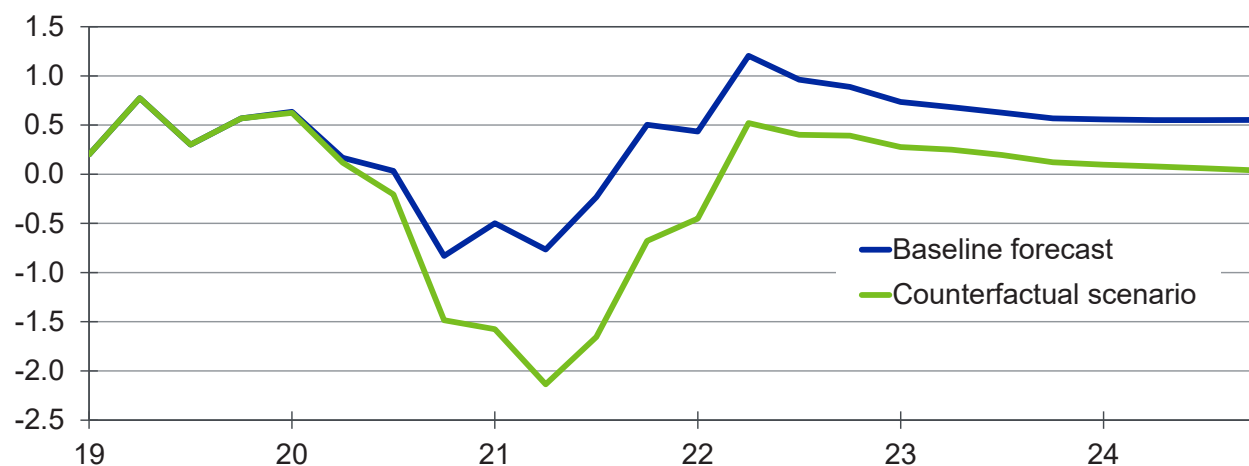
The fiscal support has also helped Japan avoid a much more serious bout of deflation. Like the U.S. dollar, the Japanese yen is a safe-haven currency that generally appreciates when global investors are nervous. In the counterfactual scenario without government support, investors are substantially more skittish and thus flock to the yen, pushing up its value by over 10% on a trade-weighted basis. This puts severe downward pressure on Japanese prices (see Chart 17).

Emerging markets

Emerging markets have been hit hard by successive waves of the virus, and a world without fiscal stimulus would have been far less kind. Although the three largest emerging economies—China, India and Brazil—traced different paths with respect to the magnitude and composition of fiscal support, the consequences of not providing fiscal support are similarly clear: weaker economic recoveries, higher unemployment, and diminished long-run growth (see Table 4).

Chart 17: Deflation for Longer in Japan

Japanese consumer price index, % change yr ago



Sources: Japan Statistics Bureau, Moody's Analytics

Table 4: Fiscal Response to COVID-19 in Emerging Markets

China	Provisions	USD bil
	Support for employment, incomes, reductions in taxes and fees for small businesses	299.7
	Infrastructure spending	239.7
	Exemptions from social insurance payments, reduction or exemption of value-added tax	74.9
	Waiving of toll roads, reduction in commercial electricity tariffs	50.5
	China total	664.8
India	Provisions	USD bil
	Food aid and cooking gas	30.8
	Fertilizer subsidy	10.8
	Financial assistance for construction workers	4.3
	Cash transfers to female heads of household	4.1
	Increase in cash transfers for rural households	3.7
	Infrastructure investment	3.4
	Additional spending on public health	3.1
	Travel and consumption vouchers	2.6
	Subsidies for construction industry	2.4
	Advance payments to farmers	2.4
	Job support for rural economy	1.4
	Supplemental health insurance for hospital workers exposed to COVID-19	1.3
	Cash transfers to senior citizens	0.4
	Payroll support program	0.3
	Research and development funding for vaccine	0.1
	India total	71.0
Brazil	Provisions	USD bil
	Emergency family income	67.1
	Aid for state and local governments	14.8
	Additional spending on public health	13.0
	Payroll support program	9.1
	Vaccine procurement	4.6
	Credits for machinery and equipment	0.9
	Aid to tourism industry	0.7
	Aid to energy sector	0.2
	Expansion of Bolsa Familia	0.1
	Brazil total	110.4

Sources: Government of India's Ministry of Finance, National People's Congress, Tesouro Nacional, Moody's Analytics

For China, the severe hit to global trade in the counterfactual scenario precipitates a double-dip recession, with the economy contracting again in the first half of 2021. The subsequent economic recovery is also materially slower. Global trade is a critical driver of China's recovery, and with less trade, the Chinese economy would have stumbled well into 2021.

Though Chinese officials spent less on direct fiscal support than they did during the global financial crisis, the timing and composition of spending were critical. Most of the support was delivered in the third quarter of 2020, when the recovery in global trade was nascent. While a large share of spending went toward infrastructure, almost half of the support was directed toward relief for consumers and businesses in a departure from China's traditional infrastructure-heavy playbook. Without this boost, the economic recovery would have been cut short.

As in the rest of Latin America, the pandemic ripped through Brazil. But Brazil spent more on direct fiscal support to its economy than almost any other emerging economy. Without this support, public health and economic outcomes would have been substantially worse. The Brazilian economy would have fallen back into recession in the first half of 2021 and would not have recouped its pre-pandemic peak until the second half of 2024.

India's economy benefits the least from fiscal support, since overall government spending was limited. Even with the extension of cash transfer programs during the Delta wave of the pandemic, which hit India especially hard, cumulative spending in the past two years was just over 2% of GDP. Global fiscal support also played a role in India's recovery, though to a lesser extent than in China and Brazil. This is because India's economy is less reliant on trade overall and global fiscal policy was more effective at reviving trade in goods than in services, for which India has a comparative advantage.

Conclusion

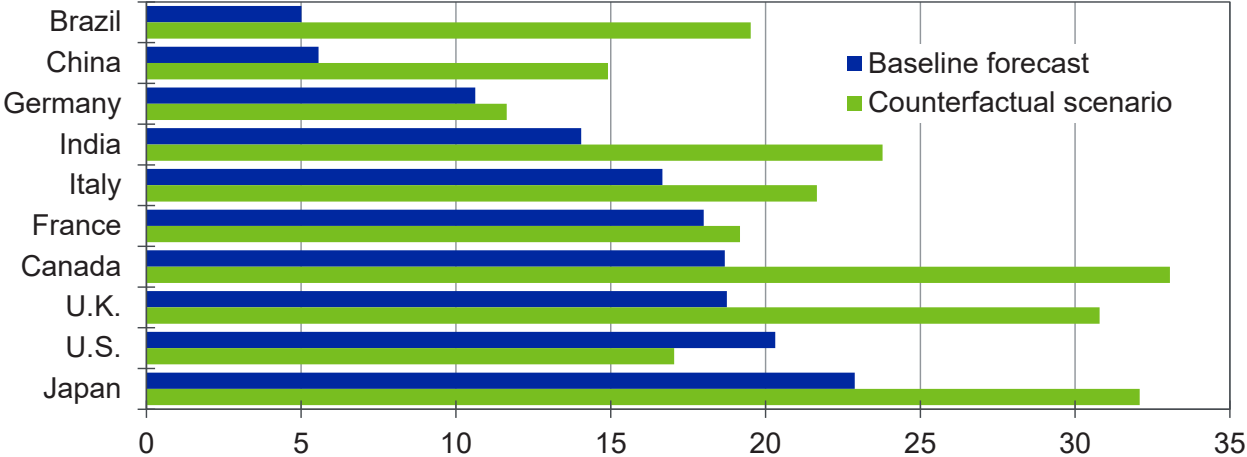
The massive global fiscal policy response to the pandemic deserves significant credit for limiting the severity and length of the recession that occurred when the pandemic struck, and for the subsequently strong global economic recovery (see Table 5).

There has been criticism of global policymakers for going overboard on the fiscal support, with critics pointing to recent concerns over high inflation and bigger government deficits and debt loads. But as we show, even without the fiscal support, inflation would still be a worry. Not because inflation would have been too high, but too low—as it had been since the financial crisis. Many global central banks would have nervously watched as their economies flirted with or suffered outright deflation in 2020. Though global inflation would have picked up in 2021 because of base effects of prices being depressed a year earlier, its rebound would have been slower.

Further, the fiscal situation of most countries already would have been even worse if they had not provided the fiscal support, as their much-weakened economies would have caused tax revenues to plummet and government expenditures to automatically increase (see Chart 18). The case is the same for the U.S., although it will take a bit longer for this to become clear.

Chart 18: More Debt Was Unavoidable

Debt-to-GDP ratio, ppt increase from 2019Q4 to 2021Q4



Source: Moody's Analytics

Thus, second-guessing the aggressive fiscal policy response of governments to the pandemic is misplaced. Governments had no choice but to act quickly and massively. Perhaps some of the specific policy steps taken during the crisis could have been better designed, at least in hindsight. However, policymakers' decisiveness in pushing forward with substantial government support has been an economic game changer.

Table 5: Macroeconomic Impact of Government Pandemic Aid in 10 Largest Economies

Real GDP, local currency, SAAR

	World			U.S.			China			Japan			Germany			U.K.		
	Baseline	Counterfactual	Baseline	Counterfactual	Baseline	Counterfactual	Baseline	Counterfactual	Baseline	Counterfactual	Baseline	Counterfactual	Baseline	Counterfactual	Baseline	Counterfactual		
	2012USD Ann. bil growth	2012USD Ann. bil growth	2012USD Ann. bil growth	2012USD Ann. bil growth	2015CNY Ann. bil growth	2015CNY Ann. bil growth	2015JPY Ann. bil growth	2015JPY Ann. bil growth	2015EUR Ann. bil growth	2015EUR Ann. bil growth	2018GBP Ann. bil growth	2018GBP Ann. bil growth	2018GBP Ann. bil growth	2018GBP Ann. bil growth				
2020Q1	84,775 (10.9)	84,389 (12.5)	18,952 (5.1)	18,780 (8.5)	81,671 (35.2)	81,262 (36.5)	545,000 (28.5)	544,736 (32.2)	3,194 (6.9)	3,170 (9.6)	2,201 (10.1)	2,196 (10.9)						
2020Q2	78,792 (25.4)	75,759 (35.0)	17,258 (31.2)	16,106 (45.9)	91,388 (56.8)	85,874 (24.7)	501,140 (28.5)	494,290 (32.2)	2,874 (34.4)	2,775 (41.3)	1,773 (57.9)	1,641 (68.8)						
2020Q3	84,916 (34.9)	80,228 (25.8)	18,561 (33.8)	16,521 (10.7)	94,553 (14.6)	90,564 (23.7)	526,742 (22.1)	505,644 (9.5)	3,134 (41.4)	2,842 (10.0)	2,084 (91.1)	1,898 (78.9)						
2020Q4	86,328 (6.8)	81,089 (4.4)	18,768 (4.5)	16,482 (0.9)	96,869 (10.2)	92,496 (8.8)	538,909 (9.6)	510,521 (3.9)	3,158 (3.0)	2,753 (12.0)	2,116 (6.1)	1,943 (9.7)						
2021Q1	86,996 (3.1)	80,952 (0.7)	19,056 (6.3)	16,239 (5.8)	97,028 (0.7)	91,971 (2.3)	535,012 (2.9)	502,474 (6.2)	3,099 (7.3)	2,788 (5.1)	2,089 (5.0)	1,916 (5.3)						
2021Q2	87,791 (3.7)	81,267 (1.6)	19,368 (6.7)	16,481 (6.1)	98,160 (4.7)	91,597 (1.6)	537,631 (2.0)	502,912 (0.3)	3,161 (8.3)	2,942 (24.0)	2,202 (23.6)	1,997 (18.0)						
2021Q3	88,747 (4.4)	82,750 (7.5)	19,479 (2.3)	17,096 (15.8)	98,721 (2.3)	92,376 (3.4)	532,778 (3.6)	501,821 (0.9)	3,215 (7.0)	3,008 (9.2)	2,226 (4.3)	2,033 (7.5)						
2021Q4	90,070 (6.1)	84,687 (9.7)	19,806 (6.9)	17,829 (18.3)	100,178 (6.0)	94,105 (7.7)	541,302 (6.6)	515,120 (11.0)	3,191 (2.9)	3,002 (0.7)	2,236 (1.8)	2,077 (8.9)						
2022Q1	90,540 (2.1)	85,826 (5.5)	19,829 (0.5)	18,217 (9.0)	101,442 (5.1)	95,710 (7.0)	540,490 (0.6)	518,252 (2.5)	3,196 (0.5)	3,024 (2.9)	2,258 (4.0)	2,128 (10.2)						
2022Q2	91,568 (4.6)	87,403 (7.6)	20,123 (6.1)	18,748 (12.2)	102,834 (5.6)	97,454 (7.5)	545,895 (4.1)	526,654 (6.6)	3,241 (5.8)	3,081 (7.8)	2,277 (3.5)	2,166 (7.4)						
2022Q3	92,428 (3.8)	88,650 (5.8)	20,266 (2.9)	19,027 (6.1)	104,332 (6.0)	99,096 (6.9)	550,808 (3.6)	533,739 (5.5)	3,280 (4.9)	3,137 (7.5)	2,294 (2.9)	2,194 (5.2)						
2022Q4	93,219 (3.5)	89,649 (4.6)	20,390 (2.5)	19,181 (3.3)	105,875 (6.0)	100,634 (6.4)	555,215 (3.2)	539,903 (4.7)	3,307 (3.3)	3,178 (5.3)	2,307 (2.4)	2,218 (4.5)						
2023Q1	94,006 (3.4)	90,558 (4.1)	20,537 (2.9)	19,324 (3.0)	107,373 (5.8)	102,171 (6.2)	557,807 (1.9)	543,915 (3.0)	3,338 (3.7)	3,217 (5.0)	2,318 (1.9)	2,237 (3.5)						
2023Q2	94,779 (3.3)	91,414 (3.8)	20,685 (2.9)	19,483 (3.3)	108,852 (5.6)	103,650 (5.9)	559,226 (1.0)	546,409 (1.8)	3,360 (2.7)	3,245 (3.5)	2,329 (1.8)	2,253 (2.8)						
2023Q3	95,534 (3.2)	92,239 (3.7)	20,835 (2.9)	19,659 (3.7)	110,327 (5.5)	105,140 (5.9)	560,615 (1.0)	548,672 (1.7)	3,381 (2.5)	3,270 (3.1)	2,338 (1.6)	2,265 (2.2)						
2023Q4	96,285 (3.2)	93,042 (3.5)	20,984 (2.9)	19,829 (3.5)	111,774 (5.3)	106,616 (5.7)	561,961 (1.0)	550,864 (1.6)	3,401 (2.4)	3,293 (2.8)	2,346 (1.5)	2,275 (1.8)						
2024Q1	97,047 (3.2)	93,835 (3.5)	21,141 (3.0)	20,003 (3.6)	113,303 (5.6)	108,141 (5.8)	563,275 (0.9)	552,693 (1.3)	3,421 (2.3)	3,314 (2.6)	2,358 (2.0)	2,287 (2.3)						
2024Q2	97,789 (3.1)	94,593 (3.3)	21,288 (2.8)	20,169 (3.4)	114,803 (5.4)	109,614 (5.6)	564,556 (0.9)	553,690 (0.7)	3,438 (2.1)	3,333 (2.3)	2,369 (1.8)	2,298 (1.9)						
2024Q3	98,504 (3.0)	95,328 (3.1)	21,427 (2.6)	20,332 (3.3)	116,231 (5.1)	111,039 (5.3)	565,804 (0.9)	554,301 (0.4)	3,454 (1.9)	3,351 (2.1)	2,378 (1.6)	2,308 (1.7)						
2024Q4	99,202 (2.9)	96,059 (3.1)	21,569 (2.7)	20,506 (3.5)	117,618 (4.9)	112,437 (5.1)	567,020 (0.9)	555,056 (0.5)	3,468 (1.7)	3,367 (1.9)	2,386 (1.3)	2,316 (1.4)						
2025Q1	99,881 (2.8)	96,794 (3.1)	21,706 (2.6)	20,683 (3.5)	118,990 (4.7)	113,852 (5.1)	568,204 (0.8)	556,008 (0.7)	3,480 (1.4)	3,381 (1.7)	2,392 (1.1)	2,323 (1.2)						
2025Q2	100,545 (2.7)	97,522 (3.0)	21,834 (2.4)	20,853 (3.3)	120,352 (4.7)	115,241 (5.0)	569,350 (0.8)	557,197 (0.9)	3,491 (1.2)	3,395 (1.6)	2,400 (1.3)	2,331 (1.5)						
2025Q3	101,206 (2.7)	98,249 (3.0)	21,964 (2.4)	21,022 (3.3)	121,708 (4.6)	116,610 (4.8)	570,457 (0.8)	558,520 (1.0)	3,501 (1.2)	3,408 (1.6)	2,408 (1.3)	2,340 (1.5)						
2025Q4	101,875 (2.7)	98,985 (3.0)	22,098 (2.5)	21,198 (3.4)	123,063 (4.5)	117,942 (4.6)	571,528 (0.8)	559,832 (0.9)	3,511 (1.1)	3,421 (1.6)	2,417 (1.5)	2,350 (1.8)						
2020	83,703 (3.5)	80,366 (7.4)	18,385 (3.4)	16,972 (10.8)	91,121 (2.3)	87,549 (1.7)	527,948 (4.5)	513,798 (7.1)	3,090 (4.9)	2,885 (11.2)	2,043 (9.4)	1,920 (14.9)						
2021	88,401 (5.6)	82,414 (2.5)	19,427 (5.7)	16,911 (0.4)	98,522 (8.1)	92,512 (5.7)	536,681 (1.7)	505,582 (1.6)	3,167 (2.5)	2,935 (1.7)	2,188 (7.1)	2,006 (4.5)						
2022	91,939 (4.0)	87,882 (6.6)	20,152 (3.7)	18,793 (11.1)	103,621 (5.2)	98,224 (6.2)	548,102 (2.1)	529,637 (4.8)	3,256 (2.8)	3,105 (5.8)	2,284 (4.4)	2,177 (8.5)						
2023	95,151 (3.5)	91,813 (4.5)	20,760 (3.0)	19,574 (4.2)	109,582 (5.8)	104,394 (6.3)	559,902 (2.2)	547,465 (3.4)	3,370 (3.5)	3,256 (4.9)	2,333 (2.1)	2,257 (3.7)						
2024	98,135 (3.1)	94,954 (3.4)	21,356 (2.9)	20,252 (3.5)	115,489 (5.4)	110,308 (5.7)	565,163 (0.9)	553,935 (1.2)	3,445 (2.2)	3,341 (2.6)	2,373 (1.7)	2,302 (2.0)						
2025	100,877 (2.8)	97,888 (3.1)	21,900 (2.5)	20,939 (3.4)	121,028 (4.8)	115,911 (5.1)	569,885 (0.8)	557,889 (0.7)	3,496 (1.5)	3,401 (1.8)	2,404 (1.3)	2,336 (1.5)						

Sources: National statistical agencies, Moody's Analytics

Table 5: Macroeconomic Impact of Government Pandemic Aid in 10 Largest Economies (Cont.)

Real GDP, local currency, SAAR

	India			France			Italy			Brazil			Canada							
	Baseline 2011- 2012INR bil growth	Counterfactual 2011- Ann. bil growth	Ann. 2012INR bil growth	Baseline 2015EUR bil growth	Counterfactual 2015EUR bil growth	Ann. 2015EUR bil growth	Baseline 2015EUR bil growth	Counterfactual 2015EUR bil growth	Ann. 2015EUR bil growth	Baseline 1995BRL bil growth	Counterfactual 1995BRL bil growth	Ann. 2012CAD bil growth	Baseline 2012CAD bil growth	Counterfactual 2012CAD bil growth	Ann. 2012CAD bil growth					
2020Q1	148,162	10.1	147,222	7.4	2,198	(20.9)	2,192	(21.8)	1,622	(21.4)	1,616	(22.5)	1,203	(8.8)	1,180	(15.3)	2,077	(8.4)	2,077	(8.4)
2020Q2	110,208	(69.4)	108,147	(70.9)	1,902	(44.0)	1,867	(47.3)	1,415	(42.0)	1,345	(52.0)	1,096	(31.0)	991	(50.3)	1,848	(37.4)	1,806	(42.9)
2020Q3	133,337	114.3	129,884	108.0	2,256	98.0	2,167	81.4	1,639	79.8	1,543	73.2	1,181	34.9	1,044	23.2	2,014	41.1	1,905	23.9
2020Q4	145,259	40.9	141,288	40.0	2,231	(4.3)	2,138	(5.1)	1,611	(6.6)	1,556	3.2	1,218	13.0	1,146	45.1	2,058	9.1	1,906	0.2
2021Q1	150,601	15.5	146,309	15.0	2,234	0.6	2,159	3.9	1,616	1.3	1,544	(2.9)	1,234	5.5	1,157	3.7	2,083	4.9	1,907	0.2
2021Q2	132,428	(40.2)	127,857	(41.7)	2,264	5.4	2,186	5.1	1,661	11.4	1,575	8.1	1,230	(1.4)	1,148	(3.0)	2,066	(3.2)	1,857	(10.1)
2021Q3	144,512	41.8	139,624	42.2	2,335	13.2	2,258	14.0	1,704	10.9	1,612	9.7	1,229	(0.4)	1,142	(2.0)	2,094	5.4	1,891	7.5
2021Q4	155,206	33.1	151,006	36.8	2,352	2.9	2,277	3.3	1,714	2.5	1,619	1.9	1,227	(0.5)	1,141	(0.3)	2,118	4.6	1,941	11.0
2022Q1	156,262	2.7	152,782	4.8	2,361	1.5	2,288	1.9	1,725	2.5	1,633	3.4	1,229	0.5	1,149	2.6	2,125	1.3	1,971	6.4
2022Q2	157,824	4.1	154,968	5.8	2,378	3.0	2,310	4.0	1,742	4.0	1,654	5.2	1,239	3.2	1,159	3.5	2,157	6.2	2,021	10.5
2022Q3	158,929	2.8	156,621	4.3	2,399	3.5	2,334	4.2	1,754	2.8	1,668	3.4	1,248	3.0	1,168	3.2	2,188	5.9	2,064	8.8
2022Q4	160,677	4.5	158,788	5.6	2,414	2.6	2,353	3.2	1,765	2.5	1,679	2.7	1,256	2.6	1,177	3.2	2,209	4.0	2,091	5.3
2023Q1	163,023	6.0	161,337	6.6	2,427	2.2	2,367	2.5	1,774	2.2	1,688	2.3	1,263	2.4	1,186	3.0	2,226	3.1	2,109	3.4
2023Q2	166,121	7.8	164,478	8.0	2,439	2.0	2,380	2.2	1,784	2.1	1,698	2.3	1,270	2.4	1,193	2.6	2,240	2.4	2,121	2.3
2023Q3	169,177	7.6	167,455	7.4	2,450	1.8	2,392	2.0	1,793	2.2	1,708	2.5	1,278	2.3	1,200	2.3	2,252	2.2	2,133	2.2
2023Q4	172,798	8.8	170,931	8.6	2,461	1.8	2,403	1.9	1,803	2.2	1,719	2.6	1,285	2.3	1,208	2.5	2,263	2.1	2,144	2.1
2024Q1	175,482	6.4	173,483	6.1	2,473	1.9	2,415	2.0	1,811	1.8	1,728	2.2	1,294	2.8	1,217	3.1	2,274	1.9	2,154	1.9
2024Q2	178,332	6.7	176,186	6.4	2,485	2.0	2,428	2.1	1,818	1.6	1,737	2.0	1,303	2.9	1,226	3.2	2,284	1.8	2,164	1.8
2024Q3	181,154	6.5	178,871	6.2	2,497	1.9	2,440	2.1	1,825	1.6	1,746	2.1	1,313	2.9	1,235	2.9	2,294	1.7	2,173	1.8
2024Q4	183,989	6.4	181,571	6.2	2,508	1.8	2,452	2.0	1,833	1.7	1,756	2.3	1,322	2.9	1,245	3.0	2,304	1.7	2,183	1.8
2025Q1	186,752	6.1	184,206	5.9	2,519	1.8	2,465	2.0	1,841	1.8	1,766	2.4	1,331	2.8	1,254	3.1	2,313	1.7	2,194	1.9
2025Q2	189,428	5.9	186,751	5.6	2,528	1.4	2,475	1.7	1,850	1.8	1,777	2.4	1,341	2.8	1,264	3.2	2,323	1.7	2,204	2.0
2025Q3	192,009	5.6	189,203	5.4	2,537	1.4	2,485	1.7	1,857	1.7	1,787	2.3	1,350	2.9	1,274	3.3	2,333	1.7	2,215	1.9
2025Q4	194,603	5.5	191,667	5.3	2,546	1.4	2,496	1.7	1,865	1.5	1,797	2.2	1,360	2.9	1,285	3.4	2,343	1.7	2,225	1.9
2020	134,242	(7.1)	131,636	(8.9)	2,147	(8.0)	2,091	(10.4)	1,572	(9.0)	1,515	(12.3)	1,174	(4.2)	1,090	(11.0)	1,999	(5.2)	1,923	(8.8)
2021	145,687	8.5	141,199	7.3	2,297	7.0	2,220	6.2	1,674	6.5	1,587	4.8	1,230	4.7	1,147	5.2	2,090	4.5	1,899	(1.3)
2022	158,423	8.7	155,790	10.3	2,388	4.0	2,321	4.6	1,746	4.3	1,658	4.5	1,243	1.0	1,163	1.4	2,170	3.8	2,037	7.3
2023	167,780	5.9	166,050	6.6	2,445	2.4	2,386	2.8	1,789	2.4	1,703	2.7	1,274	2.5	1,197	2.9	2,245	3.5	2,127	4.4
2024	179,739	7.1	177,528	6.9	2,491	1.9	2,434	2.0	1,822	1.9	1,742	2.3	1,308	2.7	1,231	2.8	2,289	1.9	2,168	2.0
2025	190,698	6.1	187,957	5.9	2,533	1.7	2,480	1.9	1,853	1.7	1,782	2.3	1,345	2.9	1,269	3.1	2,328	1.7	2,209	1.9

Sources: National statistical agencies, Moody's Analytics

Table 5: Macroeconomic Impact of Government Pandemic Aid in 10 Largest Economies (Cont.)

Employment, SA

	World			U.S.			China			Japan			Germany			U.K.		
	Baseline Mil	Change, mil	Counterfactual Mil	Baseline Mil	Change, mil	Counterfactual Mil	Baseline Mil	Change, mil	Counterfactual Mil	Baseline Mil	Change, mil	Counterfactual Mil	Baseline Mil	Change, mil	Counterfactual Mil	Baseline Mil	Change, mil	Counterfactual Mil
2020Q1	2,565.5	(9.104)	2,563.8	157.7	(0.838)	156.9	774.3	(0.307)	774.3	(0.316)	67.4	(0.110)	67.4	(0.051)	43.3	(0.075)	33.0	(0.038)
2020Q2	2,406.2	(159.277)	2,395.7	137.6	(168.045)	131.4	774.3	(25.460)	774.3	0.013	66.3	(1.057)	66.3	(0.372)	42.8	(0.483)	32.4	(0.521)
2020Q3	2,486.6	80.363	2,464.8	146.2	8.584	134.6	772.3	(2.077)	771.6	(2.657)	66.4	0.203	66.4	0.002	42.5	(0.333)	32.4	(0.384)
2020Q4	2,511.7	25.171	2,483.4	149.8	3.630	136.0	770.0	(2.252)	767.3	(4.313)	66.8	0.203	66.5	0.081	42.9	(0.037)	32.1	(0.201)
2021Q1	2,526.3	14.622	2,490.6	150.4	0.649	133.6	770.9	0.892	765.9	(1.463)	66.9	0.163	66.5	0.044	43.2	0.268	32.2	0.032
2021Q2	2,531.8	5.474	2,489.6	151.5	1.037	134.0	770.3	(0.578)	762.7	(3.121)	66.6	(0.353)	66.1	(0.453)	43.4	0.212	32.3	0.095
2021Q3	2,536.0	4.173	2,491.7	153.2	1.752	138.1	769.9	(0.430)	759.5	(3.266)	66.8	0.210	66.2	0.161	43.4	0.011	32.5	0.247
2021Q4	2,546.2	10.165	2,502.5	155.2	1.952	142.4	770.0	0.082	758.3	(1.177)	66.4	(0.370)	65.9	(0.362)	43.3	(0.058)	32.5	(0.030)
2022Q1	2,560.3	14.134	2,518.8	157.0	1.827	146.2	770.2	0.207	757.9	(0.436)	66.9	0.537	66.4	0.578	43.5	0.170	32.5	0.027
2022Q2	2,572.2	11.865	2,533.4	157.5	0.530	148.0	770.0	(0.160)	757.3	(0.584)	67.2	0.271	66.8	0.328	43.5	0.037	32.5	0.006
2022Q3	2,581.5	9.299	2,543.1	158.1	0.537	149.3	769.7	(0.319)	756.7	(0.571)	67.4	0.140	67.0	0.190	43.6	0.040	32.5	0.042
2022Q4	2,588.3	6.815	2,554.1	158.6	0.498	149.9	769.0	(0.660)	756.1	(0.642)	67.4	0.098	67.1	0.132	43.6	0.043	32.6	0.066
2023Q1	2,592.2	3.936	2,560.0	159.0	0.459	150.3	767.0	(2.016)	754.5	(1.606)	67.5	0.065	67.2	0.087	43.7	0.043	32.7	0.059
2023Q2	2,597.0	4.757	2,566.5	159.4	0.409	150.9	766.2	(0.823)	754.0	(0.433)	67.6	0.065	67.3	0.078	43.7	0.037	32.3	0.085
2023Q3	2,602.3	5.304	2,573.4	159.8	0.375	151.6	765.4	(0.795)	753.6	(0.382)	67.6	0.063	67.3	0.072	43.7	0.029	32.4	0.054
2023Q4	2,608.4	6.096	2,580.8	160.2	0.353	152.3	764.7	(0.736)	753.3	(0.304)	67.7	0.062	67.4	0.068	43.7	0.020	32.8	0.017
2024Q1	2,614.8	6.470	2,588.4	160.5	0.333	152.9	763.9	(0.720)	753.0	(0.293)	67.8	0.056	67.5	0.060	43.8	0.012	32.8	0.018
2024Q2	2,621.0	6.143	2,595.5	160.8	0.268	153.5	763.2	(0.793)	752.6	(0.418)	67.8	0.052	67.5	0.053	43.8	0.007	32.8	0.020
2024Q3	2,626.7	5.730	2,602.0	161.0	0.234	154.0	762.3	(0.829)	752.1	(0.490)	67.9	0.048	67.6	0.046	43.8	0.003	32.8	0.021
2024Q4	2,632.1	5.355	2,608.1	161.2	0.155	154.4	761.5	(0.848)	751.6	(0.532)	67.9	0.046	67.6	0.041	43.8	0.001	32.8	0.022
2025Q1	2,637.1	5.077	2,613.9	161.3	0.121	154.9	760.6	(0.860)	751.0	(0.561)	68.0	0.045	67.6	0.039	43.8	0.002	32.9	0.020
2025Q2	2,641.9	4.755	2,619.4	161.4	0.093	155.3	759.8	(0.860)	750.5	(0.573)	68.0	0.045	67.7	0.041	43.8	0.001	32.9	0.019
2025Q3	2,646.6	4.708	2,624.9	161.5	0.097	155.7	758.9	(0.842)	749.9	(0.571)	68.0	0.044	67.7	0.043	43.8	(0.001)	32.9	0.018
2025Q4	2,651.2	4.565	2,630.2	161.6	0.089	156.1	758.1	(0.823)	749.3	(0.566)	68.1	0.043	67.8	0.044	43.8	(0.004)	32.9	0.019
2020	2,492.5	(65.820)	2,476.9	147.8	(9.724)	139.7	772.7	(1.993)	771.9	(2.830)	66.8	(0.477)	66.6	(0.605)	43.0	(0.201)	32.5	(0.564)
2021	2,535.1	42.596	2,493.6	152.6	4.772	137.1	770.3	(2.452)	761.6	(10.291)	66.7	(0.099)	66.2	(0.470)	43.3	0.298	32.4	(0.167)
2022	2,575.5	40.466	2,537.8	157.8	5.217	148.3	769.7	(0.536)	757.0	(4.616)	67.2	0.574	66.8	0.647	43.6	0.244	32.5	0.175
2023	2,600.0	24.407	2,570.2	159.6	1.816	151.3	765.8	(3.909)	753.9	(3.110)	67.6	0.372	67.3	0.475	43.7	0.152	32.7	0.180
2024	2,623.6	23.694	2,598.5	160.9	1.245	153.7	762.7	(3.097)	752.4	(1.512)	67.8	0.225	67.5	0.240	43.8	0.057	32.8	0.085
2025	2,644.2	20.556	2,622.1	161.4	0.563	155.5	759.3	(3.380)	750.2	(2.167)	68.0	0.183	67.7	0.168	43.8	0.005	32.9	0.080

Sources: National statistical agencies, Moody's Analytics

Table 5: Macroeconomic Impact of Government Pandemic Aid in 10 Largest Economies (Cont.)
Employment, SA

	India			France			Italy			Brazil			Canada							
	Baseline Mil	Change, mil	Counterfactual Mil	Baseline Mil	Change, mil	Counterfactual Mil	Baseline Mil	Change, mil	Counterfactual Mil	Baseline Mil	Change, mil	Counterfactual Mil	Baseline Mil	Change, mil	Counterfactual Mil					
2020Q1	442.8	(1.736)	442.8	(1.736)	27.7	0.046	27.7	0.032	22.8	(0.165)	22.8	(0.229)	93.0	(0.859)	92.6	(1.321)	18.8	(0.251)	18.7	(0.313)
2020Q2	369.7	(73.164)	369.6	(73.231)	26.8	(0.925)	26.7	(0.983)	22.0	(0.785)	22.0	(0.865)	84.1	(8.960)	81.7	(10.930)	16.7	(2.127)	16.5	(2.243)
2020Q3	418.3	48.635	417.9	48.298	27.2	0.390	26.9	0.240	22.2	0.192	22.2	0.034	83.7	(0.417)	78.6	(3.070)	18.1	1.388	17.7	1.172
2020Q4	435.0	16.660	434.1	16.197	27.4	0.221	27.1	0.114	22.3	0.056	22.3	(0.073)	86.1	2.469	81.5	2.912	18.5	0.435	17.9	0.208
2021Q1	441.1	6.120	439.6	5.507	27.3	(0.106)	26.9	(0.136)	22.1	(0.191)	22.1	(0.293)	87.2	1.109	83.1	1.595	18.6	0.067	17.8	(0.104)
2021Q2	433.9	(7.164)	431.2	(8.390)	27.6	0.279	27.1	0.195	22.4	0.343	22.4	0.202	90.2	2.937	85.6	2.505	18.7	0.114	17.7	(0.030)
2021Q3	429.9	(4.057)	426.0	(5.192)	27.8	0.220	27.2	0.131	22.6	0.112	22.6	0.054	93.2	3.047	88.9	3.318	19.0	0.310	18.0	0.266
2021Q4	431.8	1.907	427.3	1.277	27.7	(0.081)	27.1	(0.095)	22.6	0.028	22.6	(0.034)	90.3	(2.896)	86.2	(2.678)	19.3	0.289	18.3	0.341
2022Q1	437.8	5.984	433.4	6.065	27.7	(0.039)	27.1	(0.029)	22.8	0.185	22.8	0.125	89.3	(1.038)	85.6	(0.622)	19.3	(0.009)	18.4	0.089
2022Q2	443.9	6.100	439.9	6.504	27.7	(0.002)	27.1	0.012	22.9	0.174	22.9	0.119	89.2	(0.130)	85.8	0.218	19.4	0.117	18.6	0.210
2022Q3	448.4	4.536	444.9	5.020	27.7	0.019	27.2	0.051	23.1	0.156	23.1	0.107	89.4	0.202	86.3	0.446	19.4	0.048	18.8	0.123
2022Q4	451.1	2.698	448.1	3.204	27.7	0.027	27.3	0.068	23.2	0.143	23.2	0.096	89.6	0.276	86.8	0.502	19.5	0.035	18.9	0.087
2023Q1	452.5	1.449	449.9	1.820	27.7	0.035	27.3	0.068	23.4	0.134	23.4	0.089	89.9	0.285	87.3	0.492	19.5	0.030	18.9	0.061
2023Q2	453.9	1.339	451.5	1.629	27.8	0.037	27.4	0.065	23.5	0.112	23.5	0.069	90.3	0.338	87.8	0.517	19.5	0.017	18.9	0.034
2023Q3	455.9	1.996	453.8	2.235	27.8	0.036	27.4	0.057	23.6	0.092	23.6	0.051	90.7	0.389	88.3	0.546	19.5	0.016	19.0	0.028
2023Q4	458.6	2.726	456.7	2.924	27.8	0.033	27.5	0.050	23.7	0.078	23.7	0.039	91.1	0.435	88.9	0.586	19.5	0.021	19.0	0.032
2024Q1	461.6	3.031	459.9	3.190	27.9	0.030	27.5	0.045	23.7	0.065	23.7	0.029	91.6	0.477	89.6	0.631	19.6	0.026	19.0	0.037
2024Q2	464.5	2.866	462.9	2.990	27.9	0.029	27.6	0.042	23.8	0.056	23.8	0.023	92.1	0.506	90.2	0.657	19.6	0.027	19.1	0.038
2024Q3	467.0	2.475	465.4	2.574	27.9	0.029	27.6	0.042	23.8	0.049	23.8	0.019	92.6	0.520	90.9	0.650	19.6	0.028	19.1	0.039
2024Q4	469.1	2.134	467.7	2.220	28.0	0.030	27.7	0.043	23.9	0.043	23.9	0.016	93.1	0.524	91.5	0.644	19.7	0.028	19.2	0.040
2025Q1	471.1	1.970	469.7	2.051	28.0	0.032	27.7	0.045	23.9	0.039	23.9	0.015	93.6	0.516	92.1	0.633	19.7	0.029	19.2	0.041
2025Q2	473.0	1.975	471.8	2.054	28.0	0.033	27.8	0.047	23.9	0.035	23.9	0.015	94.1	0.500	92.8	0.615	19.7	0.029	19.2	0.041
2025Q3	475.1	2.031	473.9	2.107	28.1	0.033	27.8	0.047	24.0	0.032	24.0	0.015	94.6	0.479	93.3	0.588	19.7	0.028	19.3	0.041
2025Q4	477.1	2.042	476.0	2.113	28.1	0.031	27.8	0.045	24.0	0.028	24.0	0.014	95.1	0.450	93.9	0.553	19.8	0.028	19.3	0.041
2020	416.4	(14.929)	416.1	(15.264)	27.3	(0.210)	27.1	(0.369)	22.3	(0.667)	22.3	(0.902)	86.7	(6.634)	83.6	(9.788)	18.0	(0.974)	17.7	(1.287)
2021	434.2	17.717	431.0	14.927	27.6	0.322	27.1	0.013	22.4	0.072	22.4	(0.377)	90.2	3.514	86.0	2.380	18.9	0.867	18.0	0.273
2022	445.3	11.113	441.5	10.518	27.7	0.095	27.2	0.067	23.0	0.593	23.0	0.343	89.4	(0.880)	86.1	0.167	19.4	0.512	18.7	0.711
2023	455.2	9.949	453.0	11.429	27.8	0.118	27.4	0.238	23.5	0.513	23.5	0.331	90.5	1.118	88.1	1.954	19.5	0.136	19.0	0.288
2024	465.5	10.328	464.0	10.992	27.9	0.126	27.6	0.190	23.8	0.274	23.8	0.131	92.3	1.854	90.5	2.451	19.6	0.096	19.1	0.142
2025	474.1	8.532	472.8	8.874	28.0	0.126	27.8	0.179	24.0	0.159	24.0	0.065	94.4	2.023	93.0	2.499	19.7	0.113	19.3	0.162

Sources: National statistical agencies, Moody's Analytics

Table 5: Macroeconomic Impact of Government Pandemic Aid in 10 Largest Economies (Cont.)

Unemployment rate, %, SA

	World		U.S.		China		Japan		Germany		U.K.	
	Baseline	Counterfactual	Baseline	Counterfactual	Baseline	Counterfactual	Baseline	Counterfactual	Baseline	Counterfactual	Baseline	Counterfactual
2020Q1	6.2	6.3	3.8	4.3	3.6	3.6	2.4	2.5	5.0	5.0	4.0	4.3
2020Q2	9.3	9.7	13.0	16.8	3.7	3.7	2.7	2.8	6.1	6.1	4.1	4.8
2020Q3	8.0	8.8	8.8	15.9	4.0	4.2	3.0	3.2	6.3	6.3	4.8	5.8
2020Q4	7.5	8.5	6.8	15.0	4.3	4.7	3.0	3.4	6.2	6.2	5.2	6.6
2021Q1	7.1	8.4	6.2	16.1	4.1	4.9	2.8	3.4	6.0	6.0	4.9	6.6
2021Q2	7.3	8.8	5.9	15.9	4.0	5.2	2.9	3.6	5.9	5.9	4.7	6.7
2021Q3	7.3	8.8	5.1	13.3	4.0	5.5	2.8	3.6	5.5	5.5	7.8	6.4
2021Q4	7.1	8.6	4.2	10.7	4.0	5.6	2.7	3.5	5.3	5.3	7.5	6.3
2022Q1	6.9	8.2	3.9	9.0	3.9	5.6	2.8	3.5	5.1	5.1	7.2	6.4
2022Q2	6.7	7.9	3.7	7.7	3.9	5.6	2.7	3.3	5.1	5.1	7.2	6.4
2022Q3	6.5	7.7	3.5	7.0	3.9	5.6	2.7	3.2	5.0	5.0	7.1	6.2
2022Q4	6.5	7.6	3.4	6.7	4.0	5.6	2.6	3.1	5.0	5.0	6.9	6.0
2023Q1	6.5	7.5	3.4	6.5	4.0	5.6	2.6	3.1	5.0	5.0	6.8	5.8
2023Q2	6.5	7.4	3.4	6.3	4.0	5.5	2.5	3.0	5.0	5.0	6.7	5.6
2023Q3	6.5	7.4	3.4	6.1	4.0	5.5	2.5	3.0	5.0	5.0	6.7	5.5
2023Q4	6.5	7.3	3.4	5.9	4.0	5.4	2.5	2.9	4.9	4.9	6.6	5.5
2024Q1	6.4	7.2	3.4	5.8	4.0	5.4	2.4	2.9	4.9	4.9	6.6	5.5
2024Q2	6.4	7.2	3.5	5.6	4.0	5.3	2.4	2.9	4.9	4.9	6.5	5.5
2024Q3	6.4	7.1	3.5	5.6	4.0	5.3	2.4	2.8	4.9	4.9	6.5	5.5
2024Q4	6.4	7.1	3.6	5.5	4.0	5.2	2.4	2.8	4.9	4.9	6.5	5.5
2025Q1	6.4	7.0	3.7	5.4	4.0	5.2	2.3	2.8	4.9	4.9	6.5	5.5
2025Q2	6.3	7.0	3.8	5.3	4.0	5.2	2.3	2.8	5.0	5.0	6.5	5.4
2025Q3	6.3	7.0	3.8	5.2	4.0	5.1	2.3	2.7	5.0	5.0	6.5	5.4
2025Q4	6.3	6.9	3.9	5.1	4.0	5.1	2.2	2.7	5.0	5.0	6.4	5.4
2020	7.8	8.3	8.1	13.0	3.9	4.1	2.8	3.0	5.9	5.9	6.7	5.4
2021	7.2	8.6	5.4	14.0	4.0	5.3	2.8	3.5	5.7	5.7	8.0	6.5
2022	6.6	7.9	3.6	7.6	3.9	5.6	2.7	3.3	5.0	5.0	7.1	6.2
2023	6.5	7.4	3.4	6.2	4.0	5.5	2.5	3.0	5.0	5.0	6.7	5.6
2024	6.4	7.1	3.5	5.6	4.0	5.3	2.4	2.8	4.9	4.9	6.5	5.5
2025	6.3	7.0	3.8	5.2	4.0	5.1	2.3	2.7	5.0	5.0	6.5	5.4

Sources: National statistical agencies, Moody's Analytics

Table 5: Macroeconomic Impact of Government Pandemic Aid in 10 Largest Economies (Cont.)

Unemployment rate, %, SA

	India		France		Italy		Brazil		Canada	
	Baseline	Counterfactual	Baseline	Counterfactual	Baseline	Counterfactual	Baseline	Counterfactual	Baseline	Counterfactual
2020Q1	9.1	9.1	7.8	7.8	9.0	9.3	11.6	12.0	6.4	6.7
2020Q2	20.8	20.8	7.2	7.4	8.6	9.2	13.2	15.7	12.9	13.8
2020Q3	13.2	13.2	9.1	9.8	10.0	11.2	14.9	20.1	10.1	12.0
2020Q4	10.3	10.4	8.0	9.1	9.8	11.5	14.9	19.5	8.9	11.8
2021Q1	9.3	9.5	8.1	9.3	10.1	12.2	14.3	18.4	8.4	12.0
2021Q2	11.1	11.4	8.0	9.5	9.8	12.4	14.1	18.4	7.9	12.1
2021Q3	12.2	12.6	8.1	9.8	9.1	12.0	12.7	16.7	7.2	11.5
2021Q4	12.1	12.7	8.0	9.8	9.1	12.2	12.7	16.7	6.3	10.2
2022Q1	11.3	11.9	8.0	9.8	9.3	12.5	12.9	16.4	6.3	9.7
2022Q2	10.5	11.0	8.0	9.8	9.3	12.8	12.7	16.0	5.9	8.9
2022Q3	10.0	10.5	8.0	9.6	9.3	13.0	12.6	15.6	5.8	8.4
2022Q4	9.9	10.3	8.0	9.5	9.3	13.1	12.4	15.2	5.8	8.2
2023Q1	10.0	10.4	8.0	9.3	9.2	13.2	12.2	14.8	5.9	8.0
2023Q2	10.2	10.5	7.9	9.2	9.1	13.3	12.0	14.4	5.9	8.0
2023Q3	10.2	10.5	7.9	9.1	9.1	13.4	11.8	14.0	6.0	8.0
2023Q4	10.1	10.4	7.9	9.0	9.0	13.5	11.5	13.6	6.1	8.0
2024Q1	10.0	10.3	7.9	9.0	9.0	13.6	11.2	13.1	6.1	7.9
2024Q2	9.9	10.2	7.9	8.9	9.0	13.7	10.8	12.6	6.1	7.9
2024Q3	9.9	10.2	7.8	8.8	9.0	13.8	10.4	12.1	6.1	7.8
2024Q4	9.9	10.2	7.8	8.8	9.0	13.9	10.1	11.6	6.1	7.8
2025Q1	9.9	10.2	7.8	8.7	8.9	13.9	9.7	11.2	6.1	7.7
2025Q2	9.9	10.2	7.8	8.6	8.9	14.0	9.4	10.7	6.1	7.6
2025Q3	9.9	10.2	7.8	8.6	8.9	14.0	9.0	10.2	6.2	7.6
2025Q4	9.9	10.2	7.7	8.5	8.9	14.1	8.7	9.8	6.2	7.5
2020	13.4	13.4	8.0	8.6	9.3	10.3	13.6	16.8	9.6	11.1
2021	11.2	11.5	8.1	9.6	9.5	12.2	13.4	17.6	7.4	11.5
2022	10.4	10.9	8.0	9.7	9.3	12.8	12.6	15.8	6.0	8.8
2023	10.1	10.5	7.9	9.2	9.1	13.3	11.9	14.2	6.0	8.0
2024	9.9	10.2	7.8	8.9	9.0	13.7	10.6	12.4	6.1	7.8
2025	9.9	10.2	7.8	8.6	8.9	14.0	9.2	10.5	6.2	7.6

Sources: National statistical agencies, Moody's Analytics

Table 5: Macroeconomic Impact of Government Pandemic Aid in 10 Largest Economies (Cont.)

Consumer price index, SA

	World			U.S.			China			Japan			Germany			U.K.						
	Baseline Index	Counterfactual Index	Ann. growth	Baseline Index	Counterfactual Index	Ann. growth	Baseline Index	Counterfactual Index	Ann. growth	Baseline Index	Counterfactual Index	Ann. growth	Baseline Index	Counterfactual Index	Ann. growth	Baseline Index	Counterfactual Index	Ann. growth				
																			Ann. growth	Ann. growth	Ann. growth	Ann. growth
2020Q1	133.3	3.0	133.3	2.9	258.5	1.0	258.4	0.9	112.2	3.5	112.2	3.4	100.4	0.1	106.0	(0.0)	106.0	0.0	108.8	2.1	108.6	1.4
2020Q2	133.2	(0.5)	133.0	(0.9)	256.5	(3.1)	255.8	(4.0)	111.2	(3.3)	111.1	(3.7)	100.1	(1.2)	105.8	(0.5)	105.6	(1.5)	108.5	(1.3)	108.2	(1.7)
2020Q3	134.4	3.7	133.0	0.0	259.4	4.7	255.7	(0.1)	111.8	1.9	110.1	(3.5)	99.8	(0.4)	105.7	(0.6)	104.6	(3.8)	108.9	1.5	107.8	(1.2)
2020Q4	135.4	3.1	132.9	(0.2)	261.0	2.4	255.4	(0.5)	111.2	(2.2)	107.9	(7.8)	99.5	(1.9)	105.9	1.0	103.9	(2.4)	108.9	0.3	107.5	(1.3)
2021Q1	137.2	5.4	133.7	2.4	263.4	3.7	256.3	1.4	112.1	3.3	107.2	(2.6)	99.9	1.5	107.2	4.9	104.5	2.1	109.4	1.9	107.8	1.0
2021Q2	139.2	5.8	134.9	3.6	268.8	8.4	260.3	6.4	112.5	1.5	106.3	(3.5)	99.3	(2.2)	108.2	3.7	105.2	2.9	110.6	4.4	108.8	4.1
2021Q3	141.1	5.7	136.5	4.8	273.1	6.6	263.8	5.5	112.7	0.8	105.9	(1.2)	99.8	1.8	109.8	6.3	106.8	6.1	111.9	4.5	110.2	4.9
2021Q4	143.6	7.4	138.8	6.9	278.6	8.2	268.6	7.4	113.1	1.5	106.0	0.2	100.0	1.1	111.3	5.4	108.1	5.0	114.3	8.9	112.6	9.0
2022Q1	145.6	5.6	140.6	5.3	281.8	4.6	271.3	4.1	113.8	2.6	106.5	2.0	100.3	1.2	112.6	4.8	109.4	4.7	115.7	5.1	114.0	5.1
2022Q2	147.1	4.2	142.0	4.2	284.1	3.3	273.6	3.4	114.7	2.9	107.4	3.3	100.5	0.8	113.4	2.7	110.1	2.6	118.2	8.9	116.4	9.0
2022Q3	148.3	3.4	143.3	3.5	286.0	2.7	275.4	2.7	115.5	2.9	108.6	4.5	100.7	0.8	114.0	2.4	110.6	2.2	119.4	4.1	117.6	4.1
2022Q4	149.5	3.1	144.4	3.2	287.7	2.5	276.9	2.3	116.4	3.1	109.9	5.0	100.9	0.8	114.4	1.1	110.9	0.9	120.3	3.3	118.5	3.3
2023Q1	150.6	3.0	145.5	3.1	289.4	2.3	278.3	2.0	117.4	3.5	111.3	5.1	101.1	0.6	114.9	1.7	111.3	1.4	121.0	2.2	119.2	2.2
2023Q2	151.7	2.9	146.6	2.9	290.9	2.2	279.6	1.8	118.5	3.7	112.7	5.0	101.2	0.6	115.1	1.0	111.4	0.6	121.7	2.2	119.8	2.2
2023Q3	152.8	3.0	147.6	2.9	292.6	2.3	280.8	1.8	119.6	3.8	113.9	4.5	101.4	0.6	115.4	1.0	111.6	0.5	122.2	1.9	120.4	1.9
2023Q4	153.9	2.9	148.6	2.8	294.2	2.3	282.0	1.8	120.7	3.7	115.1	4.1	101.5	0.5	115.7	1.1	111.7	0.5	122.8	1.9	121.0	1.8
2024Q1	155.0	2.9	149.6	2.8	295.8	2.1	283.3	1.8	121.7	3.5	116.1	3.8	101.6	0.5	116.1	1.2	111.9	0.7	123.4	2.0	121.5	1.9
2024Q2	156.1	3.0	150.6	2.7	297.5	2.3	284.5	1.8	122.7	3.3	117.1	3.4	101.8	0.5	116.5	1.4	112.1	0.8	124.0	2.0	122.1	1.8
2024Q3	157.2	2.9	151.6	2.6	299.2	2.3	285.7	1.8	123.7	3.3	118.0	3.2	101.9	0.6	116.9	1.5	112.4	0.9	124.7	2.1	122.7	1.9
2024Q4	158.4	2.9	152.5	2.5	300.9	2.3	287.0	1.8	124.7	3.2	119.0	3.1	102.1	0.6	117.4	1.6	112.6	1.0	125.3	2.1	123.2	1.9
2025Q1	159.5	2.9	153.5	2.5	302.6	2.3	288.3	1.8	125.7	3.2	119.9	3.0	102.2	0.6	117.9	1.7	112.9	1.0	126.0	2.1	123.8	1.9
2025Q2	160.6	2.9	154.4	2.5	304.4	2.3	289.7	1.9	126.6	3.1	120.7	3.0	102.3	0.6	118.4	1.8	113.2	1.1	126.6	2.1	124.4	1.8
2025Q3	161.8	2.9	155.4	2.5	306.2	2.4	291.1	2.0	127.6	3.1	121.6	3.0	102.5	0.6	119.0	1.9	113.6	1.2	127.3	2.1	124.9	1.8
2025Q4	162.9	2.8	156.4	2.5	307.9	2.4	292.6	2.1	128.6	3.0	122.5	2.9	102.6	0.6	119.5	1.9	113.9	1.2	127.9	2.0	125.5	1.8
2020	134.1	2.8	133.0	2.0	258.8	1.2	256.3	0.3	111.6	2.5	110.3	1.4	100.0	0.0	105.9	0.5	105.0	(0.3)	108.8	0.9	108.0	0.2
2021	140.3	4.6	136.0	2.2	271.0	4.7	262.3	2.3	112.6	0.9	106.4	(3.6)	99.8	(0.2)	109.1	3.1	106.2	1.1	111.6	2.6	109.8	1.7
2022	147.6	5.2	142.6	4.9	284.9	5.1	274.3	4.6	115.1	2.2	108.1	1.6	100.6	0.9	113.6	4.1	110.2	3.8	118.4	6.1	116.6	6.2
2023	152.2	3.1	147.1	3.2	291.8	2.4	280.2	2.1	119.0	3.4	113.2	4.8	101.3	0.7	115.3	1.5	111.5	1.5	121.9	3.0	120.1	3.0
2024	156.7	2.9	151.1	2.7	298.4	2.3	285.1	1.8	123.2	3.5	117.6	3.8	101.8	0.6	116.7	1.2	112.3	0.7	124.4	2.0	122.4	1.9
2025	161.2	2.9	154.9	2.5	305.3	2.3	290.5	1.9	127.1	3.2	121.2	3.1	102.4	0.6	118.7	1.7	113.4	1.0	126.9	2.1	124.6	1.8

Sources: National statistical agencies, Moody's Analytics

Table 5: Macroeconomic Impact of Government Pandemic Aid in 10 Largest Economies (Cont'd)

Consumer price index, SA

	India			France			Italy			Brazil			Canada		
	Baseline Index	Counterfactual Index	Ann. growth	Baseline Index	Counterfactual Index	Ann. growth	Baseline Index	Counterfactual Index	Ann. growth	Baseline Index	Counterfactual Index	Ann. growth	Baseline Index	Counterfactual Index	Ann. growth
2020Q1	150.0	149.1	3.9	104.8	104.9	0.7	103.0	103.0	0.0	5335.0	4.1	5335.5	4.1	137.0	0.2
2020Q2	152.2	150.5	3.9	104.5	104.3	(2.2)	102.8	102.6	(1.6)	5319.3	(1.2)	5323.2	(0.9)	136.0	(2.9)
2020Q3	154.5	152.3	4.8	104.8	103.5	(2.9)	102.5	101.7	(3.4)	5375.0	4.3	5300.1	(1.7)	136.9	2.7
2020Q4	157.0	153.4	3.0	104.7	102.7	(3.1)	102.8	101.2	(1.7)	5499.4	9.6	5326.0	2.0	138.0	3.2
2021Q1	157.7	152.4	(2.5)	105.6	103.0	1.2	103.5	101.0	(0.8)	5608.4	8.2	5381.8	4.3	139.0	3.0
2021Q2	160.7	153.6	3.3	105.9	103.0	(0.1)	103.9	100.7	(1.4)	5735.2	9.4	5483.3	7.8	140.4	4.2
2021Q3	162.3	155.0	3.5	106.7	103.6	2.5	104.7	100.9	1.0	5893.0	11.5	5602.5	9.0	142.3	5.5
2021Q4	164.6	156.8	4.9	107.6	104.4	3.2	106.5	102.3	5.7	6075.9	13.0	5744.1	10.5	144.4	5.8
2022Q1	167.4	159.2	6.2	109.0	105.8	5.4	107.6	103.2	3.4	6163.4	5.9	5801.4	4.0	145.7	3.6
2022Q2	169.9	161.3	5.3	109.6	106.5	2.6	108.1	103.5	1.2	6223.2	3.9	5844.1	3.0	146.6	2.7
2022Q3	172.0	163.0	4.5	110.0	106.9	1.4	108.3	103.6	0.2	6285.5	4.1	5892.0	3.3	147.5	2.4
2022Q4	173.9	164.7	4.1	110.1	107.0	0.4	108.3	103.4	(0.6)	6348.9	4.1	5938.3	3.2	148.3	2.2
2023Q1	175.8	166.4	4.2	110.6	107.3	1.3	108.7	103.5	0.3	6413.1	4.1	5984.7	3.2	149.1	2.1
2023Q2	177.7	168.2	4.2	110.8	107.4	0.5	108.8	103.4	(0.4)	6478.5	4.1	6032.5	3.2	149.9	2.0
2023Q3	179.5	169.7	3.8	111.1	107.6	0.4	108.9	103.3	(0.5)	6544.6	4.1	6079.4	3.1	150.6	2.0
2023Q4	181.3	171.3	3.7	111.4	107.7	0.5	109.2	103.2	(0.3)	6611.3	4.1	6126.4	3.1	151.5	2.3
2024Q1	183.2	172.9	3.9	111.7	107.9	0.7	109.4	103.1	(0.1)	6678.7	4.1	6174.9	3.2	152.4	2.4
2024Q2	185.2	174.7	4.1	112.2	108.1	0.8	109.7	103.1	0.0	6746.9	4.1	6223.4	3.2	153.3	2.4
2024Q3	187.2	176.4	4.1	112.6	108.4	0.9	110.1	103.2	0.2	6815.7	4.1	6273.2	3.2	154.2	2.4
2024Q4	188.9	177.9	3.3	113.2	108.7	1.1	110.6	103.3	0.3	6884.5	4.1	6323.7	3.3	155.2	2.5
2025Q1	190.7	179.3	3.2	113.7	109.0	1.2	111.0	103.4	0.4	6954.1	4.1	6375.0	3.3	156.1	2.4
2025Q2	192.4	180.7	3.2	114.3	109.3	1.3	111.5	103.5	0.6	7024.3	4.1	6427.9	3.4	157.0	2.4
2025Q3	194.1	182.1	3.1	114.9	109.7	1.4	112.1	103.7	0.7	7094.5	4.1	6482.1	3.4	158.0	2.4
2025Q4	195.9	183.5	3.1	115.5	110.1	1.4	112.6	103.9	0.8	7165.5	4.1	6538.4	3.5	158.9	2.4
2020	153.4	151.3	5.1	104.7	103.8	(0.4)	102.8	102.1	(0.8)	5382.2	3.2	5321.2	2.1	137.0	0.7
2021	161.3	154.5	2.1	106.5	103.5	(0.3)	104.7	101.2	(0.8)	5828.2	8.3	5552.9	4.4	141.5	3.3
2022	170.8	162.1	4.9	109.7	106.5	2.9	108.1	103.4	2.1	6255.3	7.3	5868.9	5.7	147.0	3.9
2023	178.6	168.9	4.2	111.0	107.5	0.9	108.9	103.3	(0.1)	6511.8	4.1	6055.7	3.2	150.3	2.2
2024	186.1	175.5	3.9	112.4	108.3	0.7	110.0	103.2	(0.1)	6781.5	4.1	6248.8	3.2	153.8	2.3
2025	193.3	181.4	3.4	114.6	109.5	1.2	111.8	103.6	0.4	7059.6	4.1	6455.8	3.3	157.5	2.4

Sources: National statistical agencies, Moody's Analytics

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