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Global Economic Effects of COVID-19

Updated May 7, 2021

Congressional Research Service
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R46270

CRS REPORT
Prepared for Members and
Committees of Congress

Global Economic Effects of COVID-19

SUMMARY

In the year since the COVID-19 outbreak was first diagnosed, it has spread to over 200 countries and all U.S. states. The pandemic has negatively affected global economic growth beyond anything experienced in nearly a century. Estimates so far indicate the virus reduced global economic growth to an annualized rate of -4.5% to -6.0% in 2020, with a partial recovery of 2.5% to 5.2% projected for 2021. Global trade is estimated to have fallen by 5.3% in 2020, but is projected to grow by 8.0% in 2021. According to a consensus of forecasts, the economic downturn in 2020 was not as negative as initially estimated, due, at least in part, to the fiscal and monetary policies governments adopted in 2020. Major advanced economies, which comprise 60% of global economic activity, are projected to operate below their potential output level through at least 2024. Compared with the synchronized nature of the global economic slowdown in the first half of 2020, the global economy has shown signs of a two-track recovery that began in the third quarter of 2020 with developed economies experiencing a nascent recovery and economic growth in developing economies lagging behind. A resurgence in infectious cases in Europe, the United States, Japan, Brazil, India, and various developing economies renewed calls for lockdowns and curfews and threatened to weaken or delay a potential sustained economic recovery into mid to late 2021.

Developed economies are making strides in vaccinating growing shares of their populations, raising prospects of a recovery in those economies and, in turn, the broader global economy. However, a surge in diagnosed cases in large developing economies and resistance among some populations in developed economies to get vaccinated raise questions about the speed and the strength of an economic recovery over the near term. The economic fallout from the pandemic could risk continued labor dislocations as a result of lingering high levels of unemployment not experienced since the Great Depression of the 1930s and high levels of debt among developing economies. Job losses have been concentrated more intensively in the services sector where workers have been unable to work offsite. The human costs in terms of lives lost will permanently affect global economic growth in addition to the cost of rising levels of poverty, lives upended, careers derailed, and increased social unrest. Some estimates indicate that 95 million people may have entered into extreme poverty in 2020 with 80 million more undernourished compared to pre-pandemic levels. In addition, some estimates indicate that global trade could fall by an annual amount of 9.0% or slightly less in 2020 as a result of the global economic downturn, exacting an especially heavy economic toll on trade-dependent developing and emerging economies. The full economic impact of the pandemic likely will remain unclear until the negative health effects peak. This report provides an overview of the global economic costs to date and the response by governments and international institutions to address these effects.

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May 7, 2021

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Overview

The World Health Organization (WHO) first declared COVID-19 a world health emergency in January 2020; on March 11 it announced the viral outbreak was officially a pandemic, the highest level of health emergency.[1] Since then, the emergency evolved into a global public health and economic crisis that affected the $90 trillion global economy beyond anything experienced in nearly a century. In a variance of John Donne's poem, "No Man is an Island," the viral infection spread between and across countries and affected nearly every community, demonstrating the highly interconnected nature of the global economy: the virus was detected in over 200 countries and all U.S. states.[2] By early March 2020, the focal point of infections shifted from China to Europe, especially Italy, but by April, the focus had shifted to the United States, where the number of infections had been accelerating. By April 2021, India and Brazil emerged as viral hot spots with the number of infections cases and deaths reaching record levels in those countries.

Through various phases of the health crisis, governments adopted unprecedented economic policies to lock down social activities to contain the spread of the pandemic, inadvertently creating a global economic recession. In response to the unprecedented drop in economic activity, governments adopted a series of actions initially comprised of monetary policies aimed at stabilizing financial markets and ensuring the flow of credit. In the second phase, policy actions shifted to fiscal measures aimed at sustaining economic growth as governments adopted quarantines and social distancing measures. In the third phase, government policies shifted to developing, purchasing and distributing vaccines.

The infection has sickened over 142 million people globally with over 3.0 million fatalities. The United States reported that by mid-April 2021, nearly 32 million Americans had been diagnosed and over 567,000 had died from the virus. At one point, more than 80 countries had closed their borders to arrivals from countries with infections, ordered businesses to close, instructed their populations to self-quarantine, and closed schools to an estimated 1.5 billion children.[3] On May 5, 2021, the Biden administration announced it would support international discussions to waive intellectual property restrictions on COVID-19 vaccine production for developing economies.[4] Prior to this announcement, developed economies, including Britain, Switzerland, the EU, and the United States, had blocked a proposal by over 80 developing countries at the World Trade Organization to suspend intellectual property rights restrictions on production of COVID-19 vaccines.[5]

Governments have attempted to balance often-competing policy objectives between addressing the public health crisis and economic considerations that include, but are not limited to these:

[1] Bill Chappell, "COVID-19: COVID-19 Is Now Officially a Pandemic, WHO Says," *National Public Radio*, March 11, 2020. https://www.npr.org/sections/goatsandsoda/2020/03/11/814474930/COVID-19-COVID-19-is-now-officially-a-pandemic-who-says.

[2] "Mapping the Spread of the COVID-19 in the U.S. and Worldwide," Washington Post Staff, *Washington Post*, March 4, 2020. https://www.washingtonpost.com/world/2020/01/22/mapping-spread-new-COVID-19/?arc404=true.

[3] "The Day the World Stopped: How Governments Are Still Struggling to Get Ahead of the COVID-19," *The Economist*, March 17, 2020. https://www.economist.com/international/2020/03/17/governments-are-still-struggling-to-get-ahead-of-the-COVID-19.

[4] Diamond, Dan, Tyler Pager, and Jeff Stein, Biden Commits to Waiving Vaccine Patents, Driving Wedge With Pharmaceutical Companies, *The Washington Post*, May 5, 2021.

[5] *Rich, Developing Economies Wrangle Over COVID Patents*, Reuters, March 10, 2021. https://www.reuters.com/article/us-health-coronavirus-wto/rich-developing-nations-wrangle-over-covid-vaccine-patents-idUSKBN2B21V9.

- Confronting ballooning budget deficits weighed against increasing spending to support unemployed workers and sustain social safety nets.
- Providing financial support for national health systems that are under pressure to develop vaccines while also funding efforts to care for and safeguard citizens.
- Implementing monetary and fiscal policies that support credit markets and sustain economic activity broadly, while also assisting specific sectors and businesses under financial distress.
- Implementing fiscal policies to stimulate economic activity and support the most heavily affected households, weighed against the prospects of rising rates of inflation, potentially rising debt servicing costs, and concerns that some households in developed economies have at times used transfer payments to maintain high rates of saving relative to pre-pandemic rates, instead of increasing consumption, as households have faced limited spending opportunities, or a form of involuntary saving, and concerns over their jobs, incomes, and the course of their economies, or precautionary saving.
- Having central banks and monetary authorities intervene in sovereign debt and corporate bond markets to stabilize markets and insure liquidity, while also raising concerns among some analysts that this intervention compromises the ability of the markets to perform their traditional functions of pricing risk and allocating capital.
- Adopting fiscal and monetary policies to address the immediate impact of the health crisis compared with the mix of such policies between assisting households, firms, or state and local governments that may be needed going forward should the health and economic crises persist.
- Differing national approaches to providing government-funded economic support to workers that vary between short-term unemployment insurance programs to sustain workers incomes, although not directed at maintaining employment in their previous jobs, and programs that delay labor market adjustments by supporting workers in their pre-COVID-19 jobs, identified as job-retention programs, even as those jobs could disappear once the support ends.[6]

Despite a rebound in some key economic indicators from the depths of the pandemic-related economic recession in early 2020, a growing list of economic indicators makes it clear the COVID-19 pandemic continues to negatively affect global economic growth on a scale not experienced since at least the global financial crisis of 2008-2009.[7] By early 2021, financial market indices had largely recovered from the losses experienced in March and April 2020, international oil prices had reached their pre-pandemic levels by late February 2021, pressure on the dollar had eased, and labor markets appeared to be stabilizing. Over the long run, however, damage to labor markets could be more problematic with a large share of the labor force unable to return to pre-pandemic jobs. Similarly, economies could face long-term costs as a result of children who were held out of in-person education for a year that could result in lower academic performance and graduation rates and delayed entry into the labor market. On March 31, 2021, Kristalina Georgieva, Managing Director of the International Monetary Fund (IMF), warned that

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[6] *Job Retention Schemes During the COVID-19 Lockdown and Beyond*, Organization for Economic Cooperation and Development, August 3, 2020.

[7] Mapping the Spread of the COVID-19.

an emerging market debt crisis could unfold as the global economy begins recovering and interest rates rise, which could cause a capital outflow from developing economies.[8]

The U.S. and European economies experienced the beginnings of a recovery in the third quarter of 2020 with the U.S. economy growing by 33.4%, and at an annual rate of 5.0%, accounting for an equally sharp decline in growth in the second quarter, and the Eurozone economy growing by 12.5% during the quarter and -7.4% at an annual rate. That recovery, however, was weakened by renewed quarantines and business lockdowns in response to a resurgence of infectious cases and the emergence of more contagious variants of the virus that began in September. The annual U.S. economic growth rate slipped to -3.5% in 2020, but was estimated to have grown at an annualized rate of growth of 6.4% during the first quarter of 2021.[9]

On January 4, 2021, the UK announced a spike in new viral infections and the emergence of a new variant of the virus, spurring the government to impose a stringent lockdown that closed schools, restricted activities, and deployed the armed forces to assist in testing and vaccinations.[10] On March 3, 2021, UK Chancellor of the Exchequer Sunak announced a £65 billion stimulus package over two years to revive the UK economy comprised of various business incentives and worker income support measures to be followed by tax increases starting in 2023.[11] The U.S. Congress passed a $1.9 trillion economic stimulus bill, designated the American Rescue Plan Act (P.L. 117-2), that was signed by President Biden on March 11, 2021.

The WHO indicated in early January 2021, that 230 million Europeans were living under lockdown restrictions and that 26 million Europeans had contracted COVID-19 in 2020.[12] On April 13, 2021, the WHO estimated that 1 million Europeans had died from the disease, nearly twice as many as in the United States. In an attempt to stop the spread of new variant strains of the virus, the UK, Ireland, Germany, Denmark, and some northern Italian regions closed schools in January 2021 for several weeks.[13] Reportedly, disputes over vaccine distribution within and among European countries and with Britain and the spread of more virulent strains of the COVID-19 virus increased public criticism of government leaders in some EU countries and prompted renewed business lockdowns and school closures.[14]

On March 31, 2021, French President Macron announced a four-week country-wide business lockdown to curb a resurgence in viral cases that were overwhelming French hospitals and extending by one week a planned two week closure of schools.[15] The EU also blocked shipments to Britain of the AstraZeneca vaccine produced in Belgium and the Netherlands until commitments made to supply the EU had been met, or until other countries showed reciprocity in

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[8] Giles, Chris, Prepare for Emerging Markets Debt Crisis, Warns IMF Head, *Financial Times*, March 31, 2021. https://www.ft.com/content/487c30f4-7f21-4787-b519-dde52264d141.

[9] *Gross Domestic Product, First Quarter 2021 (Advance Estimate)*, Bureau of Economic Analysis, April 29, 2021.

[10] Parker, George, Bethan Staton, and Sarah Neville, Boris Johnson Warns of Tougher COVID-19 Restrictions For England, *Financial Times*, January 5, 2021. https://www.ft.com/content/6abfd02c-e2c6-4ca1-944a-1b962af6dead.

[11] Pickard, Jim, Chris Giles, and George Parker, Rishi Sunak Delivers Spend Now, Tax Later Budget to Kickstart UK Economy, *Financial Times*, March 3, 2021. https://www.ft.com/content/da66ce9a-6dfc-4a3a-bde7-d4f4faed6c4a.

[12] Clarfelt, Harriet, Pandemic at 'tipping point', Says WHO Europe Official, *Financial Times*, January 7, 2021. https://www.ft.com/content/9b42e8fa-dde1-3663-a4ad-7d6605121866.

[13] Hall, Ben, Bethan Staton, Joshua Chaffin, Guy Chazan, European Capitals Follow UK With School Closures as Virus Surges, *Financial Times*, January 7, 2021. https://www.ft.com/content/8121ca0a-4d96-4cf5-b5df-a73adc16a606.

[14] Chazan, Guy, We Are a Laughing Stock': Covid-19 and Germany's Political Malaise, *Financial Times*, April 1, 2021. https://www.ft.com/content/bc5a3b02-a90d-4206-a441-1bada29feba2.

[15] Mallet, Victor, Macron Extends Lockdown Across France to Combat Covid Surge, *Financial Times*, April 1, 2021. https://www.ft.com/content/731ec423-03dc-405c-9ff4-f8670b953f2d.

their distribution of vaccines.[16] At the same time, 16 European countries, including Germany, France, Italy, and Spain, temporarily suspended use of the AstraZeneca vaccine over concerns of possible negative side-effects, despite assurances by EU drug regulators that the benefits of the vaccine outweighed any risks.[17]

India announced on March 25, 2021, that it was temporarily halting exports of COVID-19 vaccines and prioritizing local vaccinations in response to a resurgence in viral cases.[18] In early April 2021, India and Brazil were designated global viral infection hot spots due to a resurgence in cases. On May 6, India reported a single-day total of 412,000 new cases.[19] Brazil reportedly has had over 350,000 viral-related deaths: in some cities in Brazil, COVID-related daily deaths have outnumbered daily births.[20]

On April 15, 2021, the Director-General of the WTO called on WTO members and vaccine manufacturers to increase production, reduce export restrictions, and suspend intellectual property rights on COVID-19 vaccines to increase immunizations.[21] The WHO also reported that new COVID-19 cases had nearly doubled around the world over the preceding two months, approaching the highest rates of infection since the start of the pandemic. Reportedly, new case numbers had spiked in every region of the world, with the largest outbreaks occurring in India, Brazil, Poland, Turkey and some other countries.[22] Also on April 15, 2021, a group of 175 former world leaders and Nobel laureates called on the United States to suspend intellectual property rights for COVID-19 vaccines to facilitate the international production and distribution of vaccines by allowing developing countries the ability to manufacture their own vaccines. The group warned that, "….inequitable vaccine access would impact the global economy and prevent it from recovering."[23]

On April 16, the WHO announced that it would develop one or more COVID-19 technology hubs to transfer a "comprehensive technology package and provide appropriate technology to interested manufacturers" in developing economies.[24] Reportedly, the initiative's goal is to make

[16] Fleming, Sam, Michael Peel, and George Parker, EU Warns 'zero' Jabs Shipped to UK Until AstraZeneca Meets Bloc's Targets, *Financial Times*, April 1, 2021. https://www.ft.com/content/28158bed-5f07-4504-9a00-2f3d8f7519df.

[17] Paolo Mancini, Donato, Miles Johnson, Michael Peel, David Keohane, Richard Milne, and Sarah Neville, European Capitals Coordinated Suspension of Oxford/AstraZeneca Covid Jab, *Financial Times*, April 1, 2021. https://www.ft.com/content/a046e340-892b-4e68-bfae-4f5c40a5506a.

[18] Findlay, Stephanie, Michael Peel, Donato Paolo Mancini, Andres Schipani and Jasmine Cameron-Chileshe, India Blocks Vaccine Exports in Blow to Dozens of Nations *Financial Times*, March 25, 2021. https://www.ft.com/content/5349389c-8313-41e0-9a67-58274e24a019.

[19] Slater, Joanna, India Announces Record Number of Deaths and New Cases as Outbreak Rages on, *The Washington Post*, May 6, 2021; Parker, Claire, Paul Schemm, Sean Sullivan, India Sets Another Daily Coronavirus Case Record: U.S. Pledges Help, *The Washington Post,* April 26, 2021. https://www.washingtonpost.com/world/asia_pacific/india-coronavirus-deaths-pandemic/2021/04/25/ec0f208a-a51c-11eb-b314-2e993bd83e31_story.html.

[20] Caverni, Alexandre, Brazil Sees 1,803 COVID-19 Deaths; Chinese Vaccine Found 50.7% Effective Against Variant, Reuters, April 11, 2021; Hassan, Jennifer, In Many Brazilian Cities, Deaths Have Overtaken Births, *The Washington Post*, April 15, 2021.

[21] Cunnigham, Erin, New African WTO Head Urges Members to Take Action on Vaccine Inequity, *The Washington Post*, April 15, 2021.

[22] Cunningham, Erin and Siobhan O'Grady, New Global Coronavirus Cases Nearly Double in Two Months, *The Washington Post*, April 16, 2021. https://www.washingtonpost.com/world/2021/04/16/global-coronavirus-cases-surge-who/.

[23] Williams, Aime, Former World Leaders Call on Biden to Suspend Covid-19 Vaccine Patents, *Financial Times*, April 15, 2021. https://www.ft.com/content/43fd53f5-2b82-4e41-981c-8544a6ce996b.

[24] World Health Organization, Establishment of a COVID-19 mRNA Vaccine Technology Transfer Hub to Scale Up Global Manufacturing, April 16, 2021.

the technology either free of intellectual property constraints in developing economies, or that such rights are made available through non-exclusive licenses.

Japan's Prime Minister Suga announced on January 5, 2021, that Tokyo and three surrounding prefectures would initiate a voluntary "soft" state of emergency on January 8 that stressed teleworking, restricting unnecessary travel, and reducing sporting and cultural events.[25] On April 23, 2021, Japan announced new two-week lockdown protocols for Tokyo, Osaka, and two other large cities as Japan faced a rise in viral infections. The lockdown will encourage workers to work from home, all venues that serve alcohol and supermarkets, but will not include schools.[26] On March 9, 2021 the government announced that Japan's GDP grew by 2.8% in the fourth quarter of 2020, down from a third quarter rate of 5.3%. On an annualized rate, the economy is projected to have declined by 4.8% year over year. A decline in business investment and personal consumption in the fourth quarter led forecasters to downgrade their estimates for fourth quarter 2020 and forecasts for first quarter 2021 GDP.[27]

Impact on Workers

In a report prepared for the January 25-29, 2021, World Economic Forum, the International Labor Organization (ILO) estimated that 93% of the world's workers were living under some form of workplace restrictions as a result of the global pandemic and that 8.8% of global working hours were lost in 2020 relative to the fourth quarter of 2019, an amount equivalent to 255 million full-time jobs. The ILO estimated that the loss in working hours was comprised of (1) workers who were unemployed, but actively seeking employment, (2) workers who were employed, but had their working hours reduced, and (3) workers who were unemployed and not actively seeking employment. Based on this approach, the ILO estimated that unemployment globally was equivalent to 0.9% of total working hours lost in 2020, while inactivity and reduced hours accounted for 7.9% of total working hours lost, as indicated in **Figure 1**. Total working hours lost in 2020 compared with 2019 were highest in Europe (14.6%) and the Americas (13.7%), where quarantines and lockdowns had been extensive, followed by lower-middle income economies. The ILO also estimated that global job losses totaled 114 million jobs in 2020 relative to 2019. The share of lost worker hours due to higher rates of unemployment were highest in Europe (6.0%), the Americas (2.7%), including the United States, and Arab States (1.7%).[28] The ILO also estimated that an increase in global economic activity through part of the fourth quarter was equal to an increase of 130 million full-time jobs.

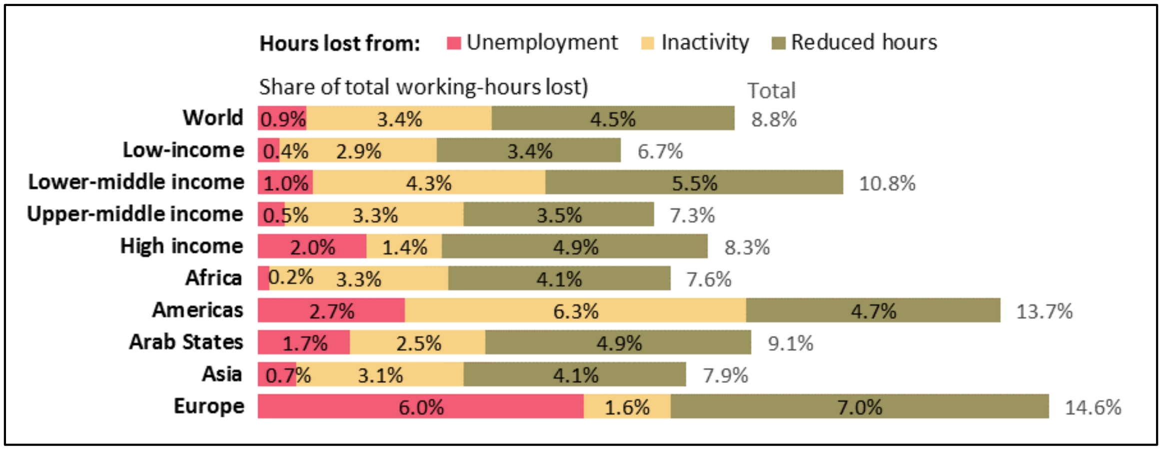
[25] Harding, Robin and Kana Inagaki, Japan Declares State of Emergency in Tokyo as Coronavirus Cases Surge, *Financial Times*, January 5, 2021. https://www.ft.com/content/72ceb064-2231-4d17-bd8f-92bd7f99f33c.

[26] Harding, Robin, Japan to Impose New State of Emergency as COVID-19 Cases Rise, *Financial Times*, April 23, 2021. https://www.ft.com/content/a3d3a8bc-6d0e-4b2b-9e09-3310db13222e.

[27] Obe, Mitsuru, Japan Revises Q4 GDP Growth Down to Annualized 11.7%, *Nikkei Asia*, March 9, 2021.

[28] *ILO Monitor: COVID-19 and the World of Work, Seventh Edition*, International Labor Organization, January 15, 2021, p. 2.

Figure 1. Composition of Working-Hours Lost by Region, 2020



Source: *ILO Monitor: COVID-19 and the World of Work,* International Labor Organization, 2021

A number of economists and others has estimated that pandemic-related disruptions to labor markets in developed and developing economies could have long-lasting effects. One group of economists estimated that even after the pandemic recedes and economic activity ramps up, firms may not abandon the labor-saving lessons they learned, with fewer jobs created in retail stores, restaurants, auto dealerships, and meat-packing facilities, among other places.[29] Other analysts estimated the pandemic could affect the structure of work in three main areas by:

1. Creating a permanent presence of telework, which could account for 20% to 25% of workers in developed economies and 20% in developing economies working from home three to five times per week, which could reduce demand for public transportation, restaurants, and retail stores;
2. Increasing the level of e-commerce that could disrupt jobs in travel and leisure, low-wage jobs in brick-and-mortar stores and restaurants, and increase jobs in distribution centers.
3. Accelerating the adoption of artificial intelligence (AI) and robotics.[30]

Analysts with the Pew Research Center surveyed American workers in January 2021 who were unemployed and looking for work. The results indicated that half of those surveyed were pessimistic about finding another job in the near future and two-thirds had considered changing their occupations, a sentiment shared across income levels. The other third indicated they had already engaged in re-skilling through job retraining programs or educational activities.[31]

In the United States, labor markets are recovering, but the overall rate of unemployment still exceeds the pre-pandemic rate. In testimony before the Senate Banking Committee on February 23, 2021, Federal Reserve Chairman Jerome Powell indicated that although new COVID-19 cases and hospitalizations had fallen and offered hope for an economic recovery later in 2021, the recovery so far remained, "uneven and far from complete, and the path ahead is highly uncertain."[32] In addition, Powell argued that a resurgence in viral cases, hospitalizations, and

[29] Autor, David, and Elizabeth Reynolds, *The Nature of Work After the COVID Crisis: Too Few Low-Wage Jobs*, The Hamilton Project, Brookings Institution, July 2020, p. 2

[30] McKinsey Global Institute, *The Future of Work After COVID-19*, February 18, 2021.

[31] Parker, Kim, Ruth Igielnik, and Rakesh Kochhar *Unemployed Americans are Feeling the Emotional Strain of Job Loss; Most Have Considered Changing Occupations*, Pew Research Center. February 10, 2021.

[32] Powell, Jerome, H., Testimony before the Senate Committee on Banking, Housing, and Urban Affairs, February 23,

deaths was "causing great hardship for millions of Americans and is weighing on economic activity and job creation."

The Federal Reserve also indicated in an accompanying monetary policy report the pandemic-related economic recession was disproportionately affecting certain groups in the economy: lower-wage and less-educated workers, racial and ethnic minorities, and women.[33] Powell also indicated that published unemployment rates "dramatically understated" the deterioration in the U.S. labor market. Instead of the announced unemployment rate of 6.5% in January, 2021, Powell argued that the actual rate likely was closer to 10%, reflecting discouraged workers who have stopped looking for work and, therefore, are not counted as part of the labor force.[34] He stated, however, that, "even those grim statistics understate the decline in labor market conditions for the most economically vulnerable Americans."[35]

During the 60-week period from mid-March 2020 to early May, 2021, 86.3 million Americans (half of the 160 million civilian work force) had filed for unemployment insurance at some point during the preceding year, as indicated in **Table 1**.[36] On a seasonally adjusted basis, the number of insured unemployed individuals was 3.7 million on April 24, 2021, down from a peak of 25 million in mid-May, 2020. As indicated in **Figure 2,** weekly claims have fallen from the sharp increases recorded in April and May, 2020. On a week-over-week basis, new claims totaled 498,000 in the week ending May 1, 2021, falling by 92,000 from the previous week's total of 590,000, and representing the smallest weekly increase in unemployment filings since the start of the pandemic. This number is still more than twice the average number of weekly claims recorded prior to the pandemic of about 200,000. In the week ending April 17, 2021, 16.2 million people claimed benefits in all programs, down 404,000 from the previous week's total.

The insured unemployment rate for the week ending April 24, 2021, was 2.6%, same as rate for the previous week. As workers have approached the traditional 26-week maximum for receiving standard unemployment benefits they have applied for benefits under the extended Pandemic Emergency Unemployment Compensation (PEUC) program or the Pandemic Unemployment Assistance (PUA) program.[37] Between April 10, 2021 and April 17, 2021, claims under the PEUC program decreased by 221,600 to 4.9 million, while claims under the PUA program decreased by 112,500 to 6.9 million. Benefits were extended by P.L. 116-260, signed by President Trump on

2021, and Powell, Jerome H., *Getting Back to a Strong Labor Market,* Speech before The Economic Club of New York, February 10, 2021.

[33] Board of Governors of the Federal Reserve System, *Monetary Policy Report February 19, 2021*, February 19, 2021.

[34] Powell, Jerome H., *Getting Back to a Strong Labor Market,* p. 4.

[35] Ibid, p. 4.

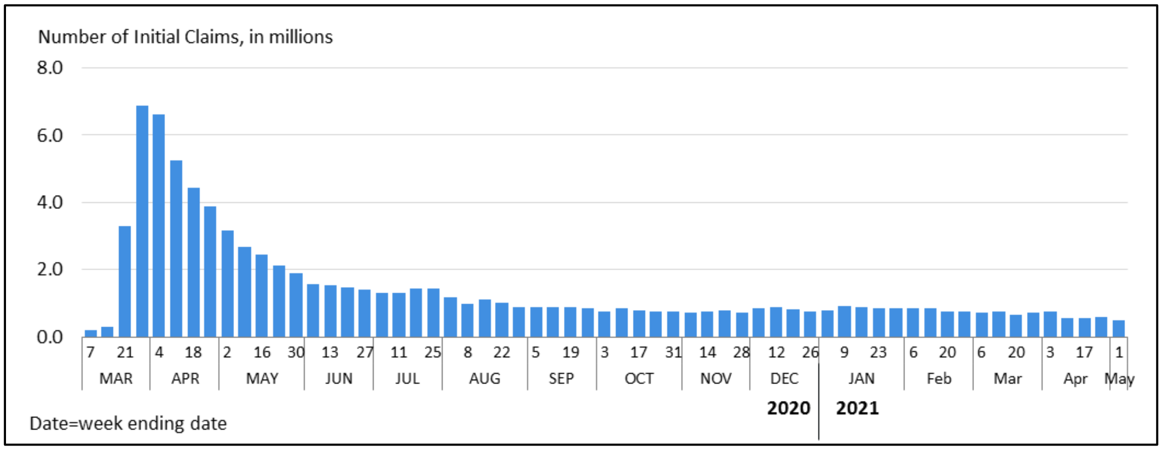
[36] *Unemployment Insurance Weekly Claims,* Department of Labor, May 6, 2021. https://www.dol.gov/; Romm, Tony and Jeff Stein, 2.4 Million Americans Filed Jobless Claims Last Week, Bringing Nine Week Total to 38.6 Million, *Washington Post,* May 21, 2020. https://www.washingtonpost.com/business/2020/05/21/unemployment-claims-coronavirus/

[37] Both programs were authorized under P.L. 116-136, March 27, 2020, the Coronavirus Aid, Relief, and Economic Security (CARES) Act, with benefits ending by December 31, 2020. The PUA program provided 39 weeks of unemployment assistance, including $600 weekly benefits (expired in August 2020), under certain conditions, for workers who had exhausted regular unemployment benefits, were not eligible for regular benefits, or were not eligible for benefits under the PEUC program. On December 27, 2020, President Trump signed the Consolidated Appropriations Act of 2021 (P.L. 116-260), extending PUA benefits for 11 weeks. The PEUC program provided 13 weeks of additional benefits to individuals who had exhausted standard unemployment assistance and met other eligibility requirements. Benefits were further extended through September 6, 2021 by the American Rescue Plan Act of 2021, P.L. 117-2, signed by President Biden on March 11, 2021. DOL, *Unemployment Insurance Program Letter No. 14-21*, March 15, 2021; DOL, *Unemployment Insurance Program Letter No. 16-20*, February 25, 2021.

December 27, 2020. Benefits were further extended through September 6, 2021 by the American Rescue Plan Act of 2021, P.L. 117-2, signed by President Biden on March 11, 2021.

Figure 2. Initial U.S. Weekly Claims for Unemployment Insurance, 2020 and 2021

In millions of individual claims



Source: Department of Labor. Created by CRS.

At the beginning of the pandemic-related economic recession, the Bureau of Labor Statistics (BLS) reported on May 8, 2020, that 20 million Americans lost their jobs in April 2020 as a consequence of business lockdowns, pushing the total number of unemployed Americans to 23 million,[38] out of a total civilian labor force of 158 million. The increase pushed the national unemployment rate to 14.7% (with some caveats), the highest since the Great Depression of the 1930s.[39] In contrast, on April 2, 2021, BLS reported that: nonfarm employment rose by 916,000 in March, up from the previous month's increase of 468,000; the total number of unemployed Americans was 9.7 million, down from the previous month's total of 10 million;[40] and the unemployment rate dropped to 6.0%, again with some caveats.[41]

Table 1. Seasonally Adjusted Weekly Unemployment Insurance Claims

In thousands

Week Ending	Initial Claims	Change from Prior Week	Insured Unemployment	Insured Unemployment Rate	Total Claims
21-Mar-20	3,307	3,025	3,059	2.1%	3,307
28-Mar-20	6,867	3,560	7,446	5.1	10,174
4-Apr-20	6,615	-252	11,914	8.2	16,789

[38] This total did not include 10.9 million workers who were working part time not by choice and 9.9 million individuals who were seeking employment.

[39] *The Employment Situation-April 2020*, Bureau of Labor Statistics, May 8, 2020. https://www.bls.gov/.

[40] This total does not include 5.8 million workers who were working part time not by choice and 6.9 million individuals who were seeking employment.

[41] *The Employment Situation-March 2021*, Bureau of Labor Statistics, April 2, 2021, https://www.bls.gov/. BLS indicated that some individuals had been misclassified in previous months. Instead of being classified as unemployed, they were misclassified as employed, but absent from work due to coronavirus-related business closures. If such individuals had been classified as unemployed, the unemployment rate would have been 5 percentage points higher in April.

Week Ending	Initial Claims	Change from Prior Week	Insured Unemployment	Insured Unemployment Rate	Total Claims
11-Apr-20	5,237	-1,378	15,819	10.9	22,026
18-Apr-20	4,442	-795	18,011	12.4	26,468
25-Apr-20	3,867	-575	22,377	15.4	30,335
2-May-20	3,176	-691	22,548	15.5	33,511
9-May-20	2,687	-489	24,912	17.1	36,198
16-May-20	2,446	-241	20,841	14.3	38,644
23-May-20	2,123	-323	21,268	14.6	40,767
30-May-20	1,897	-226	20,606	14.1	42,664
6-Jun-20	1,566	-331	20,544	14.1	44,230
13-Jun-20	1,540	-26	19,231	13.2	45,770
20-Jun-20	1,482	-58	19,290	13.2	47,252
27-Jun-20	1,408	-74	17,760	12.2	48,660
4-Jul-20	1,310	-98	17,304	11.8	49,970
11-Jul-20	1,308	-2	16,151	11.1	51,278
18-Jul-20	1,422	114	16,951	11.6	52,700
25-Jul-20	1,435	13	16,090	11.0	54,135
1-Aug-20	1,191	-244	15,480	10.6	55,326
8-Aug-20	971	-220	14,759	10.1	56,297
15-Aug-20	1,104	133	14,492	9.9	57,401
22-Aug-20	1,011	-98	13,254	9.1	58,412
29-Aug-20	884	-127	13,544	9.3	59,296
5-Sep-20	893	9	12,747	8.7	60,189
12-Sep-20	866	-27	12,747	8.7	61,055
19-Sep-20	873	7	11,979	8.2	61,928
26-Sep-20	849	-24	10,594	7.2	62,777
3-Oct-20	767	-82	9,398	6.4	63,544
10-Oct-20	842	75	8,472	5.8	64,386
17-Oct-20	791	-45	7,823	5.3	65,183
24-Oct-20	758	-39	7,222	4.9	65,941
31-Oct-20	757	-1	6,801	4.6	66,698
7-Nov-20	711	-46	6,370	4.3	67,409
14-Nov-20	748	37	6,089	4.2	68,157
21-Nov-20	787	39	5,527	3.8	68,944
28-Nov-20	716	-71	5,781	3.9	69,660
5-Dec-20	853	134	5,614	3.8	70,513
12-Dec-20	873	20	5,433	3.7	71,386

Week Ending	Initial Claims	Change from Prior Week	Insured Unemployment	Insured Unemployment Rate	Total Claims
19-Dec-20	803	-70	5,311	3.6	72,189
26-Dec-20	763	-40	5,180	3.5	72,952
2-Jan-21	781	18	5,240	3.7	73,733
9-Jan-21	904	123	5,061	3.6	74,637
16-Jan-21	886	-18	4,878	3.4	75,523
23-Jan 21	836	-50	4,791	3.4	76,359
30-Jan-21	837	1	4,655	3.3	77,196
6-Feb-21	863	26	4,592	3.2	78,059
13-Feb-21	847	-16	4,469	3.1	78,906
20-Feb-21	747	-100	4,383	3.1	79,653
27-Feb-21	761	14	4,157	2.9	80,414
6-March-21	734	-27	4,123	2.9	81,148
13-March-21	765	31	3,841	2.7	81,913
20-March-21	658	-107	3,750	2.6	82,571
27-March-21	729	71	3,717	2.6	83,300
3-April-21	742	13	3,708	2.7	84,042
10-April-21	586	-156	3,651	2.6	84,628
17-April-21	566	-20	3,652	2.6	85,194
24-April-21	590	24	3,690	2.6	85,784
1-May-21	498	-92			86,282

Source: Department of Labor, CRS calculations.

Impact on Output

According to the April 2021 *World Economic Outlook* prepared by the International Monetary Fund (IMF), the global economy is projected to experience a stronger recovery in 2021 and 2022 than indicated in previous forecasts, with global growth projected to increase at a rate of 6% in 2021 and 4.4% in 2022.[42] The IMF also concluded the global economic recovery would occur at different speeds across and within individual countries, reflecting differences in the pace of vaccinations, the extent of policy support, and various structural conditions, such as the role of tourism in the economy. Within countries, the employment and earnings of youth, women, and the relatively lower-skilled workers has been affected the most.

In addition to the asynchronous recovery, the IMF also concluded that fiscal and financial support provided by central banks may have unintended consequences by supporting equity valuations that are misaligned with their model-estimated fundamentals and by increasing financial risks overall that could become problematic should interest rates start rising.[43] These risks could

[42] *World Economic Outlook*, International Monetary Fund, April, 2021, p. xiii.

[43] *Global Financial Stability Report*, International Monetary Fund, April, 2021, p. x.

increase for non-financial firms and households that had high levels of debt relative to income prior to the pandemic crisis should interest rates rise. Accommodative monetary and fiscal policies intended to limit the economic impact of the crisis may have aided non-financial firms and households, but such support may also have come at the expense of higher debt levels for most countries and the prospect of a lower rate of economic growth in the future.[44]

The staggered economic recovery is projected to widen gaps in living standards between developing countries and others. Such differences in living standards are estimated to reflect differences in cumulative per capital income with losses in 2020 to 2022 projected to be equivalent to 20% of 2019 global GDP, or about $18 trillion. The heaviest losses are estimated to fall disproportionately on low-income and emerging market economies. In addition, the IMF estimated that 95 million people may have entered into extreme poverty in 2020 with 80 million more people being undernourished compared to pre-pandemic levels, as (1) per capita incomes would remain below the pre-pandemic levels for several years, adversely affecting productivity; (2) the demands placed on national health systems to address the pandemic could hinder the treatment of other diseases; (3) business bankruptcies could reduce productivity; and (4) rising debt levels could crowd out potential borrowing and investment.[45]

The IMF urged G-20 leaders to maintain monetary and fiscal policies to lessen the economic impact of the global recession, In particular, the IMF recommended a combination of accommodative monetary policies characterized by low interest rates and central bank programs to facilitate credit availability, a continuation of fiscal support for individuals and firms, and engagement in a synchronized infrastructure investment program to promote growth. According to an IMF analysis, all other things being equal, an increase in infrastructure spending by G-20 countries of one-half percent of their GDP in 2021 and 1% in 2022 through 2025 would increase global GDP by 2% in 2025, compared with under 1.2% growth for an unsynchronized approach.[46]

In contrast to remarks by Federal Reserve Chairman Jerome Powell in early December 2020 that the outlook was "extraordinarily uncertain," and that, "….significant challenges and uncertainties remain,"[47] his assessment on March 23, 2021 before the House Financial Services Committee was more upbeat.[48] He stated that, "The recovery has progressed more quickly than generally expected and looks to be strengthening." He cautioned, however, that, "…. the sectors of the economy most adversely affected by the resurgence of the virus, and by greater social distancing, remain weak, and the unemployment rate—still elevated at 6.2 percent—underestimates the shortfall, particularly as labor market participation remains notably below pre-pandemic levels." At the same hearing, Treasury Secretary Janet Yellen stated:

> We are meeting at a hopeful moment for the economy – but still a daunting one. While we're seeing signs of recovery, we should be clear-eyed about the hole we're digging out of: The country is still down nearly 10 million jobs from its pre-pandemic peak.
>
> One-in-ten homeowners with a mortgage are behind on their payments, and almost one-in-five renters are behind on their rent. There are 22 million people who say they don't have enough food to eat. One-in-ten adults is hungry in America.

[44] Ibid, p. 36.

[45] *G-20 Surveillance Note*, International Monetary Fund, November, 2020, p. 6.

[46] Ibid., p. 10.

[47] Powell, Jerome H., *Coronavirus Aid, Relief, and Economic Security Act*, December 1 and 2, 2020. https://www.federalreserve.gov/newsevents/testimony/powell20201201a.htm.

[48] Powell, Jerome H., Statement before the Financial Services Committee, House of Representatives, March 23, 2021,

> We know that when the foundations of someone's life fall apart – when they lose the roof over their head or the ability to eat dinner every night – the pain can weigh on them for years. Their earning potential is permanently lowered. I worried about this happening on a mass scale.[49]

On December 2, IMF Managing Director Kristalina Georgieva indicated the global financial system had been resilient enough to withstand the impact of the global pandemic, but she urged policymakers to "act quickly" to return economic growth to its re-pandemic levels and avoid widespread financial distress.[50] The Director reportedly also urged policymakers to take "urgent, coordinated steps" to deliver investment in digital technology, infrastructure and the environment. She also indicated the IMF had projected that the loss of global economic output between 2020 and 2025 as a consequence of the pandemic would total $28 trillion and that 120 million jobs would be lost permanently in the tourism industry alone. The pandemic-related economic recession has raised concerns over the growing debt problems in developing economies, where the IMF projected that as much as 40% of banks assets were in danger of becoming distressed.

To date, the global pandemic has affected a broad swath of international economic and trade activities, from services generally to tourism and hospitality, medical supplies and other global value chains, consumer electronics, and financial markets to energy, transportation, food, and a range of social activities, to name a few. In addition, the health crisis has disproportionately negatively affected developing economies that are constrained by limited financial resources and where health systems can quickly become overloaded. The IMF estimated in April 2021 the economic fallout from the pandemic could push 95 million people in Sub-Saharan Africa and South Asia into extreme poverty, reversing a decades-long trend.[51] However, the IMF also concluded that spending on social programs to limit the impact of the pandemic could reduce the number of people falling into extreme poverty to 80 to 90 million.

Without a clear understanding of when the global health and economic effects may peak and a greater understanding of the impact on economies, forecasts must necessarily be considered preliminary. Similarly, estimates of when any recovery might begin and the speed of the recovery are speculative. Forecasts have been updated several times during the first three quarters of 2020 to incorporate additional data, initially reflecting worsening global and national economic growth estimates, but also reflecting more positive data in the third quarter.

Efforts to reduce social interaction to contain the spread of the virus disrupted the daily lives of most Americans and added to the economic costs. Increased rates of unemployment raised the prospects of social unrest in developed economies where lost incomes and health insurance threaten living standards and in developing economies where populations reportedly are concerned over access to basic necessities and the prospects of rising levels of poverty.[52] U.N. Secretary General Antonio Guterres argued in a video conference before the U.N. Security Council on April 10, 2020, that

[49] Yellen, Janet, L., Testimony before the Financial Services Committee, House of Representatives March 23, 2021, p. 1.

[50] Wheatley, Jonathan, IMF Chief Warns Against Complacency on Global Economy, *Financial Times*, December 2, 2020. https://www.ft.com/content/fda34b47-33d2-457e-a0b6-45be6001920d.

[51] *Fiscal Monitor*, International Monetary Fund, April 2021, p. 31.

[52] Sly, Liz, "Stirrings of Unrest Around the World Could Portend Turmoil as Economies Collapse," *Washington Post*, April 19, 2020; Ingraham, Christopher, "Coronavirus Recession Could Plunge Tens of Millions Into Poverty, New Report Warns," *Washington Post*, April 20, 2020. https://www.washingtonpost.com/business/2020/04/20/coronavirus-recession-could-plunge-tens-millions-into-poverty-new-report-warns/.

> [T]he pandemic also poses a significant threat to the maintenance of international peace and security—potentially leading to an increase in social unrest and violence that would greatly undermine our ability to fight the disease.[53]

Financial Markets

Policymakers and financial and commodity market participants had generally estimated that a global economic recovery would take hold in the third quarter of 2020. A resurgence in infectious cases in developed and developing countries starting in September, however, shifted more of the projected recovery to 2021. Various indicators in the third quarter suggested the worst of the economic crisis had passed, although the extent and strength of any global economic recovery remained difficult to predict. Estimates indicated that China's economy grew by 4.9% in the third quarter, driven by an increase in industrial production and consumer demand, marking it as one of the few economies likely to post an overall positive rate of growth for 2020.[54] At the same time, an economic recovery stalled in Europe and the United States. The emergence of more infectious strains of the COVID-19 virus pushed governments to re-impose lockdowns and curtail social and economic activity during the fourth quarter. Updated forecasts indicate the pandemic could negatively affect global economic growth in 2020 less negatively than had been forecasted in the spring, but that the effects could last longer with a slower rate of growth in 2021 and 2022.

As one indicator of the economic impact of the pandemic, the Dow Jones Industrial Average Index (DJIA), along with other market indices, rose nearly three percentage points on Monday, November 9, 2020, reportedly on news that a COVID-19 vaccine had been developed.[55] During the period November 3 through 24, the DJIA rose over 9%. On November 24, 2020, the DJIA, along with global equities markets, increased by 1.5%, and reached an index milestone of 30,000 for the first time and surpassed the previous high value recorded on February 14, 2020, prior to the pandemic-related economic shutdown. Reportedly, the rise in market indices reflected a positive assessment by investors of announcements of effective vaccines against COVID-19, political developments in the United States, potential additional fiscal measures by governments to stimulate economic activity, and prospects of stronger economic growth in 2021.[56]

Prospects of a vaccine initially signaled an eventual end to the business lockdowns and social restrictions and reduced demands on policymakers to implement additional fiscal and monetary policies. Until a vaccine can be broadly distributed, however, policymakers may have to weigh continuing efforts that balance the competing requirements of households, firms, and state and local governments. Also, the impact of the currently available vaccines on new strains of the COVID-19 virus are being evaluated.[57] Various U.S. states reversed course in late June to impose or re-impose social distancing guidelines and close businesses that had begun opening as a result

[53] *Secretary-General's Remarks to the Security Council on the COVID-19 Pandemic*, United Nations, April 9, 2020. https://www.un.org/sg/en/content/sg/statement/2020-04-09/secretary-generals-remarks-the-security-council-the-covid-19-pandemic-delivered.

[54] Hale, Thomas, Tom Mitchell, Christian Shepherd, and Emma Zhou, "Chinese Economy Expands 4.9% in Third Quarter," *Financial Times*, October 19, 2020. https://www.ft.com/content/22108ddd-3280-4013-bcd8-1adc9e6ae13d.

[55] Telford, Taylor, and Hamza Shaban, "Dow Climbs More Than 800 Points as Vaccine News, Biden Victory Rev Up Markets," *Washington Post*, November 9, 2020. https://www.washingtonpost.com/business/2020/11/09/stocks-markets-biden-trump-coronavirus/.

[56] Smith, Colby, Camilla Hodgson, and Hudson Lockett, US Stocks Set Record High as Investors Look to New Administration, *Financial Times*, November 24, 2020. https://www.ft.com/content/433048a5-c489-4ddd-aebd-d56fb8f3edfc.

[57] Didion, Timothy, COVID-19 Vaccine Likely to be Effective Against New Virus Strain, Experts Say, *ABC News*, December 26, 2020. https://abc7news.com/covid-uk-new-strain-of-vaccine-effectiveness-stain/8988644/.

of a rise in new confirmed cases of COVID-19, raising the prospect of a delayed recovery. A prolonged recovery could also increase the financial strains on small and medium-sized firms that face liquidity constraints and the prospects of insolvency.[58]

Differences in policy approaches between countries initially slowed a coordinated response. This lack of response may have inflicted longer-term damage to the global economy by impairing international political, trade, and economic relations, particularly between countries that promoted nationalism and those that argued for a coordinated international response to the pandemic. Policy differences also strained relations between developed and developing economies and between northern and southern members of the Eurozone, challenging alliances and conventional concepts of national security, and raising questions about the future of global leadership.

In some countries, the pandemic elevated the importance of public health as a national security issue and as a national economic priority on a par with traditional national security concerns such as terrorism, cyberattacks, and proliferation of weapons of mass destruction.[59] The pandemic-related economic and human costs could have long-term repercussions for economies through the tragic loss of life and job losses that derail careers and permanently shutter businesses. Fiscal and monetary measures implemented to prevent a financial crisis and sustain economic activity may have inadvertently worsened income and wealth disparities that were being affected by the disproportionate impact of quarantines and lockdowns on services sector workers. Within some countries, the economic fallout may have widened racial and socio-economic cleavages and increased social unrest. In speaking about these costs for Americans, Federal Reserve Chairman Powell said on May 19, 2020,

> Since the pandemic arrived in force just two months ago, more than 20 million people have lost their jobs, reversing nearly 10 years of job gains. This precipitous drop in economic activity has caused a level of pain that is hard to capture in words, as lives are upended amid great uncertainty about the future.[60]

BEA reported that U.S. GDP fell by 9.0% in the second quarter of 2020 compared with the previous quarter, or at an annualized rate of -31%, the largest quarterly decline in U.S. GDP recorded over the past 70 years.[61] Additional data, however, indicated that U.S. GDP grew by 7.5% in the third quarter, or at an annualized rate of 33%, based primarily on gains in personal consumption, reflecting an increase in income and continued government income support.[62] Fourth quarter 2020 data indicate the U.S. economy grew by 1.0% over the third quarter, or at an annualized rate of 4.0%. On a year-over-year basis, U.S. real GDP is estimated to have declined by 3.5% in 2020 compared with 2019.[63]

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[58] *Global Financial Stability Report*, International Monetary Fund, October 2020, p. 1.

[59] Harris, Shane and Missy Ryan, To Prepare for the Next Pandemic, the U.S. Needs to Change its National Security Priorities, Experts Say, *Washington Post*, June 16, 2020. https://www.washingtonpost.com/national-security/to-prepare-for-the-next-pandemic-the-us-needs-to-change-its-national-security-priorities-experts-say/2020/06/16/b99807c0-aa9a-11ea-9063-e69bd6520940_story.html.

[60] Powell, Jerome H. *Coronavirus and CARES Act*, Testimony before the Committee on Banking, Housing and Urban Affairs, U.S. Senate, May 19, 2020.

[61] *Gross Domestic Product, 2nd Quarter 2020 (Advance Estimate) and Annual Update*, Bureau of Economic Analysis, July 30, 2020. https://www.bea.gov/news/2020/gross-domestic-product-2nd-quarter-2020-advance-estimate-and-annual-update.

[62] *Gross Domestic Product, Third Quarter 2020 (Advance Estimate)*, Bureau of Economic Analysis, October 29, 2020.

[63] *Gross Domestic Product, Fourth Quarter and Year 2020 (Advance Estimate)*, Bureau of Economic Analysis, January 28, 2021.

In its December 2, 2020, Beige Book analysis, the Federal Reserve (Fed) reported that economic activity had increased modestly in each of the 12 Federal Reserve districts during the third quarter, although economic activity remained below average levels. Four of the Districts reported little or no growth, while five indicated that economic activity remained below pre-pandemic levels for at least some sectors. The manufacturing, distribution and logistics, residential housing, and homebuilding sectors reported positive increases in economic activity. Businesses, however, raised concerns over renewed infections, actual and prospective restrictions, and expiring unemployment benefits and evictions or foreclosures.[64]

Similarly, in its February 2021 Beige Book, the Federal Reserve determined that economic activity overall had increased modestly from January to mid-February and that most businesses expected an economic recovery by summer. Of the 12 districts, 10 experienced modest increases in economic growth, while the New York District recorded mixed performance and the St. Louis District recorded little change in economic activity during the period.[65] The April 14, 2021 Beige Book analysis also reported the economy had begun recovering in the February to April period. This recovery reflected growth in consumer spending as a result of the easing of pandemic-related restrictions in numerous jurisdictions, increased vaccinations, and recent stimulus payments, among other factors.[66] Half the Federal Reserve Districts reported an increase in manufacturing production, despite shortages of microchips in some sectors. The largest gains in activity by industry also included construction, leisure, and hospitality sectors.

Country Responses

In Europe, governments attempted a phased reopening of businesses over the summer.[67] As a result of these efforts, the Eurozone experienced a 12.5% increase in GDP in the third quarter of 2020. Initial estimates indicate the EU economic rate of growth nearly stalled in the fourth quarter, falling by 0.5% due to a resumption of lockdown measures. After several months of data indicating an economic rebound had begun in the Eurozone, surveys of business activity in August indicated the recovery had slowed amid an increase in new COVID-19 cases after countries had begun re-imposing new quarantines and lockdowns in various parts of the Euro area, although most lockdowns did not include schools or some manufacturing firms.[68] Such lockdowns became more widespread in September and October as infections cases began rising in Germany, France, the United Kingdom, the Czech Republic, the Netherlands, Spain, and Poland.[69] By mid-October, Greece and Belgium also had begun implementing business

[64] *The Beige Book: Summary of Commentary on Current Economic Conditions by Federal Reserve District*, the Federal Reserve System, December 2, 2020. https://www.federalreserve.gov/monetarypolicy/beige-book-default.htm.

[65] *The Beige Book: Summary of Commentary on Current Economic Conditions by Federal Reserve District*, the Federal Reserve System, March 3, 2021. https://www.federalreserve.gov/monetarypolicy/beige-book-default.htm.

[66] *The Beige Book: Summary of Commentary on Current Economic Conditions by Federal Reserve District*, the Federal Reserve System, April 14, 2021. https://www.federalreserve.gov/monetarypolicy/beige-book-default.htm.

[67] Stott, Michael, Coronavirus Set to Push 29m Latin Americans Into Poverty, *Financial Times*, April 24, 2020. https://www.ft.com/content/3bf48b80-8fba-410c-9bb8-31e33fffc3b8; Hall, Benjamin, Coronavirus Pandemic Threatens Livelihoods of 59m European Workers, *Financial Times*, April 19, 2020, https://www.ft.com/content/36239c82-84ae-4cc9-89bc-8e71e53d6649, Romei, Valentina and Martin Arnold, Eurozone Economy Shrinks by Fastest Rate on Record, *Financial Times*, April 30, 2020, https://www.ft.com/content/dd6cfafa-a56d-48f3-a9fd-aa71d17d49a8.

[68] Arnold, Martin, Eurozone Economic Rebound is Losing Steam, Surveys Suggest, *Financial Times*, August 21, 2020. https://www.ft.com/content/cc4fa3df-40e7-4e19-be9f-9d01efb74f69. Chazan, Guy and Anna Gross, Europe Battles to Contain Surge in Coronavirus Cases. *Financial Times*, July 29, 2020. https://www.ft.com/content/bcddc297-b7f2-444d-908f-54e8ce6f4f98.

[69] Lockdown 2.0: Europe Imposes Painful Curbs as Infections Surge, *Financial Times*, October 16, 2020.

lockdowns and social distancing measures. Germany reportedly closed bars, restaurants, and most public entertainment, France closed bars and restaurants and imposed travel restrictions, and on October 31, UK Prime Minister Boris Johnson announced a month-long lockdown across the UK.[70]

The European Commission's (EC) February 2021 forecast projected that EU economic growth in 2020 could have contracted by 7.4% and may partially recover in 2021 with a projected rate of growth of 4.1%.[71] The EC forecast indicated a smaller drop in gross domestic product (GDP) in 2020 among European economies than it had forecasted in its summer report, as a result of a third quarter rebound in growth before an anticipated slow-down in the fourth quarter as a result of the resumption of business lockdowns. The autumn forecast was published prior to the announcement of potential COVID-19 vaccines and incorporated assumptions of lockdowns extending into 2021. The forecast also concluded that the speed of an economic recovery in 2021 likely would vary across the EU members, reflecting differences in the severity of the pandemic and the extent of containment measures, but also differences in economic structures and policy responses.[72]

Fourth quarter data indicate that economic growth in the EU decreased by 0.7% from the third quarter of 2020, but was down by 4.8% compared with the same quarter in 2019.[73] The decline in economic activity primarily reflected a drop in consumer spending of 3.0% from the previous quarter. Fourth quarter data also indicated the UK economy grew by 1.3%, compared with a rate of growth of 16.9% in the third quarter and a decline of 19.5% in the second quarter, the largest quarterly decline on record. Eurostat, the statistical office of the European Commission, released data indicating the Eurozone experienced price inflation in the fourth quarter of about 0.2%.

After protracted talks, European leaders agreed on July 21 to a new €750 billion (about $859 billion) pandemic economic assistance package to support European economies. Draft budget estimates submitted by Eurozone governments in the fall of 2020 indicated the countries could experience a combined budget deficit of nearly €1 trillion, or equivalent to about 9% of their annual GDP.[74] The rise in budget deficits reflects the growing cost to governments of supporting their economies to sustain economic activity and a marked change in attitudes toward budget deficits also reflected in statements by the IMF and World Bank. Second quarter data also indicated that employment among EU countries fell by 2.6%, or 5.5 million jobs in 2020. The jobs data, however, do not include roughly 45 million people, or a third of the workforce in Germany, France, Britain, Italy, and Spain, that were covered by employment protection programs.[75]

Similarly, Japan reported that its economy contracted by 8.2% in the second quarter of 2020, compared with the previous quarter, or at an annual rate of 32%.[76] In the third quarter, however,

https://www.ft.com/content/b1a7d1e8-4bb9-41cf-be5b-2f7f04bdb9bb.

[70] Peel, Michael, European Countries Impose Shutdowns as Covid-19 Cases Rise, *Financial Times*, October 30, 2020. https://www.ft.com/content/a89f89ba-08be-44e2-8d21-3e9ada605e17; Packard, Jim, Boris Johnson Announces Second Lockdown for England, *Financial Times*, October 31, 2020, https://www.ft.com/content/8c2ede22-9dcf-4d31-81ef-82ae4ee76e10.

[71] *European Economic Forecast Winter 2020*, European Commission, February 2021.

[72] Ibid., p. 2.

[73] *Newsrelease*, Eurostat, February 2, 2020.

[74] Arnold, Martin and Sam Fleming, Eurozone Budget Deficits Rise Nearly Tenfold to Counter Pandemic, *Financial Times*, October 19, 2020. https://www.ft.com/content/5579361f-5aac-4cd3-9e93-190fffdc0baf.

[75] Ben Hall, Ben, Delphine Strauss, and Daniel Dombey, Millions of European Jobs at Risk When Furlough Support Ends, *Financial Times*, August 14, 2020. https://www.ft.com/content/0f01a9ed-5b15-4e2d-921c-6eed7a80d0bd.

[76] *Quarterly Estimates of GDP for April - June 2020 (First Preliminary Estimates)*, Cabinet Office, August 17, 2020.

the economy grew at a positive rate of 5.3%, while the economy grew by a rate of 2.8% in the fourth quarter on a quarter over quarter basis. On an annual basis, however, Japan's economic growth rate fell to 4.8%, the first negative annual rate of growth experienced since 2009.

On September 10, 2020, European Central Bank (ECB) President Christine Lagarde indicated the Eurozone economy could contract by 8% in 2020, but the rate of growth was projected to partially recover in 2021 by growing at an annual rate of 5.0%.[77] In the early stages of the pandemic, foreign investors pulled an estimated $26 billion out of developing Asian economies not including more than $16 billion out of India, increasing concerns about a major economic recession in Asia. Some estimates indicate that 29 million people in Latin America could fall into poverty, reversing a decade of efforts to narrow income inequality. Some analysts also expressed concern that Africa, after escaping the initial spread of infections, could face a sharp increase in rates of infection outside South Africa, Egypt, Nigeria, Algeria, and Ghana, where most of the initial infections had occurred.[78]

In October 2020, the Bank of Canada indicated that Canada's quarterly rate of growth declined by 13.0% in the second quarter of 2020, but by 4.4% in the third quarter as business and other restrictions were relaxed and by a rebound in home sales. The Bank also estimated that growth for 2020 would decline at an annual rate of 4.3% in 2020, but could increase by about 3.8% in 2021. On December 1, the Canadian government adopted a C$1 trillion spending package to support economic growth, reportedly the largest such fiscal stimulus package adopted in the post-World War II period.[79] The package provided relief to provinces and territories to improve infection in long-term care facilities, industries hard hit by the pandemic, such as tourism, travel and arts, and provide loans to eligible businesses and to lower and middle income families.

In April 2021, India reported that in the second quarter its GDP growth rate fell by 25.8% compared with the first quarter, raising concerns that the country could experience its most severe economic contraction on record.[80] Subsequent forecasts indicate that India's economy grew by 23.7% in the third quarter of 2020, reportedly reflecting higher levels of consumer activity, and by 7.9% in the fourth quarter.[81] On an annual basis, India's economy reportedly grew at a rate of -3.5%. On November 12, India's finance minister announced a new package of fiscal measures totaling $35 billion to increase consumer spending and to assist manufacturing, agriculture, and exports. The move followed an announcement by India's cabinet that it had approved a spending package of $27 billion to provide incentives over five years to manufacturing firms, including automobiles, auto parts, pharmaceuticals, textiles, and food products.[82]

As a consequence of the resurgence in cases and renewed lockdowns in economies, the IMF argued that advanced economies needed to sustain fiscal support for consumers and businesses as the most effective means of stimulating their economies. The IMF argued this support was

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[77] Remarks by ECB President Christine Lagarde, press conference, September 10, 2020.

[78] Pilling, David, The Pandemic is Getting Worse: Africa Prepares for Surge in Infections, *Financial Times*, July 20, 2020. https://www.ft.com/content/1b3274ce-de3b-411d-8544-a024e64c3542.

[79] Canada Unveils Largest Economic Relief Package Since WW2, BBC News, December 1, 2020. https://www.bbc.com/news/world-us-canada-55139229.

[80] Slater, Joanna, India's Economy Contracts by Nearly 24%, It's Sharpest Drop On Record, *Washington Post*, August 31, 2020. https://www.washingtonpost.com/world/asia_pacific/indias-economy-contracts-by-nearly-24-percent-amid-pandemic/2020/08/31/92318fbe-eb70-11ea-bd08-1b10132b458f_story.html?hpid=hp_world-right-4-0_world-latest-feed%3Ahomepage%2Fstory-ans.

[81] *RBI Bulletin – November 2020*, Reserve Bank of India, November 2020.

[82] Sharma, Ashok, India Announces $35 Billion Economic Stimulus Package, *ABCNews*, November 12, 2020. https://abcnews.go.com/International/wireStory/india-announces-35-billion-economic-stimulus-package-74165709.

necessary because the global economy was experiencing what economists term a Keynesian liquidity trap, named after economist John Maynard Keynes. In theoretical terms, a liquidity trap exists when central banks' key interest rates are so low they have little impact through traditional means to affect business and consumer activity. According to the IMF, in 60% of the global economy, central banks have pushed key interest rates below 1% and in one-fifth of the global economy, interest rates are below zero. In these circumstances, adjusting fiscal policy, or government taxing and spending, is more effective in raising the rate of economic growth.[83] The IMF concluded that, "Fiscal policy must play a leading role in the recovery."

Economic Policy Responses

After a delayed response, central banks and monetary authorities in developed and emerging market economies have engaged in an ongoing series of interventions in financial markets and national governments have adopted an array of fiscal policy initiatives to stimulate their economies. The Bank for International Settlements (BIS) characterized the pandemic as fully global in nature, eliciting a fiscal, monetary, and prudential response that has surpassed that of the global financial crisis of 2008-2009. In addition, the BIS argues the evolving nature of the health crisis is causing the financial crisis to evolve as well, changing from a liquidity crisis in the initial stages to a solvency crisis that could worsen if the economic recovery is delayed. As a result of the potential damage to the global economy arising from the pandemic, the BIS stated that future economic historians may describe the pandemic as, "the defining moment of the 21st century."[84]

Industry Measures

During 2020, governments adopted a range of measures at both the national and international level to address the health and economic consequences of the COVID-19 pandemic, as indicated in **Table 1**.[85] These measure include incentives to increase domestic production of vaccines and personal protective equipment (PPE) and direct state intervention through nationalization or through directives to increase output at facilities that currently produced PPE materials or to initiate production at other facilities. In some cases, policy changes include enhanced foreign investment screening of foreign investment for "public interest" reasons that may remain after the pandemic crisis.[86]

The shift in approach toward the national security dimensions of foreign investment, especially by developed economies, has tended to blur the distinction between foreign investment, trade, and national security and reflects the evolving nature of the concept of national security relative to foreign investment. Conceivably, changes in technology and the global economy have made it more difficult to assess the economic costs and benefits of changes in foreign investment policies taken on national security grounds.

[83] Gopinath, Gita, Global Liquidity Trap Requires a Big Fiscal Response, *Financial Times*, November 3, 2020, https://www.ft.com/content/2e1c0555-d65b-48d1-9af3-825d187eec58.

[84] *Annual Economic Report 2020*, Bank for International Settlements, June 2020, p. ix.

[85] Countries include Australia, Canada, the European Union, France, Germany, Hungary, Italy, India, Japan, Poland, and Spain, among others. *World Investment Report 2020*, United Nations Conference on Trade and Development 2020, p. 93.

[86] *World Investment Report 2020*, United Nations Conference on Trade and Development, June 16, 2020, p. 96.

Table 2. Investment Policy Instruments Adopted at the National and International level to Address the COVID-19 Pandemic

Investment policy areas	Policy measures
Policy actions at the national level	
Investment facilitation	Alleviate administrative burdens and bureaucratic obstacles for firms. Use of online tools and e-platforms.
Investment retention and aftercare by investment promotion agencies (IPAs)	COVID-19-related information services. Administrative and operational support during the crisis. Move to online services.
Investment incentives	Financial or fiscal incentives to produce COVID-19-related medical equipment. Incentives for conversion of production lines. Incentives for enhancement of contracted economic activities.
State participation in crisis-affected industries	Acquisition of equity in companies, including nationalization.
Local small and medium enterprises (SMEs) and supply chains	Financial or fiscal support for domestic suppliers (such as SMEs).
National security and public health	Application and potential reinforcement of FDI screening in pandemic-relevant industries.
Other State intervention in the health industry	Mandatory production. Export bans. Import facilitation.
Intellectual property (IP)	General authorization of non-voluntary licensing, to speed up research and development (R&D). IP holder-specific non-voluntary licensing, to enable imports of medication.
Policy actions at the international level	
International support measures for investment	International pledges in support of cross-border investment.
IIAs	Reform International Investment Agreements (IIAs) to support public health policies and to minimize investor–State dispute risks.
Intellectual property (IP)	General authorization of non-voluntary licensing, to speed up research and development (R&D).

Source: *World Investment Report 2020*, United Nations Conference on Trade and Development, June 16, 2020, p. 89.

Fiscal Measures

As indicated in **Table 2**, central governments adopted various fiscal measures to provide financial support to the health sector, households, and firms, although the size and scope of the programs vary by country.[87] These measures broadly include tax cuts and tax deferrals for individuals and businesses, wage and income supplements to individuals, including expanding unemployment insurance, and other payments to businesses. The U.S. Congress also approved historic fiscal spending packages. In other countries, governments abandoned traditional borrowing caps to increase fiscal spending in order to sustain economic growth. In some emerging economies, governments reportedly adopted special programs to provide financial assistance to "informal" workers, or workers outside traditional labor markets such as family businesses.[88]

In developed economies, however, as governments adopted fiscal packages to assist households, consumers sharply increased their savings as they faced limited spending opportunities, or a form of involuntary saving, and concerns over lost jobs, incomes, and the course of their economies, or precautionary saving. (For additional countries and measures, see **Appendix A** of this report.) International organizations also took steps to provide loans and other financial assistance to countries in need. These and other actions have been labeled "unprecedented," a term that has been used frequently to describe the pandemic and the policy responses.

Table 3. Elements of Announced Fiscal Measures to Address COVID-19

	Advanced Economies							**Emerging Market Economies**							
Measures	US	JP	DE	FR	IT	ES	GB	BR	CN	ID	IN	KR	MX	RU	ZA
Measures supporting the health sector															
	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Measures supporting households															
Targeted transfers[a]	x	x	x	x	x	x	x	x	x	x	x	x		x	x
Other labor income support[b]	x	x	x	x	x	x	x	x	x	x	x	x		x	x
Wage subsidies	x	x	x	x	x	x	x	x	x		x	x		x	x
Tax cuts	x	x	x	x		x			x	x	x	x		x	x
Tax deferral	x	x	x		x	x	x				x	x	x		x
Measures supporting firms															
Tax deferral	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Liquidity support[c]	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Tax cuts	x	x	x		x	x	x	x	x	x	x	x		x	
Targeted transfers		x	x	x	x		x		x	x				x	x

Source: *Annual Economic Report 2020*, Bank for International Settlements, June 2020, p. 24, based on data collected by the International Monetary Fund and the Organization for Economic Cooperation and Development.

Notes:

[87] Ibid.

[88] Ibid., p. 25.

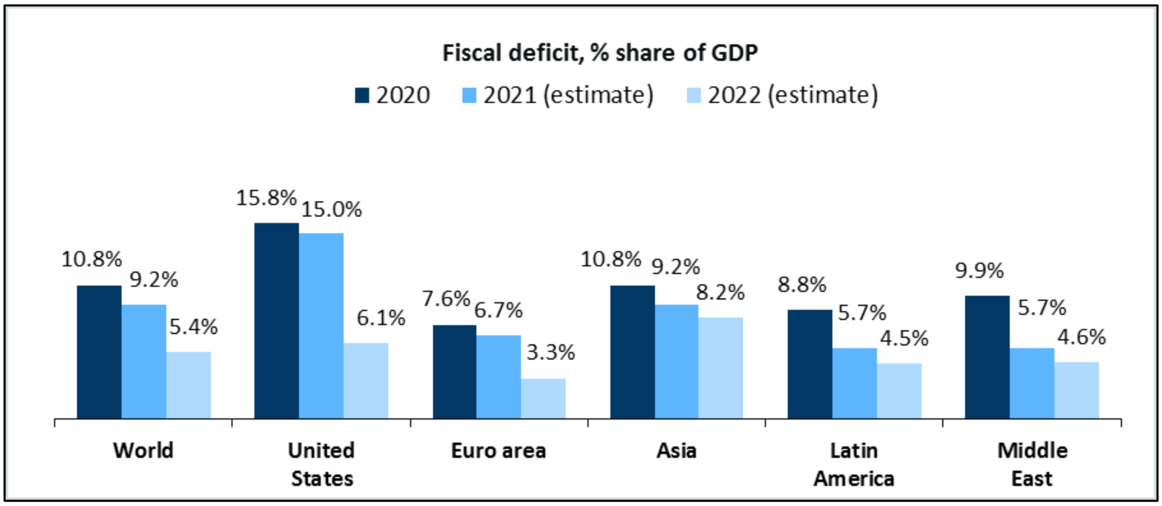
a. Includes cash and in-kind transfers to affected households.
b. Extended unemployment and sick leave benefits.
c. Non-budgetary measures such as equity injections, asset purchases, loans and debt assumptions or government guarantees and contingent liabilities, US: United States; JP: Japan; DE: Germany; FR: France; IT: Italy; ES: Spain; GB: Great Britain; BR: Brazil; CN: China; ID: Indonesia; IN: India; KR: South Korea; MX: Mexico; RU: Russia; ZA: South Africa.

Fiscal Deficits

As one measure of the global fiscal and monetary responses, the IMF estimated that government spending and revenue measures to sustain economic activity adopted through mid-March 2021 amounted to $16 trillion.[89] The IMF also updated its estimate of the increase in borrowing by governments globally to rise from 3.9% of global gross domestic product (GDP) in 2019 to 10.8% in 2020, as indicated in **Figure 3**. Other estimates indicate that central banks have committed $17 trillion to support their economies to counter pandemic-related economic effects.[90]

Figure 3. IMF Projected Government Fiscal Deficits Relative to GDP

In percentage shares of Gross Domestic Product



Source: *Fiscal Monitor,* International Monetary Fund, April 2021. Created by CRS.

Notes: Data for 2021 and 2022 are estimates.

Among developed economies, the fiscal deficit to GDP ratio is projected to rise from 2.9% in 2019 to 11.7% in 2020; the ratio for the United States is projected to rise from 5.7% to 15.8%, respectively, the highest ratio for any country or region.[91] For most areas and countries, the IMF forecasts that debt to GDP rations will fall some in 2021, but fall more substantially as percentage shares of GDP in 2022 as the economic recovery is projected to take hold. Some economists and others have raised concerns that fiscal deficits financed through borrowing in a low-interest rate environment could substantially increase the debt servicing costs on government budgets under certain conditions, particularly if national economic growth rates rise, which tend to push up

[89] *Fiscal Monitor,* International Monetary Fund, April 2021. p. 1.

[90] Wigglesworth, Robin, Long Live Jay Powell, the New Monarch of the Bond Market, *Financial Times*, June 23, 2020. https://www.ft.com/content/5db9d0f1-3742-49f0-a6cd-16c471875b5e.

[91] *Fiscal Monitor,* Table 1.1.

central banks' interest rates, and if the accumulated debt is refinanced at those higher rates, thereby increasing debt servicing costs.[92]

According to the IMF, France, Germany, Italy, Japan, and the United Kingdom have each announced public sector support measures that total more than 10% of their annual GDP.[93] For developing economies, the fiscal deficit to GDP ratio is projected to rise from 4.9% in 2019 to 9.8% in 2021, significantly increasing their debt burden and raising prospects of defaults or debt rescheduling.[94] According to some estimates, the most fiscally vulnerable countries are Argentina, Venezuela, Lebanon, Jordan, Iran, Zambia, Zimbabwe, and South Africa.[95] The IMF concluded that among low-income developing countries high debt levels could near-term debt vulnerabilities remain high.[96]

The IMF has argued there is a growing disconnect between the pricing of risk in financial markets and projected economic prospects, because investors apparently expect a quick recovery based on continued and unprecedented central bank intervention. However, a perceived or real shift in central bank intervention in financial markets could negatively affect investors' concept of risk and, in turn, negatively affect asset markets and the economic recovery.[97] In addition to central banks' actions, the IMF concludes that a number of preexisting vulnerabilities could affect the timing and the rate of the economic recovery. These vulnerabilities include corporate and household debt levels in developed and some emerging market economies that could become unmanageable in a prolonged recession; a rising number of insolvencies that could test the resilience of the banking sector; additional stresses that could affect nonbank financial institutions; and the prospect of some developing economies facing high external financing requirements.[98]

Worker Assistance Programs

As part of their fiscal policy measures, governments in advanced economies either enhanced existing worker support programs, or adopted new programs. As indicated in **Table 4**, the OECD categorized the various job retention programs into six major groups, which the OECD estimated had supported 50 million workers in developed economies. The programs consisted of short-term support that subsidized hours not worked, or wage subsidies that also subsidized hours worked. Some countries also eased qualification requirements to facilitate workers or businesses gaining access to support funds.

Programs to assist workers varied across countries, but they generally comprised subsidies to support workers for work hours lost or extended wage subsidies to maintain pre-pandemic employment levels. Other programs assisted individual firms in retaining workers with the objective of facilitating a quick return to full activity once pandemic-related restrictions are

[92] Hagaman, Chase, *Fiscal, Monetary, and Economic Challenges of the Post-Pandemic Economy*, The Concord Coalition, February 18, 2021, Edelberg, Wendy, and Louise Sheiner, *The Macroeconomic Implications of Biden's $1.9 Trillion Fiscal Package*, The Hamilton Project, Brookings Institution, January 28, 2021.

[93] *Global Financial Stability Report Update*. International Monetary Fund, April 2021, p. 3.

[94] Ibid, p. 3

[95] Wheatley, Jonathan, Tommy Stubbington, Michael Stott, Andrew England, and Joseph Cotterill, Debt Relief: Which Countries Are Most Vulnerable? *Financial Times*, May 6, 2020. https://www.ft.com/content/31ac88a1-9131-4531-99be-7bfd8394e8b9.

[96] *Global Financial Stability Report*, April 2021, p. 8

[97] *Global Financial Stability Report Update*. International Monetary Fund, December 2020, p. 4.

[98] Ibid., pp. 6-7.

lifted.[99] In some cases, benefits were increased by extending the length of time benefits are available and benefits were extended to workers in non-standard jobs such as temporary and self-employed workers. New programs adopted by some OECD members were designed to assist some temporary and non-standard workers quickly gain access to support funds.[100]

Beyond the pandemic, the OECD encouraged governments to:

- Increase the contribution of firms to the cost of hours not worked to strengthen incentives to use subsidies for jobs that will be viable after the pandemic crisis;
- Set time limits on the extent of job support programs, although with the ability to adjust the limits depending on circumstances;
- More closely align short-time work and unemployment benefits;
- Provide assistance for job searches and career guidance, and promote training.[101]

Table 4. Developed Economy Worker Support Programs During COVID-19

	Preexisting short-time work scheme	Increased access and coverage	Increased benefit generosity	Increased access for workers in non-standard jobs	New short-time work scheme	New wage subsidy scheme
Australia						x
Austria	x	x	x			
Belgium	x	x	x			
Canada	x					x
Chile	x	x	x	x		
Czech Republic	x	x	x			
Denmark	x	x			x	
Estonia						x
Finland	x	x	x	x		
France	x	x	x	x		
Germany	x	x	x	x		
Greece					x	
Hungary					x	
Iceland					x	
Ireland	x					x
Italy	x	x		x		
Japan	x	x	x	x		
Korea	x	x	x			

[99] *Job Retention Schemes During the COVID-19 Lockdown and Beyond*, Organization for Economic Cooperation and Development, October 7, 2020, p. 2.

[100] Ibid, pp. 5-6.

[101] Ibid, pp. 2-3.

	Preexisting short-time work scheme	Increased access and coverage	Increased benefit generosity	Increased access for workers in non-standard jobs	New short-time work scheme	New wage subsidy scheme
Latvia					x	
Lithuania					x	
Luxembourg	x	x	x			
Netherlands	x					x
New Zealand						x
Norway	x	x	x			
Poland						x
Portugal	x	x		x		
Slovak Republic	x	x	x			
Slovenia					x	
Spain	x	x	x	x		
Sweden	x	x	x			
Switzerland	x	x		x		
Turkey	x	x		x		
United Kingdom					x	
United States	x	x	x			

Source: *Job Retention Schemes During the COVID-19 Lockdown and Beyond*, Organization for Economic Cooperation and Development, October 12, 2020, p. 7.

Monetary and Prudential Measures

Among central banks, the Federal Reserve initiated extraordinary steps not experienced since the 2008-2009 global financial crisis to address the economic effects of COVID-19. Simultaneously, as indicated in **Table 5**, various central banks and monetary authorities adopted an array of measures to address the potential economic effects of the pandemic, including lowering interest rates and reserve requirements, announcing new lending and financing facilities, asset purchases, foreign exchange swaps, prudential measures, and relaxed capital buffers and, in some cases, countercyclical capital buffers,[102] adopted after the 2008-2009 financial crisis, potentially freeing up an estimated $5 trillion in funds.[103]

Central banks not only filled the role of lender of last resort through large purchases of government debt, but also the buyers or lenders of last resort for private sector securities, in many cases engaging in activities that previously had been considered off-limits.[104] As a result of these

[102] Countercyclical capital buffers require banks to increase their capital buffers during periods of rapid growth in assets (when they are making a lot of loans), to ensure they have sufficient capital to absorb losses during a recession. *Countercyclical Capital Buffers,* Bank for International Settlements, April 3, 2020. https://www.bis.org/bcbs/ccyb/.

[103] Arnold, Martin, "Regulators Free up $500bn Capital for Lenders to Fight Virus Storm," *Financial Times,* April 7, 2020. https://www.ft.com/content/9a677506-a44e-4f69-b852-4f34018bc45f.

[104] For a review of monetary policies of the Federal Reserve, the ECB, the Bank of Japan, and the Bank of England,

activities, the BIS argued that central banks effectively managed the initial liquidity crisis, the first of three phases often identified with financial crises. The second and third phases, insolvency and recovery, are being navigated in some cases and could become more challenging should the pandemic-related economic crisis be prolonged. Capital buffers were raised after the financial crisis to assist banks in absorbing losses and staying solvent during financial crises. Some governments have directed banks to freeze dividend payments and halt pay bonuses. The Financial Stability Board (FSB) argued in its July 15, 2020, report to the G-20 Finance Ministers and Governors that the actions taken to date to support the functioning of the global financial system appeared to have effectively worked to contain the financial and economic impact of the pandemic so far, although the crisis is not over.[105]

Table 5. Selected Central Bank and Prudential Measures to Address COVID-19

		Advanced economies							Emerging market economies							
Type of tool	Measures	US	EA	JP	GB	CA	AU	CH	BR	CN	ID	IN	KR	MX	TH	ZA
Interest rate	Policy rate cut	x			x	x	x		x	x	x	x	x	x	x	x
Lending liquidity	Gen. liquidity provision[a]	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Specialized lending	x	x	x	x		x	x	x	x		x	x	x	x	
Asset purchases/ sales	Government bonds	x	x	x	x	x	x				x	x	x		x	x
	Commercial paper	x	x	x	x	x							x			
	Corporate bonds	x	x	x	x	x							x		x	
	Other private securities[b]		x	x		x										
FX swap/ interven-tion	USD swap line		x	x	x	x	x	x	x				x	x		
	FX interven-tion							x	x		x	x	x	x		
Pruden-tial rules and Regula-tions	Capital require-ments	x	x	x	x	x	x	x	x	x	x	x	x	x		x
	Liquidity require-ments	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Payout restrictions		x		x	x	x	x	x		x	x	x	x	x	x

see: Haas, Jacob, Christopher J. Neely, William B. Emmons, Responses of International Central Banks to the COVID-19 Crisis, *Federal Reserve Bank of St. Louis Review*, Fourth Quarter 2020.

[105] *COVID-19 Pandemic: Financial Stability Implications and Policy Measures Taken: Report Submitted to the G-20 Finance Ministers and Governors*, Financial Stability Board, July 15, 2020.

		Advanced economies							Emerging market economies							
Type of tool	Measures	US	EA	JP	GB	CA	AU	CH	BR	CN	ID	IN	KR	MX	TH	ZA
	Market functioning[c]		x	x	x	x	x	x	x	x	x	x	x	x	x	x

Source: *Annual Economic Report 2020*, Bank for International Settlements, June 2020, p. 23.

Notes:

a. Repo and reverse repo operations, standing facilities, modified discount window and lower reserve requirement ratio.

b. Asset- and mortgage-backed securities, covered bonds and exchange-traded funds.

c. Shortselling bans and circuit breakers. US: United States; EA: Euro Area; JP: Japan; GB: Great Britain; CA: Canada; AU: Australia; CH: Switzerland; BR: Brazil; CN: China; ID: Indonesia; IN: India; KR: South Korea; MX: Mexico; TH: Thailand; ZA: South Africa.

Economic Forecasts

Global Growth

Although prospects have brightened for renewed rates of growth, the economic situation remains highly fluid globally and for most countries and regions. Uncertainty about the length and depth of the health crisis-related economic effects continue to drive perceptions of risk and volatility in financial markets and corporate decision-making. In addition, uncertainties concerning the global pandemic and the effectiveness of public policies intended to contain its spread and prevent a subsequent rounds of infections have added to market volatility. At various times, corporations postponed investment decisions, laid off workers who previously had been furloughed, and in some cases filed for bankruptcy.

In the early months of the economic recession, the economic situation was compounded by a historic drop in the price of crude oil. Since then, oil prices have recovered from the low of nearly $20 per barrel in April 2020. Through the end of 2020, oil prices moved in the range of $40 to $45 per barrel, in part reflecting the decline in global economic activity. By early January 2021, the international price of Brent crude oil crossed the $65 per barrel threshold not reached since the economic crisis began.

On April 29, 2020, Federal Reserve Chairman Jerome Powell stated that the Federal Reserve would use its "full range of tools" to support economic activity as the U.S. economic growth rate dropped by 33.0% at an annual rate in the second quarter of 2020. In assessing the state of the U.S. economy, the Federal Open Market Committee released a statement indicating that, "The ongoing public health crisis will weigh heavily on economic activity, employment, and inflation in the near term, and poses considerable risks to the economic outlook over the medium term."[106]

Before the COVID-19 outbreak, the global economy was struggling to regain a broad-based recovery as a result of a number of issues, including the lingering impact of growing trade protectionism; trade disputes among major trading partners; falling commodity and energy prices; and economic uncertainties in Europe over the impact of the UK withdrawal from the European Union. Individually, each of these issues presented a solvable challenge for the global economy. Collectively, however, the issues weakened the global economy and reduced the available policy

[106] *Federal Reserve Issues FOMC Statement*, Board of Governors of the Federal Reserve System, April 29, 2020. https://www.federalreserve.gov/newsevents/pressreleases/monetary20200429a.htm.

flexibility of many national leaders, especially among the leading developed economies. While the level of economic effects has become clearer, the response to the pandemic potentially has had a significant and enduring impact on the way businesses organize their work forces, on global supply chains, and how governments respond to a global health crisis.[107] As a result of the rapidly spreading virus and its compounding effects on global and national rates of economic growth, forecasting the impact of the virus has been especially challenging.

The International Monetary Fund (IMF), the Organization for Economic Cooperation and Development (OECD), and The World Bank all revised their forecasts downward between late 2019 and mid-2020, reflecting the rapidly deteriorating state of the global economy and a marked decline in projected rates of growth. Between October 2019 and January 2021, for instance, the IMF lowered its global economic growth forecast for 2020 from a positive 3.4% to a negative 3.5%. In its June 2020 forecast, the OECD forecasted the effects of a single and double wave of infections, with the projections for a single wave reflected in **Table 6**. By late 2020 and early 2021, most forecasts were revised upward to reflect assessments the recession would be less severe than had been forecasted for 2021, as indicated in **Figure 4.** The OECD projected in March 2021 that global GDP could decline by 3.4% in 2020, compared with an earlier forecast of -4.2%, and would experience a stronger recovery in 2021 of 5.6% instead of an earlier forecast of 4.2%.[108] Between January 2020 and January 2021, the World Bank also lowered its forecast of global growth from 2.5% to a negative 4.3%. In most forecasts, advanced economies were projected to experience the steepest declines in economic growth from 2019 to mid-June 2020.

Table 6. Major Economic Forecasts

Percentage changes at annual rates

	World		Advanced economies		Developing economies		United States	
	2020	2021	2020	2021	2020	2021	2020	2021
International Monetary Fund								
October 2019	3.4%	3.6%	1.7%	1.6%	4.6%	4.8%	2.1%	1.7%
April 2020	–3.0	5.8	–6.1	4.5	–1.0	6.6	–5.9	4.7
June 2020	-4.9	5.4	-8.0	4.8	-3.0	5.9	-8.0	4.5
October 2020	–4.4	5.2	–5.8	3.9	–3.3	6.0	–4.3	3.1
January 2021	-3.5	5.5	-4.9	4.3	-2.4	6.3	-3.4	5.1
Organization for Economic Cooperation and Development								
Nov 2019	2.9	3.0	1.6	1.7	4.0	4.0	2.0	2.0
March 2020	2.4	3.3	0.8	1.2	NA	NA	1.9	2.1
June 2020 single	-6.0	5.2	-7.5	4.8	-4.6	5.6	-7.3	4.1
June 2020 double	-7.6	2.8	-9.3	2.2	-6.1	3.2	-8.5	1.9
Sept. 2020	-7.6	2.8	-9.3	2,2	-6.1	3.2	-8.5	1.9

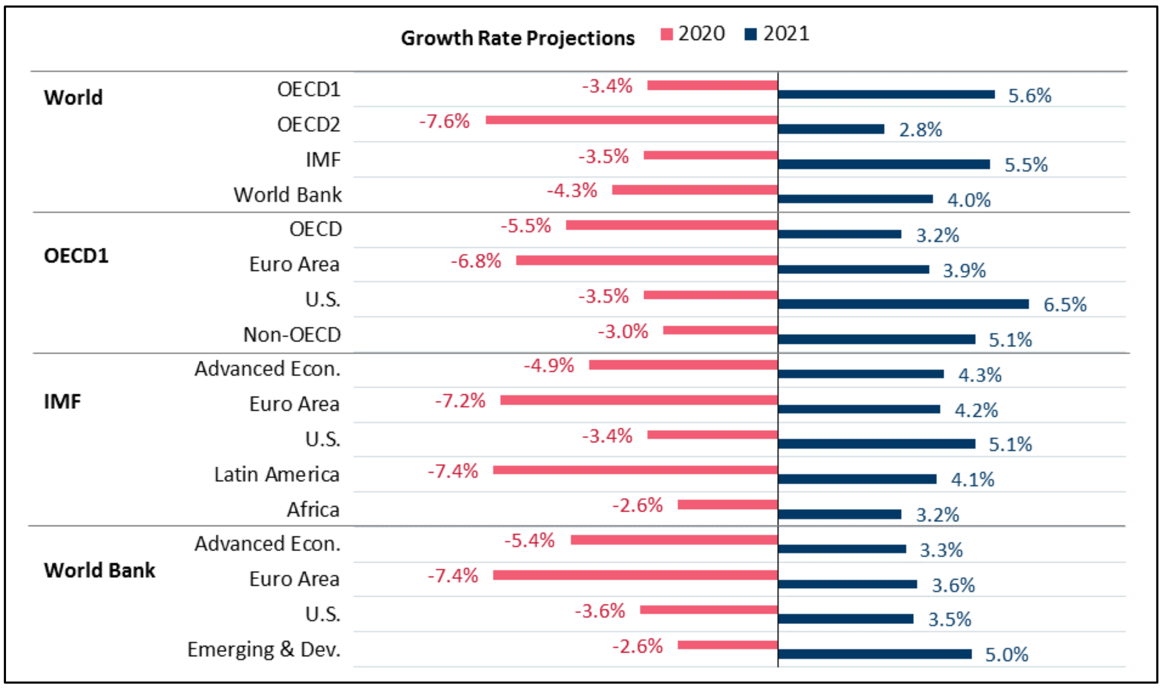
[107] Rowland, Christopher and Peter Whoriskey, "U.S. Health System is Showing Why It's Not Ready for a COVID-19 Pandemic," *Washington Post,* March 4, 2020. https://www.washingtonpost.com/business/economy/the-us-health-system-is-showing-why-its-not-ready-for-a-COVID-19-pandemic/2020/03/04/7c307bb4-5d61-11ea-b29b-9db42f7803a7_story.html.

[108] *OECD Economic Outlook, Interim Report March 2021*, Organization for Economic Cooperation and Development, March, 2021.

	World		Advanced economies		Developing economies		United States	
	2020	2021	2020	2021	2020	2021	2020	2021
Dec. 2020	-4.2	4.2	-5.5	3,2	-3.0	5.1	-3.7	3.2
March 2021	-3.4	5.6	NA	NA	NA	NA	-3.5	6.5
World Bank								
January 2020	2.5	2.6	1.4	1.5	4.1	4.3	1.8	1.7
June 2020	-5.2	4.2	-7.0	3.9	-2.5	4.6	-6.1	4.0
January 2021	-4.3	4.0	-5.4	3.3	-2.6	5.0	-3.6	3.5

Source: *World Economic Outlook*, various issues, International Monetary Fund; *OECD Economic Outlook,* various issues, Organization for Economic Cooperation and Development; *Global Economic Prospects*, various issues, World Bank.

Figure 4. Major Economic Forecasts by Region



Source: *OECD Economic Outlook, March 2021*, Organization for Economic Cooperation and Development. March 2021; *World Economic Outlook, Update,* International Monetary Fund, January 26, 2021; *Global Economic Prospects*, World Bank Group, January 2021, Created by CRS.

Notes: The OECD estimated rates of growth as a result of two scenarios, indicated as OECD1 and OECD2. The first scenario assumes there is a single wave of infections from COVID-19, while the second scenario estimates the effect of a two-wave scenario.

The OECD Forecast

The Organization for Economic Cooperation and Development (OECD) released an updated forecast in April 2021 that projects global economic growth would decline by 3.4% in 2020, compared with a June 2020 forecast of a 6.9% decline under a single-wave scenario in 2020 and a

7.6% decline under a second wave scenario.[109] In the updated forecast, developed economies were projected to experience a decline in GDP of 3.2% in 2020, compared with a projected rate of positive growth of 6.2% in 2021. The forecast reflects the OECD's continued high level of uncertainty about the course of the global economy over the remainder of 2020, because the pandemic is "a global public health crisis without precedent in living memory." The OECD also concluded that an economic recovery would take place over the next two years, but "the recovery would be uneven across countries, potentially leading to lasting changes in the world economy."[110] In addition, the OECD argued that the pandemic is fragmenting the global economy through a growing number of trade and investment restrictions and diverging policy approaches that are being implemented on a country-by-country basis.

As a consequence of the slowdown in economic activity in the fourth quarter of 2020 and projected slow, but partial recovery in 2021, the OECD estimated there would be long-lasting effects on the global economy, including

- Output is projected to remain around 5% below pre-crisis expectations in many countries in 2022, raising the specter of substantial permanent costs, disproportionately affecting vulnerable populations.
- Smaller firms and entrepreneurs are more likely to go out of business.
- Many low wage earners have lost their jobs and are only covered by unemployment insurance, at best, with poor prospects of finding new jobs soon.
- People living in poverty and usually less well covered by social safety nets experienced a deterioration in their living standards.
- Children and youth from less well-off backgrounds, and less qualified adult workers have struggled to learn and work from home, with potentially long lasting damage.[111]

As a result of uncertainty concerning the course of the global economy over the remainder of 2020, the OECD produced two estimates in its June 2020 outlook that it determined were "equally likely scenarios:" one that assumed containment measures that existed at the time would be successful in curtailing infections, and another that assumed there would be a second wave of rapid contagion.[112] Under both scenarios, the OECD estimated the global economic recovery would be slow and gradual.[113] The OECD also estimated that the average unemployment rate among OECD countries could rise to 9.2% under a single wave scenario and 10.0% under the second wave scenario. Through the third and fourth quarters of 2020, however, most OECD countries had not experienced extended periods of high rates of unemployment, in part due to national income and wage maintenance programs, as indicated in **Figure 5**. The main exceptions were the United States and Canada, where unemployment rates spiked starting at the end of the first quarter and into the second quarter of 2020. By February 2021, most OECD economies had unemployment rates in the 7.0% to 9.0% range with some exceptions: Japan (2.9%) and Germany (4.5%) had rates below the OECD average of 6.7%, while Colombia (14.3%), Spain (16.1%), and Italy (10.2%) had rates that were higher than the OECD average. In a major difference between

109 *OECD Economic Outlook, Interim Report: Coronavirus (COVID-19): Living With Uncertainty*, Organization for Economic Cooperation and Development, September 2020.

110 *OECD Economic Outlook, Interim Report March 2021*, Organization for Economic Cooperation and Development. March 2021, p. 4. http://www.oecd.org/economic-outlook/#resources.

111 Ibid, p. 8.

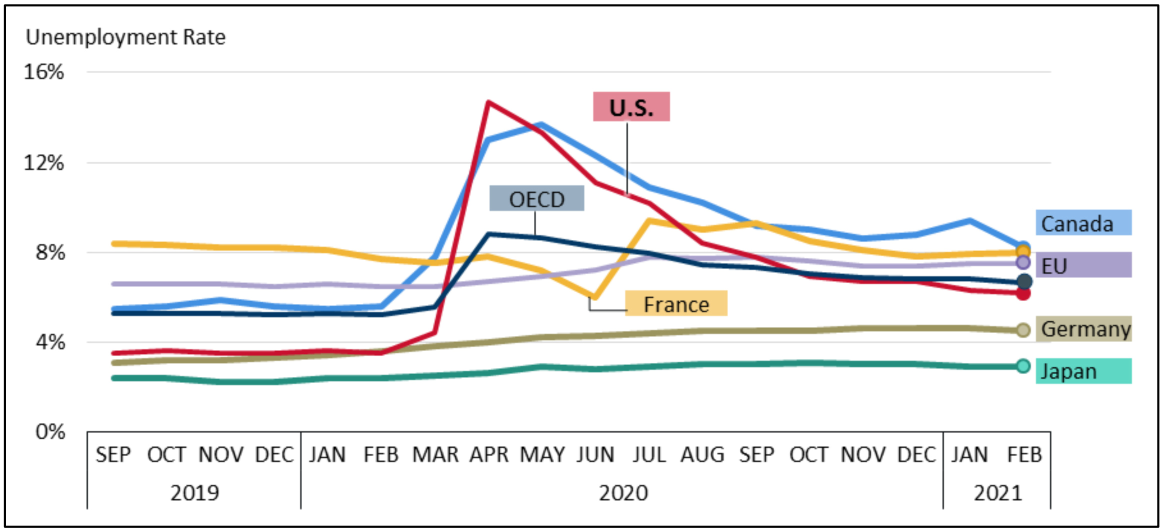
112 Ibid, p. 13.

113 *OECD Economic Outlook, June 2020*, Organization for Economic Cooperation and Development. June 2020, p. 23. http://www.oecd.org/economic-outlook/#resources.

U.S. and EU data, EU workers absent from work due to temporary layoff are counted as employed, whereas, in the United States, they are counted as unemployed.

Figure 5. Unemployment Rates Among Major OECD Countries

In percentage terms



Source: OECD Dataset: Short-term Labor Market Statistics, Organization for Economic Cooperation and Development. Created by CRS.

Global trade was projected to contract by 9.5% or 11.4% in 2020 under the single or second wave scenarios, respectively. The OECD projections in **Table 7** reflect the single wave scenario.[114] According to this scenario, global economic growth was projected to fall by 6.0% in 2020, but rise by 5.2% in 2021. In contrast, the OECD's second wave scenario projected a global economic contraction of 7.6% in 2020 and a growth rate of 2.8% in 2021, delaying a return to full recovery until 2022.

The OECD March 2021 forecast projects that economic growth among developed economies would be particularly weak in Europe, where the growth rate was projected to fall by 3.4% in 2020, compared with the March 2020 forecast of an increase of 0.8% in 2020 and by 1.2% in 2021. Similarly, U.S. economic growth was projected to contract in 2020 by 3.5%, but rebound by 6.5% in 2021. The UK is projected to experience a contraction in GDP growth in 2020 of 9.9%, slightly less than the earlier forecast of a decline of 10.1%. World trade was also projected to decline by 10.3% in 2020, before rising by 3.9% in 2021 and 4.4% in 2022.

[114] Ibid., p. 13.

Table 7. OECD, IMF and World Bank Economic Forecasts

Percentage change in Real GDP Growth

	OECD Mar. 2021 Projections				IMF Apr. 2021 Projections				World Bank Jan. 2021 Projections		
	2020	2021	2022		2020	2021	2022		2019	2020	2021
World	-3.4%	5.6%	4.0%	World	–3.5	5.5	4.2	World	2.3	-4.3	4.0
Adv. Economies	-3.2	6.2	4.1	Adv. Economies	–4.9	4.3	3.1	Adv. Economies	1.6	-5.4	3.3
Australia	-2.5	4.5	3.1	United States	–3.4	5.1	2.5	United States	2.2	-3.6	3.5
Canada	-5.4	4.7	4.0	Euro Area	–7.2	4.2	3.6	Euro Area	1.3	-7.4	3.6
Euro area	-6.8	3.9	3.8	Germany	–5.4	3.5	3.1	Japan	0.3	-5.3	2.5
Germany	-5.3	3.0	3.7	France	–9.0	5.5	4.1	Emerging	3.6	-2.6	5.0
France	-8.2	5.9	3.8	Italy	–9.2	3.0	3.6	E. Asia	5.8	0.9	7.4
Italy	-8.9	4.1	4.0	Spain	–11.1	5.9	4.7	China	6.1	2.0	7.9
Spain	-11	5.7	4.8	Japan	–5.1	3.1	2.4	Indonesia	5.0	-2.2	4.4
Japan	-4.8	2.7	1.8	United Kingdom	–10.0	4.5	5.0	Thailand	2.4	-6.5	4.0
Korea	-1.0	3.3	3.1	Canada	–5.5	3.6	4.1	Cen. Asia	2.3	-2.9	3.3
Mexico	-8.5	4.5	3.0	China	2.3	8.1	5.6	Russia	1.3	-4.0	2.6
Turkey	1.8	5.9	3.0	India	–8.0	11.5	6.8	Turkey	0.9	0.5	4.5
United Kingdom	-9.9	5.1	4.7	Russia	–3.6	3.0	3.9	Poland	4.5	-3.4	3.5
United States	-3.5	6.5	4.0	Latin America	–7.4	4.1	2.9	Brazil	1.4	-4.5	3.0
Argentina	-10.5	4.6	2.1	Brazil	–4.5	3.6	2.6	Mexico	-0.1	-9.0	3.7
Brazil	-4.4	3.7	2.7	Mexico	–8.5	4.3	2.5	Argentina	-2.1	-10.6	4.9
China	2.3	7.8	4.9	Mid. East	–3.2	3.0	4.2	Mid. East	0.1	-5.0	2.1
India	-7.4	12.6	5.4	Saudi Arabia	–3.9	2.6	4.0	Saudi Arabia	0.3	-5.4	2.0
Indonesia	-2.1	4.9	5.4	Africa	–2.6	3.2	3.9	Iran	-6.8	-3.7	1.5

		OECD Mar. 2021 Projections				IMF Apr. 2021 Projections				World Bank Jan. 2021 Projections	
	2020	2021	2022		2020	2021	2022		2019	2020	2021
S. Africa	0.2	-8.1	3.1	Nigeria	–3.2	1.5	2.5	Egypt	5.6	3.6	2.7
				S. Africa	–7.5	2.8	1.4	S. Asia	4.4	-6.7	3.3
				World Trade Volume	–9.6	8.1	6.3	India	4.2	-9.6	5.4
				Oil prices ($)	–32.7	21.2	–2.4	Pakistan	1.9	-1.5	0.5
								Bangladesh	8.2	2.0	1.6
								Africa	2.4	-3.7	2.7
								Nigeria	2.2	-4.1	1.1
								S. Africa	0.2	-7.8	3.3
								Angola	-0.9	-4.0	0.9

Sources: *OECD Economic Outlook, Interim Report March 2021*, Organization for Economic Cooperation and Development. December 2020; *World Economic Outlook,* International Monetary Fund, April, 2021; *Global Economic Prospects*, World Bank Group, January 2021,

Note: The OECD forecast includes a single-wave scenario and a double-wave scenario in which the pandemic remains under control and recedes and another in which there is a second wave of the pandemic, The OECD forecast numbers is this table reflect the single-wave scenario.

Among developing and emerging economies, the economic downturn is projected to most negatively affect countries that rely on commodity exports to support annual economic growth. In addition to lower prices for commodity exports and reduced global demand for exports, developing countries are projected to be negatively affected by reduced remittances, weaker currencies and tighter financial conditions.

The OECD also concluded that

- Real per capita income in 2020 was projected to decline by 8% and 9.5%, respectively, depending on a one- or two-wave contagion, with substantial declines in all economies. Even with an economic recovery in 2021, real per capita income was projected to rise to only that of 2013.
- Unemployment was projected to rise to its highest level in more than 25 years, while the average unemployment rate was projected to rise to 7.4% in 2021and 6.9% in 2022. The OECD concludes that, "scarring effects from job losses are likely to be felt particularly by younger workers and lower-skilled workers, with attendant risks of many people becoming trapped in joblessness for an extended period."
- Net productive investment (business and government) was weak prior to the pandemic, falling behind the average rate of investment during the previous decade. Investment was forecast to contract by half as a percent of real GDP, falling from 4.7% to 2.3% and 2.0%, respectively for the one-wave and two-wave scenarios and increasing the risk of entrenched weak economic growth. Investment is also expected to be negatively affected by bankruptcies and insolvencies among corporations and financial institutions.[115]

The OECD estimated in its March 2020 forecast that increased direct and indirect economic costs through global supply chains, reduced demand for goods and services, and declines in tourism and business travel mean that, "the adverse consequences of these developments for other countries (non-OECD) are significant."[116] Global trade, measured by trade volumes, slowed in the last quarter of 2019 and had been expected to decline further in 2020, as a result of weaker global economic activity associated with the pandemic, which is negatively affecting economic activity in various sectors, including airlines, hospitality, ports, and the shipping industry.[117]

According to the OECD's forecast

- The greatest impact of the containment restrictions has been on retail and wholesale trade, and in professional and real estate services, although there are notable differences between countries.
- Business closures may have reduced economic output in advanced and major emerging economies by 15% or more; other emerging economies could have experienced a decline in output of 25%.
- Countries dependent on tourism have been affected more severely, while countries with large agricultural and mining sectors experienced less severe effects.

[115] Ibid, p. 31.

[116] *OECD Interim Economic Assessment: COVID-19: The World Economy at Risk*, Organization for Economic Cooperation and Development. March 2, 2020, p. 2.

[117] Ibid, p. 4.

- Economic effects likely varied across countries reflecting differences in the timing and degree of containment measures.[118]

In addition, the OECD argued that China's emergence as a global economic actor marked a significant departure from previous global health episodes. China's growth, in combination with globalization and the interconnected nature of economies through capital flows, supply chains, and foreign investment, magnify the cost of containing the spread of the virus through quarantines and restrictions on labor mobility and travel.[119] China's global economic role and globalization mean that trade has played a role in spreading the economic effects of COVID-19. More broadly, the economic effects of the pandemic were spread through three trade channels: (1) directly through supply chains as reduced economic activity spread from intermediate goods producers to finished goods producers; (2) as a result of a drop overall in economic activity, which reduced demand for goods in general, including imports; and (3) through reduced trade with commodity exporters that supplied producers, which, in turn, reduced their imports and negatively affected trade and economic activity of exporters.

The IMF Forecast

Having labeled the projected decline in global economic activity as the "Great Lockdown," the IMF released an updated forecast in April 2021. The IMF concluded in its revised forecast that the global economy was improving, but cautioned that renewed waves of infections and new variants of the virus could "pose concerns for the outlook."[120] In addition, the IMF estimated in its baseline projection that the global economy could decline by 3.5% in 2020, slightly less negative than its October forecast of -4.4%, before growing by 5.5% in 2021, revised up from its previous forecast of 5.2%; global trade was projected to fall in 2020 by 8.5% and oil prices were projected to fall by 32.7%. For 2021, the IMF forecast indicates that global trade could grow by 8.4% and that oil prices could rebound by 21.2%. The forecast also indicates the economic recovery will be uneven across countries depending on, "access to medical interventions, effectiveness of policy support, exposure to cross-country spillovers, and structural characteristics entering the crisis." India and China, in particular, are projected to outpace the rate of global economic growth, experiencing a rate of growth in 2021 of 12.5% and 8.4%, respectively.

The IMF's forecasts reflect the impact of policy measures on the U.S. economy in the first half of 2020 that are larger than it had assumed in its earlier forecasts, a slower recovery in the second half of 2020, and the impact of U.S. spending measures adopted in 2021. Also, the IMF forecast reflects an estimated larger decline in consumption than previously assumed as consumers curtailed spending to increase their savings and the effects of social distancing on economic activity. The IMF also stated that many countries have faced a multi-layered crisis that included a health crisis, a domestic economic crisis, falling external demand, capital outflows, and a collapse in commodity prices. In combination, these various effects have interacted in ways that made forecasting difficult. As a result, the IMF indicated the forecast depend on a number of factors, including

- The length of the pandemic and required lockdowns.
- Voluntary social distancing, which affects consumer spending.

[118] *Evaluating the Initial Impact of COVID Containment Measures on Activity,* Organization for Economic Cooperation and Development, March 27, 2020.

[119] Goldin, Ian, "COVID-19 Shows How Globalization Spreads Contagion of All Kinds," *Financial Times,* March 2, 2020. https://www.ft.com/content/70300682-5d33-11ea-ac5e-df00963c20e6.

[120] *World Economic Outlook, Update,* International Monetary Fund, January 26, 2021.

- The ability of displaced workers to secure employment, possibly in different sectors.
- The long-term impact of firm closures and unemployed workers leaving the workforce, compounding the ability of the economy to recover.
- The impact of changes to strengthen workplace safety—such as staggered work shifts, enhanced hygiene and cleaning between shifts, new workplace practices relating to proximity of personnel on production lines—which incur business costs.
- Global supply chain reconfigurations that affect productivity as companies try to enhance their resilience to supply disruptions.
- The extent of cross-border spillovers from weaker external demand as well as funding shortfalls.
- A resolution of the current disconnect between rising asset values, as reflected in market indices, and forecasts of a synchronized downturn in global economic activity.

The IMF also forecasted that advanced economies as a group could experience an economic contraction in 2020 of 4.9% of GDP, with the U.S. economy also projected to decline by 3.4%, greater than the rate of decline experienced in 2009 during the financial crisis, as indicated in **Figure 6**. The rate of economic growth in Euro area GDP in 2020 was projected to decline by 7.2%, but growing by 4.2% in 2021. Most developing and emerging economies were projected to experience a decline in the average rate of economic growth of 2.2% in 2020, reflecting tightening global financial conditions and falling global trade and commodity prices. In contrast, China was projected to experience small, but positive rate of growth in 2020 of 2.3% and by 8.4% in 2021, while India's rate of growth was projected to decline by 8.0% in 2020 and grow by 12.5% in 2021. The IMF also argued that recovery of the global economy could be weaker than projected as a result of lingering uncertainty about possible contagion, lack of confidence, and permanent closure of businesses and shifts in the behavior of firms and households.[121]

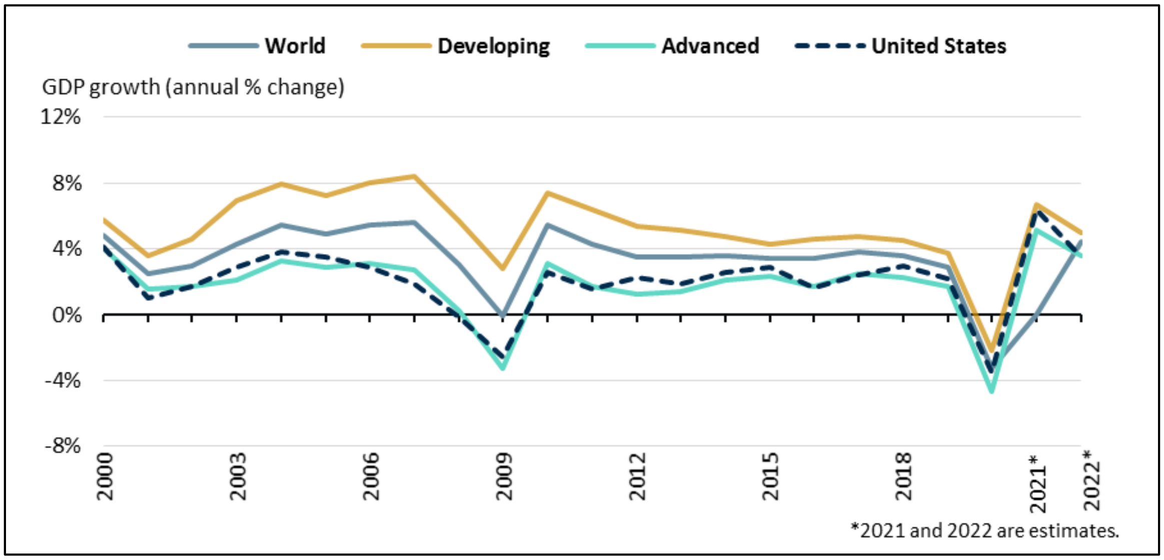
In an August 2020 analysis, the IMF indicated that fiscal and monetary actions by developed economies provided developing and emerging market economies the ability to avoid tightening monetary policy to stem capital outflows. Instead, the countries relied on movements in their exchange rates to carry the brunt of the economic adjustment, while also following developed economies in easing monetary policy, providing liquidity injections, and using unconventional monetary policy measures such as purchases of government and corporate bonds. The IMF also indicated that a prolonged health crisis could push developing economies to take such measures as price controls, export restrictions, and unorthodox measures to ease credit and financial regulation.[122]

[121] Ibid, p. 9.

[122] Mühleisen, Martin, Tryggvi Gudmundsson, and Hélène Poirson Ward, *COVID-19 Response in Emerging Market Economies: Conventional Policies and Beyond,* International Monetary Fund, August 6, 2020. https://blogs.imf.org/2020/08/06/covid-19-response-in-emerging-market-economies-conventional-policies-and-beyond/?utm_medium=email&utm_source=govdelivery.

Figure 6. IMF Forecast, Gross Domestic Product

Percentage change



Source: *World Economic Outlook, Update*, International Monetary Fund, April 8, 2021. Created by CRS.

As a result of the various challenges, the IMF qualified its forecast by arguing that

> A partial recovery is projected for 2021, with above trend growth rates, but the level of GDP will remain below the pre-virus trend, with considerable uncertainty about the strength of the rebound. Much worse growth outcomes are possible and maybe even likely. This would follow if the pandemic and containment measures last longer, emerging and developing economies are even more severely hit, tight financial conditions persist, or if widespread scarring effects emerge due to firm closures and extended unemployment.[123]

The World Bank Forecast

In January 2021, the World Bank released its updated economic forecast, which indicated that global economic growth would reach 4.3% in 2020 and 4.0% in 2021, compared with June 2020 projections of -5.2% for 2020 and 4.2% in 2021, but rise by a slower rate of 3.8% in 2022.[124] The assessment also concluded that absent "substantial and effective reforms," the global economy would experience a decade of "disappointing growth." The Bank concluded that the forecast was tilted toward downside risks. In particular, the Bank assessed that all regions of the world remain vulnerable to renewed outbreaks of the virus, that there were logistical impediments to the distribution of effective vaccines, that there are financial stresses in addition to elevated debt levels and there is the possibility that the pandemic could have a more negative effect on incomes and growth.[125]

An earlier forecast published on June 8, 2020 indicated the economic recession in 2020 would be the deepest since World War II. It also estimated that the global economic recession would affect 90% of the world's economies, a percentage that is greater than what was experienced during the Great Depression.[126] Similar to the OECD and the IMF forecasts, the World Bank argued that the

[123] *World Economic Outlook*, p. v.

[124] *Global Economic Prospects*, World Bank Group, January 2021, p. xvii.

[125] Ibid, p. xviii.

[126] *Global Economic Prospects*, World Bank Group, June 8, 2020, p. 15.

economic impact of the global recession would fall most heavily on developing and emerging economies that rely on global trade, tourism, or remittances from abroad, and those that depend on commodity exports. In addition, the World Bank forecasted that most emerging and developing economies could experience rates of growth in 2020 that could be the lowest overall since the 1960s, with 90% of such economies expected to experience contractions in per capita incomes and many millions of people falling back into poverty.

The World Bank also estimated that economic growth in advanced economies could decline by 5.4% in 2020 and recover to 3.3% in 2021, compared with the June forecast of 7.0% and 3.8%, respectively. The United States, the Euro area and Japan were all estimated to experience a slower rate of growth in 2020 and rise at a smaller rate in 2021 than the IMF forecast.

The global economic recession was projected to affect all regions in a type of synchronous downturn, with some regions faring worse than others. Differences in the magnitude of regional growth rates were attributed to the "scale of the domestic outbreak, vulnerability of the economy to spillovers from global economic and financial stress the severity of preexisting challenges such as widespread poverty, and the degree to which debt levels constrain the fiscal response."[127]

According to the Bank's baseline scenario, the projected economic recovery was expected to be slow, reflecting shifts in consumption and work patterns as consumers attempted to rebuild savings and businesses strengthen balance sheets. The World Bank also issued both a downside and an upside scenario in which government lockdown policies were required to remain in effect for a longer or a shorter period of time, respectively. The downside scenario projects a contraction in global economic growth of 8% in 2020, as lockdown procedures are assumed to last an additional three months, followed by a sluggish recovery. In contrast, the upside scenario projects a decline in economic activity in 2020 of 4%, based on the assumption that economic activity rebounds quickly in the third quarter of 2020.[128]

The Bank also concluded that global value chains (GVCs) had been important conduits through which macroeconomic developments associated with the pandemic had been transmitted across national borders. The economic effects of the pandemic were spread through trade linkages but also amplified through quarantines, production shutdowns and border closures.[129] Estimates by the World Bank indicated that national policies adopted to blunt the spread of the virus affected the global economy through four shocks: a decline in employment due to factory closures and social distancing, a trade shock as a result of an increase in the cost of traded goods, a tourism shock through a sharp contraction in international tourism, and a services shock. The magnitude of the shocks varies by country depended on various factors, including the composition of output, reliance on trade, and the level of GVC integration.

Global Trade

According to a March 31, 2021 forecast update, the World Trade Organization (WTO) estimated that global trade volumes fell by 5.3% in 2020, nearly half as much as the drop of 9.2% the WTO had forecasted in October 2020.[130] The WTO concluded that the less negative outcome likely resulted from strong monetary and fiscal policy actions of many governments. In particular, the WTO attributed the improved growth performance to fiscal policies that supported personal

[127] *Global Economic Prospects* June 8, 2020, p. 115.

[128] Ibid, p. 33.

[129] Ibid, p. 118.

[130] *World Trade Primed for Strong but Uneven Recovery After COVID-19 Pandemic Shock*, World Trade Organization, March 31, 2021.

incomes in advanced economies that, in turn, supported relatively higher levels of consumption and global trade.

Preliminary data for the fourth quarter indicate that the decline in global trade in 2020 was not as severe as was estimated in the October 2020 forecast. Global trade volumes are projected to partially recover in 2021 by increasing at an annual growth rate of 7.2%. This forecast reflects a marked revision from the WTO's April 8, 2020 forecast that global trade volumes could decline between 13% and 32% in 2020 as a result of the economic impact of COVID-19, as indicated in **Table 8**. The updated forecast also indicates that the recovery in global trade in 2021 could be noticeably slower than the WTO had projected in April 2020, primarily reflecting expectations of a slower recovery in global GDP in 2021.

In the first quarter of 2020, global exports and imports fell by 7.8% and 6.8%, respectively, in volume terms and 10.6% and 8.6% in value terms, reflecting the global economic impact of the pandemic, as indicated in **Figure 7**. In the second quarter, global exports and imports dropped by 11.6% and 11.1%, respectively, in volume and by 13.4% and 14.1%, in value terms. The WTO also estimated that some trade sectors were affected more than others, particularly trade in fuels and mineral products fell by 38%, while trade in agricultural products fell by 5%. In the third quarter, however, export and import volumes rebounded, increasing by 15.7% and 12.9%, respectively, while export and import values increased by 20.7% and 18.3%, respectively. In the fourth quarter, global exports and imports increased by 6.1% and 7.2%, respectively, in volume terms and by 9.7% and 9.6%, in value terms. Although the WTO has no comprehensive data on trade in services, it concluded that the trend in trade in services likely matched that experienced in trade in merchandise goods. The updated forecast also projected that global GDP could decline at an annual rate of 4.8% in 2020, but recover in 2021 with an annual growth rate of 4.9%.

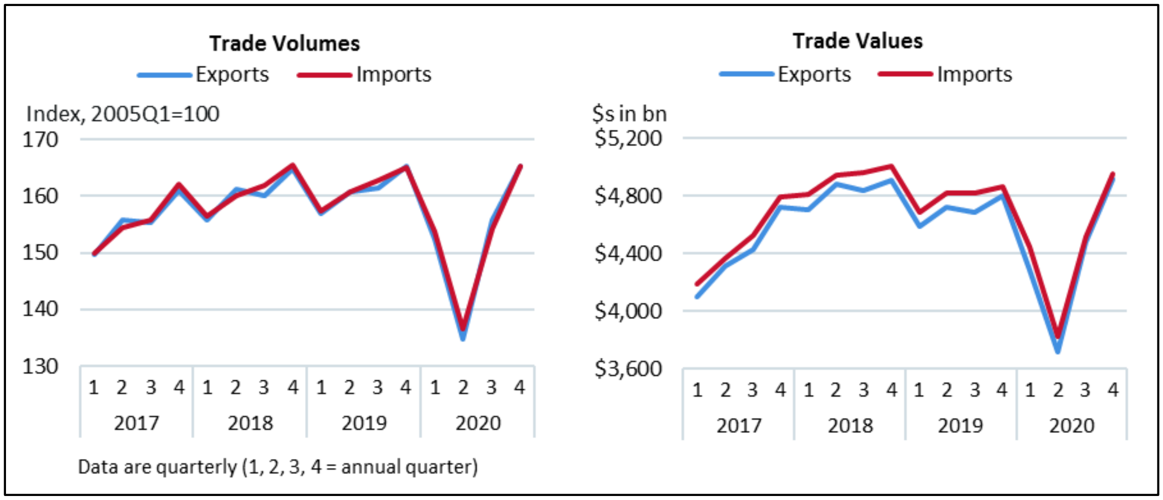
The WTO indicated in its forecast update that renewed economic lockdowns in response to a resurgence of COVID-19 cases in the fall of 2020 could shave an additional 2% to 3% percentage points off the annual global GDP growth rate in 2021 and negatively affect global trade. In addition, the WTO estimated that uncertainty over additional fiscal measures and relatively high rates of unemployment could reduce global merchandise trade growth by up to 4% in 2021. By region, the WTO forecast indicated that Europe and North America could experience the largest declines in the rate of growth of trade volumes, while Asia would experience the smallest decline in the growth rate of trade volumes, primarily based on a projected increase in trade by China.

The WTO reported in its June 29, 2020 report on G-20 trade measures that during the mid-October 2019 to mid-May 2020 period, countries had made "significant" progress in facilitating imports, including products related to COVID-19.[131] According to the report, various governments initially responded to the pandemic by introducing new trade restrictive measures, 90% of which were export bans on medical products, such as surgical masks, gloves, medicine and disinfectant. Since then, the WTO indicated that G20 economies have repealed 36% of the restrictions and lowered barriers to imports of many pandemic-related products. As of mid-May 2020, the WTO reported that 65 of the 93 pandemic-related trade measures implemented during the monitoring period were of a trade-facilitating measures, rather than trade-restricting measures.[132]

[131] WTO Report on G20 Shows Moves to Facilitate Imports Even as Trade Restrictions Remain Widespread, *World Trade Organization*, June 29, 2020. https://www.wto.org/english/news_e/news20_e/trdev_29jun20_e.htm.

[132] *Report on G20 Trade Measures (Mid-October 2019 to Mid-May 2020)*, World Trade Organization, June 29, 2020.

Figure 7. WTO Estimates of Quarterly Global Exports and Imports, Volumes and Values



Source: World Trade Organization, March 31, 2021. Created by CRS.

In its April 2020 forecast, the WTO presented two estimates of global growth, reflecting the high degree of uncertainty concerning the length and economic impact of the pandemic. According to the WTO, the more optimistic scenario assumed that trade volumes would recover quickly in the second half of 2020 to their pre-pandemic trend, or that the global economy would experience a V-shaped recovery. In comparison, the more pessimistic scenario assumed there would be a partial recovery in global trade that lasted into 2021, or that global economic activity would experience a U-shaped recovery. The updated forecast reflects the WTO's estimate that global trade volumes in 2020 will not fall by as much as it had projected under both of the scenarios in its April 2020 forecast. The WTO concluded, however, that the impact on global trade volumes could exceed the drop in global trade during the height of the 2008-2009 financial crisis.[133]

Table 8. WTO Forecast: Merchandise Trade Volume and Real GDP 2020-2021

Annual percentage change

	Optimistic scenario (April 2020)		Pessimistic scenario (April 2020)		Forecast scenario (October 2020)		Forecast scenario (March 2021		
	2020	2021	2020	2021	2020	2021	2020	2021	2022
Volume of world merchandise trade	-12.9%	21.3%	-31.9%	24.0%	-9.2%	7.2%	-5.3%	8.0%	4.0%
Exports									
North America	-17.1	23.7	-40.9	19.3	-14.7	10.7	-8.5	7.7	5.1
South and Central America	-12.9	18.6	-31.3	14.3	-7.7	5.4	-4.5	3.2	2.7
Europe	-12.2	20.5	-32.8	22.7	-11.7	8.2	-8.0	8.3	3.9
CIS							-3.9	4.4	1.9
Africa							-8.1	8.1	3

[133] *Trade Set to Plunge as COVID-19 Pandemic Upends Global Economy*, World Trade Organization, April 8, 2020. https://www.wto.org/english/news_e/pres20_e/pr855_e.htm.

	Optimistic scenario (April 2020)		Pessimistic scenario (April 2020)		Forecast scenario (October 2020)		Forecast scenario (March 2021		
	2020	2021	2020	2021	2020	2021	2020	2021	2022
Middle East							-8.2	12.4	5.0
Asia	-13.5	24.9	-36.2	36.1	-4.5	5.7	0.3	8.4	3.5
Other regions	-8.0	8.6	-8.0	9.3	-9.5	6.1			
Imports									
North America	-14.5	27.3	-33.8	29.5	-8.7	6.7	-6.1	11.4	4.9
South and Central America	-22.2	23.2	-43.8	19.5	-13.5	6.5	-9.3	8.1	3.7
Europe	-10.3	19.9	-28.9	24.5	-10.3	8.7	-7.6	8.4	3.7
CIS							-4.7	5.7	2.7
Africa							-8.8	5.5	4
Middle East							-11.3	7.2	4.5
Asia	-11.8	23.1	-31.5	25.1	-4.4	6.2	-1.3	5.7	4.4
Other regions	-10	13.6	-22.6	18.0	-16.0	5.6			
World Real GDP at market exchange rates	-2.5	7.4	-8.8	5.9	-4.8	4.9	-3.8	5.1	3.8
North America	-3.3	7.2	-9.0	5.1	-4.4	3.9	-4.1	5.9	3.8
South and Central America	-4.3	6.5	-11	4.8	-7.5	3.8	-7.8	3.8	3.0
Europe	-3.5	6.6	-10.8	5.4	-7.3	5.2	-7.1	3.7	3.6
CIS							-0.5	1.0	1.2
Africa							-2.9	2.6	3.8
Middle East							-6.0	2.4	3.5
Asia	-0.7	8.7	-7.1	7.4	-2.4	5.9	-1.1	6.1	4.1
Other regions	-1.5	6.0	-6.7	5.2	-5.5	3.5			

Source: *World Trade Primed for Strong but Uneven Recovery After COVID-19 Pandemic Shock*, World Trade Organization, March, 31, 2021.

Note: Data for 2021 and 2022 are projections; GDP projections are based on scenarios simulated with the WTO Global Trade Model. In the April and October forecasts, the CIS countries, Africa, and the Middle East were grouped together as "Other Regions.. CIS is the Commonwealth of Independent States: Azerbaijan, Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Uzbekistan, and Ukraine.

The WTO's various forecasts indicate that all geographic regions could experience a rise in trade volumes in 2021 and 2022 compared with 2020, while North America and Europe could experience a percentage increase in trade volumes in 2021 comparable to the decline in volumes in percentage terms experienced in 2020. The forecast also projected that sectors with extensive value chains, such as automobile products and electronics, could experience the steepest declines in 2020. Although services were not included in the WTO forecast, this segment of the economy could experience the largest disruption as a consequence of restrictions on travel and transport and the closure of retail and hospitality establishments. Such services as information technology, however, were growing to satisfy the demands of employees working from home.

The pandemic also raised questions about the costs and benefits of the global supply chains that businesses have erected over the past three decades. Evidence indicates that growth in supply chains had slowed prior to the pandemic, but there is little consensus on the long-term impact of the crisis. According to a December 2020 report by DHL and the New York University Stern Scholl of Business, global interconnectedness comprises four distinct types of transactions: trade, capital, information, and people.[134] This analysis concluded that the pandemic affected cross-border movements of people in response to travel restrictions and in trade through a sharp contraction in the global economy. Capital flows also dropped during 2020 as a result of lower corporate earnings, business travel restrictions, negative business prospects, and concerns over global supply chains.[135]

In some cases, businesses have been reassessing their exposure to the risks posed by extensive supply chains that potentially are vulnerable to numerous points of disruption. Also, some governments have been assessing the risks supply chains pose to national supplies of items considered to be important to national security as a result of firms locating or shifting production offshore. For multinational businesses, changing suppliers and shifting production locations can be especially costly for some firms and can introduce additional risks.[136] In addition, businesses may be reluctant to relocate from production locations, such as China, that not only serve as production platforms, but are also important markets for their output. For instance, the Bureau of Economic Analysis (BEA) reports that 10% of the global sales of the majority-owned foreign affiliates of U.S. parent companies is shipped back to the U.S. parent company. In contrast, 60% of such sales take place in the foreign country where the affiliate is located and another 30% is shipped to other foreign countries in close proximity. For China, about 6% of the sales of the majority-owned foreign affiliates of U.S. parent companies are shipped to the U.S. parent, while 82% is sold in China and another 12% is shipped to other foreign countries.[137]

Beyond the current challenges the pandemic poses to global supply chains, a recent report catalogues a number of risks that can disrupt supply chains.[138] The report estimates that 16% to 26% of global goods exports, worth $2.9 trillion to $4.6 trillion, potentially could move to new countries over the next five years "if companies restructure their supplier networks." The report concluded, however, that the pandemic so far had not reshaped global production networks in dramatic ways, because the networks reflect, "economic logic, hundreds of billions of dollars' worth of investment, and long-standing supplier relationships."[139] In addition, the report concluded that although firms can shift production locations, the interconnected nature of these chains "limits the economic case for making large-scale changes in their physical location."[140] Instead of shifting production locations, firms are considering a number of strategies to withstand the challenges of a global economy by increasing sources of raw materials and critical materials,

[134] Altman, Steven A. and Phillip Bastian, *DHL Global Connectedness Index 2020*, 2020

[135] Ibid, p. 32.

[136] Beattie, Alan, Will Coronavirus Pandemic Finally Kill Off Global Supply Chains?, *Financial Times*, May 28, 2020. https://www.ft.com/content/4ee0817a-809f-11ea-b0fb-13524ae1056b.

[137] *Activities of U.S. Multinational Enterprises: U.S. Parent Companies and Their Foreign Affiliates, Preliminary 2017 Statistics*, Bureau of Economic Analysis, August 23, 2019, Table II.E.2. https://www.bea.gov/news/2019/activities-us-multinational-enterprises-2017.

[138] *Risk, Resilience, and Rebalancing in Global Value Chains*, McKinsey Global Institute, August 2020, p. 1

[139] Ibid, p. 2.

[140] Ibid, In Brief.

expanding and diversifying supplier bases, investing in suppliers to upgrade their capabilities, and regionalizing supply chains, among a number of possible actions.[141]

Amidst the decline in global trade, 15 countries, including Brunei, Colombia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, Vietnam. Australia, China, Japan, New Zealand, and South Korea, signed the Regional Comprehensive Economic Partnership (RCEP) on November 15, 2020, to create potentially one of the largest free trade agreements.[142] The agreement needs to be ratified by at least six ASEAN countries and three non-ASEAN countries. This agreement follows by two years the conclusion of negotiations over the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) that replaced the proposed Trans-Pacific Partnership agreement after the United States pulled out of the negotiations. The agreement includes Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, and Vietnam. The UK reportedly has applied to join the trade agreement.

Global Foreign Investment

According to the United Nations Conference on Trade and Development (UNCTAD), global foreign direct investment inflows fell by 42% in 2020 compared with the same period in 2019, with continued weakness expected in 2021, as indicated in **Figure 8**.[143] Global inflow totals were driven in large part by the decline in foreign investment inflows to developed economies, which fell by 69%. Inflows to Europe fell to -$4 billion, compared with inflows in 2019 of $344 billion. In contrast, inflows to developing economies fell by 12% over the period, aided in large part by positive inflows to China. Investment flows to developing Asia, at $476 billion, dropped by 4% compared with 2019 and accounted for about half the total $859 billion global direct investment inflows in 2020.

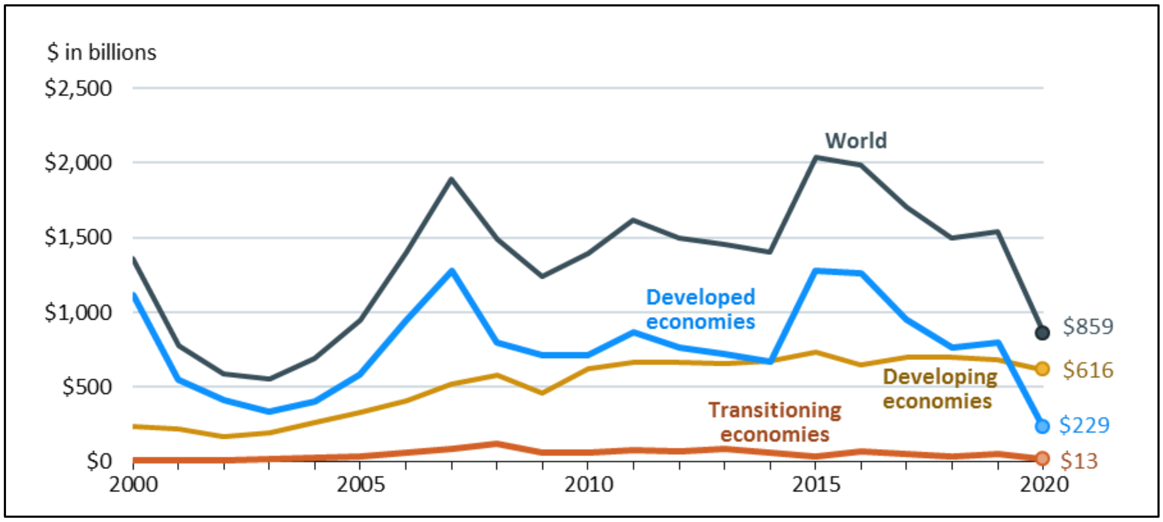
[141] *Risk, Resilience, and Rebalancing in Global Value Chains*, p. 16.

[142] Shih, Gerry, and Simon Denyer, As Trump Era Ends, Massive New Asian Trade Deal Leaves U.S. on the Sidelines, *Washington Post*, November 16, 2020. https://www.washingtonpost.com/world/asia_pacific/trade-china-trump-obama-asia/2020/11/16/f02f43e4-27b7-11eb-9c21-3cc501d0981f_story.html.

[143] *Investment Trends Monitor*, United Nations Conference on Trade and Development, January, 2021.

Figure 8. Foreign Direct Investment Inflows by Major Country Groups

Inflows in $ billions



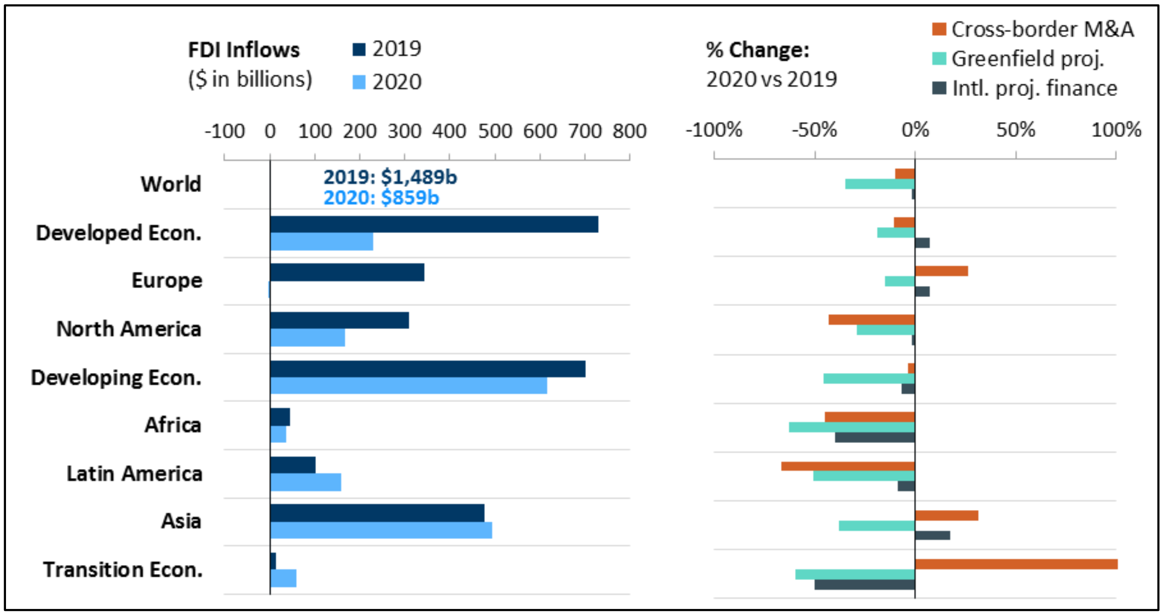
Source: United Nations Conference on Trade and Development. Created by CRS.

As indicated in **Figure 9**, all major geographic areas except Asia experienced a drop in foreign direct investment inflows in 2020 compared with 2019.[144] This drop in foreign investment was apparent in the three major types of foreign investment: cross-border investments; greenfield investment, or investment in new business activity; and international project finance. In the three types of investment activity, global activity fell by 10%, 35%, and 2%, respectively in 2020 compared with 2019. Cross-border merger and acquisition (M&A) activity increased by 31% and 147%, respectively, in Asia and Transition economies, but declined by 11% in developed economies and 67% in Latin America. International project finance, reportedly an important source of infrastructure finance, fell globally by 2%, but rose by 7% in developed economies, primarily in Europe, and by 17% in Asia.

[144] *Investment Trends Monitor*, United Nations Conference on Trade and Development, January 24, 2021.

Figure 9. Global Foreign Direct Investment Inflows

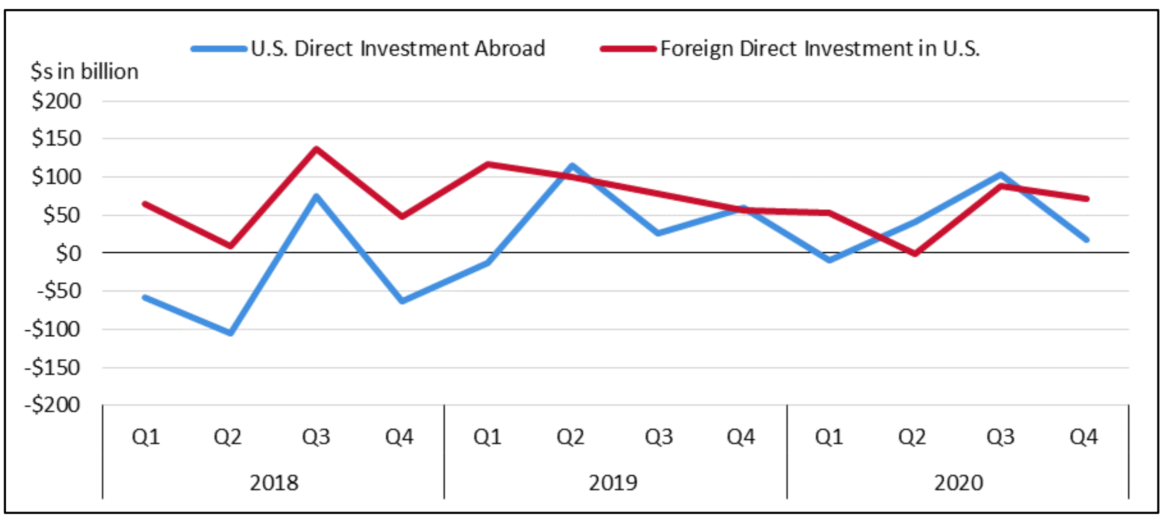
In billions of dollars and percentage change



Source: United Nations Conference on Trade and Development. Created by CRS.

For the United States, BEA reported that U.S. direct investment abroad (outflows) and foreign direct investment in the United States (inflows) fell by 74% and 89%, respectively, in the first half of 2020 compared with the first half of 2019, as indicated in **Figure 10**.[145] The lower investment numbers reflect, in part, the lower values for equity, mirroring the declines in major equity markets in the first half of 2020. For 2020 as a whole, U.S. direct investment outflows fell by 19%, while foreign direct investment inflows fell by 40%.

Figure 10. U.S. Direct Investment; Inflows and Outflows



Source: Bureau of Economic Analysis, Created by CRS.

[145] *U.S. International Transactions, Fourth Quarter and Year 2020*, Bureau of Economic Analysis, March 23, 2020.

Notes: In the balance of payments, direct investment outflows are represented as a negative value, indicating an outflow and direct investment inflows are represented as positive values. For presentation purposes, the signs for direct investment abroad, or outflows, have been reversed.

Economic Policy Challenges

The challenge for policymakers has been one of implementing targeted policies that address what had been expected to be short-term problems without creating distortions in economies that can outlast the impact of the virus itself. Policymakers, however, have been overwhelmed by the quickly changing nature of the global health crisis that turned into a global trade and economic crisis. During the initial stages of the pandemic, policymakers weighed the impact of policies that addressed the immediate economic effects at the expense of longer-term considerations such as debt accumulation. As the pandemic persisted, however, policymakers adopting additional fiscal or monetary measures, in particular, that could complicate the economic impact of the policies after the pandemic resides. Initially, many policymakers felt constrained in their ability to respond to the crisis as a result of limited flexibility for monetary and fiscal support within conventional standards, given the broad-based synchronized slowdown in global economic growth, especially in manufacturing and trade, that had developed prior to the viral outbreak. The pandemic has also affected global politics as world leaders cancelled international meetings,[146] nations began competing for medical supplies, and some nations reportedly stoked conspiracy theories that shifted blame to other countries.[147]

Initially, the economic effects of the virus were expected to be short-term supply issues as factory output fell because workers were quarantined to reduce the spread of the virus through social interaction. The drop in economic activity, initially in China, has had international repercussions as firms experienced delays in supplies of intermediate and finished goods through supply chains. Concerns grew, however, that virus-related supply shocks created more prolonged and wide-ranging demand shocks as reduced activity by consumers and businesses leads to a lower rate of economic growth. As demand shocks unfold, businesses experience reduced activity and profits and potentially escalating and binding credit and liquidity constraints. While manufacturing firms experienced supply chain shocks, reduced consumer activity through social distancing affected the services sector of the economy, which accounts for two-thirds of annual U.S. economic output. In this environment, manufacturing and services firms initially tended to hoard cash, which affected market liquidity. In response, the Federal Reserve, along with other central banks, lowered interest rates where possible and expanded lending facilities to provide liquidity to financial markets and to firms potentially facing insolvency.

As the economic effects have persisted, their impact has spread through trade and financial linkages to an ever-broadening group of countries, firms and households. These growing economic effects potentially increased liquidity constraints and credit market tightening in global financial markets as firms hoarded cash, with negative fallout effects on economic growth. At the same time, financial markets had been factoring in an increase in government bond issuance in the United States, Europe, and elsewhere as government debt levels began rising to meet spending obligations during an expected economic recession and increased fiscal spending to fight the effects of COVID-19. Unlike the 2008-2009 financial crisis, reduced demand by

[146] Taylor, Adam, Teo Armus, and Rick Noak, "Live updates: COVID-19 Turmoil Widens as U.S. Death Toll Mounts; Xi Cancels Japan Trip, *Washington Post*, March 5, 2020, https://www.washingtonpost.com/world/2020/03/05/COVID-19-live-updates/.

[147] Shih, Gerry, "China Is Subtly Stoking COVID-19 Conspiracy Theories That Blame the U.S. for Outbreak," *Washington Post*, March 5, 2020. https://www.washingtonpost.com/world/2020/03/05/COVID-19-live-updates/.

consumers, labor market issues, and a reduced level of activity among businesses, rather than risky trading by global banks, led to corporate credit issues and potential insolvency. These market dynamics led some observers at the time to question if these events marked the beginning of a full-scale global financial crisis.[148]

Liquidity and credit market issues presented policymakers with a different set of challenges than addressing supply-side constraints. As a result, the focus of government policy expanded from a health crisis to macroeconomic and financial market issues that were addressed through a combination of monetary, fiscal, and other policies, including border closures, quarantines, and restrictions on social interactions. Essentially, while businesses attempted to address worker and output issues at the firm level, national leaders attempted to implement fiscal policies to prevent economic growth from contracting sharply by assisting workers and businesses that faced financial strains, and central bankers adjusted monetary policies to address mounting credit market issues.

In the initial stages of the health crisis, households did not experience the same kind of wealth losses they saw during the 2008-2009 financial crisis when the value of their primary residence dropped sharply. However, as unemployment numbers rose, job losses resulted in defaults on mortgages and delinquencies on rent payments, requiring some financial institutions to provide loan forbearance or other mechanism to provide financial assistance. In turn, mortgage defaults threatened to negatively affect the market for mortgage-backed securities, the availability of funds for mortgages, and negatively affect the overall rate of economic growth. Losses in the value of most equity markets in the U.S., Asia, and Europe also affect household wealth, especially that of retirees living on a fixed income and others who own equities. Investors that trade in mortgage-backed securities reportedly reduced their holdings while the Federal Reserve attempted to support the market.[149] In the initial stages of the crisis, even traditional policy tools, such as monetary accommodation, apparently were not always processed by markets in a traditional manner, with equity market indices displaying heightened, rather than lower, levels of uncertainty following the Federal Reserve's cut in interest rates. Such volatility added to uncertainties about what governments could do to address weaknesses in the global economy.

Major Economic Developments

Between late February 2020 and January 2021, financial markets from the United States to Asia and Europe were whipsawed as investors alternated between optimism and pessimism amid concerns that COVID-19 would create a global economic and financial crisis with few metrics to indicate how prolonged and extensive the economic effects could be.[150] Investors searched for safe-haven investments, such as the benchmark U.S. Treasury 10-year security, which experienced a historic drop in yield to below 1% on March 3, 2020.[151] In response to concerns that the global economy was in a freefall, the Federal Reserve lowered key interest rates on

[148] Foroohar, Rana, "How COVID-19 Became a Corporate Credit Run," *Financial Times*, March 15, 2020. https://www.ft.com/content/f1ea5096-6531-11ea-a6cd-df28cc3c6a68.

[149] Armstrong, Robert, "Mortgage Investment Funds Become 'Epicenter' of Crisis," *Financial Times*, March 24, 2020. https://www.ft.com/content/18909cda-6d40-11ea-89df-41bea055720b.

[150] Samson, Adam and Hudson Lockett, "Stocks Fall Again in Worst Week Since 2008 Crisis," *Financial Times*, February 28. https://www.ft.com/content/4b23a140-59d3-11ea-a528-dd0f971febbc.

[151] The price and yield of a bond are inversely related; increased demand for Treasury securities raises their price, which lowers their yield. Levisohn, Ben, "The 10-Year Treasury Yield Fell Below 1% for the First Time Ever. What That Means," *Barrons*, March 3, 2020. https://www.barrons.com/articles/the-10-year-treasury-yield-fell-below-1-for-the-first-time-ever-what-that-means-51583267310.

March 3, 2020, to shore up economic activity, while the Bank of Japan engaged in asset purchases to provide short-term liquidity to Japanese banks; Japan's government indicated it would also assist workers with wage subsidies. The Bank of Canada also lowered its key interest rate. The International Monetary Fund (IMF) announced that it was making about $50 billion available through emergency financing facilities for low-income and emerging market countries and through funds available in its Catastrophe Containment and Relief Trust (CCRT).[152]

Financial Markets

Reflecting investors' uncertainties, the DJIA lost about one-third of its value between February 14, 2020, and March 23, 2020, as indicated in **Figure 11**. Expectations that the U.S. Congress would adopt a $2.0 trillion spending package moved the DJIA up by more than 11% on March 24, 2020. From March 23 to April 15, the DJIA moved higher by 18%, paring its initial losses by half. Since then, the DJIA trended upward, but moved erratically at times as investors weighed news about the human cost and economic impact of the pandemic and the prospects of various medical treatments. Between March 23 and July 1, the DJIA regained 70% of the value lost during the February to March decline. On Monday, November 9, the DJIA gained over 800 points, or nearly three percentage points, as markets responded positively to press reports that an effective COVID-19 vaccine had been developed. On November 10, the DJIA rose above 29,400 for the first time since the index fell in February 2020. Between January 1, 2021, and February 4, 2021, the DJIA increased by about 3.0%, continuing a rise in the index of 17% since the end of October 2020. Through April, 2021, the DJIA had gained more than 12% in value and was 16% higher than the value on February 14, 2020.

As indicated in **Table 9**, the DJIA lost the largest part of its market valuation in trading during February and March when the index lost nearly one-fourth of its value as more trading sessions ended with overall market values lower than higher. Since March, the index has posted more trading sessions that closed with positive gains than losses. By October 23, the DJIA had recovered most of the value lost in February and March. During the final week of October, the DJIA lost more than 1,800 points, the largest weekly loss since March 2020 as Germany, France and other European countries reinstituted lockdowns in response to a resurgence of COVID-19 cases. In the first three days of November, however, the Index regained three-fourths of the value it lost the previous week. During the first four months of 2021, the DJIA has gained 12% in value.

Announcements of vaccines portending a resurgence of economic activity boosted market sentiment in November and December with the DJIA rising by over a combined 3,700 points or by nearly 14%. In January 2021, the DJIA dropped by about 1% with more trading days ending with the index down than days with the index up from the previous day. For some policymakers, the drop in equity prices in February and March raised concerns that foreign investors might attempt to exploit the situation by increasing their purchases of firms in sectors considered important to national security. For instance, Ursula von der Leyen, president of the European Commission, urged EU members to better screen foreign investments, especially in areas such as health, medical research, and critical infrastructure.[153]

[152] Georgieva, Kristalina, "Potential Impact of the COVID-19 Epidemic: What We Know and What We Can Do," *International Monetary Fund*, March 4, 2020. https://blogs.imf.org/2020/03/04/potential-impact-of-the-COVID-19-epidemic-what-we-know-and-what-we-can-do/.

[153] Chazan, Guy and Jim Brunsden, "COVID-19 Crisis Pushes Europe into Nationalist Economic Turn," *Financial Times*, March 26, 2020. https://www.ft.com/content/79c0ae80-6df1-11ea-89df-41bea055720b.

Table 9. Dow Jones Industrial Average Market Changes by Month

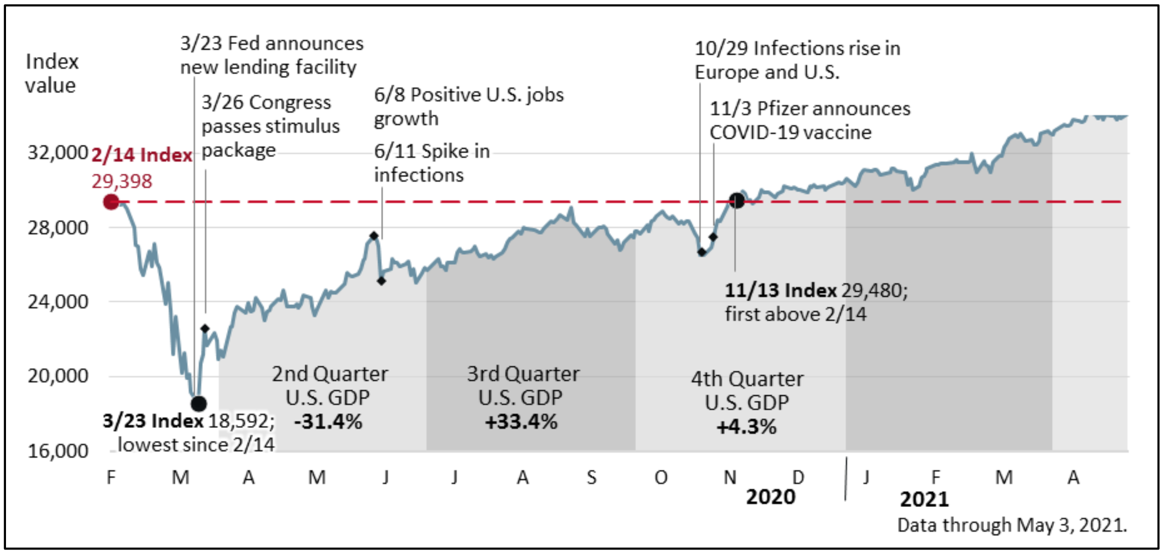
	Sessions up	Sessions down	Open	Close	Change in index valuation	
January	13	8	28,638.97	28,256.03	-382.94	-1.34%
February	8	11	28,319.65	25,409.36	-2,910.29	-10.28%
March	10	12	25,590.51	21,917.16	-3,673.35	-14.35%
April	12	9	21,227.38	24,345.72	3,118.34	14.69%
May	10	10	24,120.78	25,383.11	1,262.33	5.23%
June	14	8	25,342.99	25,812.88	469.89	1.85%
July	13	9	25,879.38	26,428.32	548.94	2.12%
August	14	7	26,542.32	28,430.05	1,887.73	7.11%
September	12	9	28,439.61	27,781.70	-657.91	-2.31%
October	10	12	27,816.90	26,501.60	-1,315.30	-4.73%
November	12	8	26,691.28	29,638.64	2,947.36	11.04%
December	14	8	29,707.50	30,606.48	808.98	2.71%
January 2021	8	11	30,223.89	29,981.10	-242.79	-0.80%
February	15	5	30,054.73	30,932.37	877.64	2.92%
March	13	10	31,065.90	32,981.55	1,915.65	6.17%
April	12	8	33,054.58	33,874.85	820.27	2.48%

Source: *Financial Times*, calculations by CRS.

Similar to the 2008-2009 global financial crisis, central banks implemented a series of monetary operations to provide liquidity to their economies. These actions, however, initially were not viewed entirely positively by all financial market participants who questioned the use of policy tools by central banks that were similar to those employed during the 2008-2009 financial crisis, despite the fact that the current and previous crisis are fundamentally different in origin. During the previous financial crisis, central banks intervened to restart credit and spending by banks that had engaged in risky assets. In the current environment, central banks attempted to address financial market volatility and prevent large-scale corporate insolvencies that reflected the underlying economic uncertainty caused by the pandemic.

Figure 11. Dow Jones Industrial Average

February 14, 2020, through May 3, 2021



Source: *Financial Times*. Created by CRS.

International Role of the Dollar

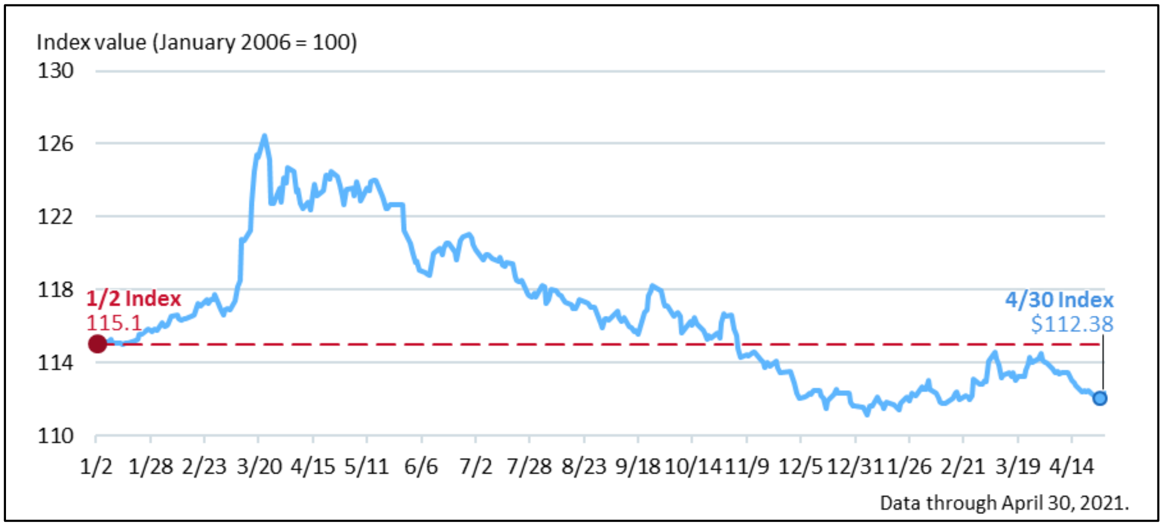
Similar to conditions during the 2008-2009 financial crisis, the dollar emerged as the preferred currency by investors, reinforcing its role as the dominant global reserve currency. As indicated in **Figure 12**, the dollar appreciated more than 3.0% during the period between March 3 and March 13, 2020, reflecting increased international demand for the dollar and dollar-denominated assets. Since the highs reached on March 23, the exchange value of the dollar has dropped between 1% and 2% per month in a slow decline as financial strains have eased and demand for the dollar in international financial markets has lessened.

Between mid-May and mid-June, the dollar lost about 3% of its value relative to the currencies of other major trading partners and was equal to its value in mid-March. During July, the dollar lost over 2% of its value against the currencies of major trading partners, about where it was in mid-March. By mid-October, the trade-weighted value of the dollar had declined by 8% from the highest values reached in March and nearly matched the value it recorded at the beginning of 2020. On November 5, the dollar index returned to the value reported on January 2, 2020 and has remained below that value since. By the end of January 2021, the dollar had depreciated by more than 11% from the highest value it reached in March 2020. The development of COVID-19 vaccines likely affects the value of the dollar in various ways, including factors that tend to appreciate the dollar as a result of renewed economic growth in the United States and opposing forces that tend to depreciate the dollar if demand declines for the dollar as a safe-haven currency. Despite the appreciation and subsequent depreciation of the dollar through 2020 and 2021 by the end of April, 2021, the dollar was down 2% compared with the value on January 2, 2020. In part, the resolution of the UK's withdrawal from the EU has strengthened both the Euro and the pound, tending to depreciate the value of the dollar. The decline in the value of the dollar reportedly has pushed some countries to consider intervening to weaken their currencies.[154]

[154] Szalay, Eva, Central Banks Take Rare Step of Flagging Currency Sales in Advance, *Financial Times*, February 3, 2021. https://www.ft.com/content/0383f3a4-41a0-464a-b831-fd1a09a6b1b0.

Figure 12. U.S. Dollar Trade-Weighted Broad Index, Goods and Services

January 2, 2020, through April 30, 2021



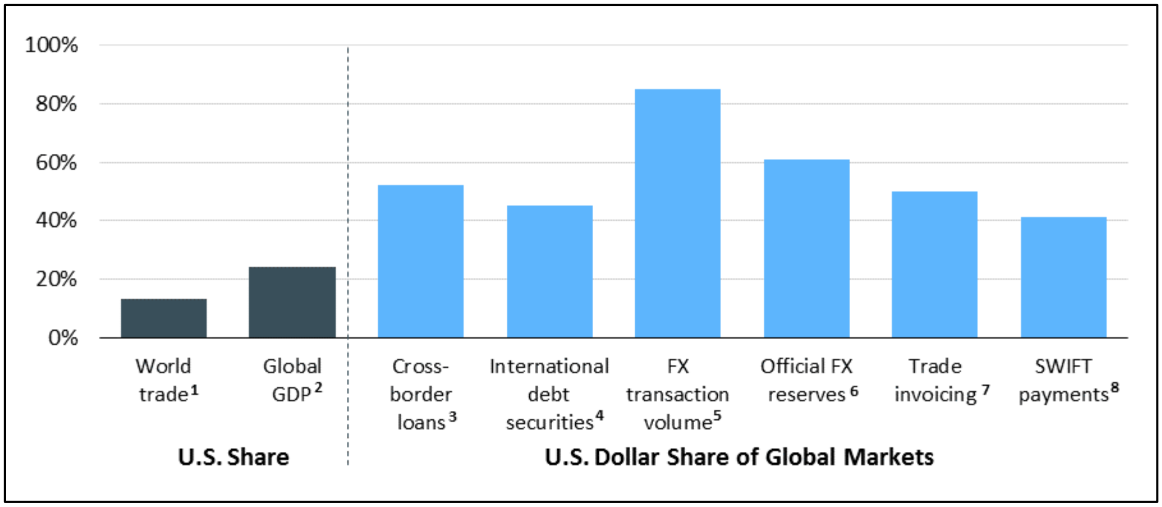
Source: St. Louis Federal Reserve Bank. Created by CRS.

The Bank for International Settlements (BIS) emphasized the role of the dollar as a dominant global currency in its 2019 triennial survey of currency markets.[155] According to the survey, the dollar accounts for 88% of global foreign exchange market turnover and is key in funding an array of financial transactions, including serving as an invoicing currency to facilitate international trade, as indicated in **Figure 13**. It also accounts for about 60% of central bank foreign exchange holdings, half of non-U.S. banks foreign currency deposits, and two-thirds of non-U.S. corporate borrowings from banks and the corporate bond market.[156] In comparison, the United States accounts for about one-fourth of global GDP and about one-fifth of global trade (exports plus imports).

[155] *Foreign Exchange Turnover in April 2019*, Bank for International Settlements, September 16, 2019. https://www.bis.org/statistics/rpfx19_fx.htm.

[156] See CRS In Focus IF10112, *Introduction to Financial Services: The International Foreign Exchange Market*.

Figure 13. International Role of the Dollar



Source: *U.S. Dollar Funding: An International Perspective*, CGFS Papers No. 65, Bank for International Settlements, June 2020. Created by CRS.

Notes: (1) Data refer to 2019. (2) Data refer to 2019. (3) US dollar-denominated cross-border loans by banks to counterparties in all countries; data refer to Q4 2019 (excluding interoffice claims but including interbank claims on account of loans and deposits); loans comprise nonnegotiable debt instruments that are loaned by creditors directly to a debtor or represented by evidence of a deposit. (4) US dollar denominated international debt securities by all issuers; data refer to Q4 2019; these securities are issued outside the local market of the country where the borrower resides, and capture issues conventionally known as eurobonds and foreign bonds and exclude negotiable loans; instruments such as bonds, medium-term notes and money market instruments are included. (5) Data refer to 2019. (6) Data refer to Q4 2019. (7) As estimated in Gopinath (2015). (8) Data refer to February 2020. Sources: Gopinath (2015); Federal Reserve; IMF; CPB World Trade Monitor; Bloomberg; SWIFT; BIS Triennial Central Bank Survey of Foreign Exchange and Over-the-counter (OTC) Derivatives Markets; BIS locational banking statistics (LBS).

As a result of dominant role of the dollar as a global reserve currency, disruptions in the smooth functioning of the global dollar market can have wide-ranging repercussions on international trade and financial transactions. A June 2020 report by BIS stresses the central role of the dollar in the global economy. The report concludes that dollar funding activities are highly complex, geographically dispersed, and interconnected in ways that provide benefits to the stability of the global financial system. This also means, however, that strains in the system can easily be transmitted across different financial markets and across regions.[157]

In addition, the dominant role of the dollar in international trade pricing and trade financing means the dollar plays a key role in the global economic recovery and that it could amplify the impact of the pandemic, according to the IMF.[158] Traditionally, most economic models are based on the assumption that countries set their prices in their home currencies. As a result, domestically produced goods and services become cheaper for trading partners when the domestic currency weakens, leading to increased demand from trading partners and more exports. However, much international trade, including many commodities, is priced in dollars, which means that trade volumes respond less than they would if goods were priced in exporters' home currencies. Limited evidence indicates that a significant share of bilateral trade between countries

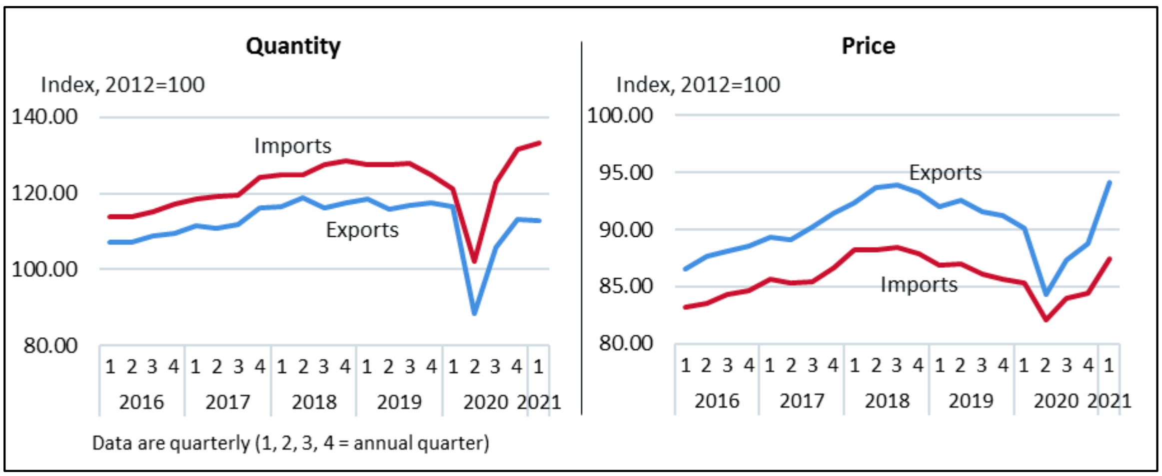
[157] Bank for International Settlements, *U.S, Dollar Funding: An International Perspective*, CGFS Papers, No. 65, June 2020, p. 52. https://www.bis.org/publ/cgfs65.htm.

[158] *Dominant Currencies and External Adjustment*, IMF Staff Discussion Note 20/05, International Monetary Fund, July 2020.

other than the United States is invoiced in U.S. dollars.[159] As a result, an appreciation of the dollar against other currencies, or a weakening in other currencies, has a muted effect on exports by other countries, at least in the short run, as has been evident in recent movements in exchange rates and trade volumes of emerging market and developing economies. The IMF also concluded that because countries other than the United States price much of their trade in dollars, an appreciation in the value of the dollar, or a depreciation in the value of other currencies relative to the dollar, reduces both exports and imports. As a result, a depreciation in other currencies relative to the dollar provides less of a boost in their exports and, therefore, less of a countercyclical support.

Together, these effects translate into movements in the exchange value of the dollar that at times contrasts with traditional theory, since such movements do not affect trade volumes as might be expected. For instance, after appreciating in March 2020, the trade-weighted value of the dollar steadily depreciated through December. In standard models, the depreciation in the dollar would be expected to lower export prices and, in turn, increase demand for U.S. exports, or increase the volume of exports, while import volumes would be expected to decline along with the rising price of foreign currencies relative to the dollar. GDP data through the third quarter indicate, however, that U.S. trade dropped sharply in real, or index terms, in both the quantity of goods exported or imported and in the value of those goods, as indicated in **Figure 14**.

Figure 14. Quarterly Price and Quantity Indexes, U.S. Goods Exports and Imports



Source: Bureau of Economic Analysis. Created by CRS.

Notes: 2012 = 100.

BEA data show the sharp drop in U.S. trade volumes for both exports and imports in the first and second quarters of 2020 compared with the previous quarters, largely reflecting the global economic recession due to policy actions to contain the spread of the viral pandemic, as indicated in **Table 10**. In quantity terms, U.S. export and import volumes fell by 24% and 16%, respectively, in the second quarter, compared with the preceding quarter.[160] In value terms, the price of U.S. exports fell by 6.5%, while the price of imports fell by 3.8% in the second quarter compared with the first quarter. In the third quarter, both export and import volumes increased by about 20% in volume terms, while export and import prices rose by 3.7% and 2.3%, respectively, despite a depreciation in the dollar. In the fourth quarter, U.S. export and import prices increased slightly, while export and import volumes both increased by 7.0%. As a result, the overall value

159 Ibid, p. 8.

160 *Gross Domestic Product, First Quarter, 2021 (Advance Estimate)*, Bureau of Economic Analysis, April 29, 2021.

of exports and imports rose slightly less than 5% in the fourth quarter of 2020. According to U.S. balance of payments data, the overall annual value of U.S, goods exports and imports (the combined changes in prices and volumes) dropped by 35% and 16%, respectively year-over-year (2020 compared to 2019).

In the first quarter of 2021, U.S. export volumes fell slightly, while import volumes rose by1.4%. Export and import price indexes both rose, reflecting an increase in petroleum export prices of 30% and a rise in petroleum import prices of 38%. Compared to the decline in exports and import volumes in the second quarter of 2020, first quarter 2021 export and import volumes were up 28% and 31%, respectively, reflecting an increase in the global rate of economic growth.

Table 10. U.S. Exports and Imports, Change in Quarterly Price and Quantity Indexes

(percent change)

	Year over Year % Change		Quarter over Quarter % Change				
	2019	2020	2020				2021
			1q	2q	3q	4q	1q
Exports							
Quantity	-0.1%	-3.6%	-0.7%	-24.1%	19.5%	7.0%	-0.2%
Price	-2.2	-2.6	-1.2	-6.5	3.7	1.7	6.0
Imports							
Quantity	-2.9	5.3	-3.0	-15.7	20.4	7.0	1.4
Price	-2.5	-1.5	0.4	-3.8	2.3	0.5	3.6

Source: Bureau of Economic Analysis. Quarterly GDP estimates, export and imports price and quantity indices. Created by CRS.

Notes: Annual changes represent percent change in 4th quarter index values over the 4th quarter of the preceding year; quarterly changes represent the change in quarterly index values over the previous quarter.

The international role of the dollar and the well-developed U.S. capital markets also provide the United States with greater latitude in financing its trade deficit. For some trade specialists, the widely accepted characterization of the current account as a product of a domestic saving-investment relationship fails to distinguish between a country's domestic saving-investment balance, its ability to finance its trade deficit, and the role of cross-border capital flows. These flows suggest that the ability of the United States to finance its trade imbalances through capital inflows eases the constraint imposed by the domestic saving-investment balance.

The international role of the dollar also increases pressure on the Federal Reserve essentially to assume the lead role as the global lender of last resort. Reminiscent of the financial crisis, the global economy has experienced a period of dollar shortage, requiring the Federal Reserve to take numerous steps to ensure the supply of dollars to the U.S. and global economies, including activating existing currency swap arrangements, establishing such arrangements with additional central banks, and creating new financial facilities to provide liquidity to central banks and monetary authorities.[161] Typically, banks lend long-term and borrow short-term and can only borrow from their home central bank. In turn, central banks can only provide liquidity in their own currency. Consequently, a bank can become illiquid in a panic, meaning it cannot borrow in

[161] Politi, James, Brendan Greeley, and Colby Smith, "Fed Sets Up Scheme to Meet Booming Foreign Demand for Dollars," *Financial Times*, March 31, 2020. https://www.ft.com/content/6c976586-a6ea-42ec-a369-9353186c05bb.

private markets to meet short-term cash flow needs. Swap lines are designed to allow foreign central banks the funds necessary to provide needed liquidity to their country's banks in dollars.

March 2020

The yield on U.S. Treasury securities dropped to historic levels on March 6, 2020, and March 9, 2020, as investors continued to move out of stocks and into Treasury securities and other sovereign bonds, including UK and German bonds, due in part to concerns over the impact the pandemic would have on economic growth and expectations the Federal Reserve and other central banks would lower short-term interest rates.[162] On March 5, the U.S. Congress passed an $8 billion spending bill to provide assistance for health care, sick leave, small business loans, and international assistance. At the same time, commodity prices dropped sharply as a result of reduced economic activity and disagreements among oil producers over production cuts in crude oil and lower global demand for commodities, including crude oil.

The drop in some commodity prices raised concerns about corporate profits and led some investors to sell equities and buy sovereign bonds. In overnight trading in various sessions between March 8, and March 24, U.S. stock market indexes moved sharply (both higher and lower), triggering automatic circuit breakers designed to halt trading if the indexes rise or fall by more than 5% when markets are closed and 7% when markets are open.[163] By early April, the global mining industry had reduced production by an estimated 20% in response to falling demand and labor quarantines and as a strategy for raising prices.[164]

Ahead of a March 12, 2020, scheduled meeting of the European Central Bank (ECB), the German central bank (Deutsche Bundesbank) announced a package of measures to provide liquidity support to German businesses and financial support for public infrastructure projects.[165] At the same time, the Fed announced that it was expanding its repo market transactions (in the repurchase market, investors borrow cash for short periods in exchange for high-quality collateral like Treasury securities) after stock market indexes fell sharply, government bond yields fell to record lows (reflecting increased demand), and demand for corporate bonds fell. Together these developments raised concerns for some analysts that instability in stock markets could threaten global financial conditions.[166]

On March 11, as the WHO designated COVID-19 a pandemic, governments and central banks adopted additional monetary and fiscal policies to address the growing economic impact. European Central Bank (ECB) President Christine Lagarde in a conference call to EU leaders warned that without coordinated action, Europe could face a recession similar to the 2008-2009 financial crisis.[167] The Bank of England lowered its key interest rate, reduced capital buffers for

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[162] Smith, Colby, Richard Henderson, Philip Georgiadis, and Hudson Lockett, "Stocks Tumble and Government Bonds Hit Highs on Virus Fears," *Financial Times*, March 6, 2020. https://www.ft.com/content/9f94d6f8-5f51-11ea-b0ab-339c2307bcd4.

[163] Georgiadis, Philip, Adam Samson, and Hudson Lockett, "Stocks Plummet as Oil Crash Shakes Financial Markets," *Financial Times*, March 9, 2020. https://www.ft.com/content/8273a32a-61e4-11ea-a6cd-df28cc3c6a68.

[164] Hume, Neil, "Mine Closures Bolster Metals Prices as Demand Collapses," *Financial Times*, April 7, 2020. https://www.ft.com/content/06ef38c9-18d8-427e-8675-a567227397c0.

[165] Chazan, Guy, David Keohane, and Martin Arnold, "Europe's Policymakers Search for Answers to Virus Crisis," *Financial Times*, March 9, 2020. https://www.ft.com/content/d46467da-61e1-11ea-b3f3-fe4680ea68b5.

[166] Smith, Colby and Brendan Greeley, "Fed Pumps Extra Liquidity Into Overnight Lending Markets," *Financial Times*, March 9, 2020. https://www.ft.com/content/e8c7b5f0-6200-11ea-a6cd-df28cc3c6a68.

[167] O'Brien, Fergal, "ECB's Lagarde Warns of 2008-Style Crisis Unless Europe Acts," *Washington Post*, March 11, 2020. https://www.bloomberg.com/news/articles/2020-03-11/ecb-s-lagarde-warns-of-2008-style-crisis-without-urgent-

UK banks, and provided a funding program for small and medium businesses. The UK Chancellor of the Exchequer also proposed a budget that would appropriate £30 billion (about $35 billion) for fiscal stimulus spending, including funds for sick pay for workers, guarantees for loans to small businesses, and cuts in business taxes. The European Commission announced a €25 billion (about $28 billion) investment fund to assist EU countries and the Federal Reserve announced that it would expand its repo market purchases to provide larger and longer-term funding to provide added liquidity to financial markets.

President Trump imposed restrictions on travel from Europe to the United States on March 12, 2020, surprising European leaders and adding to financial market volatility.[168] At its March 12 meeting, the ECB announced €27 billion (about $30 billion) in stimulus funding, combining measures to expand low-cost loans to Eurozone banks and small and medium-sized businesses and implement an asset purchase program to provide liquidity to firms. Germany indicated that it would provide tax breaks for businesses and "unlimited" loans to affected businesses. The ECB's Largarde roiled markets by stating that it was not the ECB's job to "close the spread" between Italian and German government bond yields (a key risk indicator for Italy), a comment reportedly interpreted as an indicator the ECB was preparing to abandon its support for Italy, a notion that was denied by the ECB.[169] The Fed also announced that it would increase its lending in the repo market and its purchases of Treasury securities to provide liquidity. As a result of tight market conditions for corporate bonds, firms turned to their revolving lines of credit with banks to build up their cash reserves. The price of bank shares fell, reflecting sales by investors who reportedly had grown concerned that banks would experience a rise in loan defaults.[170] Despite the various actions, the DJIA fell by nearly 10% on March 12, recording the worst one-day drop since 1987. Between February 14 and March 12, the DJIA fell by more than 8,000 points, or 28% of its value. Credit rating agencies began reassessing corporate credit risk, including the risk of firms that had been considered stable.[171]

On March 13, President Trump declared a national emergency, potentially releasing $50 billion in disaster relief funds to state and local governments. The announcement moved financial markets sharply higher, with the DJIA rising 10%.[172] Financial markets also reportedly moved higher on expectations the Fed would lower interest rates. House Democrats and President Trump agreed to a $2 trillion spending package to provide paid sick leave, unemployment insurance, food stamps,

action.

168 McAuley, James and Michael Birnbaum, "Europe Blindsided by Trump's Travel Restrictions, with Many Seeing Political Motive," *Washington Post*, March 12, 2020. https://www.washingtonpost.com/world/europe/europe-blindsided-by-trumps-travel-restrictions-with-many-seeing-political-motive/2020/03/12/42a279d0-6412-11ea-8a8e-5c5336b32760_story.html.

169 Arnold, Martin, "ECB Enters Damage-Limitation Mode with Pledge of More Action," *Financial Times*, March 13, 2020. https://www.ft.com/content/f1cbd4f8-650f-11ea-b3f3-fe4680ea68b5.

170 Morris, Stephen, Laura Noonan, Henny Sender, and Olaf Storbeck, "Banks Scramble as Companies Rush to Tap Back-up Credit Lines," *Financial Times*, March 12, 2020. https://www.ft.com/content/a3513a54-6486-11ea-b3f3-fe4680ea68b5.

171 Edgecliffe-Johnson, Andrew, Peggy Hollinger, Joe Rennison, and Robert Smith, "Will the COVID-19 Trigger a Corporate Debt Crisis?" *Financial Times*, March 12, 2020. https://www.ft.com/content/4455735a-63bc-11ea-b3f3-fe4680ea68b5. Sectors most exposed to debt financing issues include automotive, insurance, capital goods, utilities, oil and gas, technology, aerospace and defense, real estate, telecoms, consumer products, metals, mining and steel, healthcare, retail/restaurants, chemicals, packaging, transportation, media and entertainment, and forest products.

172 Fritz, Angela and Meryl Kornfield, "President Trump Declares a National Emergency, Freeing $50 Billion in Funding," *Washington Post*, March 13, 2020. https://www.washingtonpost.com/world/2020/03/13/COVID-19-latest-news.

support for small businesses, and other measures.[173] The EU indicated that it would relax budget rules that restrict deficit spending by EU members. In other actions, the People's Bank of China cut its reserve requirements for Chinese banks, potentially easing borrowing costs for firms and adding $79 billion in funds to stimulate the Chinese economy; Norway's central bank reduced its key interest rate; the Bank of Japan acquired billions of dollars of government securities (thereby increasing liquidity); and the Reserve Bank of Australia injected nearly $6 billion into its financial system.[174] The Bank of Canada also lowered its overnight bank lending rate.

The Federal Reserve lowered its key interest rate to near zero on March 15, 2020, arguing that the pandemic had "harmed communities and disrupted economic activity in many countries, including the United States" and that it was prepared to use its "full range of tools."[175] It also announced an additional $700 billion in asset purchases, including Treasury securities and mortgage-backed securities, expanded repurchase operations, activated dollar swap lines with Canada, Japan, Europe, the UK, and Switzerland, opened its discount window to commercial banks to ease household and business lending, and urged banks to use their capital and liquidity buffers to support lending.[176]

Despite the Fed's actions the previous day to lower interest rates, interest rates in the U.S. commercial paper market, where corporations raise cash by selling short-term debt, rose on March 16, 2020, to their highest levels since the 2008-2009 financial crisis, prompting investors to call on the Fed to intervene.[177] The DJIA dropped nearly 3,000 points, or about 13%. Most automobile manufacturers announced major declines in sales and production;[178] similarly, most airlines reported they faced major cutbacks in flights and employee layoffs due to diminished economic activity.[179] Economic data from China indicated the economy would slow markedly in the first quarter of 2020, potentially greater than that experienced during the global financial crisis.[180] The Bank of Japan announced that it would double its purchases of exchange traded funds and the G-7 countries[181] issued a joint statement promising "a strongly coordinated international approach," although no specific actions were mentioned. The IMF issued a statement indicating its support for additional fiscal and monetary actions by governments and that the IMF "stands ready to mobilize its $1 trillion lending capacity to help its membership."

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[173] Werner, Erica, Mike DeBonis, Paul Kane, Jeff Stein, "White House, House Democrats Reach Deal on COVID-19 Economic Relief Package, Pelosi Announces," *Washington Post*, March 13, 2020. https://www.washingtonpost.com/us-policy/2020/03/13/paid-leave-democrats-trump-deal-COVID-19/.

[174] Georgiadis, Philip, Hudson Lockett, and Leo Lewis, "European Stocks and US Futures Soar After Historic Rout," *Financial Times*, March 13, 2020. https://www.ft.com/content/3bab76ac-64cd-11ea-a6cd-df28cc3c6a68.

[175] *Federal Reserve Releases FOMC Statement*, Board of Governors of the Federal Reserve System, March 15, 2020. https://www.federalreserve.gov/newsevents/pressreleases/monetary20200315a.htm.

[176] Greeley, Brendan, Colby Smith, Adam Samson, Joe Rennison, Katie Martin, and Jennifer Ablan, "Fed Cuts Rates to Zero as Part of Sweeping Crisis Measures," *Financial Times*, March 15, 2020. https://www.ft.com/content/a9a28bc0-66fb-11ea-a3c9-1fe6fedcca75.

[177] Rennison, Joe Rennison and Colby Smith, "Investors Call for Fed Help in 'Frozen' Commercial Paper Market," *Financial Times*, March 16, 2020. https://www.ft.com/content/34213560-677b-11ea-a3c9-1fe6fedcca75.

[178] Campbell, Peter, Joe Miller, and David Keohane, "European Car Plants Close as Industry Crisis Deepens," *Financial Times*, March 16, 2020. https://www.ft.com/content/dd76d42a-678b-11ea-a3c9-1fe6fedcca75.

[179] Smyth, Jamie Smyth, Andrew Edgecliffe-Johnson, Peggy Hollinger, Myles McCormick, David Keohane, and Richard Milne, "Most Airlines Face Bankruptcy by End of May, Industry Body Warns," *Financial Times*, March 16, 2020. https://www.ft.com/content/30a3a26e-674f-11ea-800d-da70cff6e4d3.

[180] Weinland, Don and Xinning Liu, "Chinese Economy Suffers Record Blow from COVID-19," *Financial Times*, March 16, 2020. https://www.ft.com/content/318ae26c-6733-11ea-800d-da70cff6e4d3.

[181] The G-7 comprises Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.

The World Bank also promised an additional $14 billion to assist governments and companies address the pandemic.[182]

Following the drop in equity market indexes the previous day, the Federal Reserve unveiled a number of facilities on March 17, 2020, in some cases reviving actions it had not taken since the financial crisis. It announced that it would allow the 24 primary dealers in Treasury securities to borrow cash collateralized against some stocks, municipal debt, and higher-rated corporate bonds; revive a facility to buy commercial paper; and provide additional funding for the overnight repo market.[183] The UK government proposed government-backed loans to support businesses; a three-month moratorium on mortgage payments for homeowners; a new lending facility with the Bank of England to provide low-cost commercial paper to support lending; and loans for businesses.

In an emergency session on March 18, the ECB announced a temporary, nonstandard asset purchase program, the Pandemic Emergency Purchase Program (PEPP), to acquire an additional €750 billion (over $820 billion) in public and private sector bonds to counter the risks posed by the pandemic crisis (as of May 5, the ECB had purchased about $180 billion in securities).[184] The ECB also broadened the types of assets it would accept as collateral to include nonfinancial commercial paper, eased collateral standards for banks, and waived restrictions on acquiring Greek government debt.[185] The program was expected to end no later than yearend 2020.

The Federal Reserve broadened its central bank dollar swap lines to include Brazil, Mexico, Australia, Denmark, Norway, and Sweden. Automobile manufacturers announced they were suspending production at an estimated 100 plants across North America, following similar plant closures in Europe.[186] Major U.S. banks announced a moratorium on share repurchases, or stock buy-backs, denying equity markets a major source of support and potentially amplifying market volatility.[187] During the week, more than 22 central banks in emerging economies, including Brazil, Turkey, and Vietnam, lowered their key interest rates.

By March 19, 2020, investors were selling sovereign and other bonds as firms and other financial institutions attempted to increase their cash holdings, although actions central banks took during the week appeared to calm financial markets. Compared to previous financial market dislocations in which stock market values declined while bond prices rose, stock and bond values fell at the same time in March 2020 as investors reportedly adopted a "sell everything" mentality to build up cash reserves.[188] Senate Republicans introduced the Coronavirus Aid, Relief, and Economic Security Act to provide $2 trillion in spending to support the U.S. economy.

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182 Wheatley, Jonathan, "Surging Dollar, Coronavirus and Oil Slump Hit Emerging Economies," *Financial Times*, March 18, 2020. https://www.ft.com/content/69fc6e2a-69d3-11ea-a3c9-1fe6fedcca75.

183 Politi, James, Brendan Greeley, Colby Smith, and Joe Rennison, "Fed to Lend Against Stocks and Bonds in Bid to Stabilize Markets," *Financial Times*, March 17, 2020. https://www.ft.com/content/cf485398-689d-11ea-800d-da70cff6e4d3.

184 "ECB Announces €750 Billion Pandemic Emergency Purchase Program (PEPP)," European Central Bank, March 18, 2020. https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.pr200318_1~3949d6f266.en.html.

185 Arnold, Martin, "ECB to Launch €750 Billion Purchase Program in Response to Coronavirus," *Financial Times*, March 18, 2020. https://www.ft.com/content/5919c6fb-1f5f-315d-8353-94f04afcf340.

186 Campbell, Peter and Claire Bushey, "Ford, General Motors and Fiat Chrysler Agree Widespread Shutdown," *Financial Times*, March 18, 2020. https://www.ft.com/content/feae3808-6949-11ea-800d-da70cff6e4d3.

187 Henderson, Richard, "Bank-Led Freeze on Stock Buybacks Could Spread Across US Market," *Financial Times*, March 18, 2020. https://www.ft.com/content/b1fa1688-68f6-11ea-a3c9-1fe6fedcca75.

188 Stubbington, Tommy and Colby Smith, "Investment Veterans Try to Get to Grips With 'Broken' Markets," *Financial Times*, March 20, 2020. https://www.ft.com/content/97186440-6aa0-11ea-800d-da70cff6e4d3.

By the close of trading on March 20, the DJIA index had fallen by 17% from March 13. At the same time, the dollar gained in value against other major currencies, but generally trended lower since May and the price of Brent crude oil dropped close to $20 per barrel on March 20, as indicated in **Figure 15.** As a result of the steep drop in oil prices, oil producers agreed in April to reduce global supply by 10%, or 9.6 million barrels per day. Since the low prices recorded in April, the price of Brent crude oil generally moved within a range of $40 to $44 per barrel through late November, when it began edging above $50 per barrel. In trading December 10, the price of Brent crude oil breached the $50 per barrel mark for the first time since March 2020. As energy demand showed some signs of recovering, the cuts in oil production that began in April were trimmed to 7.7 million barrels per day and were expected to be trimmed by an additional 2 million barrels per day in January 2021. On February 23, 2021, the price of Brent crude oil rose above $67 per barrel, the highest price since January 9, 2020. By March 3, 2021, the price of Brent crude oil had dropped to $64 per barrel. On March 5, 2021, the Brent crude price of a barrel of oil rose to $69 per barrel, the highest since January 2020, as OPEC and Russia decided against increasing petroleum output.[189]

On December 3, OPEC and Russia agreed to increase oil production by 500,000 barrels per day starting in January 2021, despite concerns over continued weak global demand.[190] According to the International Energy Agency (IEA), expectations about a COVID-19 vaccine tended to boost markets prices in November and December, although oil market fundamentals—primarily weak demand in Developed economies, slightly stronger demand in developing economies, and production increases in Libya, Iraq, and the United States—raised questions about the viability of oil price increases.[191] The IEA also attributed the rise in oil prices since late spring to increased demand in China and India as those economies regained strength.

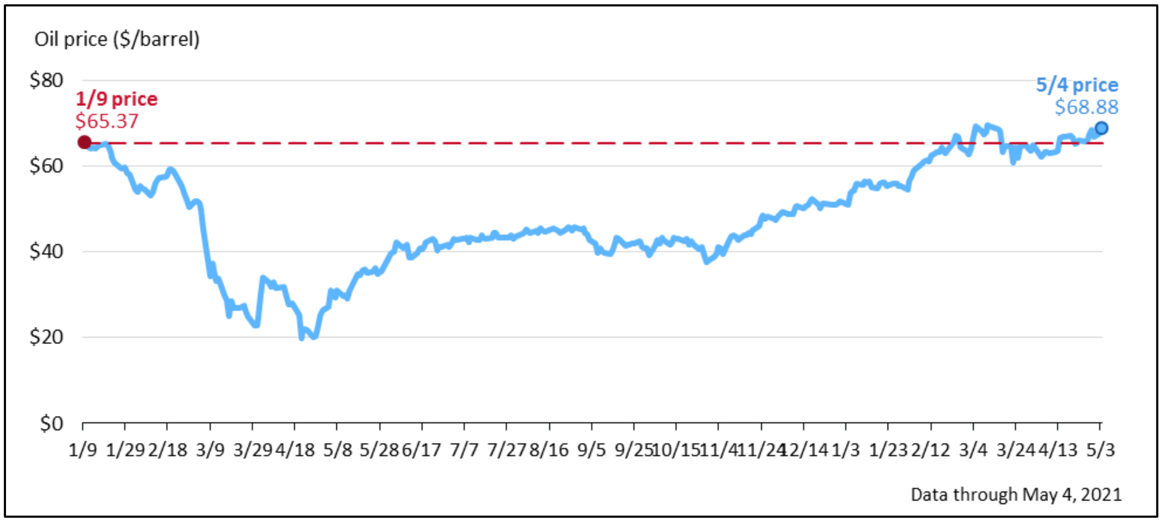
189 Raval, Anjli, Oil Jumps as OPEC and Allies Decide Against Big Rise in Output, *Financial Times*, March 5, 2021. https://www.ft.com/content/771ebf3a-cff0-4ff3-ab9a-0bbd01a33f55.

190 Raval, Anjli, OPEC and Russia Agree to Raise Oil Supply From January, *Financial Times*, December 3, 2020. https://www.ft.com/content/18279043-f2ef-40a8-b65d-b68ea0bf21ba.

191 *Oil Market Report June 2020*, International Energy Agency, June 2020. https://www.iea.org/reports/oil-market-report-november-2020.

Figure 15. Brent Crude Oil Price Per Barrel in Dollars

January 9, 2020, through May 4, 2021



Source: Markets Insider. Created by CRS.

The Federal Reserve announced that it would expand a facility to support the municipal bond market. Britain's Finance Minister announced an "unprecedented" fiscal package to pay up to 80% of an employee's wages and deferring value added taxes by businesses.[192] The ECB's Largarde justified actions by the Bank during the week to provide liquidity by arguing that the "coronavirus pandemic is a public health emergency unprecedented in recent history." Market indexes fell again on March 23, 2020, as the Senate debated the parameters of a new spending bill to support the economy. Oil prices also continued to fall as oil producers appeared to be in a standoff over cuts to production.

Financial market indexes continued to fall on March 23, 2020, reaching their lowest point since the start of the pandemic crisis. The Federal Reserve announced a number of new facilities to provide an unlimited expansion in bond buying programs. The measures included additional purchases of Treasury and mortgage-backed securities; additional funding for employers, consumers, and businesses; establishing the Primary Market Corporate Credit Facility (PMCCF) to support issuing new bonds and loans and the Secondary Market Corporate Credit Facility (SMCCF) to provide liquidity for outstanding corporate bonds; establishing the Term Asset-Backed Securities Loan Facility (TALF), to support credit to consumers and businesses; expanding the Money Market Mutual Fund Liquidity Facility (MMLF) to provide credit to municipalities; and expanding the Commercial Paper Funding Facility (CPFF) to facilitate the flow of credit to municipalities.[193] The OECD released a statement encouraging its members to support "immediate, large-scale and coordinated actions." These actions included (1) more international cooperation to address the health crisis; (2) coordinated government actions to increase spending to support health care, individuals, and firms; (3) coordinated central bank

[192] Parker, George Parker, Chris Giles, and Sebastian Payne, "Sunak Turns on Financial Firepower to Help Workers," *Financial Times*, March 20, 2020, https://www.ft.com/content/826d465a-6ac3-11ea-a3c9-1fe6fedcca75.

[193] *Federal Reserve Announces Extensive New Measures to Support the Economy*, Board of Governors of the Federal Reserve System, March 23, 2020. https://www.federalreserve.gov/newsevents/pressreleases/monetary20200323b.htm.

action to supervise and regulate financial markets; and (4) policies directed at restoring confidence.[194]

Reacting to the Fed's announcement, the DJIA closed up 11% on March 24, marking one of the sharpest reversals in the market index since February 2020. European markets, however, did not follow U.S. market indexes as various indicators signaled a decline in business activity in the Eurozone that was greater than that during the financial crisis and indicated the growing potential for a severe economic recession.[195] U.S. financial markets were buoyed on March 25 and 26 over passage in Congress of a $2.2 trillion economic stimulus package.

On March 27, leaders of the G-20 countries announced through a video conference they had agreed to inject $5 trillion into the global economy and to do "whatever it takes to overcome the pandemic." Also at the meeting, the OECD offered an updated forecast of the viral infection, which projected that the global economy could shrink by as much as 2% a month. Nine Eurozone countries, including France, Italy, and Spain called on the ECB to consider issuing "coronabonds," a common European debt instrument to assist Eurozone countries in fighting COVID-19.[196] The ECB announced that it was removing self-imposed limits that it had followed in previous asset purchase programs that restricted its purchases of any one country's bonds.[197] Japan announced that it would adopt an emergency spending package worth $238 billion, or equivalent to 10% of the country's annual GDP.[198] Despite the various actions, global financial markets turned lower March 27 (the DJIA dropped by 900 points) reportedly over volatility in oil markets and concerns that the economic effects of the COVID-19 pandemic were worsening.[199]

By March 30, central banks in developing countries from Poland, Columbia, South Africa, the Philippines, Brazil, and the Czech Republic reportedly had begun adopting monetary policies similar to that of the Federal Reserve to stimulate their economies.[200] In commodity markets, Brent crude oil prices continued to fall, reaching a low of $22.76. Strong global demand for dollars continued to put upward pressure on the international value of the dollar. In response, the Federal Reserve introduced a new temporary facility that would work with its swap lines to allow central banks and international monetary authorities to enter into repurchase agreements with the Fed.[201] From mid-March to mid-April, U.S. workers' claims for unemployment benefits reached over 17 million as firms faced a collapse in demand and requirements for employees to self-quarantine caused them to begin furloughing or laying off employees. Financial markets began to recover somewhat in early April in response to the accumulated monetary and fiscal policy

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[194] Gurria, Angel, *COVID-19: Joint Actions to Win the War*, Organization for Economic Cooperation and Development, March 23, 2020. https://www.oecd.org/coronavirus/#op-ed.

[195] Arnold, Martin Arnold and Valentina Romei, "Business Activity Crashes to Record Low in Eurozone," *Financial Times*, March 24, 2020. https://www.ft.com/content/f5ebabd4-6dad-11ea-89df-41bea055720b.

[196] Dombrey, Daniel, Guy Chazan, and Jim Brunsden, "Nine Eurozone Countries Issue Call for 'Coronabonds,'" *Financial Times*, March 26, 2020. https://www.ft.com/content/258308f6-6e94-11ea-89df-41bea055720b.

[197] Arnold, Martin and Tommy Stubbington, "ECB Shakes Off Limits on New €750bn Bond-Buying Plan," *Financial Times*, March 27, 2020. https://www.ft.com/content/d775a99e-13b2-444e-8de5-fd2ec6caf4bf.

[198] Kajimoto, Tetsushi, Izumi Nakagawa, "Japan Plans Huge Stimulus Package to Cushion Blow from Coronavirus," *Reuters*, March 27, 2020, https://www.reuters.com/article/us-health-coronavirus-japan-stimulus/japan-plans-huge-stimulus-package-to-cushion-blow-from-coronavirus-idUSKBN21E0UW.

[199] Georgiadis, Philip, Hudson Lockett, and Leo Lewis, "Global Stocks Falter After Two Days of Big Gains," *Financial Times*, March 27, 2020. https://www.ft.com/content/bc33c31c-f019-4ef8-85df-0014a5406ac1.

[200] Wheatley, Jonathan, "Emerging Market Central Banks Embark on Radical Stimulus Policies," *Financial Times*, March 30, 2020. https://www.ft.com/content/70398316-3fd5-4428-88ab-6f898ee42fd5.

[201] Politi, James, Brendan Greeley, and Colby Smith, "Fed Sets Up Scheme to Meet Booming Foreign Demand for Dollars," *Financial Times*, March 31, 2020. https://www.ft.com/content/6c976586-a6ea-42ec-a369-9353186c05bb.

initiatives, but remained volatile as a result of uncertainty over efforts to reach an output agreement among oil producers and the continued impact of the viral health effects.

April 2020

The Federal Reserve announced on April 8 that it was establishing a facility to fund small businesses through the Paycheck Protection Program. Japan also announced that it was preparing to declare areas around Tokyo to be in a state of emergency and that it would adopt a $989 billion funding package.[202]

On April 9, OPEC and Russia agreed to cut oil production by 10 million barrels per day.[203] On April 15, G-20 finance ministers and central bank governors announced their support for the proposed agreement by Saudi Arabia and Russia to reduce oil production.[204] They also announced an agreement to freeze government loan payments until the end of the year to help low-income developing countries address the pandemic and asked international financial institutions to do likewise.[205] G-7 finance ministers and central bank governors agreed to support the G-20 proposal to suspend debt payments by developing countries.[206] Eurozone finance ministers announced a €500 billion (about $550 billion) emergency spending package to support governments, businesses, and workers. Reportedly, the measure will provide funds to the European Stability Mechanism, the European Investment Bank, and for unemployment insurance.[207]

In other policy areas, the IMF announced that it was doubling its emergency lending capability to $100 billion, in response to requests from more than 100 countries for assistance.[208] The Bank of England announced that it would take the unprecedented move of temporarily directly financing UK government emergency spending needs through monetary measures rather than through the typical method of issuing securities to fight the effects of COVID-19.[209] Secretary-General of the United Nations Guterres declared on April 9, 2020, before the United Nations Security Council that the pandemic posed a significant threat to the maintenance of international peace and security and outlined eight specific risks, including the erosion of trust in public institutions, increased risks from terrorism and bioterrorism, and worsening existing human rights abuses.[210]

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[202] Takeo, Yuko and Yoshiaki Nohara, "Japan's Virus Stimulus Package to Come in Two Phases," *Bloomberg*, April 5, 2020. https://www.bloomberg.com/news/articles/2020-04-06/japan-s-virus-stimulus-package-to-come-in-two-phases-documents-k8nuj552.

[203] Sheppard, David, Anjli Raval, Derek Brower, and Henry Foy, "G20 Ministers Meet to Endorse OPEC-Russia Deal to Slash Oil Production," *Financial Times*, April 10, 2020. https://www.ft.com/content/c7a1e2e6-8c17-48d5-8c16-edce911b5cbb.

[204] Sheppard, David, Anjli Raval, Derek Brower. and Henry Foy, G20 Backs Largest Oil Supply Agreement in History, *Financial Times*, April 15, 2020. https://www.ft.com/content/16ac91d8-42bf-4190-88de-f3d89b2b36f4.

[205] England, Andrew, Jonathan Wheatley and James Politi, G20 Agrees Debt Relief for Low Income Nations, *Financial Times*, April 15, 2020. https://www.ft.com/content/5f296d54-d29e-4e87-ae7d-95ca6c0598d5.

[206] Politi, James and Jonathan Wheatley, G7 Countries Back Debt Relief For Poorest Nations, *Financial Times*, April 14, 2020. https://www.ft.com/content/c384ed59-1ca3-476f-9b89-eaf5cf31e42c.

[207] Fleming, Sam and Mehreen Khan, "Eurozone Countries Strike Emergency Deal on Coronavirus Rescue," *Financial Times*, April 9, 2020. https://www.ft.com/content/b984101a-42b8-40db-9a92-6786aec2ba5c.

[208] Politi, James, "IMF Boosts Emergency Lending Capacity to $100bn," *Financial Times*, April 9, 2020. https://www.ft.com/content/e46faadc-456b-4cf8-a2fd-2017702747ab.

[209] Giles, Chris and Philip Georgiadis, "Bank of England to Directly Finance UK Government's Extra Spending," *Financial Times*, April 9, 2020. https://www.ft.com/content/664c575b-0f54-44e5-ab78-2fd30ef213cb.

[210] *Secretary-General's Remarks to the Security Council on the COVID-19 Pandemic* [as delivered], United Nations, April 9, 2020. https://www.un.org/sg/en/content/sg/statement/2020-04-09/secretary-generals-remarks-the-security-council-the-covid-19-pandemic-delivered.

Federal Reserve Chairman Jerome Powell, stating that the U.S. economy was deteriorating "with alarming speed," announced on April 10 that the Fed would provide an additional $2.3 trillion in loans, including a new financial facility to assist firms by acquiring shares in exchange traded funds that own the debt of lower-rated, riskier firms that are among the most exposed to deteriorating economic conditions associated with COVID-19 and low oil prices.[211] On April 16, the U.S. Labor Department reported that 5.2 million Americans filed for unemployment insurance during the previous week, raising the total claims since mid-March to over 22 million.[212] According to Chinese official statistics, the Chinese economy shrank by 6.8% on an annual basis during the first quarter of 2020, reportedly the first such contraction in 40 years.[213]

Financial market indicators rose on April 17, reportedly on an upbeat sentiment that actions taken by the Federal Reserve and other central banks would stabilize conditions in the corporate credit market.[214] The price of futures contracts for oil delivery in May 2020 for the U.S. West Texas Intermediate (WTI) fell to $18 per barrel, the lowest it had been since 2002, reportedly reflecting rising inventories and low global demand.[215] Leaders of emerging economies in Latin America and Africa argued that the G-20 call for suspension of interest payments fell short of what is needed. National leaders from Columbia, Brazil, Mexico, and Chile encouraged the World Bank, the InterAmerican Development Bank, and the IMF to double their net lending to Latin America, arguing that, "The Covid-19 pandemic is a shock of unprecedented magnitude, uncertain duration and catastrophic consequences that, if not properly addressed, could lead to one of the most tragic episodes in the history of Latin America and the Caribbean."[216]

The price of oil fell to its lowest level in two decades on April 19, reportedly reflecting a significant drop in global demand for energy and rising inventories.[217] Some Eurozone members reportedly argued for the ECB to create a Eurozone "bad bank" to remove billions of euros in nonperforming debts from banks' balance sheets to provide more capacity for Eurozone banks at a potentially critical time when banks could see an increase in nonperforming loans.[218] The World Bank confirmed that its "pandemic bonds" would pay out $133 billion to the poorest countries affected by the pandemic.[219]

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[211] Rennison, Joe, Robin Wigglesworth, and Colby Smith, "Federal Reserve Enters New Territory with Support for Risky Debt," *Financial Times*, April 10, 2020. https://www.ft.com/content/c0b78bc9-0ea8-461c-a5a2-89067ca94ea4. Heather Long, "Fed Chair Powell Says U.S. Economy Deteriorating 'With Alarming Speed,'" *Washington Post*, April 9, 2020. https://www.washingtonpost.com/business/2020/04/09/federal-reserve-unveils-over-2-trillion-new-lending-small-businesses-city-governments-big-firms/.

[212] *Unemployment Insurance Weekly Claims*, Department of Labor, April 16, 2020. https://www.dol.gov/ui/data.pdf.

[213] Hale, Thomas, Xinning Liu, and Yuan Yang, China's Economy Shrinks for First Time in Four Decades, *Financial Times*, April 17, 2020. https://www.ft.com/content/8f941520-67ad-471a-815a-d6ba649d22ed.

[214] Smith, Colby, Myles McCormick, Tommy Stubbington, and Hudson Lockett, US Stocks Extend Rally With Central Bank Safety Net, *Financial Times*, April 17, 2020. https://www.ft.com/content/5ebbc2d8-ade3-4d5c-86f5-49b9478fe03d.

[215] Sheppard, David, US Crude Tumbles to 18-year Low as Supply Overwhelms Demand, *Financial Times*, April 17, 2020. https://www.ft.com/content/d0a0cfc3-765c-4b55-ada7-11e0d378d406.

[216] Wheatley, Jonathan, Michael Stott, and David Pilling, Emerging Economies Call for More Financial Help After G20 Deal, *Financial Times*, April 17, 2020. https://www.ft.com/content/203ed8f5-6bb2-4016-80a9-dd99269bfa26.

[217] Lockett, Hudson Lockett and David Sheppard, US Oil Price Plunges to 20-year Low as Coronavirus Hits Demand, *Financial Times*, April 19, 2020. https://www.ft.com/content/a5292644-958d-4065-92e8-ace55d766654.

[218] Arnold, Martin and Javier Espinoza, ECB Pushes for Eurozone Bad Bank to Clean up Soured Loans, *Financial Times*, April 19, 2020. https://www.ft.com/content/15d17d1d-8e1b-4f84-97b4-b62e6ae8f962.

[219] Gross, Anna, World Bank Pandemic Bonds to Pay $133m to Poorest Virus-hit Nations, *Financial Times*, April 19, 2020. https://www.ft.com/content/c8556c9f-72f7-48b4-91bf-c9e32ddab6ff.

On April 21, Agricultural Ministers of the G-20 countries released a joint statement that supported measures to "ensure the health, safety, welfare, and mobility of workers in agriculture and throughout the food supply chain." The joint statement also indicated that the G-20 countries would adopt measures that are "targeted, proportionate, transparent, and temporary, and that they do not create unnecessary barriers to trade or disruption to global food supply chains." The statement also indicated that the G-20 would, "guard against any unjustified restrictive measures that could lead to excessive food price volatility in international markets and threaten the food security and nutrition of large proportions of the world population, especially the most vulnerable living in environments of low food security."[220]

On April 23, the House passed H.R. 266 (P.L. 116-139), the Paycheck Protection Program and Health Care Enhancement Act, following similar actions by the Senate the previous day. The measure provided $484 billion for small business loans, health care providers, and COVID-19 testing. The U.S. Labor Department reported that 4.4 million Americans filed for unemployment insurance in the previous week, raising the total that have applied to over 26 million.[221] Indicators of manufacturing and services activity in Europe dropped to their lowest level since 1990, reflecting the impact of the pandemic on the European economy.[222] The Bank of England indicated that it would quadruple its borrowing over the second quarter of 2020, reflecting a contraction in the UK economy, lower tax revenues, and increased financial demands to support fiscal policy measures to fight the pandemic.[223] The Saudi Presidency of the G-20 called on international organizations on April 24 to fund an emergency response to the pandemic. The Bank of Japan announced on April 27 that it would purchase unlimited amounts of government bonds and quadruple its purchases of corporate debt to keep interest rates low and stimulate the Japanese economy.[224]

At its April 29 scheduled meeting, the U.S. Federal Open Market Committee left its main interest rates unchanged, but reiterated its commitment to use "its full range of tools to support the U.S. economy." The policy statement concluded that, "The ongoing public health crisis will weigh heavily on economic activity, employment, and inflation in the near term, and poses considerable risks to the economic outlook over the medium term."[225] The Federal Reserve also announced a change in its eligibility requirements for a $500 billion lending program for municipalities. The statement followed the release of the preliminary estimate of U.S. first quarter GDP, which indicated that the economy had contracted by an annualized rate of 4.8% (revised to 5.0%).[226]

On April 30, the Department of Labor released its weekly data on applications for unemployment insurance, which indicated that an additional 3.8 million people had filed for unemployment

[220] *G20 Extraordinary Agriculture Ministers Meeting: Statement on COVID-19*, G-20, April 21, 2020. https://g20.org/en/media/Pages/pressroom.aspx.

[221] *Unemployment Insurance Weekly Claims*, April 23, 2020. https://www.dol.gov/ui/data.pdf.

[222] Arnold, Martin and Valentina Romei, European Business Activity Crashes Under Coronavirus Lockdowns, *Financial Times*, April 23, 2020. https://www.ft.com/content/8520895f-3249-4a8b-b0e5-881a64e77971.

[223] Giles, Chris, and Tommy Stubbington, UK Treasury to Quadruple Borrowing to £180bn Over Next Quarter, *Financial Times*, April 23, 2020. https://www.ft.com/content/8886e002-c260-4daa-8b7b-509b3f7e6edb.

[224] Harding, Robin, Bank of Japan Steps up Coronavirus Stimulus With Bond-buying Pledge, *Financial Times*, April 27, 2020. https://www.ft.com/content/7ba5c507-df9e-4107-87eb-73afa2c13e91.

[225] *Federal Reserve Issues FOMC Statement*, Board of Governors of the Federal Reserve System, April 29, 2020. https://www.federalreserve.gov/newsevents/pressreleases/monetary20200429a.htm.

[226] *Gross Domestic Product, First Quarter 2020 (Advance Estimate)*, Bureau of Economic Analysis, April 29, 2020. https://www.bea.gov/.

insurance during the week, raising the total number who had applied to 30 million.[227] The Federal Reserve also announced an expansion in its medium-size business loan program by allowing firms with up to 15,000 employees or with revenues up to $5 billion to access a new $600 billion program. In addition, the Fed lowered the minimum loan amount for small businesses and announced a loan program to assist riskier businesses.[228] At the same time, the ECB expanded a record low-interest rate loan program for Eurozone banks to support economic activity, while warning that the Eurozone economy could contract between 5% and 12% in 2020 as it faces, "an economic contraction of a magnitude and speed that are unprecedented in peacetime."[229] The ECB also announced a new nontargeted low-interest rate pandemic emergency longer-term refinancing operation (PELTROs) to complement its Pandemic Emergency Refinance Operations announced in March.[230] House Speaker Pelosi stated that House Democrats were considering a $1 trillion spending bill to support state and local governments.[231] In a development that seemed incongruous with the broader economic situation, between April 1, 2020, and April 30, 2020, the DJIA rose more than 3,400 points, or 16%, marking the strongest monthly increase since 1987.[232]

May 2020

On May 5, Germany's Constitutional court issued a ruling that could prevent the German central bank, the Bundesbank, from making additional bond purchases under the Pandemic Emergency Purchase Program (PEPP). The ECB's program is intended to ease borrowing costs across the Eurozone to stimulate economic growth.

The U.S. Census Bureau reported on May 5 that U.S. exports and imports fell in March; exports fell by a greater amount than imports, thereby increasing the monthly U.S. goods and services trade deficit. The trade balance for March was -$44.5 billion, an increase of about $4.6 billion over the trade deficit in February. The decline in export and import values reflected lower imports and exports of both goods and services.

On May 6, the European Commission released its spring economic forecast, which indicated that economic activity in the EU would decline by 7.4% in 2020 as a result of measures to contain the pandemic. The Commission forecast that economic growth would advance by 6.0% in 2021, assuming the containment measures can be lifted gradually, the viral effects remain contained, and that the fiscal and monetary measures implemented by the EU members are effective in blunting the negative effects on economies.[233] On May 7, the Labor Department announced that

[227] *Unemployment Insurance Weekly Claims*, April 30, 2020. https://www.dol.gov/ui/data.pdf.

[228] Politi, James, Colby Smith and Robert Armstrong, Federal Reserve Extends $600bn Main Street Lending Program. *Financial Times*, April 30, 2020. https://www.ft.com/content/46fdc853-1d7d-49af-93e8-f12e0d006fc2.

[229] *Introductory Statement*, European Central Bank, April 29, 2020. https://www.ecb.europa.eu/press/pressconf/2020/html/ecb.is200430~ab3058e07f.en.html.

[230] Arnold, Martin and Tommy Stubbington, ECB Launches Fresh Push to Lend to Banks at Ultra-low Rates, *Financial Times*, April 30, 2020. https://www.ft.com/content/cef090d0-97dc-4e75-a4b1-deebfd4afacf.

[231] Werner, Erica, Pelosi Points to $1 Trillion Need for State and Local Governments in Next Coronavirus Bill, *Washington Post*, April 30, 2020. https://www.washingtonpost.com/us-policy/2020/04/30/congress-coronavirus-economy/.

[232] Henderson, Richard Henderson, Robin Wigglesworth, and Katie Martin, U.S. Stocks Close Out Best Month Since 1987 in Global Rebound, *Financial Times*, April 30, 2020. https://www.ft.com/content/88e57ec9-42d4-455d-a045-293a6a54837d.

[233] *European Economic Forecast Spring 2020*, European Commission, May 2020. https://ec.europa.eu/commission/presscorner/detail/en/ip_20_799.

2.7 million Americans had filed for unemployment insurance during the week, raising the total that had filed over the previous seven weeks to 33 million.[234]

On May 8, the U.S. Department of Labor announced that 20.5 million Americans had lost their jobs in April, pushing the national unemployment rate to 14.5%. Despite the rise in the unemployment rate, the DJIA rose by 2.0%, reportedly based on optimism that the monetary policy actions the Federal Reserve, the ECB, and the Bank of Japan had taken to support financial markets would stabilize and stimulate the markets and optimism that the health crisis is ebbing.[235]

On May 12, House Democrats introduced H.R. 6800, the Heroes Act, to provide a $3 trillion supplemental spending bill for additional financial resources to state and local governments and for other purposes. The measure passed the House on May 15 and was sent to the Senate for consideration. On May 13, the UK Office of National Statistics reported that UK GDP contracted by 2.0% in the first quarter, the largest decline in the UK's GDP since 2008 with all major economic sector affected.[236] On May 14, the U.S. Department of Labor announced that an additional 2.4 million Americans had filed for unemployment insurance during the previous week, increasing the total number filing for unemployment insurance over the previous eight weeks to 36 million.[237]

On May 18, German Chancellor Angela Merkel and French President Emmanuel Macron proposed a €500 billion (about $620 billion) EU recovery fund in an effort to gain a coordinated EU fiscal response to the pandemic.[238]

The Department of Labor announced on May 21 that an additional 2.4 million Americans had filed for Unemployment Insurance, raising the total to 38.4 million over the previous nine weeks.[239]

On May 27, European Commission President Ursula von der Leyen proposed a €750 billion (about $825 billion) coronavirus recovery plan to provide loans and grants to the hardest hit EU economies and changes to the EU budget. The Japanese Cabinet proposed a second supplemental appropriation measure that includes $296 billion in spending and a total value of about $1.1 trillion in loans and guarantees, funded through new bonds.[240]

On May 28, the Department of Labor announced that an additional 1.9 million (revised) Americans filed for Unemployment Insurance, raising the ten-week total to 42.6 million.[241]

June 2020

On June 4, the U.S. Census Bureau reported that U.S. imports fell by 13.7% and exports fell by 20.5% in April, increasing the monthly current account deficit and registering the largest decline

[234] *Unemployment Insurance Weekly Claims*, May 5, 2020. https://www.dol.gov/ui/data.pdf.

[235] Platt, Eric, Colby Smith, Adam Samson, and Hudson Lockett, Wall Street closes higher despite dire US jobs data, *Financial Times*, May 8, 2020. https://www.ft.com/content/a9999ef1-1373-41b7-8d55-d780fd06825d.

[236] *GDP Monthly Estimate, UK: March 2020*, Office for National Statistics, May 13, 2020. https://www.ons.gov.uk/economy/grossdomesticproductgdp/bulletins/gdpmonthlyestimateuk/march2020.

[237] *Unemployment Insurance Weekly Claims*, May 14, 2020. https://www.dol.gov/ui/data.pdf.

[238] Fleming, Sam, Victor Mallet, and Guy Chazan, Germany and France Unite in Call for €500 Billion Europe Recovery Fund, *Financial Times*, May 18, 2020. https://www.ft.com/content/c23ebc5e-cbf3-4ad8-85aa-032b574d0562.

[239] *Unemployment Insurance Weekly Claims*, May 21, 2020. https://www.dol.gov/ui/data.pdf.

[240] Harding, Robin, Japan's Cabinet Approves Extra $1.1 Trillion Budget to Counter Recession, *Financial Times*, May 27, 2020. https://www.ft.com/content/ce7f3564-c997-339c-ad3d-c6d092fb7f1e.

[241] *Unemployment Insurance Weekly Claims*, May 29, 2020. https://www.dol.gov/ui/data.pdf.

in U.S. trade since the global financial crisis.[242] In addition, the Labor Department announced that an additional 1.9 million Americans filed for unemployment insurance, increasing the 11-week total to 44 million.[243] The European Central Bank announced that it would double to $1.5 trillion its Pandemic Emergency Purchase Program to stimulate the European economy.[244] The DJIA rose by more than 800 points on June 5 as a positive jobs report, apparently signaling to some that the U.S. economy would recover quickly from the pandemic-driven economic downturn.[245] OPEC and Russia reportedly agreed on June 7 to maintain their cuts in oil production for one additional month in an effort to raise international oil prices.[246]

On June 8, the DJIA rose nearly 2% reportedly on positive jobs data, extending gains in the value of the index and rising to its highest level since late February.[247] Most foreign markets indices similarly rose. The World Bank forecasted that emerging and developing economies would contract in 2020 for the first time in 60 years.[248]

On June 11, the DJIA fell by more than 1,800 points, or 6.9% reportedly on fears that a spike in new coronavirus cases signaled the pandemic was not contained and over concerns about U.S. economic growth as a result of projections by the Federal Reserve that were interpreted as gloomy.[249] The Labor Department reported that an additional 1.57 million Americans filed for unemployment insurance during the previous week, raising the 12-week total from mid-March to 44 million Americans.[250] According to a report by Eurostat on June 12, industrial production in the Eurozone fell by 17.1% in April, reportedly the largest decline in production recorded since records began in 1991. The decline reflects lower levels of economic activity in manufacturing and construction throughout the Eurozone.[251] The Federal Reserve released its semi-annual *Monetary Policy Report*.[252]

The Institute of International Finance reported on June 15, that capital outflows from developing economies had reversed with funds flowing back into developing economies, primarily by bond issuance through the international bond market, rather than by refinancing existing debt.[253]

[242] *Monthly U.S. International Trade in Goods and Services in April 2020*, U.S. Census Bureau, June 4, 2020. https://www.census.gov/foreign-trade/data/index.html.

[243] *Unemployment Insurance Weekly Claims*, June 4, 2020. https://www.dol.gov/ui/data.pdf.

[244] Arnold, Martin, ECB Boosts Bond-Buying Stimulus Package by €600, *Financial Times*, June 4, 2020. https://www.ft.com/content/c59ab92d-e614-4284-a028-46ee3bcf92f9.

[245] Telford, Taylor, and Thomas Heath, Dow Soars 1,000 Points as Wall Street Closes in on Pre-Pandemic Levels, *Washington Post*, June 5, 2020. https://www.washingtonpost.com/business/2020/06/05/stocks-market-today-coronavirus-economy/.

[246] Sheppard, David, Anjli Raval, and Derek Brower, OPEC and Russia Agree to Extend Record Oil Supply Cuts, *Financial Times*, June 7, 2020. https://www.ft.com/content/88747416-0fc4-4808-999f-753793589ca7.

[247] Dempsey, Harry, Bryce Elder, and Hudson Lockett, U.S. Stocks Erase Losses for the Year, *Financial Times*, June 8, 2020. https://www.ft.com/content/1dfaeb58-6d65-4f17-b710-b1ebc6622649.

[248] Politi, James, Emerging Economies Forecast to Shrink for First Time in 60 Years, *Financial Times*, June 8, 2020. https://www.ft.com/content/47998ee3-b2d3-4066-a914-edbf60b797b5.

[249] Seigel, Rachel and Thomas Heath, Dow Slides More Than 1,800 Points on Fears of Coronavirus Resurgence, More Economic Pain, *Washington Post*, June 11, 2020. https://www.washingtonpost.com/business/2020/06/11/markets-today-fed-coronavirus/.

[250] *Unemployment Insurance Weekly Claims*, Department of Labor, June 11, 2020. https://www.dol.gov/ui/data.pdf.

[251] Arnold, Martin, Eurozone Industrial Production Falls by Record 17.1% in April, *Financial Times*, June 12, 2020. https://www.ft.com/content/e3301cd6-27ce-35f0-829a-c6613849b378.

[252] Board of Governors of the Federal Reserve System, *Monetary Policy Report*, June 12, 2020. https://www.federalreserve.gov/monetarypolicy/2020-06-mpr-summary.htm

[253] Wheatley, Jonathan, Developing Economies Borrow More Despite Debt Relief Initiative, *Financial Times*, June 15,

In testimony before the Senate Banking Committee on June 17, Federal Reserve Chairman Powell stressed that although there were positive signs that U.S. economic growth was beginning to rebound, there was "significant uncertainty" about the timing and strength of the recovery.[254]

On June 17, the Bank of Japan announced that it was maintaining its low interest rates even as it increased its coronavirus lending facility to $1 trillion.[255] The U.S. Energy Information Administration reported that U.S. crude oil production fell to its lowest point since March 2018, while stockpiles reached record highs. The price of Brent crude reached $41 per barrel, encouraging some U.S. producers to consider restarting wells that were closed when prices dropped to around $20 per barrel.[256]

On June 18, the Department of Labor announced that an additional 1.54 million Americans filed for unemployment during the week, raising the 13-week total to 45.7 million Americans.[257] During May, U.S. retail sales increased by 17.7% as some businesses began reopening and increasing optimism in financial markets that economic activity was on course for a quick recovery. Concerns over trade disputes and a rise in new coronavirus cases, however, reportedly overcame the optimism of increased sales and were factors in DJIA losses on June 24 of more than 700 points. In addition, the IMF issued its updated economic outlook, forecasting that global economic growth would contract by 4.9% in 2020, compared with an April forecast of a decline of 3.0%.[258]

On June 25, the ECB and the German government announced they had reached a tentative accord to end the conflict over the ECB's bond-buying program.[259] Elsewhere, the Labor Department reported that an additional 1.48 million Americans filed for unemployment insurance, raising the 14-week total from mid-March to over 47 million.[260] Between June 1 and June 26, the DJIA posted 13 days with gains and 7 days of declines, with the DJIA value at the end of the period nearly the same as it was in early March 2020. On June 24 and 26, the DJIA index fell by more than 700 points, reportedly over investors' concerns over a spike in new coronavirus cases in various U.S. States.[261] Also on June 25, the Federal Reserve announced the result of stress tests on 33 U.S. banks under 3 scenarios[262] to ascertain their capital sufficiency given the strains to the financial system caused by COVID-19.[263] The Fed reported that all large U.S. banks are

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2020. https://www.ft.com/content/54c545aa-01b5-4e95-8adc-e680f5d82be1.

[254] Powell, Jerome H., *Semiannual Monetary Report to the Congress,* June 16, 2020. https://www.federalreserve.gov/newsevents/testimony/powell20200616a.htm.

[255] Harding, Robin, Bank of Japan Pledges $1 Trillion in Coronavirus Lending, *Financial Times*, June 17, 2020. https://www.ft.com/content/5d8e5df2-dfb6-44f1-a434-ab8a745d37ba.

[256] Brower, Derek, U.S. Oil Production Drops to Lowest Point Since 2018, *Financial Times*, June 17, 2020. https://www.ft.com/content/6b877160-28e4-4ddf-8959-2a7cd0acd4ba.

[257] *Unemployment Insurance Weekly Claims*, Department of Labor, June 18, 2020. https://www.dol.gov/ui/data.pdf.

[258] *World Economic Outlook Update*, p. 5.

[259] Arnold, Martin, Berlin and ECB Signal End to Legal Impasse to Bond-Buying, *Financial Times*, June 22, 2020. https://www.ft.com/content/5f000a25-3d54-4610-8579-cab9b21759ee.

[260] *Unemployment Insurance Weekly Claims*, Department of Labor, June 25, 2020. https://www.dol.gov/ui/data.pdf.

[261] Elder, Bryce, Sarah Provan, and Hudson Lockett, U.S. Stocks End Lower as States Roll Back Reopening Measures, *Financial Times*, June 26, 2020. https://www.ft.com/content/5013d097-c1bf-4ed9-979a-842749e5956a.

[262] The three scenarios include (1) a rapid, or "V"-shaped recovery; (2) a slower, or "U"-shaped recovery; and (3) a "W"-shaped or double-dip recession with a short-lived recovery followed by a severe drop in activity later this year due to a second COVID event. *Assessment of Bank Capital During the Recent Coronavirus Event*, Board of Governors of the Federal Reserve System, June 2020, p. 2.

[263] Ibid.

"sufficiently capitalized" to survive the three scenarios.[264] Both the IMF and the WTO released forecasts indicating that global trade had declined sharply in the first quarter of 2020 and was projected to post similarly sharp declines for the year. By the end of June, the international price of crude had risen slightly above $40 per barrel, regaining about half the value it had lost during the first quarter of 2020.

July 2020

The Department of Labor announced on July 2 that an additional 1.4 million Americans had filed for Unemployment Insurance, raising the total to 48.7 million over the 15-week period from mid-March.[265] The insured seasonally adjusted unemployment rate in June was estimated at 13.2%, unchanged from the revised rate in the previous week. On July 2, the BLS also released data on the employment situation in June, indicating that nonfarm payroll rose by 4.8 million, lowering the unemployment rate to 11.5%. The Census Bureau also released U.S. trade data for May indicating that the U.S. merchandise trade deficit rose by nearly 10% over that recorded in April as exports fell by more than imports.[266]

On July 9, the BLS reported that an additional 1.3 million Americans filed for Unemployment Insurance, raising the 16-week total from mid-March to 50 million.[267] On July 17, the European Council met to approve a proposed plan to provide an additional €750 billion in pandemic support funds to assist European economies. Negotiations failed to produce an agreement and talks continued over the weekend and resumed on July 20. On July21, however, European leaders announced they had agreed to a €750 billion (about $859 billion) pandemic economic relief package.

On July 29, the Federal Open Market Committee (FOMC) announced it was not changing key interest rates. It also announced that it was extending foreign currency swap lines and a number of its lending facilities. Federal Reserve Chairman Powell indicated "The ongoing public health crisis will weigh heavily on economic activity, employment, and inflation in the near term, and poses considerable risks to the economic outlook over the medium term." On July 30, second quarter GDP data indicated that U.S. economic output fell by 9.5% from the previous quarter, but at an annualized rate of 33%. The Department of Labor also announced that an additional 1.4 million individuals applied for unemployment insurance during the previous week, raising the 19-week total to 54 million.

August 2020

On August 20, the Department of Labor announced that an additional 1.1 million workers filed for unemployment insurance during the previous week, raising the total over the 22-week period from mid-March to mid-August 2020 to 56 million Americans who had filed for unemployment insurance.[268] On a seasonally adjusted basis, the number of insured unemployed workers was 14.8 million in mid-August, down from a peak of 25 million in mid-May. The total number of people claiming benefits in all programs in the week ending August 1, totaled 28 million, up from 1.7

[264] Ibid., pp. 1-2.

[265] *Unemployment Insurance Weekly Claims*, July 1, 2020. https://www.dol.gov/ui/data.pdf.

[266] *Monthly U.S. International Trade in Goods and Services, May 2020*, U.S. Census Bureau, July 2, 2020. https://www.census.gov/foreign-trade/data/index.html.

[267] *Unemployment Insurance Weekly Claims*, July 9, 2020. https://www.dol.gov/ui/data.pdf.

[268] *Unemployment Insurance Weekly Claims*, Department of Labor, August 20, 2020. https://www.dol.gov/.

million in the comparable week in 2019. The insured unemployment rate was 10.2%, also down from the peak reached in early May.

The Bank of England announced through its standard Monetary Policy Committee meeting that it would maintain its key interest rate at 0.1% and continue its purchases of UK government bond and nonfinancial investment-grade corporate bonds.[269]

September 2020

On September 17, the Department of Labor announced that over the 26-week period from mid-March to mid-September 2020, 61 million Americans filed for unemployment insurance.[270] On a seasonally adjusted basis, the number of insured unemployed workers was 12.6 million in late August, down from a peak of 25 million in mid-May. The total number of people claiming benefits in all programs in the week ending August 29, totaled 29.7 million, up from 1.6 million in the comparable week in 2019. The insured unemployment rate was 8.6%, also down from the peak reached in early May. On September 4, BLS reported that nonfarm employment increased by 1.4 million in August, reducing the total number of unemployed Americans to 13.6 million[271] and pushing the unemployment rate down to 8.4%, again with some caveats.[272]

On September 29, 2021, global deaths from COVID-19 surpassed one million.

October 2020

On October 1, IMF Managing Director Kristalina Georgieva warned there was a risk of a rise in sovereign bankruptcies unless temporary debt relief measures adopted early in the year were extended and sovereign debt contracts and processes are overhauled.[273]

On October 2, BLS reported that nonfarm employment increased by 661,000 in September, reducing the total number of unemployed Americans to 13.6 million[274] and pushing the unemployment rate down to 7.9%, again with some caveats.[275] President Trump announced that he had tested positive for COVID-19.

[269] *Monetary Policy Report August 2020*, Bank of England, August 6, 2020.

[270] *Unemployment Insurance Weekly Claims*, Department of Labor, September 17, 2020. https://www.dol.gov/; Romm, Tony and Jeff Stein, 2.4 Million Americans Filed Jobless Claims Last Week, Bringing Nine Week Total to 38.6 Million, *Washington Post*, May 21, 2020. https://www.washingtonpost.com/business/2020/05/21/unemployment-claims-coronavirus/

[271] This total does not include 7.6 million workers who were working part time not by choice and 7.0 million individuals who were seeking employment.

[272] *The Employment Situation-August 2020*, Bureau of Labor Statistics, September 4, 2020, https://www.bls.gov/. BLS indicated that some individuals were misclassified in previous months. Instead of being classified as unemployed, they were misclassified as employed, but absent from work due to coronavirus-related business closures. If such individuals had been classified as unemployed, the unemployment rate would have been 5 percentage points higher in April.

[273] Smith, Colby, IMF Calls for Urgent Action to Prevent Debt Crisis in Emerging Economies, *Financial Times*, October 1, 2020. https://www.ft.com/content/b61c8dea-58bc-476d-ae9f-c2de104808de.

[274] This total does not include 7.6 million workers who were working part time not by choice and 7.0 million individuals who were seeking employment.

[275] *The Employment Situation-August 2020*, Bureau of Labor Statistics, September 4, 2020, https://www.bls.gov/. BLS indicated that some individuals were misclassified in previous months. Instead of being classified as unemployed, they were misclassified as employed, but absent from work due to coronavirus-related business closures. If such individuals had been classified as unemployed, the unemployment rate would have been 5 percentage points higher in April.

On October 29, DOL reported that over the 32-week period from mid-March to late October 2020, about 66 million Americans filed for unemployment insurance.[276] On a seasonally adjusted basis, the number of insured unemployed individuals was 7.8 million in late October, down from a peak of 25 million in mid-May. On October 30, UK Prime Minister Boris Johnson announced the resurgence of coronavirus cases in the UK and called for another countrywide business lockdown. In response the resurgence of coronavirus cases across Europe, financial markets lost value; the Dow Jones Industrial Average lost more than 1.800 points in the last week of October, or more than 4% of its value.

November 2020

In the first three days of November, the DJIA regained three-fourths of the value lost during the previous week as congressional leaders and the Trump Administration signaled the possibility of a new stimulus package to support the U.S. economy.

Preliminary forecasts indicate that India's economy contracted by 8.6% in the third quarter of 2020, reportedly reflecting increased consumer activity.[277] On November 12, India's finance minister announced a new package of fiscal measures totaling $35 billion to increase consumer spending and to assist manufacturing, agriculture, and exports. The move followed an announcement by India's cabinet that it had approved a spending package of $27 billion to provide in incentives over five years to manufacturing firms, including automobiles, auto parts, pharmaceuticals, textiles, and food products.[278]

On November 12, the DOL reported that over the 35-week period from mid-March to the first week of November 2020, about 67.4 million Americans had filed for unemployment insurance.[279] On a seasonally adjusted basis, the number of insured unemployed individuals was 6.8 million in late October, down from a peak of 25 million in mid-May. Weekly claims have fallen from the sharp increases recorded in April and May, declining to 709,000 in the week ending November 7, after totaling 751,00 the previous week, four times higher than the average number of weekly claims of about 200,000 recorded prior to the COVID-19 pandemic.

On November 15, 15 countries, including Brunei, Colombia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, Vietnam. Australia, China, Japan, New Zealand, and South Korea, signed the Regional Comprehensive Economic Partnership (RCEP) to create potentially one of the largest free trade agreements. The agreement will need to be ratified by the signatory governments.

On November 19, 2020, the DOL reported that over the 36-week period from mid-March to mid-November 2020, about 68.2 million Americans had filed for unemployment insurance. [280] Weekly

[276] *Unemployment Insurance Weekly Claims*, Department of Labor, October 29, 2020. https://www.dol.gov/; Romm, Tony and Jeff Stein, 2.4 Million Americans Filed Jobless Claims Last Week, Bringing Nine Week Total to 38.6 Million, *Washington Post*, May 21, 2020. https://www.washingtonpost.com/business/2020/05/21/unemployment-claims-coronavirus/

[277] *RBI Bulletin – November 2020*, Reserve Bank of India, November 2020.

278 Sharma, Ashok, India Announces $35 Billion Economic Stimulus Package, *ABCNews*, November 12, 2020. https://abcnews.go.com/International/wireStory/india-announces-35-billion-economic-stimulus-package-74165709.

[279] *Unemployment Insurance Weekly Claims*, Department of Labor, November 12, 2020. https://www.dol.gov/; Romm, Tony and Jeff Stein, 2.4 Million Americans Filed Jobless Claims Last Week, Bringing Nine Week Total t o 38.6 Million, *Washington Post*, May 21, 2020. https://www.washingtonpost.com/business/2020/05/21/unemployment-claims-coronavirus/

[280] *Unemployment Insurance Weekly Claims*, Department of Labor, November 19, 2020. https://www.dol.gov/.

claims rose to 742,000 in the week ending November 14, increasing from 711,000 the previous week, marking the first increase in weekly claims since October 10, 2020.

December 2020

On December 3, OPEC and Russia agreed to increase oil output by 500,000 barrels per day starting in January 2021, below a previously discussed increase of 2 million barrels per day, as pandemic-related lags in global economic recovery curtail global oil demand.

On December 4, the BLS indicated that the U.S. economy added 245,000 jobs in November, nearly half the 610,000 jobs added in October, raising concerns that the U.S. economic recovery had stalled.[281]

The DOL reported on December 10 that over the 39-week period from mid-March to the beginning of December 2020, over 70 million Americans had filed for unemployment insurance.[282] Week-over-week new claims totaled 863,000 in the week ending December 5, increasing by 146,000 from the previous week's total of 716,00, four times higher than the average number of weekly claims of about 200,000 recorded prior to the COVID-19 pandemic. Also, in trading December 10, the price of Brent crude oil breached the $50 per barrel mark for the first time since March 2020.

On December 14, the United States began administering the COVID-19 vaccine. U.S. equity market values fell as investors reportedly debated the prospects for a new stimulus package in the United States and a resurgence in COVID-19 cases in New York, Boston, and London raised concerns over a resumption of lockdowns.[283]

On December 17, the DOL announced that on a week-over-week basis, new claims for unemployment insurance totaled 885,000 in the week ending December 12, increasing by 23,000 from the previous week's total of 862,00. In the week ending November 28, 20.6 million people claimed benefits in all programs. The insured unemployment rate for the week ending December 5 was 3.8%.

On December 22, BEA released updated data on U.S. GDP growth for the third quarter, indicating the economy grew by 33.4%, outpacing the 31.4% decline recorded in the second quarter.

January 2021

On January 8, 2021, BLS reported that U.S. nonfarm employment fell by 140,000 in December, down from the previous month's increase of 336,000: the total number of unemployed Americans

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281 *The Employment Situation-December 2020*, Bureau of Labor Statistics, January 8, 2021, https://www.bls.gov/. BLS

282 *Unemployment Insurance Weekly Claims*, Department of Labor, January 21, 2021. https://www.dol.gov/; Romm, Tony and Jeff Stein, 2.4 Million Americans Filed Jobless Claims Last Week, Bringing Nine Week Total to 38.6 Million, *Washington Post,* May 21, 2020. https://www.washingtonpost.com/business/2020/05/21/unemployment-claims-coronavirus/

283 Platt, Eric, Naomi Rovnick, and Camilla Hodgson, S&P Slides for Fourth Straight Day, *Financial Times*, December 14, 2020. https://www.ft.com/content/898ca316-9bbf-3c20-b137-2dbdba93c800; Rovnick, Naomi, and Camilla Hodgson, Equities and Sterling Lifted by Extension to EU-UK Trade Talks, *Financial Times*, December 14, 2020, https://www.ft.com/content/4f65ee35-9957-4bab-91c4-9f76c0a44a2b; Cameron-Chileshe, Jasmine, Alice Hancock, Sebastian Payne, and George Parker, London to Enter Toughest Coronavirus Restrictions, *Financial Times*, December 14, 2020, https://www.ft.com/content/626f2e3a-ac8f-401d-818a-01120cab3284.

was unchanged from the previous month at 10.7 million,[284] the unemployment rate stayed constant at 6.7%.

On January 13, the House of Representatives impeached President Donald Trump.

On January 15, the global number of deaths associated with COVID-19 surpassed two million.

On January 19, deaths in the United States associated with COVID-19 surpassed 400,000.

On January 28, the DOL indicated that during the 46-week period from mid-March 2020 to end-January 2021, over 76 million Americans had filed for unemployment insurance. On a seasonally adjusted basis, the number of insured unemployed individuals was 4.8 million in mid-January 2021, down from a peak of 25 million in mid-May. On a week-over-week basis, new claims totaled 847,000 in the week ending January 23, 2021, decreasing by 67,000 from the previous week's total of 914,000; in the week ending January 9, 18.3 million people claimed benefits in all programs.

The Bureau of Economic Analysis (BEA) announced that during the fourth quarter of 2020, the U.S. economy grew by 4.0% at an annual rate; the overall rate of growth for 2020 was estimated at -3.5%, reflecting negative rates of growth in personal consumption (-3.9%), investment (-5.3), and exports (-13.0%) and imports (-9.3); government consumption and investment (federal, state, and local) grew by 1.1%.

February 2021

On February 4, 2021, the Department of Labor reported that new claims for unemployment insurance totaled 779,000 in the week ending January 30, 2021, raising the total claims filed during the 47-week period from mid-March 2020 to end-January 2021 to over 77 million Americans. In the week ending January 16, 2021, 17.8 million people claimed benefits in all programs; the insured unemployment rate was 3.2%.

On February 5, 2021, BLS reported that the total number of unemployed Americans in January 2021 declined to 10.1 million and that the unemployment rate had fallen to 6.3%.

The DOL reported on February 18 that during the 49-week period from mid-March 2020 to mid-February 2021, nearly 79 million Americans had filed for unemployment insurance. On a seasonally adjusted basis, the number of insured unemployed individuals was 4.5 million in early-February 2021, down from a peak of 25 million in mid-May.

On February 22, 2021, the United States announced that it had surpassed 500,000 deaths caused by COVID-19.

March 2021

On March 3, 2021, UK Chancellor of the Exchequer Sunak announced a £65 billion stimulus package over two years to revive the UK economy, to be followed by tax increases starting in 2023. In the United States, the House of Representatives was set to pass a Senate-amended $1.9 trillion COVID-related economic stimulus bill during the week of March 8, 2021, with President Biden prepared to sign the legislation.

On March 4, 2021, the Labor Department reported that over 80 million Americans (half of the 160 million civilian work force) had filed for unemployment insurance since mid-March 2020.

[284] This total does not include 6.2 million workers who were working part time not by choice and 7.3 million individuals who were seeking employment.

On a seasonally adjusted basis, the number of insured unemployed individuals was 4.3 million; and by the end of February 2021, 18 million people claimed benefits in all programs.

Developed economies, including Britain, Switzerland, the EU, and the United States, blocked a proposal by over 80 developing countries at the World Trade Organization to suspend intellectual property rights restrictions on production of COVID-19 vaccines.

On March 26, 2021, Germany's highest court stopped a law that would have ratified the EU Pandemic Emergency Purchase Program (PEPP) bond-buying program. The program requires ratification by each of the EU member's national parliaments. The legislation had been passed by both of Germany's houses of Parliament and was expected to be signed by German president, Frank-Walter Steinmeier, when the court intervened.

April 2021

On April 25, India reported a single-day total of 350,000 new cases. Brazil reportedly has had over 350,000 viral-related deaths: in some cities in Brazil, COVID-related daily deaths have outnumbered daily births. A group of 175 former world leaders and Nobel laureates called on the United States to suspend intellectual property rights for COVID-19 vaccines to facilitate the international production and distribution by allowing developing countries the ability to manufacture their own vaccines. The group warned that, "….inequitable vaccine access would impact the global economy and prevent it from recovering."

May 2021

On May 5, the Biden administration announced it would support international discussions to waive intellectual property restrictions on COVID-19 vaccines.

Comparing the Current Crisis and the 2008 Crisis

Sharp declines in the stock market and broader financial sector turbulence; interest rate cuts and large-scale Federal Reserve intervention; and discussions of massive government stimulus packages have led some observers to compare the current market reaction to that experienced a little over a decade ago. There are similarities and important differences between the current economic crisis and the global financial crisis of 2008/2009. Foremost, the earlier crisis was rooted in structural weakness in the U.S. financial sector. Following the collapse of the U.S. housing bubble, it became impossible for firms to identify demand and hold inventories across many sectors (construction, retail, etc.). This led to massive oversupply and sharp retail losses which extended to other sectors of the U.S. economy and eventually the global economy. Moreover, financial markets across countries were linked together by credit default swaps. As the crisis unfolded, large numbers of banks and other financial institutions were negatively affected, raising questions about capital sufficiency and reserves. The crisis then quickly engulfed credit-rating agencies, mortgage lending companies, and the real estate industry broadly. Market resolution came gradually with a range of monetary and fiscal policy measures that were closely coordinated at the global level. These were focused on putting a floor under the falling markets, stabilizing banks, and shoring up investor confidence to get spending started again. Starting in September 2007, the Federal Reserve cut interest rates from over 5% in September 2007 to between 0 and 0.25% before the end of the 2008. Once interest rates approached zero, the Fed turned to other so-called "unconventional measures," including targeted assistance to financial institutions, encouraging Congress to pass the Troubled Asset Relief Program (TARP) to prevent the collapse of the financial sector and boost consumer spending. Other measures included swap arrangements between the Federal Reserve and the European Central Bank and smaller central banks, and so-called "quantitative easing" to boost the money supply. On a global level, the United States and other countries tripled the resources of the IMF (from $250 billion to $750 billion) and coordinated domestic stimulus efforts.

Unlike the 2008 crisis, the current crisis began as a supply shock. As the global economy has become more interdependent in recent decades, most products are produced as part of a global value chain (GVC), where an item such as a car or mobile device consists of parts manufactured all over the world, and involving multiple border crossings before final assembly. The earliest implications of the current crisis came in January as plant closures in China and other parts of Asia led to interruptions in the supply chain and concerns about dwindling inventories. As the virus spread from Asia to Europe, the crisis switched from supply concerns to a broader demand crisis as the measures being introduced to contain the spread of the virus (social distancing, travel restrictions, cancelling sporting events, closing shops and restaurants, and mandatory quarantine measures) prevent most forms of economic activity from occurring. Thus, unlike the 2008 crisis response, which involved liquidity and solvency-related policy measures to get people spending again, the current crisis did not start as a financial crisis, but could evolve into one if a recovery in economic activity is delayed. While larger firms may have sufficient capital to wait out a crisis, many aspects of the economy (such as restaurants or retail operations) operate on very tight margins and would likely not be able to pay employees after closures lasting more than a few days. Many people will also need to balance child care and work during quarantine or social distancing measures. During this type of crisis, while monetary policy measures play a part—and the Federal Reserve has once again cut rates to near zero—they cannot compensate for the physical interaction that the global economy is dependent upon. As a result, fiscal stimulus will likely play a relatively larger role in this crisis in order to prevent personal and corporate bankruptcies during the peak crisis period. Efforts to coordinate U.S. and foreign economic policy measures will also have an important role in mitigating the scale and length of any global economic downtown.

Source: Prepared by Martin A. Weiss, CRS.

Policy Responses

In response to growing concerns over the global economic impact of the pandemic, G-7 finance ministers and central bankers released a statement on March 3, 2020, indicating they would "use all appropriate policy tools" to sustain economic growth.[285] The Finance Ministers also pledged fiscal support to ensure health systems can sustain efforts to fight the outbreak.[286] In most cases,

[285] *Statement of G-7 Finance Ministers and Central Bank Governors*, March 3, 2020. https://home.treasury.gov/news/press-releases/sm927. Long, Heather, "G-7 Leaders Promise to Help Economy as COVID-19 Spreads, But They Don't Announce Any New Action," *Washington Post*, March 3, 2020. https://www.washingtonpost.com/business/2020/03/03/economy-COVID-19-rate-cuts/.

[286] Giles et al., "Finance Ministers Ready to Take Action."

however, countries pursued their own divergent strategies, in some cases including banning exports of medical equipment. Following the G-7 statement, the U.S. Federal Reserve (Fed) lowered its federal funds rate by 50 basis points, or 0.5%, to a range of 1.0% to 1.25% due to concerns about the "evolving risks to economic activity of the COVID-19."[287] At the time, the cut was the largest one-time reduction in the interest rate by the Fed since the 2008-2009 global financial crisis.

After a delayed response, other central banks followed the actions of the G-7 countries. Most central banks lowered interest rates and acted to increase liquidity in their financial systems through a combination of measures, including lowering capital buffers and reserve requirements, creating temporary lending facilities for banks and businesses, and easing loan terms. In addition, national governments adopted various fiscal measures to sustain economic activity. In general, these measures included making payments directly to households, temporarily deferring tax payments, extending unemployment insurance, and increasing guarantees and loans to businesses.

See **Appendix A** to this report for detailed information about the policy actions by individual governments.[288]

The United States

Recognizing the growing impact the pandemic was having on financial markets and economic growth, the Federal Reserve (Fed) took a number of steps to promote economic and financial stability involving the Fed's monetary policy and "lender of last resort" roles. Some of these actions were intended to stimulate economic activity by reducing interest rates; other actions were intended to provide liquidity to financial markets so firms would have access to needed funding. In announcing its decisions, the Fed indicated that "[t]he COVID-19 outbreak has harmed communities and disrupted economic activity in many countries, including the United States. Global financial conditions have also been significantly affected.[289]" On March 31, 2020, the Trump Administration announced that it was suspending for 90 days tariffs it had placed on imports of apparel and light trucks from China, but not on other consumer goods and metals.[290] In October, Congress and the Trump Administration negotiated over the substance of an additional spending package to support the U.S. economy.

On April 29, 2021, the Bureau of Economic Analysis (BEA) released updated data on U.S. GDP growth for the first quarter of 2021 and updated data for 2020 that indicates the economy grew by 6.4% in the first quarter of 2020, outpacing the 4th quarter 2020 rate of 4.3%. In contrast, U.S. GDP fell at an annual rate of 31.4% in the second quarter, after falling by 5.0% at an annual rate in the first quarter, as indicated in **Figure 16**.[291] On an annual basis, the 2020 rate of growth fell by 3.5%, compared with a 2019 rate of 2.9%. In the second quarter, amidst a large decline overall in U.S. economic activity in response to business lockdowns, some sectors experienced a decline in activity of 80% or more, including recreation, food services and accommodation and transportation sectors. In the third quarter, however, all sectors except mining experienced

[287] *Federal Reserve Releases FOMC Statement*, March 3, 2020, https://www.federalreserve.gov/newsevents/pressreleases/monetary20200303a.htm.

[288] *Stage Three Proposal*, U.S. Department of the Treasury, March 17, 2020. https://www.washingtonpost.com/context/department-of-treasury-proposal-for-COVID-19-response/6c2d2ed5-a18b-43d2-8124-28d394fa51ff/?itid=lk_inline_manual_3.

[289] *Federal Reserve Issues FOMC Statement*, March 15, 2020. https://www.federalreserve.gov/newsevents/pressreleases/monetary20200315a.htm.

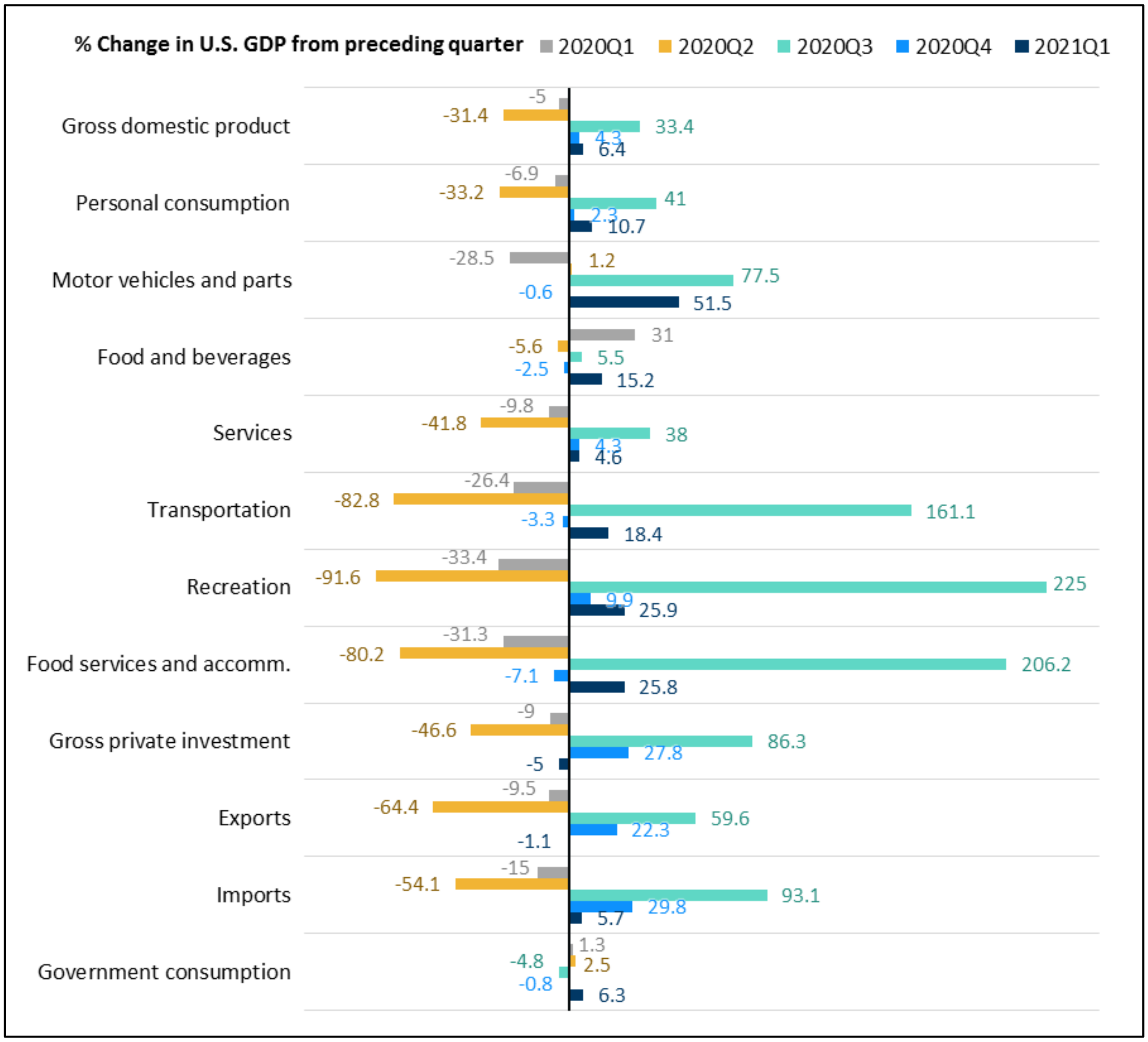
[290] Politi, James and Aime Williams, "Trump to Suspend Some Tariffs for 90 Days," *Financial Times*, March 31, 2020. https://www.ft.com/content/46add447-2048-4348-bd34-2088ad0e3bc8.

[291] Gross Domestic Product, First Quarter 2021 (Advance Estimate), Bureau of Economic Analysis, April 29, 2021.

positive rate of growth. Personal consumption increased by 41% in the third quarter, after falling by 31.4% in the second quarter.

Figure 16. U.S. GDP, Percentage Change From Preceding Quarter

Seasonally adjusted at annual rate



Source: Bureau of Economic Analysis. Created by CRS.

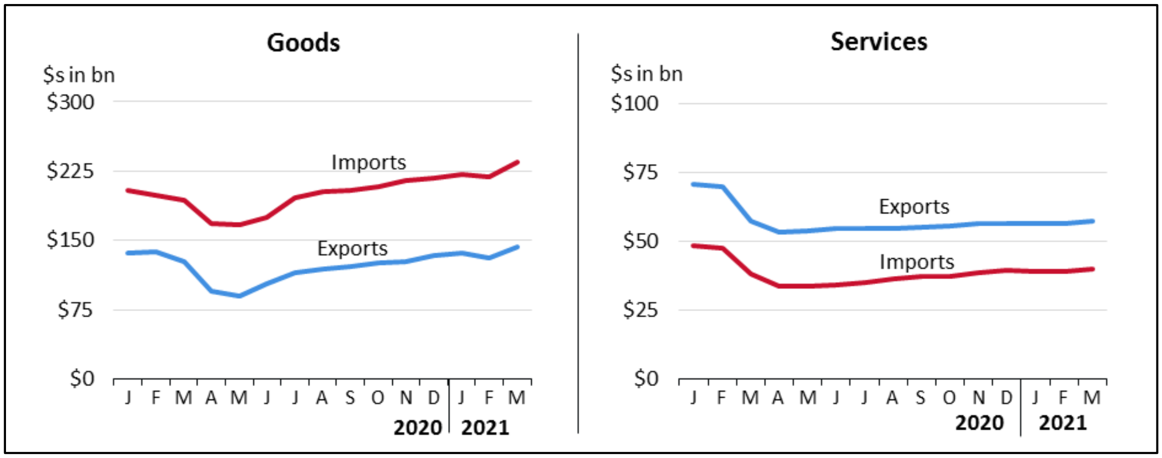
Notes: Exports and imports represent the combination of goods and services.

On May 4, 2021, the U.S. Census Bureau reported an increase in the overall U.S. goods and services trade deficit in March 2021, compared with February 2021, of $4 billion to reach a monthly record $74.4 billion. The increase in the monthly deficit in goods and services primarily reflected a larger increase in the nominal value of goods exports relative to the value of imported goods. Nominal values for services trade rose in small percentage terms for exports and imports, as indicated in **Figure 17**.[292] According to BEA data, goods exports increased from $131.2 billion in February 2021 to $142.9 billion in March 2021 and goods imports increased from $219.2 billion to $234.4 billion. On a year-over-basis, the overall goods and services trade deficit in 2020 increased by $105 billion, or 18.2%, compared with 2019 and demonstrates the impact that

[292] *Monthly U.S. International Trade in Goods and Services, March 2021*, Census Bureau, May 4, 2021.

business lockdowns had on U.S. and global trade in the first quarter of 2020. Relative to 2019, U.S. goods exports in 2020 fell by 13.2%, while goods imports fell by 6.6%, accounting for the largest part of the increase in the annual U.S. trade balance. Services exports declined by 21% in 2020 relative to 2019, while services imports fell by 22%, reflecting the drop overall in services activities as a result of quarantines and business lockdowns.

Figure 17. Monthly U.S. Exports and Imports of Goods and Services 2020, 2021



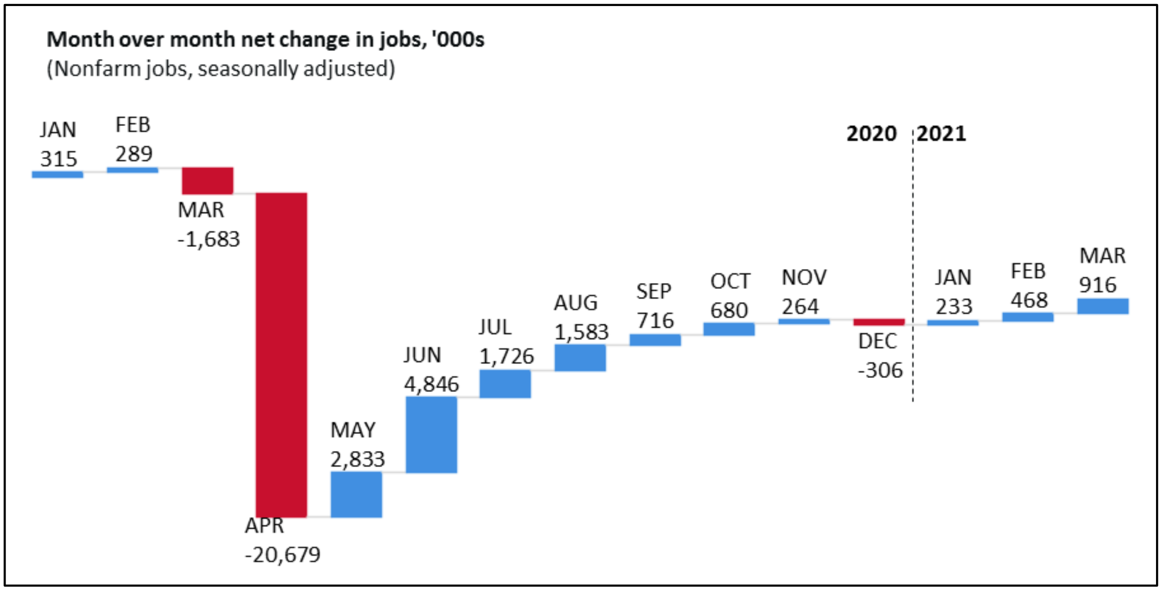
Source: Census Bureau, Bureau of Economic Analysis. Created by CRS.

On April 2, 2021, the BLS released data on the employment situation in March, which indicated that nonfarm payroll rose by 916,000, up from the 468,000 jobs gained in February and pushed the rate of unemployment down to 6.0%.[293] The data also indicate that 11.4 million persons reported in March they did not work at all or worked fewer hours at some point in the previous 4 weeks because their employer closed or lost business due to the pandemic.

As indicated in **Figure 18**, with the exception of December, the U.S. economy experienced monthly gains in jobs since the loss of more than 20 million jobs in April, 2020. In general, the monthly gains in jobs has varied and by March 2021 had not equaled the number of jobs lost. The number of unemployed workers was 9.7 million in March 2021, down from the previous month's total of 10.0 million. Over the eleven–month period from May 2020 through March 2021, job gains were notable in the leisure and hospitality industry (particularly in food services and drinking establishments), retail trade, public-sector education and health services, health care and social assistance, professional and business services, and other services, while employment in government (mostly state and local governments) fell.

[293] *The Employment Situation-March 2021*, Bureau of Labor Statistics, April 2, 2021. https://www.bls.gov/. The unemployment number does not include 5.8 million workers who were working part time not by choice and 6.9 million individuals seeking employment. In addition, BLS indicated that some workers had been misclassified as employed, but should have been classified as unemployed, which would have raised the rat e of unemployment by 0.4 percentage points.

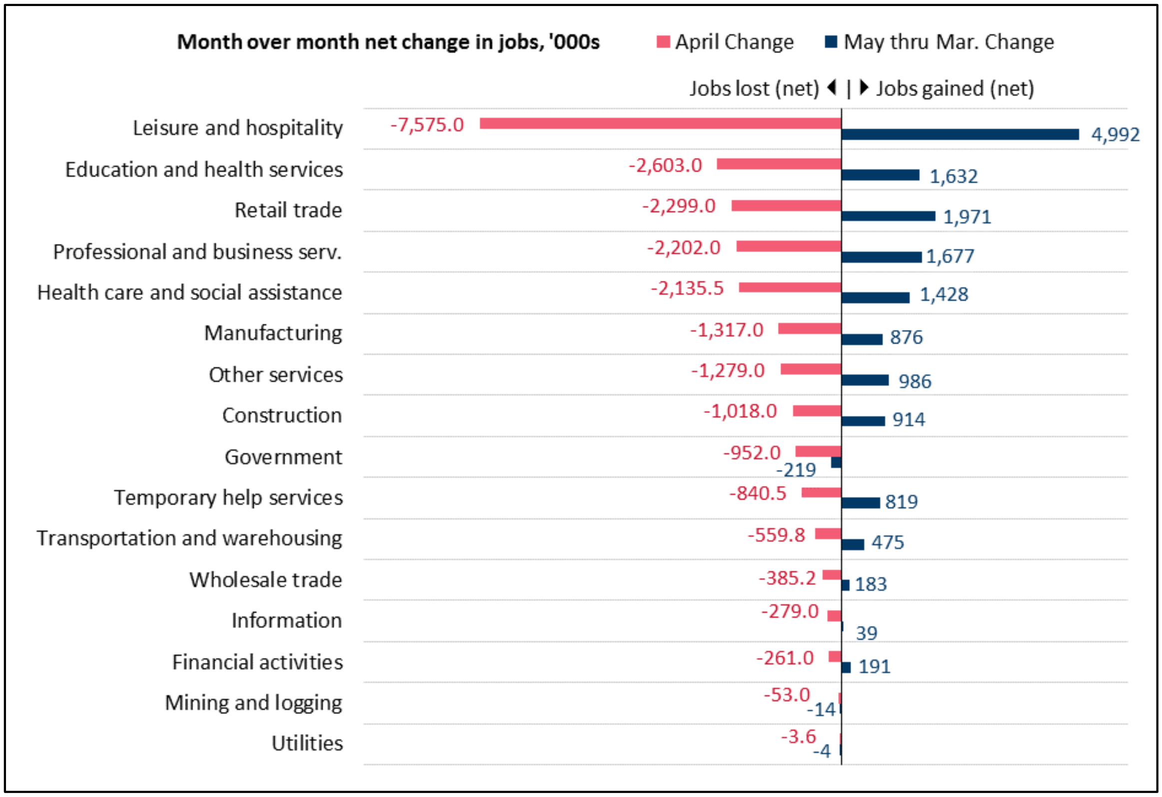
Figure 18. Change in Total Monthly U.S. Nonfarm Employment



Source: Bureau of Labor Statistics. Created by CRS.

In the first stages of the pandemic, the Department of Labor reported on May 8, 2020, that the U.S. nonfarm unemployment rate in April, 2020, increased by 20 million, which raised the total number of unemployed Americans 23 million, or an unemployment rate of 14% of a total civilian labor force of 156 million. The unemployment rate did not include approximately 10 million workers who were involuntarily working part-time and another 9 million individuals who were seeking employment. As indicated in **Figure 19**, the number of unemployed individuals increased the most in the leisure and hospitality sector, reflecting national quarantining policies to reduce the spread of COVID-19 through social contact. The employment losses were widely spread across the economy, affecting every nonfarm sector and all labor groups.

Figure 19. Change in U.S. Employment by Major Industrial Sector



Source: *The Employment Situation*, Bureau of Labor Statistics, various months 2020 and 2021. Created by CRS.

In a speech on May 13, 2020, Federal Reserve Chairman Jerome Powell reported that Federal Reserve analyses indicated that of individuals working in February, 2020, "almost 40 percent of those in households making less than $40,000 a year had lost a job in March."[294] Chairman Powell also indicated that given the extraordinary nature of the current economic downturn the Fed would, "continue to use our tools to their fullest until the crisis has passed and the economic recovery is well under way."

In characterizing the monetary and fiscal response to the economic downturn, Chairman Powell said in a speech on October 6, the monetary response included, "the full range of tools at our disposal," including cutting key interest rates, "unprecedented" asset purchases, establishing emergency lending facilities to support households, businesses and state and local governments, and implementing targeted and temporary measures for banks to support their customers.[295] In addition, the fiscal response accomplished three objectives, it provided support to households, businesses through the Paycheck Protection Program, and financial markets. Chairman Powell concluded his remarks arguing the necessity of continued fiscal support for the economy:

> The expansion is still far from complete. At this early stage, I would argue that the risks of policy intervention are still asymmetric. Too little support would lead to a weak recovery, creating unnecessary hardship for households and businesses. Over time, household

[294] *Current Economic Issues*; Speech at the Peterson Institute for International Economics, Jerome H. Powell, May 13, 2020.

[295] *Recent Economic Developments and the Challenges Ahead*, Jerome H Powell, Remarks at the National Association for Business Economists, October 6, 2020.

> insolvencies and business bankruptcies would rise, harming the productive capacity of the economy, and holding back wage growth. By contrast, the risks of overdoing it seem, for now, to be smaller. Even if policy actions ultimately prove to be greater than needed, they will not go to waste.[296]

Monetary Policy[297]

Forward Guidance

Forward guidance refers to Fed public communications on its future plans for short-term interest rates, and it took many forms following the 2008 financial crisis. As monetary policy returned to normal in recent years, forward guidance was phased out. It is being used again today. For example, when the Fed reduced short-term rates to zero on March 15, it announced that it "expects to maintain this target range until it is confident that the economy has weathered recent events and is on track to achieve its maximum employment and price stability goals."

Quantitative Easing

Large-scale asset purchases, popularly referred to as *quantitative easing* or *QE*, were also used during the financial crisis. Under QE, the Fed expanded its balance sheet by purchasing securities. Three rounds of QE from 2009 to 2014 increased the Fed's securities holdings by $3.7 trillion.

On March 23, the Fed announced that it would increase its purchases of Treasury securities and mortgage-backed securities (MBS)—including commercial MBS—issued by government agencies or government-sponsored enterprises to "the amounts needed to support smooth market functioning and effective transmission of monetary policy…. " These would be undertaken at the unprecedented rate of up to $125 billion daily during the week of March 23. As a result, the value of the Fed's balance sheet is projected to exceed its post-financial crisis peak of $4.5 trillion. One notable difference from previous rounds of QE is that the Fed is purchasing securities of different maturities, so the effect likely will not be concentrated on long-term rates.

Actions to Provide Liquidity

Reserve Requirements

On March 15, the Fed announced that it was reducing reserve requirements—the amount of vault cash or deposits at the Fed that banks must hold against deposits—to zero for the first time ever. As the Fed noted in its announcement, because bank reserves are currently so abundant, reserve requirements "do not play a significant role" in monetary policy.

Term Repos

The Fed can temporarily provide liquidity to financial markets by lending cash through repurchase agreements (repos) with primary dealers (i.e., large government securities dealers who are market makers). Before the financial crisis, this was the Fed's routine method for targeting the federal funds rate. Following the financial crisis, the Fed's large balance sheet meant that repos were no longer needed, until they were revived in September 2019. On March 12, the Fed

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[296] Ibid., p. 7.

[297] This section was prepared by Marc Labonte, Specialist in Macroeconomic Policy, Government and Finance Division, CRS. CRS Insight IN11259, *Federal Reserve: Recent Actions in Response to COVID-19*, by Marc Labonte.

announced it would offer a three-month repo of $500 billion and a one-month repo of $500 billion on a weekly basis through the end of the month in addition to the shorter-term repos it had already been offering. These repos would be larger and longer than those offered since September. On March 31, the Fed announced the Foreign and International Monetary Authorities (FIMA) Repo Facility, which works like the foreign repo pool in reverse. This facility allows foreign central banks to convert their U.S. Treasury holdings into U.S. dollars on an overnight basis. The Fed will charge a (typically) above market interest rate of 0.25 percentage points above the interest rate paid on bank reserves. The facility is intended to work in tandem with currency swap lines to provide additional dollars to meet global demand and is available to a broader group of central banks than the swap lines.

Discount Window

In its March 15 announcement, the Fed encouraged banks (insured depository institutions) to borrow from the Fed's discount window to meet their liquidity needs. This is the Fed's traditional tool in its "lender of last resort" function. The Fed also encouraged banks to use intraday credit available through the Fed's payment systems as a source of liquidity.

Foreign Central Bank Swap Lines

Both domestic and foreign commercial banks rely on short-term borrowing markets to access U.S. dollars needed to fund their operations and meet their cash flow needs. But in an environment of strained liquidity, only banks operating in the United States can access the discount window. Therefore, the Fed has standing "swap lines" with major foreign central banks to provide central banks with U.S. dollar funding that they can in turn lend to private banks in their jurisdictions. On March 15, the Fed reduced the cost of using those swap lines and on March 19 it extended swap lines to nine more central banks. On March 31, 2020, the Fed set up a new temporary facility to work in tandem with the swap lines to provide additional dollars to meet global demand. The new facility allows central banks and international monetary authorities to exchange their U.S. Treasury securities held with the Federal Reserve for U.S. dollars, which can then be made available to institutions in their jurisdictions.[298]

Emergency Credit Facilities for the Nonbank Financial System

In 2008, the Fed created a series of emergency credit facilities to support liquidity in the nonbank financial system. This extended the Fed's traditional role as lender of last resort from the banking system to the overall financial system for the first time since the Great Depression. To create these facilities, the Fed relied on its emergency lending authority (Section 13(3) of the Federal Reserve Act). To date, the Fed has created six facilities—some new, and some reviving 2008 facilities—in response to COVID-19.

- On March 17, the Fed revived the commercial paper funding facility to purchase commercial paper, which is an important source of short-term funding for financial firms, nonfinancial firms, and asset-backed securities (ABS).
- Like banks, primary dealers are heavily reliant on short-term lending markets in their role as securities market makers. Unlike banks, they cannot access the discount window. On March 17, the Fed revived the primary dealer credit facility,

[298] For additional information about swap lines, see CRS In Focus IF11489, *Federal Executive Agencies: Selected Pay Flexibilities for COVID-19 Response*, by Barbara L. Schwemle.

which is akin to a discount window for primary dealers. Like the discount window, it provides short-term, fully collateralized loans to primary dealers.

- On March 19, the Fed created the Money Market Mutual Fund Liquidity Facility (MMLF), similar to a facility created during the 2008 financial crisis. The MMLF makes loans to financial institutions to purchase assets that money market funds are selling to meet redemptions.
- On March 23, the Fed created two facilities to support corporate bond markets—the Primary Market Corporate Credit Facility to purchase newly issued corporate debt and the Secondary Market Corporate Credit Facility to purchase existing corporate debt on secondary markets.
- On March 23, the Fed revived the Term Asset-Backed Securities Loan Facility to make nonrecourse loans to private investors to purchase ABS backed by various nonmortgage consumer loans.
- On April 6, the Fed announced the Payroll Protection Program Lending Facility (PPPLF) to provide credit to depository institutions (e.g., banks) making loans under the CARES Act (H.R. 748/P.L. 116-136) Payroll Protection Program. Because banks are not required to hold capital against these loans, this facility increases lending capacity for banks facing high demand to originate these loans. The PPP provides low-cost loans to small businesses to pay employees. These loans do not pose credit risk to the Fed because they are guaranteed by the Small Business Administration.
- On April 9, the Fed announced the Main Street Lending Program (MSLP), which purchases loans from depository institutions to businesses with up to 10,000 employees or up to $2.5 billion in revenues. The loans to businesses would defer principal and interest repayment for one year, and the businesses would have to make a "reasonable effort" to retain employees.
- On April 9, the Fed announced the Municipal Liquidity Facility (MLF) to purchase state and municipal debt in response to higher yields and reduced liquidity in that market. The facility will only purchase debt of larger counties and cities.

Many of these facilities are structured as special purpose vehicles controlled by the Fed because of restrictions on the types of securities that the Fed can purchase. Although there were no losses from these facilities during the financial crisis, assets of the Treasury's Exchange Stabilization Fund have been pledged to backstop any losses on several of the facilities today.

Fiscal Policy

In terms of a fiscal stimulus, Congress adopted H.R. 6074 on March 5, 2020 (P.L. 116-123), to appropriate $8.3 billion in emergency funding to support efforts to fight COVID-19; President Trump signed the measure on March 6, 2020. President Trump also signed on March 18, H.R. 6201 (P.L. 116-127), the Families First COVID-19 Response Act, that provides paid sick leave and free COVID-19 testing, expands food assistance and unemployment benefits, and requires employers to provide additional protections for health care workers. Other countries have indicated they will also provide assistance to workers and to some businesses. Congress also considered other possible measures, including contingency plans for agencies to implement offsite telework for employees, financial assistance to the shale oil industry, a reduction in the payroll tax,[299] and extended of the tax filing deadline.[300] President Trump took additional actions, including

- Announcing on March 11, 2020, restrictions on all travel from Europe to the United States for 30 days, directing the Small Business Administration (SBA) to offer low-interest loans to small businesses, and directing the Treasury Department to defer tax payments penalty-free for affected businesses.[301]
- Declaring on March 13, a state of emergency that frees up disaster relief funding to assist state and local governments to address the effects of the pandemic. The President also announced additional testing for the virus, a website to help individuals identify symptoms, increased oil purchases for the Strategic Oil Reserve, and a waiver on interest payments on student loans.[302]
- Invoking on March 18, 2020, the Defense Production Act (DPA) that gives him the authority to require some U.S. businesses to increase production of medical equipment and supplies that are in short supply.[303]

On March 25, 2020, the Senate adopted the COVID-19 Aid, Relief, and Economic Security Act (S. 3548) to formally implement President Trump's proposal by providing direct payments to taxpayers, loans and guarantees to airlines and other industries, and assistance for small businesses, actions similar to those of various foreign governments. The House adopted the measure as H.R. 748 on March 27, and President Trump signed the measure (P.L. 116-136) on March 27. The law

- Provided funding for $1,200 tax rebates to individuals, with additional $500 payments per qualifying child. The rebate begins phasing out when incomes exceed $75,000 (or $150,000 for joint filers).
- Assisted small businesses by providing funding forgivable bridge loans; and additional funding for grants and technical assistance; authorized emergency loans to distressed businesses, including air carriers; and suspended certain aviation excise taxes.
- Created a $367 billion loan program for small businesses, established a $500 billion lending fund for industries, cities and states, $150 billion for state and local stimulus funds, and $130 billion for hospitals.

[299] Armus, Theo, "Federal, State Officials Attempt to Fight Virus Through Social Distancing, Stimulus Package," *Washington Post*, March 11, 2020. https://www.washingtonpost.com/world/2020/03/11/Covid-19-live-updates/.

[300] Sevastopulo, Demetri, "US Treasury Considers Tax Filing Extension to Ease Virus Impact," *Financial Times*, March 11, 2020. https://www.ft.com/content/c65a6e40-639f-11ea-b3f3-fe4680ea68b5.

[301] McAuley, James, and Michael Birnbaum, "Europe Blindsided by Trump's Travel Restrictions, with Many Seeing Political Motive," *Washington Post*, March 12, 2020. https://www.washingtonpost.com/world/europe/europe-blindsided-by-trumps-travel-restrictions-with-many-seeing-political-motive/2020/03/12/42a279d0-6412-11ea-8a8e-5c5336b32760_story.html.

[302] Fritz, Angela and Meryl Kornfield, "President Trump Declares a National Emergency, Freeing $50 Billion in Funding," *Washington Post*, March 13, 2020. https://www.washingtonpost.com/world/2020/03/13/Covid-19-latest-news/.

[303] Hellmann, Jessie, "Trump Invokes Defense Production Act as Covid-19 Response," *The Hill*, March 18, 2020. https://thehill.com/policy/healthcare/488226-trump-invokes-defense-production-act-as-Covid-19-response.

- Increased unemployment insurance benefits, expanded eligibility and offered workers an additional $600 a week for four month, in addition to state unemployment programs.[304]
- Established special rules for certain tax-favored withdrawals from retirement plans; delayed due dates for employer payroll taxes and estimated tax payments for corporations; and revised other provisions, including those related to losses, charitable deductions, and business interest.
- Provided additional funding for the prevention, diagnosis, and treatment of COVID-19; limited liability for volunteer health care professionals; prioritized Food and Drug Administration (FDA) review of certain drugs; allowed emergency use of certain diagnostic tests that had not been approved by the FDA; expanded health-insurance coverage for diagnostic testing and required coverage for preventative services and vaccines; and revised other provisions, including those regarding the medical supply chain, the national stockpile, the health care workforce, the Healthy Start program, telehealth services, nutrition services, Medicare, and Medicaid.
- Temporarily suspended payments for federal student loans and revised provisions related to campus-based aid, supplemental educational-opportunity grants, federal work-study, subsidized loans, Pell grants, and foreign institutions.
- Authorized the Department of the Treasury temporarily to guarantee money-market funds.

On April 23, 2020, the House passed H.R. 266 (P.L. 116-139), the Paycheck Protection Program and Health Care Enhancement Act, following similar actions by the Senate the previous day. The measure provided $484 billion for small business loans, health care providers, and COVID-19 testing. In particular, the law

- Provided additional lending authority for certain Small Business Administration (SBA) programs in response to COVID-19, increased the authority for: (1) the Paycheck Protection Program, under which the SBA may guarantee certain loans to small businesses during the COVID-19 pandemic; and (2) advanced on emergency economic injury disaster loans made in response to COVID-19. The provision also expanded eligibility for disaster loans and advances to include agricultural enterprises.
- Provided $100 billion in FY2020 supplemental appropriations to HHS for the Public Health and Social Services Emergency Fund, including $75 billion to reimburse health care providers for health care related expenses or lost revenues that were attributable to the coronavirus outbreak; and $25 billion for expenses to research, develop, validate, manufacture, purchase, administer, and expand capacity for COVID-19 tests to effectively monitor and suppress COVID-19.
- Allocated specified portions of the $25 billion for COVID-19 testing to states, localities, territories, and tribes; the Centers for Diseases Control and Prevention; the National Institutes of Health; the Biomedical Advanced Research and Development Authority; the Food and Drug Administration; community health centers; rural health clinics; and testing for the uninsured.

[304] For additional information about unemployment and sick leave provisions, see CRS Insight IN11249, *H.R. 6201: Paid Leave and Unemployment Insurance Responses to COVID-19*, by Sarah A. Donovan, Katelin P. Isaacs, and Julie M. Whittaker, and CRS In Focus IF11487, *The Families First Coronavirus Response Act Leave Provisions*, by Sarah A. Donovan and Jon O. Shimabukuro.

On May 12, House Democrats introduced H.R. 6800, the Heroes Act, to provide a $3 trillion supplemental spending bill for additional financial resources to state and local governments. The measure passed the House on May 15 and was sent to the Senate for consideration. Among other provisions, the bill would have:

- Appropriated $200 billion in hazard pay to essential workers.
- Extended additional payments to individuals, for nutrition and housing assistance, and provide funding for additional testing and contact tracing.
- Restored the tax deduction for state and local taxes.
- Provided FY2020 emergency supplemental appropriations to federal agencies.
- Provided payments and other assistance to state, local, tribal, and territorial governments.
- Provided additional direct payments of up to $1,200 per individual.
- Expanded paid sick days, family and medical leave, unemployment compensation, nutrition and food assistance programs, housing assistance, and payments to farmers.
- Modified and expanded the Paycheck Protection Program, which provides loans and grants to small businesses and nonprofit organizations.
- Expanded several tax credits and deductions.
- Provided funding and establish requirements for COVID-19 testing and contact tracing.
- Eliminated cost-sharing for COVID-19 treatments;
- Extended and expanded the moratorium on certain evictions and foreclosures; and
- Required employers to develop and implement infectious disease exposure control plans.

On December 2, the Federal Reserve released its "Beige Book"—a mostly qualitative assessment of the U.S. economy produced 8 times a year by the 12 regional Federal Reserve banks—that provides an assessment of economic activity across the various regions of the country. The assessment indicated that economic activity in November had improved modestly, although was negligible in some Districts.[305]

On December 27, 2020, President Trump signed the Consolidated Appropriations Act of 2021 (P.L. 116-260) that provided funding for government operations and $900 billion in additional funding for COVID-19 related programs and a $1.4 trillion budget that comprised 12 appropriations bills. In general, the measure provided:

- $600 in stimulus checks to qualifying individuals, including adults and children.
- Extended unemployment benefits of up to $300 per week through at least March 14, 2021, and Pandemic Unemployment Assistance for qualifying individuals up to 11 weeks.
- Financial assistance to businesses, including forgivable Paycheck Protection Program loans, extensions of the PPP program to churches and the entertainment industry, and grants through the Economic Injury Disaster Loans program.

[305] *The Beige Book: Summary of Commentary on Current Economic Conditions by Federal Reserve District*, December 2, 2020, the Federal Reserve System.

- A moratorium on rental evictions through January 31, 2021, and emergency funding for renters.
- Funds to support vaccine production, distribution, and testing.
- Funds for schools, colleges, and child-care assistance.
- Assistance to the transportation industry through funds for busses, roads, airports, and Amtrak and assistance to the airline workers through the Payroll Support Program.
- On March 11, 2021, President Biden signed the American Rescue Plan Act (P.L. 117-2) that appropriated $1.9 trillion to stimulating the U.S. economy. The major features of the Act include:
- Extended expanded unemployment benefits with a $300 weekly supplement through September 6, 2021.
- Provided $1,400 in direct payments to individuals making up to $75,000, $112,500 for single parents, and $150,000 for couples.
- Provided emergency paid leave, expanded child tax credit up to $3,600 per child, expanded child and dependent care credit, and earned income tax credit.
- Provided over $50 billion in grants and other payments to small businesses.
- $350 billion in assistance to state, local, and tribal governments.
- Education funding: $130 billion for schools; $40 billion to colleges and universities.
- Nearly $50 billion in housing assistance, emergency rental assistance, homeowner assistance, and other housing programs.
- Over $160 billion in health care-related programs, including COVID-19 vaccines, testing, contact tracing and other health-care related funding.
- $50 billion for transportation provisions, including funding for airports, airlines, Amtrak and other commuter rail services.
- $10.4 billion for agriculture, including debt relief for farmers.
- $1.9 billion to improve cybersecurity.
- Changes to other health care provisions.

Personal Income and Outlays

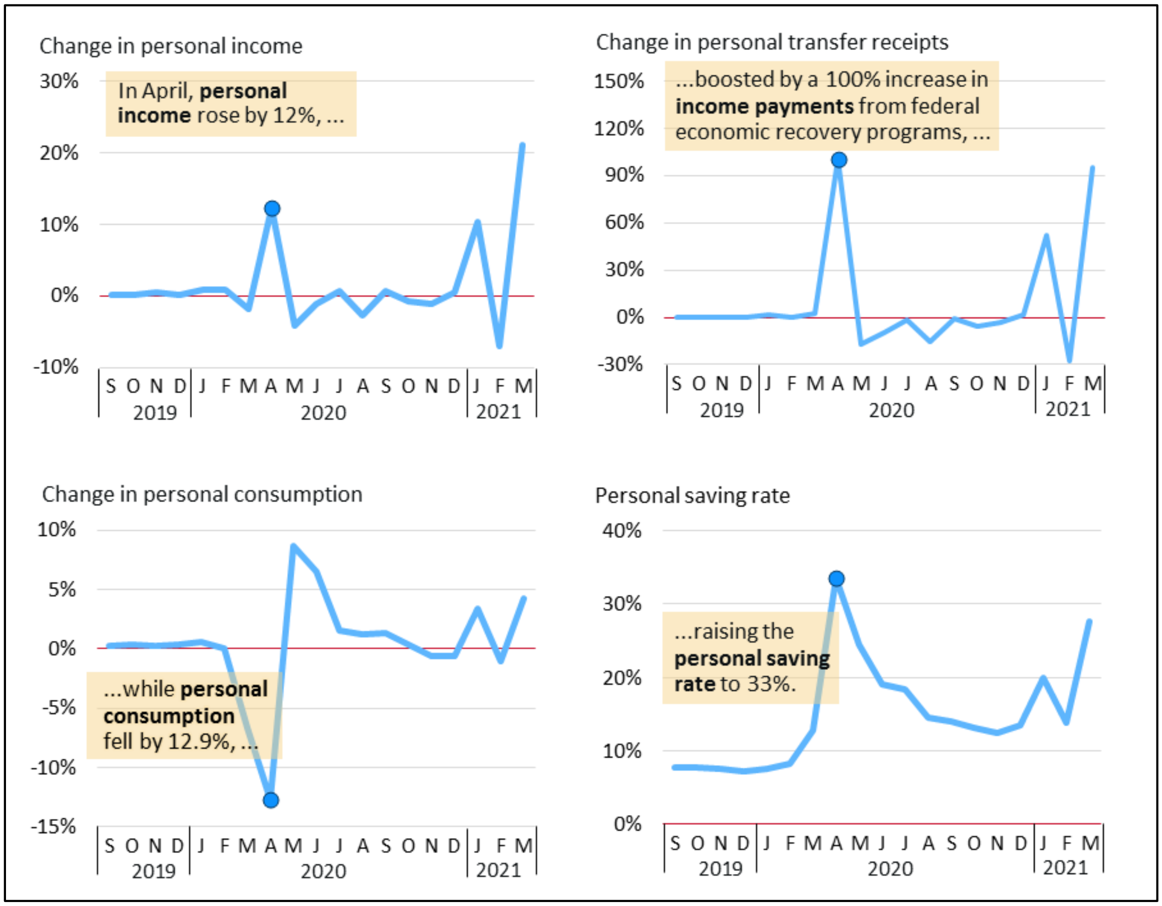
Another metric for assessing the impact of the pandemic on the U.S. economy is provided through changes in personal income, consumption, and saving. Also, given the role transfer payments from the federal government to individuals have played in supporting household income, these transfers have provided an additional measure of the impact of lockdowns on business and consumer activity. On May 29, 2020, the Bureau of Economic Analysis (BEA) reported that U.S. personal income rose by 12.0% in April, primarily reflecting a 100% increase in government transfer payments to individuals from federal economic recovery programs, as indicated in **Figure 20**.[306] During the same period, personal consumption fell by 13% as consumers curtailed spending. The lower level of spending combined with income transfers, a portion of which households apparently deposited into saving accounts, raised the personal

[306] *Personal Income and Outlays, April 2020*, Bureau of Economic Analysis, May 29, 2020.

savings rate to 33.7% in April at an annual rate, compared to an annual rate of 8.2% in February 2020.

On April 30, 2021, BEA reported that personal income rose by 21% in March, after falling by 7.0% in February.[307] The rise in personal income similarly reflected an increase of 95% in government transfer payments to $8.2 trillion, compared with the previous month and exceeded the previous high of $6.6 trillion set in April 2020. The increase in personal income supported an increase in personal consumption of 4.2%. During March, however, personal saving rose by 144% and nearly doubled the personal saving rate from 13.9% in February to 27.6% in March. For 2020, the annual personal saving rate reached 16.3%, more than double the 2019 rate of 7.5%.

Figure 20. U.S. Personal Income, Consumption, and Saving



Source: *Personal Income and Outlays, February 2021*, Bureau of Economic Analysis, March 26, 2021. Created by CRS.

GDP Output "Gap"

Another measure of the economic impact of the COVID-19 pandemic on the global economy is represented by the difference between actual economic performance, measured by gross domestic product (GDP), and potential output, or the maximum amount an economy can produce at full

[307] *Personal Income and Outlays, March 2020*, Bureau of Economic Analysis, April 30, 2020.

employment, referred to as the output gap.[308] The IMF estimated that the loss in economic output represented by the GDP output gap among major advanced economies, which as a group account for about 60% of global GDP, would be -3.6% in 2020, or that the economies operated at a rate that was 3.6% below their combined potential, as indicated in **Table 11**.[309] According to the IMF's assessment, not only would the major advanced economies as a group operate below their full potential through 2025, but none of the individual economies was projected to operate above potential during the 2020-2025 forecasting period. The Euro are as a whole, and France and Italy in particular, were projected to experience the largest output gap through 2022. At 3.2% the U.S. output gap was among the smallest of the major advanced economies.

Table 11. IMF Forecast of Major Advanced Economy GDP Output Gap

(in percentage terms)

				Projected					
	2017	2018	2019	2020	2021	2022	2023	2024	2025
Major Advanced Economies	–0.5%	0.2%	0.4%	-3.6%	-2.2%	-1.0%	-0.4%	-0.2%	-0.1%
United States	–1.0	0.4	1.0	-3.2	-1.5	-0.5	-0.2	-0.1	-0.1
Euro Area	–0.4	0.2	0.1	-5.1	-3.2	-1.6	-0.6	-0.2	0.0
Germany	1.0	1.2	0.4	-3.5	-1.8	-0.7	-0.2	-0.1	0.0
France	–1.3	–0.5	0.0	-5.6	-4.0	-2.5	-1.4	-0.6	0.0
Italy	–1.2	–0.7	–0.7	-5.4	-5.4	-2.6	-0.9	-0.6	-0.5
Japan	–0.3	–0.8	–0.7	-3.0	-2.1	-1.0	-0.4	0.0	0.0
United Kingdom	0.3	0.0	0.0	-3.9	-3.5	-1.7	-1.0	-0.5	0.0
Canada	0.4	0.6	0.4	-3.8	-1.4	-0.3	-0.1	0.0	0.0

Source: International Monetary Fund.

Notes: The output gap is the difference between GDP and potential GDP, expressed as a percentage of potential GDP. A positive value indicates that GDP exceeds potential GDP; a negative value indicates that GDP falls short of potential GDP.

On February 1, 2021, the Congressional Budget Office (CBO) issued an estimate of the impact of the COVID-19 pandemic on the U.S. GDP output gap and on other major indicators.[310] In the forecast, the U.S. output gap in 2020 was estimated at 3.3%, the largest difference between the actual and potential output in the U.S. economy since the period following the 2008-2009 financial crisis, as indicated in **Figure 21**. The CBO also estimated that the output gap following the financial crisis persisted from 2009-2016, reflecting the lengthy period of the recovery. In the current context, the CBO estimates that

- a rise in vaccinations will lead to reductions in social distancing and an economic recovery;
- real GDP will expand in 2021 and reach its pre-pandemic peak in mid-2021;

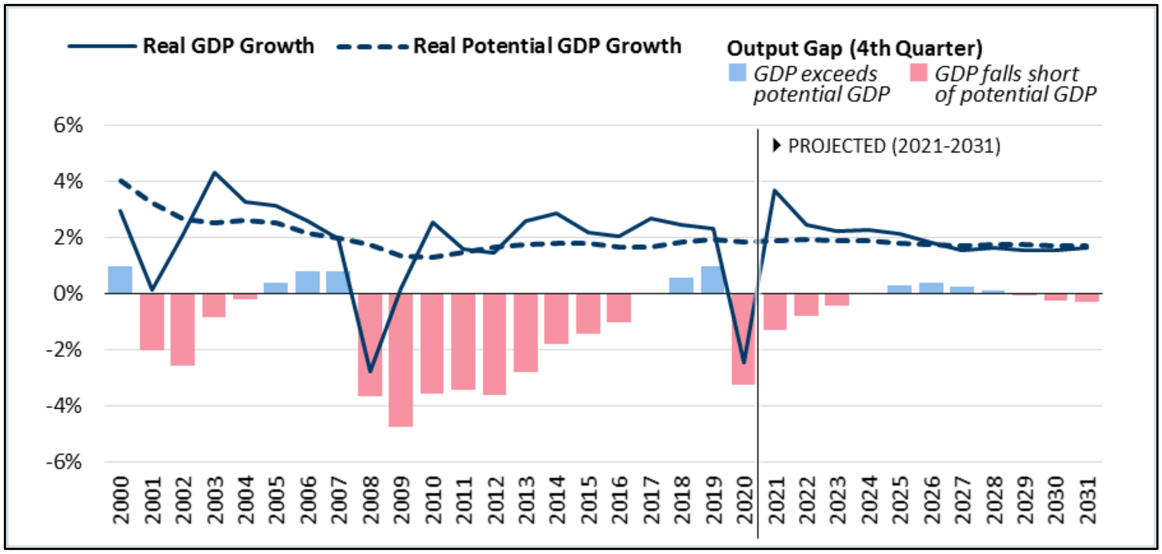
[308] According to the Congressional Budget Office, The output gap is the difference between GDP and potential GDP, expressed as a percentage of potential GDP. A positive value indicates that GDP exceeds potential GDP; a negative value indicates that GDP falls short of potential GDP. Values for the output gap are for the fourth quarter of each year.

[309] *World Economic Outlook*, International Monetary Fund, October 2020, Table A.8.

[310] *An Overview of the Economic Outlook: 2021 to 2031*, Congressional Budget Office, February 2021.

- the labor force participation rate will recover, but lag behind the pre-pandemic rate through the estimation period.[311]

Figure 21. Real and Potential U.S. GDP and the Output Gap



Source: Congressional Budget Office, February 2021. Created by CRS.

Notes: The output gap is the difference between GDP and potential GDP, expressed as a percentage of potential GDP. A positive value indicates that GDP exceeds potential GDP; a negative value indicates that GDP falls short of potential GDP. Values for the output gap are for the fourth quarter of each year.

CBO also estimated that U.S. GDP would grow at an annual rate of 4.6% in 2021, but then generally trend downward to pre-pandemic rates in the 2024-2031 period, as indicated in **Table 12**. The unemployment rate was also projected to peak in 2020 at 8.1%, but trend downward and reach the pre-pandemic rate in the 2024 to 2025 period. Similarly, the growth rates of exports and imports were projected fall by 13% and 10%, respectively, in 2020, before growing at positive rates through the forecast period. The CBO indicated, however, that its forecast was subject to a "high degree of uncertainty," due to the uncertain course of the pandemic, the effectiveness of monetary and fiscal policies, and the response of global financial markets to increases in public deficits and debt.[312]

Table 12. Congressional Budget Office Projection of Major U.S. Economic Indicators, 2020 to 2031

(annual percentage changes)

								Average annual	
	2017	2018	2019	*2020*	*2021*	*2022*	*2023*	*2024-2025*	*2026-2031*
				Projected					
Gross Domestic Product (GDP)	2.3%	3.0%	2.2%	-3.4%	4.6%	2.9%	2.2%	2.1%	1.6%
Potential GDP	1.6	1.8	1.9	1.9	1.9	1.9	1.9	1.8	1.7

[311] Ibid, p. 2.

[312] Ibid, p. 4.

	2017	2018	2019	2020	2021	2022	2023	2024-2025	2026-2031
								Average annual	
				Projected					
Output Gap	0.0	0.6	1.0	-3.3	-1.3	-0.8	-0.4	0.4	-0.1
Civilian Unemp. Rate	4.4	3.9	3.7	8.1	5.7	5.0	4.7	4.0	4.1
Labor Force Participation Rate	62.9	62.9	63.1	61.7	61.9	62.1	62.0	61.7	61.1
Exports	3.9	3.0	-0.1	-13.1	11.3	5.4	2.5	2.0	1.6
Imports	4.7	4.1	1.1	-10.0	13.9	1.6	0.5	2.9	2.1

Source: An Overview of the Economic Outlook: 2021 to 2031, Congressional Budget Office, February 2021.

Federal Reserve Forecast

On March 17, 2021, the Federal Open Market Committee released a statement reiterating previous assessments that, "The path of the economy will depend significantly on the course of the virus, including vaccinations. The ongoing public health crisis will continue to weigh on economic activity, employment, and inflation in the near term, and poses considerable risks to the economic outlook over the medium term."[313] The statement also indicated that, "Following a moderation in the pace of the recovery, indicators of economic activity and employment have turned up recently, although the sectors most adversely affected by the pandemic remain weak." The Fed's March 2021 forecast was more positive than that released in December 2020 with the annual rate of growth for 2021 forecasted at 6.5% compared with the December forecast of 4.2%, as indicated in **Table 13**.

In its forecast, the Federal Open Market Committee made three projections for such major economic variables as GDP, the unemployment rate, and the personal consumption expenditure (PCE) measure of inflation compared with its December 2020 projections of the same variables. The three measures include (1) the median projected change; (2) the central tendency, which excludes the highest and lowest three projections; and (3) the range, which indicates forecasts from the highest to the lowest values.

According to the March median forecast, U.S. GDP between 2021 and 2023 was projected grow at a faster rate than in the previous forecast; the unemployment rate could fall to 4.5%, compared with a rate of 5.0%; the rate of inflation could rise by 0.6% above the rate forecasted in December. The possible range for GDP, however could vary between 5.0% and 7.3% in 2021, with a possible rate of unemployment between 4.0% and 6.8%. The Fed also indicated its intentions to continue purchasing Treasury securities at $80 billion per month and its purchases of mortgage-backed securities of at least $40 billion a month, "until substantial further progress has been made toward the Committee's (Federal Open Market Committee) maximum employment and price stability goals.[314]

In previous statements, the FOMC has stated that the range of estimates is necessary to represent the "extremely elevated" uncertainty related to the economic effects of the pandemic and the

[313] *Summary of Economic Projections,* Board of Governors of the Federal Reserve System, March 17, 2020. https://www.federalreserve.gov/newsevents/pressreleases/monetary20201216a.htm

[314] Federal Reserve Issues FOMC Statement, Board of Governors of the Federal System, March 17, 2021.

limited historical response of the U.S. economy to past economic shocks. As a result of the "significant uncertainty and downside risks associated with the pandemic, including how much the economy would weaken and how long it would take to recover," the assessment of a more pessimistic projection was judged to be no less pessimistic than the baseline scenario (median). Another member of the Fed recently stated the pandemic-related economic crisis should be used to distill lessons and "institute reforms so our system is more resilient and better able to withstand a variety of possible shocks in the future, including those emanating from outside the financial system.[315]

Table 13. Federal Reserve Economic Projections, March 2021

Percentage change, fourth quarter over previous year fourth quarter

	Change in real GDP	December projection	Unemploy-ment rate	December projection	PCE inflation	December projection	Core PCE inflation	December projection
Median[1]								
2021	6.5	4.2	4.5	5.0	2.4	1.8	2.2	1.8
2022	3.3	3.2	3.9	4.2	2.0	1.9	2.0	1.9
2023	2.2	2.4	3.5	3.7	2.1	2.0	2.1	2.0
Longer run	1.8	1.8	4	4.1	2.0	2.0		
Central Tendency[2]								
2021	5.8-6.6	3.7-5.0	4.2-4.7	4.7-5.4	2.2-2.4	1.7-1.9	2.0-2.3	1.7-1.8
2022	3.0-3.8	3.0-3.5	3.6-4.0	3.8-4.6	1.8-2.1	1.8-2.0	1.9-2.1	1.8-2.0
2023	2.0-2.5	2.2-2.7	3.2-3.8	3.5-4.3	2.0-2.2	1.9-2.1	2.0-2.2	1.9-2.1
Longer run	1.8-2.0	1.7-2.0	3.8-4.3	3.9-4.3	2.0	2.0		
Range[3]								
2021	5.0-7.3	0.5-5.5	4.0-5.5	4.0-6.8	2.1-2.6	1.2-2.3	1.9-2.5	1.5-2.3
2022	2.5-4.4	2.5-4.0	3.2-4.2	3.5-5.8	1.8-2.3	1.5-2.2	1.8-2.3	1.6-2.2
2023	1.7-2.6	2.0-3.5	3.0-4.0	3.3-5.0	1.9-2.3	1.7-2.2	1.9-2.3	1.7-2.2

Source: Summary of Economic Projections, March 17, 2021.

Notes: (1) For each period, the median is the middle projection when the projections are arranged from lowest to highest. (2) The central tendency excludes the three highest and three lowest projections for each variable in each year. (3) The range for a variable in a given year includes all participants' projections, from lowest to highest, for that variable in that year. Projections for the unemployment rate represent the average civilian unemployment rate in the fourth quarter of the year indicated.

On June 25, the Federal Reserve (Fed) announced the result of stress tests on 33 U.S. banks under three scenarios[316] to ascertain their capital sufficiency given the strains to the financial system

[315] Brainard, Lael, Some Preliminary Financial Stability Lessons From the COVID -19 Shock, At the 2021 Annual Washington Conference, Institute of International Bankers March 1, 2021.

[316] The three scenarios include (1) a rapid, or "V"-shaped recovery; (2) a slower, or "U"-shaped recovery; and (3) a "W"-shaped or double-dip recession with a short-lived recovery followed by a severe drop in activity later this year due to a second COVID event. *Assessment of Bank Capital During the Recent Coronavirus Event*, Board of Governors of the Federal Reserve System, June 2020, p. 2.

caused by COVID-19.[317] The Fed reported that all large U.S. banks were "sufficiently capitalized" to survive the three scenarios, but it determined that there is "material uncertainty" about the trajectory for the economic recovery and corresponding uncertainty related to its effects on the financial health of banking organizations. In addition, the Fed concluded that under the first and second scenarios, all of the banks would remain well above their minimum capital ratios, but under the third scenario (a double-dip recession), several banks would approach their minimum capital ratios.[318] As a result, the Fed announced that it will

- suspend share repurchases;
- cap the growth of dividends and impose a limit that does not exceed recent income;
- require banks to reassess their capital needs and resubmit their capital plans later this year; and
- conduct additional stress analyses later in 2020 as data from banks become available and economic conditions evolve.[319]

Other Developments

The Department of Labor announced on July 2 that an additional 1.4 million Americans had filed for Unemployment Insurance, raising the total to 48.7 million over the 15-week period from mid-March.[320] The insured seasonally adjusted unemployment rate in June was estimated at 13.2%, unchanged from the revised rate in the previous week. On July 2, the BLS also released data on the employment situation in June, indicating that nonfarm payroll rose by 4.8 million, lowering the unemployment rate to 11.5%.[321] The unemployment number does not include 9.1 million individuals working part time who would prefer to work full time and 8.2 million individuals who are seeking employment. In addition, the June unemployment number does not include individuals who were misclassified as being employed, but absent due to temporary, pandemic closures. Had the individuals been classified as unemployed, the overall unemployment rate would have been one percentage point higher. On July 2, the Census Bureau also reported that the U.S. goods and services trade deficit in May was $54.6 billion, up 9.7% from the April deficit as a result of a 4.4% drop in U.S. exports and a 0.9% drop in U.S. imports.[322] Through May, U.S. exports are down by 14% and imports were down by 13.1% in value terms compared with the same five months in 2019.

On July 17, the Federal Reserve Board modified its Main Street Lending Program to provide greater access to credit for nonprofit organizations such as educational institutions, hospitals, and social service organizations.

On August 13, the Department of Labor announced that over the 21-week period from mid-March to the beginning of August 2020, 56 million Americans filed for unemployment insurance.[323] On

[317] Ibid.

[318] Ibid., p. 2.

[319] Ibid., pp. 1-2.

[320] *Unemployment Insurance Weekly Claims*, July 1, 2020. https://www.dol.gov/ui/data.pdf.

[321] *The Employment Situation—June 2020*, Bureau of Labor Statistics, July 2, 2020.

[322] *Monthly U.S. International Trade in Goods and Services, May 2020*, U.S. Census Bureau, July 2, 2020.

[323] *Unemployment Insurance Weekly Claims*, Department of Labor, August 13, 2020. https://www.dol.gov/; Romm, Tony and Jeff Stein, 2.4 Million Americans Filed Jobless Claims Last Week, Bringing Nine Week Total to 38.6 Million, *Washington Post,* May 21, 2020. https://www.washingtonpost.com/business/2020/05/21/unemployment-claims-coronavirus/

a seasonally adjusted basis, the number of insured unemployed workers was 15.5 million in early August, down from a peak of 25 million in mid-May. The total number of people claiming benefits in all programs in the week ending July 25, totaled 28.3 million, up from 1.7 million in the comparable week in 2019. The insured unemployment rate was 10.6%, also down from the peak reached in early May.

On August 20, the European Central, the Bank of England, the Bank of Japan, and the Swiss National Bank jointly announced they would reduce their emergency dollar swap operations with the Fed to once a week, down from three, as a result of reduced demand for dollars. On a broad dollar trade weighted index for goods and services, the dollar has depreciated by 7.2% since the high value reached on March 23 2020. Reportedly, the shift by the central banks reflects market sentiment that the global financial system has recovered from the initial negative impact of the pandemic experienced in the first quarter of 2020.[324]

On August 27, the DOL announced that over the 23-week period from mid-March to late August 2020, 58.4 million Americans filed for unemployment insurance.[325] On a seasonally adjusted basis, the number of insured unemployed workers was 14.5 million in mid-August, down from a peak of 25 million in mid-May. The total number of people claiming benefits in all programs in the week ending August 8, totaled 27 million, up from 1.6 million in the comparable week in 2019. The insured unemployment rate was 9.9%, also down from the peak reached in early May.

For additional information about the impact of COVID-19 on the U.S. economy see CRS Insight IN11235, *COVID-19: Potential Economic Effects*.[326]

Europe

In the early stages of the pandemic, European countries did not adopt a synchronized fiscal policy response similar to the one they developed during the 2008-2009 global financial crisis. That response changed with the adoption of the €750 billion pandemic economic recovery package, termed the Next Generation EU (NGEU), in July 2020. For the most part, EU members have used a combination of national fiscal policies and bond buying by the ECB to address the economic impact of the pandemic. Individual countries have adopted quarantines and required business closures, travel and border restrictions, tax holidays for businesses, extensions of certain payments and loan guarantees, and subsidies for workers and businesses. The European Commission has advocated for greater coordination among the EU members in developing and implementing monetary and fiscal policies to address the economic fallout from the viral pandemic.

In its February 2021 economic forecast, the European Commission projected that EU GDP growth rate would rise by 3.7% in 2021, after falling by 6.3% in 2020, nearly a full percentage point lower than it had estimated in its Autumn forecast of -7.4%, as indicated in **Table 14**. The Commission indicated the EU economy was weaker in the fall of 2020 and weaker going into 2021 than its earlier forecast had indicated as a result of a resurgence of COVID-19 cases and the emergence of new, more virulent strains of the virus in the fall that led countries to re-impose

[324] Arnold, Martin and Eva Szalay, Central Banks Scale Back Dollar Lending Operation as Demand Drops, *Financial Times*, August 20, 2020. https://www.ft.com/content/210ef737-2628-4431-bd6b-456aa65b2024.

[325] *Unemployment Insurance Weekly Claims*, Department of Labor, August 27, 2020. https://www.dol.gov/; Romm, Tony and Jeff Stein, 2.4 Million Americans Filed Jobless Claims Last Week, Bringing Nine Week Total to 38.6 Million, *Washington Post*, May 21, 2020. https://www.washingtonpost.com/business/2020/05/21/unemployment-claims-coronavirus/

[326] CRS Insight IN11235, *COVID-19: Potential Economic Effects*, by Marc Labonte.

restrictions. The Commission concluded, however, that the outlook for the EU economy had improved since its November 2020 forecast due to the development of vaccines and the pace of vaccinations. The economic impact of the renewed lockdowns was projected to be unequal across EU members due to differences in the stringency of containment measures, the severity of the infections and differences in economic institutions and policy responses.[327]

The Commission forecast assumes that trade activity in the EU and the UK will be negatively affected beginning in January 2021 due to the UK withdrawal from the EU. By country, Spain, France, Italy, Portugal, and Greece are forecasted to experience the largest declines in GDP in 2020 due to a number of factors, including a dependence on tourism, which is expected to experience a slow economic recovery. Germany and other Northern European countries are projected to experience a more modest decline in economic activity. Some analysts argue that this disparity in economic effects may complicate efforts to coordinate economic policies.[328]

In assessing the challenge of the crisis, the Commission argued that, "[t]he risk … is that the crisis will lead to severe distortions within the Single Market and to entrenched economic, financial and social divergences between euro area Member States that could ultimately threaten the stability of the Economic and Monetary Union."[329] The Commission estimated that European countries would emerge from the recession at different rates and different paths, reflecting differences in the timing of when social distancing measures were introduced and removed, dependency on tourism, and the magnitude and effectiveness of economic policies. The Commission also noted the rise in saving among EU households that it argued is mostly involuntary, rather than precautionary and was projected to revert to pre-crisis levels once consumers resumed their regular spending patterns.

Table 14. European Commission Economic Forecast

Percentage change, real GDP

	Winter Forecast 2021		Autumn Forecast 2020			Summer Forecast 2020	
	2021	2022	2020	2021	2022	2020	2021
EU	3.7	3.9	-7.4	4.1	3.0	-7.4	6.1
Euro area	3.8	3.8	-7.8	4.2	3.0	-7.7	6.3
Belgium	3.9	3.1	-8.4	4.1	3.5	-7.2	6.7
Germany	3.2	3.1	-5.6	3.5	2.6	-6.5	5.9
Ireland	3.4	3.5	-2.3	2.9	2.6	-7.9	6.1
Greece	3.5	5.0	-9.0	5.0	3.5	-9.7	7.9
Spain	5.6	5.3	-12.4	5.4	4.8	-9.4	7.0
France	5.5	4.4	-9.4	5.8	3.1	-8.2	7.4
Italy	3.4	3.5	-9.9	4.1	2.8	-9.5	6.5
Luxembourg	3.2	4.3	-4.5	3.9	2.7	-5.4	5.7
Malta	4.5	5.4	-7.3	3.0	6.2	-5.8	6.0
Netherlands	1.8	3.0	-5.3	2.2	1.9	-6.8	5.0

[327] *European Economic Forecast Winter 2021*, European Commission, February 2021, p. 1.

[328] Birnbaum, Michael, European Union Says That Pandemic Recession Will be Worst in its History, *Washington Post*, May 6, 2020. https://www.washingtonpost.com/world/european-union-says-pandemic-recession-will-be-worst-in-its-history/2020/05/06/e787a70e-8f96-11ea-9322-a29e75effc93_story.html.

[329] *European Economic Forecast Autumn 2020*.

	Winter Forecast 2021		Autumn Forecast 2020			Summer Forecast 2020	
	2021	2022	2020	2021	2022	2020	2021
Austria	2.0	5.1	-7.1	4.1	2.5	-5.5	5.0
Portugal	4.1	4.3	-9.3	5.4	3.5	-6.8	5.8
Finland	2.8	2.0	-4.3	2.9	2.2	-6.3	3.7
Denmark	2.9	3.6	-3.9	3.5	2.4	-5.9	5.1
Sweden	2.7	4.0	-3.4	3.3	2.4	-6.1	4.3
World	5.2	3.8	-3.8	4.7	3.7	-3.9	4.9

Source: *European Economic Forecast Autumn 2020*, European Commission, November 2020.

Pandemic-related economic effects have had significant negative effects on business activity in Europe, with some business activity indexes falling farther then they had during the height of the financial crisis and others indicating that Europe experienced a deep economic recession in the first half of 2020.[330] EU countries issued travel warnings and banned all but essential travel across borders, which raised concerns that even much-needed medical supplies could stall at borders affected by traffic backups.[331] The travel bans and border closures reportedly caused temporary shortages of farm laborers in Germany, the UK, and Spain. In response, farm growers attempted to recruit students and workers who had been laid off due to the pandemic.[332]

According to data released by Eurostat in April, 2021, the EU rate of GDP growth during the second quarter of 2020 contracted by 11.2% in the EU and by 11.6% in the Euro area from the previous quarter, reflecting negative rates of growth across all EU countries, as indicated in **Table 15**. In contrast, the EU and the Euro area grew by 11.6% and 12.5%, respectively, in the third quarter. Compared with growth during the third quarter in the previous year, however, EU and Euro area growth rates were down 4.1% and 4.2%, respectively. During the fourth quarter, the rate of economic growth declined by 0.5% in the EU and by 0.7% in the Euro area as a result of a lessening in business lockdowns during the period that raises the prospects of positive rate of growth across most EU countries in the first quarter of 2021. At 18.8%, the United Kingdom experienced the largest contraction in its GDP growth rate in the second quarter compared with the previous quarter among European countries, but third quarter growth rate rebounded by 16.6%, the third fastest rate behind France and Spain.

Table 15. EU Real GDP Growth Rates 2020

Seasonally adjusted data

	Percentage change compared with the previous quarter				Percentage change compared with the same quarter of the previous year			
	2020Q1	2020Q2	2020Q3	2020Q4	2020Q1	2020Q2	2020Q3	2020Q4
EU	-3.3	-11.2	11.6	-0.5	-2.7	-13.8	-4.1	-4.6
Euro area	-3.8	-11.6	12.5	-0.7	-3.3	-14.6	-4.2	-4.9

330 Arnold, Martin and Valentina Romei, "Business Activity Crashes to Record Low in Eurozone," *Financial Times*, March 24, 2020. https://www.ft.com/content/f5ebabd4-6dad-11ea-89df-41bea055720b.

331 Birnbaum, Michael, "Europe Is Closing Borders amid Covid-19 Outbreak. They May be Hard to Reopen," *Washington Post*, March 17, 2020. https://www.washingtonpost.com/world/europe/europe-closing-borders-Covid-19/2020/03/17/131a6f56-67c8-11ea-b199-3a9799c54512_story.html.

332 Evans, Judith Evans, Emiko Terazono, and Leila Abboud, "Farmers Warn over Food Supply with Harvest Workers Shut Out," *Financial Times*, March 27, 2020. https://www.ft.com/content/e27a9395-db47-4e7b-b054-3ec6ba4cbba3.

	Percentage change compared with the previous quarter				Percentage change compared with the same quarter of the previous year			
	2020Q1	2020Q2	2020Q3	2020Q4	2020Q1	2020Q2	2020Q3	2020Q4
Belgium	-3.4	-11.8	11.6	-0.1	-2.0	-13.9	-4.3	-5.1
Bulgaria	0.4	-10.1	4.3	2.2	2.3	-8.6	-5.2	-3.8
Czechnia	-3.1	-8.7	6.9	0.6	-1.8	-10.8	-5.1	-4.8
Denmark	-1.3	-6.7	6.3	0.7	0.2	-7.5	-2.2	-1.5
Germany	-2.0	-9.7	8.5	0.3	-2.2	-11.3	-4.0	-3.6
Estonia	-1.1	-5.2	2.5	2.1	0.2	-5.5	-3.5	-1.9
Ireland	-3.9	-2.1	11.8	-5.1	4.1	-2.7	8.9	-0.2
Greece	0.4	-13.4	3.1	2.7	0.1	-13.8	-10.5	-7.9
Spain	-5.4	-17.8	17.1	0.0	-4.3	-21.6	-8.6	-8.9
France	-5.9	-13.5	18.5	-1.4	-5.6	-18.6	-3.7	-4.9
Croatia	-1.1	-15.4	8.2	2.7	0.3	-15.7	-9.8	-7.1
Italy	-5.5	-13.0	15.9	-1.9	-5.8	-18.2	-5.2	-6.6
Cyprus	-0.5	-13.1	8.9	1.4	1.4	-12.6	-4.7	-4.5
Latvia	-2.3	-7.0	6.9	1.1	-1.2	-8.6	-2.8	-1.8
Lithuania	-0.3	-6.2	6.1	-0.2	2.5	-4.7	0.1	-1.0
Luxem-bourg	-1.6	-7.3	9.3	1.6	1.3	-7.9	0.0	1.4
Hungary	-0.5	-14.3	11.0	1.3	1.8	-13.4	-4.8	-4.1
Malta	-2.4	-14.2	8.0	3.8	2.1	-14.6	-8.6	-6.2
Nether-lands	-1.6	-8.4	7.7	-0.1	-0.4	-9.1	-2.4	-3.0
Austria	-3.0	-10.7	11.8	-2.7	-3.6	-13.6	-3.8	-5.9
Poland	-0.3	-9.0	7.9	-0.7	1.9	-8.0	-1.8	-2.7
Portugal	-4.0	-14.0	13.4	0.2	-2.2	-16.4	-5.6	-6.1
Romania	0.6	-11.8	5.6	4.8	2.7	-10.0	-5.4	-1.8
Slovenia	-4.8	-10.1	12.2	-1.0	-3.3	-13.0	-3.0	-5.0
Slovakia	-5.1	-8.3	11.6	0.2	-3.8	-12.1	-2.3	-2.6
Finland	-0.6	-4.7	3.3	0.4	-0.6	-6.1	-2.7	-1.7
Sweden	-0.3	-7.6	6.4	-0.2	0.1	-7.7	-2.2	-2.1
Other countries								
United Kingdom	-3.0	-18.8	16.0	:	-2.4	-20.8	-8.6	:
Iceland	:	:	:	:	:	:	:	:
Norway	-1.4	-4.6	4.5	0.6	0.4	-4.4	-0.1	-1.1
Switzer-land	-1.9	-7.2	7.6	0.3	-0.6	-8.1	-1.6	-1.7

Source: *Eurostat*, April 13, 2021.

In previous actions, the European Commission announced that it would relax rules on government debt to allow countries more flexibility in using fiscal policies. Also, the European Central Bank (ECB) announced that it was ready to take "appropriate and targeted measures," if needed. France, Italy, Spain and six other Eurozone countries have argued for creating a "coronabond," a joint common European debt instrument. Similar attempts to create a common Eurozone-wide debt instrument have been opposed by Germany and the Netherland, among other Eurozone members.[333] With interest rates already low, however, it indicated that it would expand its program of providing loans to EU banks, or buying debt from EU firms, and possibly lowering its deposit rate further into negative territory in an attempt to shore up the Euro's exchange rate.[334] ECB President-designate Christine Lagarde called on EU leaders to take more urgent action to avoid the spread of COVID-19 from triggering a serious economic slowdown. The European Commission indicated that it was creating a $30 billion investment fund to address COVID-19 issues.[335] In other actions

- On March 12, 2020, the ECB decided to (1) expand its longer-term refinance operations (LTRO) to provide low-cost loans to Eurozone banks to increase bank liquidity; (2) extend targeted longer-term refinance operations (TLTRO) to provide loans at below-market rates to businesses, especially small and medium-sized businesses, directly affected by COVID-19; (3) provide an additional €120 billion (about $130 billion) for the Bank's asset purchase program to provide liquidity to firms that was in addition to €20 billion a month it previously had committed to purchasing.[336]
- On March 13, 2020, financial market regulators in the UK, Italy, and Spain intervened in stock and bond markets to stabilize prices after historic swings in indexes on March 12, 2020.[337] In addition, the ECB announced that it would do more to assist financial markets in distress, including altering self-imposed rules on purchases of sovereign debt.[338]
- Germany's Economic Minister announced on March 13, 2020, that Germany would provide unlimited loans to businesses experiencing negative economic activity (initially providing $555 billion), tax breaks for businesses,[339] and export credits and guarantees.[340]

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[333] Dombey, Daniel Dombey, Guy Chazan, and Jim Brunsden, "Nine Eurozone Countries Issue Call for 'Coronabonds,'" *Financial Times*, March 26, 2020. https://www.ft.com/content/258308f6-6e94-11ea-89df-41bea055720b.

[334] "US Fed's Covid-19 Rate Cut Is First Move in a Dance with Markets," *Financial Times*, March 4, 2020. https://www.ft.com/content/83c07594-5e3a-11ea-b0ab-339c2307bcd4. Giles, Chris, Martin Arnold, Sam Jones, and Jamie Smyth, "Finance Ministers 'Ready to Take Action' on Covid-19," *Financial Times*, March 3, 2020. https://www.ft.com/content/b86f7d92-5d38-11ea-b0ab-339c2307bcd4.

[335] Arnold, Martin and Guy Chazan, "Christine Lagarde Calls on EU Leaders to Ramp up Covid-19 Response," *Financial Times*, March 11, 2020. https://www.ft.com/content/44eac1f2-6386-11ea-a6cd-df28cc3c6a68.

[336] *Monetary Policy Decisions*, The European Central Bank, March 12, 2020. https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.mp200312~8d3aec3ff2.en.htm.

[337] Stafford, Philip and Adam Samson, "European Regulators Intervene in Bid to Stabilize Stock and Bond Prices," *Financial Times*, March 13, 2020. https://www.ft.com/content/77f57d4c-6509-11ea-a6cd-df28cc3c6a68.

[338] Arnold, Martin, "ECB Enters Damage-Limitation Mode with Pledge of More Action," *Financial Times*, March 13, 2020. https://www.ft.com/content/f1cbd4f8-650f-11ea-b3f3-fe4680ea68b5.

[339] Loveday, Morris and Louisa Beck, "Germany Announces 'Bazooka' Economic Plan to Mitigate Covid-19 Hit," *Washington Post*, March 13, 2020. https://www.washingtonpost.com/world/2020/03/13/Covid-19-latest-news/.

[340] Arnold, Martin, Guy Chazan, Victor Mallet, Miles Johnson, and Daniel Dombey, "How European Economies Are Trying to Mitigate the Covid-19 Shock," *Financial Times*, March 17, 2020. https://www.ft.com/content/26af5520-

- On March 18, the ECB indicated that it would: create a €750 billion (about $800 billion) Pandemic Emergency Purchase Program to purchase public and private securities; expand the securities it will purchase to include nonfinancial commercial paper; and ease some collateral standards.[341] In announcing the program, President-designate Lagarde indicated that the ECB would, "do everything necessary." In creating the program, the ECB removed or significantly loosened almost all constraints that applied to previous asset-purchase programs, including a self-imposed limit of buying no more than one-third of any one country's eligible bonds, a move that was expected to benefit Italy.
- The ECB also indicated that it would make available up to €3 trillion in liquidity through refinancing operations.[342] Britain ($400 billion) and France ($50 billion) also announced plans to increase spending to blunt the economic effects of the virus. Recent forecasts indicate that the economic effect of COVID-19 could push the Eurozone into an economic recession in 2020.[343]
- On March 23, 2020, Germany announced that it would adopt a €750 billion (over $800 billion) package in economic stimulus funding.
- On April 15, Eurozone finance ministers announced a €500 billion (about $550 billion) emergency spending package to support governments, businesses, and workers and will provide funds to the European Stability Mechanism, the European Investment Bank, and for unemployment insurance.[344]

On May 5, 2020, Germany's Constitutional Court issued a ruling challenging the legality of a bond-buying program conducted by the ECB since 2015, the Public Sector Purchase Program (PSPP). In its ruling, the court directed the German government to request clarification from the ECB about various aspects of the PSPP program that the court argued might exceed the ECB's legal mandate. The German government has not yet indicated how it will formally respond to the ruling, but many analysts contend that the ruling—and the challenge to the authority of the ECB and the European Court of Justice—could have far-reaching implications for future ECB activities. This could potentially include challenges to the ECB's Pandemic Emergency Purchase Program (PEPP) initiated in March. The PEPP is a temporary program that authorizes the ECB to acquire up to €750 billion (about $820 billion) in private and public sector securities to address the economic effects of the pandemic crisis.

The German court's ruling has heightened tensions between the court and the European Court of Justice. Following the 2008-2009 financial crisis and the subsequent Eurozone financial crisis, the ECB launched four asset purchase programs in 2014 to provide assistance to financially strapped Eurozone governments and to sustain financial liquidity in Eurozone banks. Those programs included the Corporate Sector Purchase Program (CSPP), the Public Sector Purchase Program (PSPP), the Asset-Backed Securities Purchase Program (ABSPP), and the Third Covered Bond Purchase Program (CBPP3). The programs operated from 2014 to 2018; the PSPP was restarted

6793-11ea-800d-da70cff6e4d3.

[341] *ECB Announces €759 Billion Pandemic Emergency Purchase Program*, the European Central Bank, March 18, 2020. https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.pr200318_1~3949d6f266.en.html.

[342] Lagarde, Christine, "The ECB Will Do Everything Necessary to Counter the Virus," *Financial Times*, March 20, 2020. https://www.ft.com/content/281d600c-69f8-11ea-a6ac-9122541af204.

[343] "Lagarde to Confront Covid-19 Crisis at ECB Policy Meeting," *Financial Times*, March 8, 2020. https://www.ft.com/content/79a280c6-5fb5-11ea-b0ab-339c2307bcd4.

[344] Fleming, Sam and Mehreen Khan, "Eurozone Countries Strike Emergency Deal on Coronavirus Rescue," *Financial Times*, April 9, 2020. https://www.ft.com/content/b984101a-42b8-40db-9a92-6786aec2ba5c.

in November 2019. As of May 8, the PSPP program held €2.2 trillion (about $2.5 trillion) with another €600 billion (about $700 billion) held under other asset purchase programs.[345] Various groups in Germany challenged the legality of the ECB bond-buying programs before the German Constitutional Court arguing that the programs exceeded the ECB's legal mandate. In turn, the German court referred the case to the European Court of Justice, which ruled in December 2019 that the ECB's actions were fully within the ECB's authority.

In the German Constitutional Court's May 5 ruling, the German judges characterized the ECJ's ruling as "incomprehensible," and directly challenged the ECB and the European Court of Justice and the primacy of the European Court of Justice ruling over national law. The German justices argued that the ECB had exceeded its authority by not fully evaluating the economic costs and benefits of previous bond-buying activities, including the impact on national budgets, property values, stock markets, life insurance and other economic effects. The German court also argued that the ECB's lack of a strategy for reducing its holdings of sovereign debt of Eurozone members increased risks for national governments that back up the ECB, and it challenged the ECB's strategy for reducing its holdings of sovereign debt. By the end of June, however, the standoff appeared to be reaching a resolution. The ECB reportedly agreed to provide the German court with the Bank's analysis of the economic and fiscal policy impact of the ECB bond-buying programs. The ECB reportedly will also provide the unpublished full minutes of the central bank's governing council monetary policy meetings, including the ECB's discussions in March 2015 of its purchases of sovereign bonds.[346]

On March 26, 2021, Germany's highest court stopped a law that would have ratified the PEPP bond-buying program. The program requires ratification by each of the EU member's national parliaments. The legislation had been passed by both of Germany's houses of Parliament and was expected to be signed by German president, Frank-Walter Steinmeier when the court intervened.[347]

On May 18, German Chancellor Angela Merkel and French President Emmanuel Macron proposed a €500 billion (about $620 billion) EU recovery fund in an effort to gain a coordinated EU fiscal response to the pandemic.[348] Reportedly, the funds would be raised by the European Commission and used to fund EU spending through grants to individual members to ease the economic strain in some of the southern EU members that have been the most negatively affected. Austria, the Netherland, Denmark, and Sweden indicated they would only support proposals that provided funds to members through loans that would be required to be repaid.

On May 27, ECB President Lagarde indicated that the ECB projected a drop in the EU economy of 8% to 12% in 2020, twice as severe as the recession following the 2008 financial crisis, and called for a €500 billion (about $620 billion) stimulus package.[349] In addition, European Commission President Ursula von der Leyen proposed a €750 billion (about $820 billion) EU recovery fund, termed the "Next Generation Fund," that would provide €500 billion ($550 billion) in grants in a Recovery and Resilience Facility and €250 billion ($270 billion) in loans.

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345 European Central Bank. https://www.ecb.europa.eu/mopo/implement/pepp/html/pepp-qa.en.html.

346 Arnold, Martin, Berlin and ECB Signal End to Legal Impasse Over Bond-Buying, *Financial Times*, June 25, 2020. https://www.ft.com/content/5f000a25-3d54-4610-8579-cab9b21759ee.

347 Chazan, Guy, Germany's Highest Court Blocks Ratification of EU Recovery Fund, *Financial Times*, March 26, 2021. https://www.ft.com/content/74841ea6-4fbf-4c7a-b015-66ba191ffc9b.

348 Fleming, Sam, Victor Mallet, and Guy Chazan, Germany and France Unite in Call for €500 Billion Europe Recovery Fund, *Financial Times*, May 18, 2020. https://www.ft.com/content/c23ebc5e-cbf3-4ad8-85aa-032b574d0562.

349 Arnold, Martin, Coronavirus Hit to Eurozone Economy Set to Dwarf Financial Crisis, *Financial Times*, May 27, 2020. https://www.ft.com/content/a01424e8-089d-4618-babe-72f88184ac57.

The proposal would take the unprecedented step of allowing the EU to issues bonds independently from the other EU central banks.[350] Questions remain over the source and distribution of the funds. The program may have limited appeal given various restrictions: reportedly, the funds must be used to achieve certain EU goals, including increasing competitiveness, shifting away from declining heavy industry, supporting a green economy, and building the digital economy.[351] Proposals for raising funds include issuing 30-year bonds and raising taxes on large technology firms, such as Google and Facebook. In addition to the recovery fund, von der Leyen proposed a revised EC seven-year budget, the Multiannual Financial Framework (MFF), of €1.1trillion for 2021 to 2027.

On May 28, several key political groups within the EU Parliament voiced their support for new rules that would allow the EU to retaliate in such trade areas as services and intellectual property protection without waiting for a WTO ruling. Some Parliamentarians reportedly argued that such expanded authority, termed a "trade bazooka," was necessary to respond to trade disputes, because the United States had blocked the appointment of judges to the WTO's appellate body.[352] European leaders, reportedly interested in finalizing an investment agreement with China, announced they would not follow President Trump in applying trade restrictions on China for positioning itself to limit Hong Kong's autonomy granted by the "one country two systems" principle after the end of British rule in 1997.[353]

The European Central Bank announced on June 4 that it would double to $1.5 trillion its Pandemic Emergency Purchase Program to stimulate the European economy; it also extended the program to at least June 2021.[354] At the same time, the German government announced a package of fiscal measures, including tax cuts, aid to small businesses, cash payments to parent, and other measures totaling €135 billion (about $150 billion). Austria, Denmark, the Netherland, and Sweden have resisted payouts in grants instead of loans that require repayment. The German plan reportedly would give households $336 per child, reduce value added taxes on daily items, and reduce households' utility bills. The plan also includes about $6 billion for the social security system, $11 billion to assist cities cover housing and other costs, about $2 billion for cultural institutions and nonprofit groups and incentives for purchases of electric vehicles.[355]

On June 25, Germany's Minister for Economic Affairs and Energy announced that the German government would provide more than €300 million (about $330 million), to acquire a 25% stake in a privately owned German drug company that is conducting trials on a possible COVID-19 vaccine. Reportedly, the U.S. Government had attempted to acquire part of the company to secure supplies of a potential vaccine. Germany has in place legal restrictions on foreign investments in critical industries such as energy and telecoms, but the German Parliament amended Germany's

[350] Birnbaum, Michael, and Loveday Morris, E.U. Proposes $825 Billion Coronavirus Rescue Plan Giving Brussels Power to Raise Money for First Time, *Washington Post*, May 27, 2020. https://www.washingtonpost.com/world/europe/angela-merkel-economic-rescue/2020/05/27/9d21b998-9f7c-11ea-be06-af5514ee0385_story.html.

[351] Brunsden, Jim and Sam Fleming, How Would Ursula von der Leyen's Coronavirus Recovery Fund Work?, *Financial Times*, May 27, 2020. https://www.ft.com/content/ebaa7dcd-b6f7-418f-802b-7a8dbc9668f1.

[352] Vela, Jakob Hanke, Trade Bazooka Gets Backing From Main Political Groups in EU Parliament, *Politico Pro*, May 28, 2020; *Draft Report*, 2019/10273(COD), European Parliament, Committee on International Trade, May 6, 2020.

[353] Lau, Stuart Lau, Jakob Hanke Vela, Jacopo Barigazzi, and Finbarr Bermingham, EU Won't Follow Trump Into a Trade War Over Hong Kong, Politico Pro, May 28, 2020.

[354] Arnold, Martin, ECB Boosts Bond-Buying Stimulus Package by €600, *Financial Times*, June 4, 2020. https://www.ft.com/content/c59ab92d-e614-4284-a028-46ee3bcf92f9.

[355] Ewing, Jack, and Melissa Eddy, 'Europe Finally Got the Message': Leaders Act Together on Message, *The New York Times*, June 4, 2020. https://www.nytimes.com/2020/06/04/business/europe-coronavirus-economic-support.html?action=click&module=Top%20Stories&pgtype=Homepage.

Foreign Trade Act, set to become law in 2020, that broadens the scope of transactions that must be approved by the Federal government to include "critical" technologies, including robotics, biotech, and quantum computing.[356]

On July 17, the European Commission met to approve the proposed €750 billion support fund to assist European countries address the economic effects of the pandemic. Initially, the Commission was unable to agree on various aspects of the program, but talks continued over the weekend and resumed on July 20. European leaders announced on July 21 they had approved a €750 billion (about $859 billion) pandemic relief package and a multi-year EU budget, referred to as the Multiannual Financial Framework (MFF), with a combined value of over €2 trillion. The pandemic plan is aimed at funding post-pandemic economic recovery with the European Commission set to borrow an unprecedented amount of funds on European capital markets.[357] The €750 billion relief fund reportedly includes a Recovery and Resilience Facility of €672.5 billion, which includes €360 billion in loans and €312.5 billion in grants and half a dozen other initiatives to assist economically weakened member states. The relief fund was coupled with rebates on EU budget contributions for so-called "frugal" states, or EU members with stronger fiscal balances. Austria, the Netherlands, Denmark, and Sweden reportedly will receive such budget rebates.[358]

On September 3, 2020, French Prime Minister Jean Castex announced that France would implement a €100 billion (about $130 billion) spending plan to speed the economy's recovery from the economic effects of the COVID-19 pandemic. Reportedly, the plan includes funding for green energy (including hydrogen energy), transportation (state railways), and industrial innovation.[359]

The United Kingdom

The United Kingdom has taken a number of steps to support economic activity. These steps are expected to limit the damage to the UK economy. The Bank of England (BOE) forecasted in May 2020 that the UK economy would contract by 30% in the first half of 2020, but then rebound sharply in the second half of the year, exhibiting a "V" shaped recovery. The Bank of England has announced a number of policy initiatives including

- On March 11, the BOE adopted a package of four measures to deal with any economic disruptions associated with COVID-19. The measures included an unscheduled cut in the benchmark interest rate by 50 basis points (0.5%) to a historic low of 0.25%; the reintroduction of the Term Funding Scheme for Small and Medium-sized Enterprises (TFSME) that provides banks with over $110 billion for loans at low interest rates; a lowering of banks' countercyclical capital buffer from 1% to zero, which is estimated to support over $200 billion of bank lending to businesses; and a freeze in banks' dividend payments.[360]

356 Miller, Joe, Germany Flexes its Muscles on Foreign Investment, *Financial Times*, June 25, 2020. https://www.ft.com/content/54f92ca5-5380-466b-95f8-3e98b40ebc82.

357 Special Meeting of the European Council-Conclusions, EUCP 10/20, July 21, 2020.

358 Fleming, Sam, Mehreen Khan and Jim Brunsden, EU Leaders Strike Deal on €750bn Recovery Fund After Marathon Summit, *Financial Times*, July 21, 2020. https://www.ft.com/content/713be467-ed19-4663-95ff-66f775af55cc.

359 Mallet, Victor, France Launches €100 Billion Coronavirus Recovery Plan, *Financial Times*, September 3, 2020. https://www.ft.com/content/0921c871-17b5-4e2e-bdea-aab78c2d0090.

360 Romei, Valentina, "Covid-19 Fallout: Bank of England Launches 4 Key Measures," *Financial Times*.

- On March 15, the BOE reinstituted U.S. dollar swap lines with the Federal Reserve.
- On March 17, the BOE and the UK Treasury introduced the COVID Corporate Financing Facility (CCFF) to provide assistance to UK firms to bridge through Covid-19-related disruptions to their cash flow.
- On March 19, during a Special Monetary Policy Meeting, the Bank of England reduced its main interest rate to 0.1%, increased the size of its TFSME fund, and increased the stock of asset purchases by £200 billion to a total of £645 billion financed by issuing UK government bonds and some additional nonfinancial investment-grade corporate bonds.[361]
- On March 20, the BOE participated in an internationally coordinated central bank expansion of liquidity through U.S. standing dollar liquidity swap line arrangements.
- On March, the BOE activated the Contingent Term Repo Facility (CTRF).
- On April 6, announced the activation of the TFSME ahead of schedule.
- On April 23, the Bank of England indicated it would quadruple its borrowing over the second quarter of 2020, reflecting a contraction in the UK economy, lower tax revenues, and increased financial demands to support fiscal policy measures.[362]

In terms of fiscal policy, UK Chancellor of the Exchequer Rishi Sunak proposed a national budget on March 11, 2020, that included nearly $3.5 billion in fiscal spending to counter adverse economic effects of the pandemic and increased in statutory sick leave by about $2.5 billion in funds to small and medium businesses to provide up to 14 days of sick leave for affected employees. The plan provides affected workers up to 80% of their salary, or up to £2,500 a month (about $2,800) if they are laid off. Some estimates indicate that UK spending to support its economy could rise to about $60 billion in 2020.[363] Identified as the Coronavirus Job Retention Scheme (CJRS), the program was backdated to start on March 1 and had been expected to run through May, but was extended to expire the end of June 2020. Prime Minister Johnson also announced that all pubs, cafés, restaurants, theatres, cinemas, nightclubs, gyms and leisure centers would be closed.[364] Part of the fiscal spending package includes open-ended funding for the National Health Service (NHS), $6 billion in emergency funds to the NHS, $600 million hardship fund to assist vulnerable people, and tax cuts and tax holidays for small businesses in certain affected sectors.[365]

https://www.ft.com/content/4e60c08e-6380-11ea-b3f3-fe4680ea68b5.

[361] Johnson, Miles, Chris Giles, Martin Arnold, and James Politi, "Italy's PM Urges Brussels to Unleash €500bn Rescue Fund," *Financial Times,* March 18, 2020. https://www.ft.com/content/5b8205ac-6a06-11ea-800d-da70cff6e4d3.

[362] Giles, Chris, and Tommy Stubbington, UK Treasury to Quadruple Borrowing to £180bn Over Next Quarter, *Financial Times,* April 23, 2020. https://www.ft.com/content/8886e002-c260-4daa-8b7b-509b3f7e6edb.

[363] Parker, George, Chris Giles, and Sebastian Payne, "Sunak Turns on Financial Firepower to Help Workers," *Financial Times,* March 20, 2020. https://www.ft.com/content/826d465a-6ac3-11ea-a3c9-1fe6fedcca75.

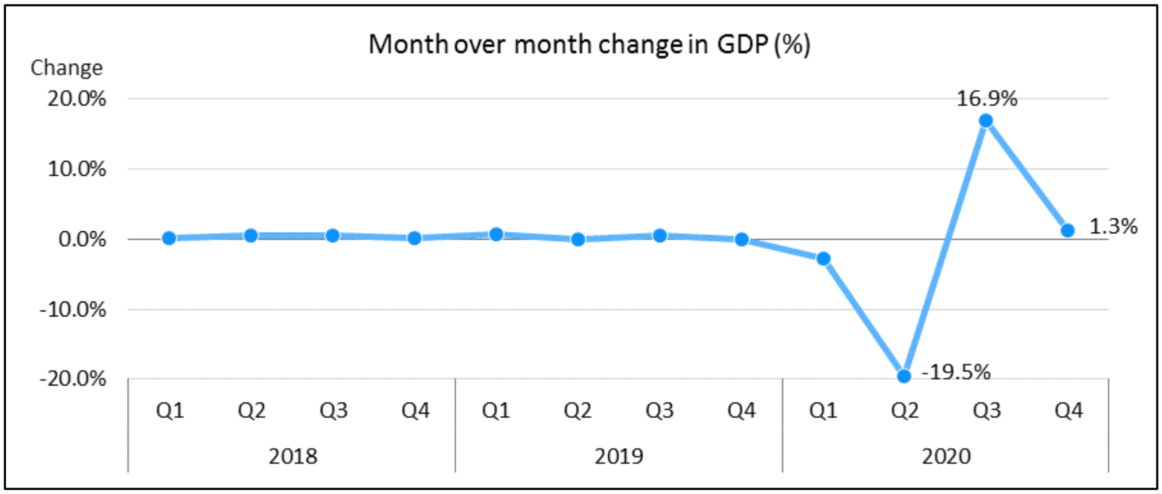
[364] Ibid.

[365] Payne, Sebastian and Chris Giles, "Budget 2020: Sunak Unveils £30bn Stimulus to Counter UK Covid-19 Shock," *Financial Times.* https://www.ft.com/content/f7b27264-6384-11ea-a6cd-df28cc3c6a68.

On July 8, Chancellor Sunak proposed additional fiscal measures to support the UK economy.[366] The measures include raising threshold tax levels on home purchases, reducing taxes for the hospitality industry, and a "job retention bonus" of £1.000 (around $1,200) per worker to companies that bring employees out of furlough, estimated at around 9 million workers, and a subsidy of £2.000 for firms that hire new apprentices. In addition, the proposed plan includes a 50% discount on meals and nonalcoholic drinks eaten at restaurants and cafes during August, with some restrictions.

On March 31, 2021, the UK Government announced that UK GDP in the fourth quarter of 2020 grew by 1.3%, after contracting by 19.5% (revised) in the second quarter and growing by 16.9% in the third quarter based on market prices, as indicated in **Figure 22**.[367]

Figure 22. UK Month Over Month Quarterly Percentage Change in GDP



Source: *GDP Quarterly National Accounts, UK: October to December 2020,* Office for National Statistics, March 31, 2021. Created by CRS.

Despite the growth in the 3rd and 4th quarters, the UK economy remained 7.3% below where it was at the end of 2019. For the year as a whole, the rate of growth of the UK economic contracted by 9.8%, as indicated in **Table 16**. The Q2 decline was driven by lower levels of activity in services (-19.9%), production (16.9%)-primarily manufacturing, and construction (35%) and constituted the largest quarterly decline since 1955.[368] In contrast, the Q3 and Q4 expansion occurred in services, industrial production, and construction.

In other areas

- Household consumption fell by 10.6% in 2020, primarily as a result of large declines in the first and second quarters.
- Business investment (gross fixed capital formation) fell by 8.8% over the year, despite growing by 19.0% in the third quarter;

[366] Pickard, Jim and Chris Giles, Sunak's Summer Statement: UK Government to Pay Companies to Bring Workers Back From Furlough, *Financial Times,* July 7, 2020. https://www.ft.com/content/ad1688ee-3d8d-4e52-9b16-a3632eed8be9.

[367] Giles, Chris and Valentina Romei, BoE Economist Warns Against Pessimism After Record Drop in GDP, *Financial Times,* September 30, 2020. https://www.ft.com/content/fed4fe06-8c6a-4272-b0b3-a0759805eb64.

[368] *GDP Quarterly National Accounts, UK: October to December 2020,* Office for National Statistics, March 31, 2021.

- Government spending fell by 6.5% during the year, despite growing by 19.0% in the third quarter and 4.4% in the fourth quarter reflecting increased spending on health care;
- Imports (-11.8%) and exports (-15.8%) fell in 2020 compared with 2019, reflecting large declines in the first and second quarters of 2020.

Table 16. UK Major GDP Aggregates 2019-2020

Percent change from preceding period

	GDP	Households	Gross Fixed Capital Formation	Government	Exports	Imports
2019	1.4%	1.1%	1.5%	4.0%	2.7%	1.9%
Q1	0.6	0.0	2.1	1.4	-1.2	6.5
Q2	0.1	0.6	-1.1	2.3	-0.8	-9.0
Q3	0.5	0.1	1.3	-0.9	5.3	1.5
Q4	0.0	-0.3	-1.6	0.0	3.8	-3.1
2020	-9.8	-10.6	-8.8	-6.5	-15.8	-11.8
Q1	-2.8	-2.6	-1.2	-1.8	-14.5	-7.4
Q2	-19.5	-20.8	-20.7	-17.3	-10.1	-21.1
Q3	16.9	19.7	19.0	15.8	-0.5	14.6
Q4	1.3	-1.7	4.4	6.7	6.1	11.0

Source: Office of National Statistics, GDP Quarterly National Accounts, UK; October to December 2020.

Notes: Chained volume measures.

The Bank of England's February 2021 *Monetary Policy Report* indicated that its GDP forecast remained "unusually" uncertain and depended on the evolving nature of the pandemic, the measure that are taken to protect public health, and how households, businesses and financial markets respond to these developments.[369]The forecast projected that UK GDP growth rate could fall by 4% in the first quarter of 2021, or to about 12% below the level of the fourth quarter of 2019.[370] The Bank assumed that social and business restrictions in January 2021 remained in place through the first quarter.

The UK-EU trade arrangement, the Trade and Cooperation Agreement, which became effective on December 24, 2020, is projected to raise some barriers on UK-EU trade and increase administrative costs, which could reduce UK trade and GDP by 10.5% and 3.25%, respectively, over the long run, compared with earlier forecasts. Trade during the first quarter was also projected to be dampened as a consequence of UK firms adjusting to the new trade rules.[371] As lockdowns and restrictions are lessened or removed in the second half of 2021, the Bank forested that consumer spending would revive with households spending the extra 5% of savings they accumulated during 2020. As indicated in **Table 17**, the growth catch-up period is projected to last through 2022, before slowing in 2023. The Bank of England also conducted stress tests on UK banks in 2020 and concluded the banks had sufficient capital buffers to absorb the losses that

[369] *Monetary Policy Report,* Bank of England, February 2021, p. ii.

[370] Ibid, p. 3.

[371] Ibid, p. 4.

could arise under the Bank's main projections.[372] The Bank also concluded that UK businesses had successfully raised the funds they needed to satisfy their cash-flow requirements. In addition, the government extended three financing facilities for businesses – the Bounce Back Loan Scheme (BBLS), the Coronavirus Business Interruption Loan Scheme and the Coronavirus Large Business Interruption Loan Scheme -through to the end of January 2021.[373] The forecast also projects an increase in unemployment and business insolvencies in 2021.

Table 17. UK Forecast of Major Aggregate National Accounts, 2020-2023

Percent change from the preceding period

	Averages	Projection		
	2010-2019	2021	2022	2023
GDP	1.75%	5.00%	7.25%	1.25%
Households	1.75	4.25	11.75	1.00
Business	3.75	4.00	12.00	4.50
Exports	3.25	-3.00	5.25	4.25
Imports	3.50	5.25	12.75	3.50

Source: *GDP Quarterly National Accounts, UK: October to December 2020*, Office of National Statistics, March 31, 2021.

On November 5, 2020, the Bank of England announced that it anticipated the UK economy would fall back into recession in the fourth quarter of 2020 as a result of a decline in consumer spending and businesses investment due to social distancing requirements and business lockdowns imposed in response to a resurgence of COVID-19 cases in October and November. The Bank also announced an additional £150 billion in government bond purchases and increase in quantities easing, or additional bond purchases, to provide monetary stimulus in 2021.[374] In addition, the Bank indicated that it estimated the pandemic would reduce UK GDP by 1.75 percentage points below where it had forecasted at the beginning of 2020.

On March 3, 2021, Chancellor of the Exchequer Sunak proposed a £65 billion financial assistance package spread out over two-years to assist UK businesses and households recover from the economic effects of the pandemic. The Chancellor argued the spending was necessary, because the UK economy was projected to not fully recover for at least five years. With a continuation of state supported measures into the summer, the total cost to the UK economy of addressing the pandemic-related economic recession was estimated at £407 billion over two years. The spending initiative is expected to be followed by large increases in corporate and individual taxes starting in 2023.[375] Given the announced planned tax increases in subsequent years, some economists could argue the spending initiative could fall short of the estimated stimulative effects.

[372] *Financial Stability Report,* Bank of England, December 2020, p. ii.

[373] Ibid, p. 3.

[374] Giles, Chris, Bank of England Launches £150bn Stimulus to Boost Consumer Spending, Financial Times, November 5, 2020. https://www.ft.com/content/18ade542-d2a9-438a-ba5c-37b51475993b.

[375] Pickard, Jim, Chris Giles and George Parker, Rishi Sunak Delivers Spend Now, Tax Later Budget to Kickstart UK Economy, *Financial Times,* March 3, 2021. https://www.ft.com/content/da66ce9a-6dfc-4a3a-bde7-d4f4faed6c4a.

Japan

The Bank of Japan, with already-low interest rates, injected $4.6 billion in liquidity into Japanese banks to provide short-term loans for purchases of corporate bonds and commercial paper and twice that amount into exchange traded funds to aid Japanese businesses. The Japanese government also pledged to provide wage subsidies for parents forced to take time off due to school closures.[376] On March 24, 2020, Japan announced that the Summer Olympics set to take place in Tokyo would be postponed by a year, delaying a projected boost to the Japanese economy that was expected from the event. Japan adopted an emergency fiscal package of about $1.1 trillion, roughly equivalent to 10% of Japan's annual gross domestic product (GDP). On April 27, 2020, the Bank of Japan announced it would purchase unlimited amounts of government bonds and quadruple its purchases of corporate debt to keep interest rates low and stimulate the Japanese economy.[377]

The Japanese Cabinet proposed a second supplemental appropriation measure that included $296 billion in spending and a total value of about $1.1 trillion in loans and guarantees, funded through new bonds. This and a previous set of spending measures reportedly were comparable to 40% of Japan's GDP and included grants for businesses to pay rents through the Development Bank of Japan and funds to small and medium-sized businesses through the Regional Economy Vitalization Corporation of Japan, payments to assist furloughed workers, and a reserve fund to provide capital injections to struggling firms through the Japan Investment Corporation.[378]

In terms of monetary policy, the Bank of Japan (BOJ) maintained its low interest rates policy of -0.1%, even as it increased its coronavirus lending facility from $700 billion to $1 trillion and stated it would continue purchasing commercial paper, corporate bonds, and exchange traded funds at the rate of $12 trillion a year.[379] The COVID-19 lending facility assisted banks in providing zero interest rate loans to businesses. In a separate program, the BOJ provided about $110 trillion to buy commercial paper and corporate bonds and provided dollars through swap arrangements with the U.S. Federal Reserve. Japan reported on August 17 that its economy had contracted by 7.8% in the second quarter of 2020, compared with the previous quarter, or at an annual a rate of 27.8%. This drop in economic activity was precipitated by a drop in exports of 18.5% from the preceding quarter (56.0% at an annual rate) and a decline in personal consumption of 8.6% (30.1% at an annual rate).[380]

On October 29, the Bank of Japan issued a revised forecast that indicated Japan's GDP would contract by 5.5% in the fiscal year ending March 2021. The economy was projected to grow by 3.6% in 2021 and by 1.6% the following year. The Bank indicated, however, that the outlook remained, "highly uncertain," with big downside risks.[381]

Japan also indicated on November 25 that its GDP grew by 4.7% in the third quarter, reportedly better than government Ministers and economists had projected, but they remained cautious over

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[376] Harding, Robin and Hudson Lockett, "BoJ Spurs Asia Markets Rebound with Vow to Fight Covid-19," *Financial Times*, March 2, 2020. https://www.ft.com/content/9fa91e06-5c3b-11ea-b0ab-339c2307bcd4.

[377] Harding, Robin, Bank of Japan Steps up Coronavirus Stimulus With Bond-buying Pledge, *Financial Times*, April 27, 2020. https://www.ft.com/content/7ba5c507-df9e-4107-87eb-73afa2c13e91.

[378] Harding, Robin, Japan's Cabinet Approves Extra $1.1 Trillion Budget to Counter Recession, *Financial Times*, May 27, 2020. https://www.ft.com/content/ce7f3564-c997-339c-ad3d-c6d092fb7f1e.

[379] Harding, Bank of Japan Pledges $1 trillion in Coronavirus Lending.

[380] *Quarterly Estimates of GDP for April - June 2020 (First Preliminary Estimates)*, Cabinet Office, August 17, 2020.

381 Bank of Japan Trims Growth Forecasts But Predicts Stronger Rebound in 2021, *Financial Times*, October 29, 2020. https://www.ft.com/content/6d01dee6-7de4-48bb-8d27-50d3d4e11d16.

prospects for the fourth quarter rate of growth.[382] The Bank of Japan announced on January 20, 2021, that the Japanese economy could grow at a slightly faster pace of 3.9% in 2021. An increase in viral cases in January 2021, however, led to a renewed effort at quarantines and lockdowns and raised questions about the timing of an economic recovery.[383]

China

According to a recent CRS In Focus,[384] China emerged in June 2020 as the first major country to announce a return to economic growth since the outbreak of the COVID-19 pandemic. The government reported 3.2% gross domestic product (GDP) growth in the second quarter and 4.9% GDP growth in the third quarter of 2020. China is still grappling with the economic effects of the COVID-19 pandemic, however, including sluggish domestic consumption, slow recovery in its top export markets, and reliance on government spending and exports to boost initial growth. China also is facing growing restrictions on its overseas commercial activities and access to foreign technology and pressures for firms to diversify China-based supply chains. Against this backdrop, China's leadership is deliberating the country's economic direction and national industrial plans for the next 5 to 15 years.

To boost economic growth, China has provided an estimated $506 billion in stimulus since February 2020 and increased the government's budget deficit target to a record high of 3.6% of GDP, up from 2.8% in 2019. China reduced the value-added tax (VAT) rate and introduced VAT exemptions for certain goods and services. China's central bank extended monetary support with interest rate cuts, eased loan terms, and injected liquidity into banks. Shifting from efforts to reduce debt, the government announced the issuance of $142.9 billion of special treasury bonds for the first time since 2007; increased the quota for local government special bonds (a source of infrastructure funding); and fast-tracked issuance of corporate bonds to cover pandemic costs but with potential broader uses. The IMF estimates that the fiscal measures and financing plans announced amounted to 4.1% of the China's GDP, as of July 2020. The government says it seeks to control credit risk but the need for additional fiscal and monetary support to boost growth may undermine this goal.

Multilateral Response[385]

International Monetary Fund

Created in the aftermath of World War II, the IMF's fundamental mission is to promote international monetary stability. To advance this goal, one of the key functions of the IMF is providing emergency loans to countries facing economic crises. The COVID-19 pandemic has resulted in an unprecedented demand for IMF financial assistance. More than 100 of the IMF's 189 member countries have requested IMF programs,[386] and IMF Managing Director Kristalina

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[382] Harding, Robin, Japan's Economy Rebounds 5% in the Third Quarter, *Financial Times*, November 24, 2020. https://www.ft.com/content/2ec0b9b3-ecc4-4056-bacf-cb45c83e4629.

[383] Kihara, Leika, Tetsushi Kajimoto, Bank of Japan Lifts Next Year's Growth Forecast, Saves Ammunition as Virus Risks Linger, *Reuters*, January 20, 2021.

[384] CRS In Focus IF11667, *China's Economy: Current Trends and Issues*, by Karen M. Sutter and Michael D. Sutherland.

[385] For more information, see CRS Report R46342, *COVID-19: Role of the International Financial Institutions*, by Rebecca M. Nelson and Martin A. Weiss.

[386] Remarks by IMF Managing Director Kristalina Georgieva During the G20 Finance Ministers and Central Bank

Georgieva stated the IMF stands ready to deploy the entirety of its current lending capacity—approximately $1 trillion—in response to the pandemic and resulting economic crises.[387] The IMF has already approved several COVID-related programs, including for Bolivia, Chad, the Democratic Republic of Congo, Kyrgyz Republic, Nigeria, Niger, Rwanda, Madagascar, Mozambique, Pakistan, and Togo, among others, and additional programs are expected.[388]

In addition to loans, the IMF has taken a number of other policy steps to bolster its COVID-19 response. The IMF is tapping its Catastrophe Containment and Relief Trust (CCRT), a donor country trust fund at the IMF, to cover six months of debt payments owed by 29 low-income countries to the IMF. The IMF also created a new a new Short-term Liquidity Line.[389] It is a revolving and renewable backstop for member countries with very strong economic policies in need of short-term and moderate financial support, and intends to support a country's liquidity buffers. The IMF also adopted proposals to accelerate Board consideration of member financing requests for emergency financing and doubled (to about $100 billion) access to IMF emergency assistance. The International Monetary Fund (IMF) is providing funding to poor and emerging market economies that are short on financial resources.[390] If the economic effects of the virus persist, countries may need to be proactive in coordinating fiscal and monetary policy responses, similar to actions taken by of the G-20 following the 2008-2009 global financial crisis.

For FY2021, the Administration had requested authorization for about $38 billion for a supplemental fund at the IMF (the New Arrangements to Borrow [NAB]). In March 2020, Congress enacted this authorization in the Coronavirus Aid, Relief, and Economic Security Act (CARES Act, P.L. 116-136) as a way to bolster IMF resources available to support countries during the pandemic. There is ongoing debate about whether member countries should contribute additional resources to the IMF, whether the IMF should raise funds by selling a portion of its gold holdings, and whether the IMF should enact policies to buffer member state reserves, through a process called an SDR allocation.

World Bank and Regional Development Banks

The World Bank, which finances economic development projects in middle- and low-income countries, among other activities, is mobilizing its resources to support developing countries during the COVID-19 pandemic.[391] As of June 1, 2020, the World Bank had approved, or was in the process of approving, 150 COVID-19 projects, totaling $15 billion, in 99 countries.[392] Examples of approved projects include $47 million for the Democratic Republic of Congo to support containment strategies, train medical staff, and provide equipment for diagnostic testing to ensure rapid case detection; $11.3 million for Tajikistan to expand intensive care capacity; $20 million for Haiti to support diagnostic testing, rapid response teams, and outbreak containment;

Governors Meeting, International Monetary Fund, April 15, 2020.

387 IMF Managing Director Kristalina Georgieva's Statement Following a G20 Ministerial Call on the Coronavirus Emergency, March 23, 2020. Some policy experts estimate the IMF's current maximum lending capacity is about $787 billion.

388 IMF Lending Tracker, https://www.imf.org/en/Topics/imf-and-covid19/COVID-Lending-Tracker.

389 "IMF Adds Liquidity Line to Strengthen COVID-19 Response," International Monetary Fund, April 15, 2020.

390 Politi, James, "IMF Sets Aside $50bn for Covid-19-Hit Countries," *Financial Times*, March 4, 2020, https://www.ft.com/content/83c07594-5e3a-11ea-b0ab-339c2307bcd4.

391 Remarks by World Bank Group President David Malpass on G20 Finance Ministers Conference Call on COVID-19, March 23, 2020.

392 https://maps.worldbank.org/. Accessed on June 1, 2020.

and $1 billion for India to support screening, contract tracing, and laboratory diagnostics, procure personal protective equipment, and set up new isolation wards, among other projects.[393]

Over the next 15 months, the World Bank Group estimates it could deploy as much as $160 billion to respond to the COVID-19 pandemic, more than double the amount it committed in FY2019. In April 2020, the World Bank also announced its plans to establish a new multi-donor trust fund to help countries prepare for disease outbreaks, the Health Emergency Preparedness and Response Multi-Donor Fund (HEPRF).[394] The new fund is to complement, and augment, the $160 billion of financing provided by the World Bank.

In addition to the World Bank, which has a near-global membership and operates in many sectors in developing countries worldwide, a number of smaller and more specialized multilateral development banks (MDBs) are also mobilizing resources in response to the COVID-19 pandemic. The United States is a member of a number of regionally focused MDBs, including the African Development Bank, the Asian Development Bank, the European Bank for Reconstruction and Development, and the Inter-American Development Bank, as well as the functionally focused International Fund for Agricultural Development. The United States does not belong to some MDBs, including the Chinese-led Asian Infrastructure Investment Bank and the New Development Bank created by the BRICS countries (Brazil, Russia, India, China, and South Africa), the European Investment Bank, or the Islamic Development Bank.

In response to COVID-19, MDBs are reprogramming existing projects, establishing and funding with existing resources lending facilities dedicated to the COVID-19 response, and streamlining approval procedures. According to the President of the World Bank, other multilateral development banks have committed roughly $80 billion over the next 15 months to respond to COVID-19.[395] Together with the World Bank's commitment of $160 billion, $240 billion in financing is to be made available to developing countries from the MDBs during this time period.[396]

To support the MDB response to COVID-19, Congress accelerated authorizations requested by the Administration for FY2021 for two lending facilities at the World Bank and two lending facilities at the African Development Bank in the CARES Act (P.L. 116-136). Given the unprecedented demand for MDB resources, discussions are underway about whether the MDBs should pursue fiduciary reforms that would allow them to expand their lending based on existing resources, particularly lending against donor country guarantees to the institutions (called "callable" capital).

International Economic Cooperation

On March 16, 2020, the leaders of the G-7 countries (Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States) held an emergency summit by teleconference to discuss and coordinate their policy responses to the economic fallout from the global spread of COVID-19. In the joint statement released by the G-7 leaders after the emergency teleconference summit, the leaders stressed they are committed to doing "whatever is necessary to ensure a strong global

[393] World Bank, "World Bank Group Launches First Operations for COVID-19 (Coronavirus) Emergency Health Support, Strengthening Developing Country Response," Press Release, April 2, 2020.

[394] World Bank, "World Bank Group to Launch New Multi-donor Trust Fund to help Countries Prepare for Disease Outbreaks," Press Release, April 17, 2020.

[395] David Malpass, "Remarks to G20 Finance Ministers," World Bank, April 15, 2020.

[396] World Bank Group President David Malpass: Remarks to G20 Finance Ministers, April 15, 2020.

response through closer cooperation and enhanced cooperation of efforts."[397] The countries pledged to coordinate research efforts, increase the availability of medical equipment; mobilize "the full range" of policy instruments, including monetary and fiscal measures as well as targeted actions, to support workers, companies, and sectors most affected by the spread of COVID-19; task the finance ministers to coordinate on a weekly basis, and direct the IMF and the World Bank Group, as well as other international organizations, to support countries worldwide as part of a coordinated global response.[398]

Saudi Arabia, the 2020 chair of the G-20, called an emergency G-20 summit on March 25 to discuss a response to the pandemic.[399] The G-20 is a broader group of economies, including the G-7 countries and several major emerging markets.[400] During the global financial crisis, world leaders decided that henceforth the G-20 would be the premiere forum for international economic cooperation. Some analysts have been surprised that the G-7 has been in front of the G-20 in responding to COVID-19, while other analysts have questioned whether the larger size and diversity of economies in the G-20 can make coordination more difficult.[401]

Analysts are hopeful that the recent G-7 summit, and a G-20 summit, will mark a shift towards greater international cooperation at the highest (leader) levels in combatting the economic fallout from the spread of COVID-19.[402] An emergency meeting of G-7 finance ministers on March 3, 2020, fell short of the aggressive and concrete coordinated action that investors and economists had been hoping for, and U.S. and European stock markets fell after the meeting.[403] More generally, governments have been divided over the appropriate response and in some cases have acted unilaterally, particularly when closing borders and imposing export restrictions on medical equipment and medicine. Some experts argue that a large, early, and coordinated response is needed to address the economic fallout from COVID-19, but several concerns loom about the G-20's ability to deliver.[404] Their concerns focus on the Trump Administration's prioritization of an "America First" foreign policy over one committed to multilateralism; the 2020 chair of the G-20, Saudi Arabia, is embroiled in its own domestic political issues and oil price war; and U.S.-China tensions make G-20 consensus more difficult.

Meanwhile, international organizations including the IMF and multilateral development banks, have tried to forge ahead with economic support given their current resources. Additionally, the Financial Stability Board (FSB), an international body including the United States that monitors the global financial system and makes regulations to ensure stability, released a statement on March 20, 2020, that its members are actively cooperating to maintain financial stability during market stress related to COVID-19.[405] The FSB is encouraging governments to use flexibility

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[397] White House, G-7 Leaders' Statement, March 16, 2020, https://www.whitehouse.gov/briefings-statements/g7-leaders-statement/.

[398] Ibid.

[399] "Spain Says Saudi Arabia to Cal G-20 to Meet on Covid-19 in Coming Days," *Reuters*, March 16, 2020.

[400] The G-20 includes the G-7 countries plus Argentina, Australia, Brazil, China, India, Indonesia, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, and the European Union (EU).

[401] For more information about the G-20, see CRS Report R40977, *International Economic Policy Coordination at the G-7 and the G-20*, by Rebecca M. Nelson.

[402] See for example, Jennifer Rankin, "EU Leaders Divided on How to Protect Economies after Covid-19," *The Guardian*, March 14, 2020.

[403] Jack Ewing and Jeanna Smialek, "Economic Powers Vow to Fight Crisis," *New York Times*, March 3, 2020.

[404] Matthew Goodman and Mark Sobel, "Time to Pull the G-20 Fire Bell," Center for Strategic and International Studies, March 18, 2020.

[405] "FSB Coordinates Financial Sector Work to Buttress the Economy in Response to Covid-19," Financial Stability

within existing international standards to provide continued access to funding for market participants and for businesses and households facing temporary difficulties from COVID-19, while noting that many FSB members have already taken action to release available capital and liquidity buffers.

Estimated Effects on Developed and Major Economies

Among most developed and major developing economies, economic growth at the beginning of 2020 was tepid, but still was estimated to be positive. Countries highly dependent on trade—Canada, Germany, Italy, Japan, Mexico, and South Korea—and commodity exporters are now projected to be the most negatively affected by the slowdown in economic activity associated with the pandemic.[406] In addition, travel bans and quarantines continue to take heavy economic toll on a broad range of countries. The OECD notes that production declines in China have spillover effects around the world given China's role in producing computers, electronics, pharmaceuticals and transport equipment, and as a primary source of demand for many commodities.[407] Across Asia, some forecasters argue that recent data indicate that Japan, South Korea, Thailand, the Philippines, Indonesia, Malaysia, and Vietnam could experience an economic recession in 2020.[408]

In early January 2020, before the COVID-19 outbreak, economic growth in developing economies as a whole was projected by the International Monetary Fund (IMF) to be slightly more positive than in 2019. This outlook was based on progress being made in U.S.-China trade talks that were expected to roll back some tariffs and an increase in India's rate of growth. Growth rates in Latin America and the Middle East were also projected to be positive in 2020.[409] These projections likely will be revised downward due to the slowdown in global trade associated with COVID-19, lower energy and commodity prices, an increase in the foreign exchange value of the dollar, and other secondary effects that could curtail growth. Commodity exporting countries, in particular, likely will experience a greater slowdown in growth than forecasted in earlier projections as a result of a slowdown on trade with China and lower commodity prices.

Asian Development Bank 2020 Forecast

According to the Asian Development Bank's (ADB) September 2020 forecast, GDP growth for developing Asia is projected to contract by 0.7% in 2020, reportedly the first decline in economic activity in the region in six decades, reflecting the slowdown in global trade and national quarantines.[410] Similar to other groups, the ADB's forecasts indicate progressively more negative rates of growth over the April through September period, while also forecasting a rebound in growth rates in 2021, including a growth rate of 6.8% in developing Asia. Annual rates of growth in three-fourths of the region's economies are projected to decline in 2020.

Board, Press Release 6/2020, March 20, 2020.

406 *OECD Interim Economic Assessment,* p. 7.

407 Ibid., p. 5.

408 Arnold, Martin Arnold and Valentina Romei, "European Factory Output Plummets as Covid-19 Shutdown Bites," *Financial Times,* April 1, 2020. https://www.ft.com/content/8646c0ee-8fba-4e4c-a047-cf445ff41cf6.

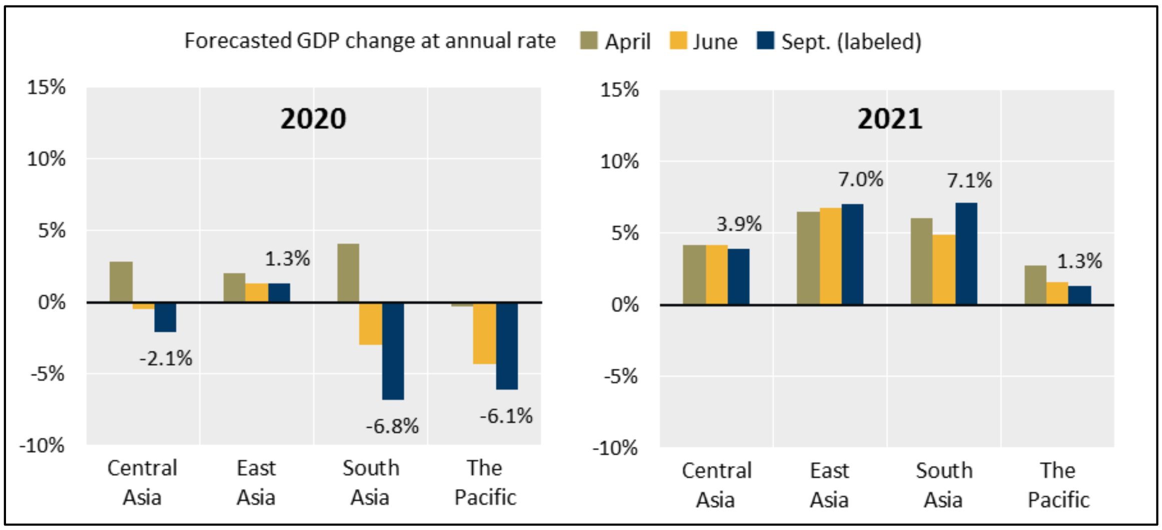
409 *Tentative Stabilization, Sluggish Recovery? World Economic Outlook Update*, January 20, 2020, The International Monetary Fund. https://www.imf.org/en/Publications/WEO/Issues/2020/01/20/weo-update-january2020.

410 *Asian Development Outlook 2020 Update*, Asian Development Bank, September 2020.

ADB sub-regional forecasts indicate that East Asia is projected to experience an overall positive rate of growth in 2020, primarily reflecting the dominating influence of the Chinese economy, which is projected to grow by nearly 2% in 2020 and 7% in 2021 as indicated in **Figure 23**. In contrast, Hong Kong, which had already experienced a slowing rate of growth primarily as a result of domestic political turmoil and trade issues between the United States and China, was projected to experience a 6.5% decline in economic growth in 2020, but rebound by 5.1% in 2021. South Asia, which includes India, is projected to experience a decline in its annual GDP growth rate of 6.8% in 2020, but a positive rate of growth in 2021 by 7.1%, driven in part by a turn-around in India's growth rate from -9.0 in 2020 to a positive 8.0% in 2021. Countries in the region have implemented different measures to contain the spread of the virus, reflecting differences in the extent of viral infections. Across governments within the region, total fiscal support totaled $3.6 trillion by the end of August 2020, divided between income support measures and measures intended to support liquidity. Similar to other regions and countries, growth prospects in developing Asia depend on the length and depth of the health crisis and the protracted nature of trade tensions between the United States and China.

Figure 23. Asian Development Bank 2020 and 2021 GDP Forecasts

In percentage change



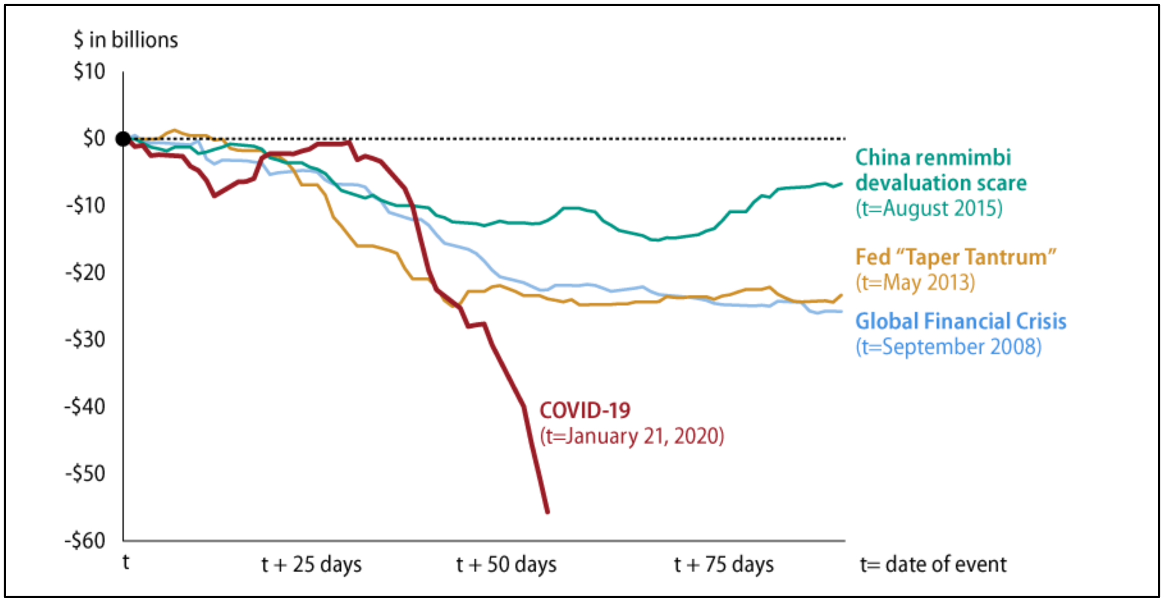
Source: Asian Development Bank. Created by CRS.

Emerging Markets

The combined impact of COVID-19, an increase in the value of the dollar, and an oil price war between Saudi Arabia and Russia are hitting developing and emerging economies hard. Not all of these countries have the resources or policy flexibility to respond effectively. According to figures compiled by the Institute for International Finance (IIF), cumulative capital outflows from developing countries since January 2020 are double the level experienced during the 2008/2009 crisis and substantially higher than recent market events (**Figure 24**).[411]

[411] These include concerns in 2015 over China's renminbi devaluation and the so-called "Taper Tantrum" in 2013 when the Federal Reserve announced that it would slow down the pace of its post global financial crisis asset purchases. Sergei Lanau and Jonathan Fortun, "Economic Views—The COVID-19 Shock to EM Flows," Institute for International Finance, March 17, 2020.

Figure 24. Capital Flows to Emerging Markets in Global Shocks



Source: Original graphic and data from International Institute for Finance using data from Haver. Edited by CRS for clarification.

The impact of the price war and lower energy demand associated with a COVID-19-related economic slowdown is especially hard on oil and gas exporters, some of whose currencies are at record lows (**Figure 25**). Oil importers, such as South Africa and Turkey, have also been hit hard; South Africa's rand has fallen 18%[412] against the dollar since the beginning of 2020 and the Turkish lira has lost 8.5%.[413] Some economists are concerned that the depreciation in currencies could lead to rising rates of inflation by pushing up the prices of imports and negatively economic growth rates in 2020.[414]

Depending on individual levels of foreign exchange reserves and the duration of the capital flow slowdown, some countries may have sufficient buffers to weather the slowdown, while others will likely need to make some form of current account adjustment (reduce spending, raise taxes, etc.). Several countries, such as Iran and Venezuela, have already asked the IMF for financial assistance and others are likely to follow.[415] (Venezuela's request was quickly rebuffed due to

[412] Paul Wallace, "Here's How the Oil Crash is Hitting Emerging Market Currencies," *Bloomberg*, March 17, 2020, https://www.bloomberg.com/news/articles/2020-03-17/here-s-how-the-oil-crash-is-hitting-emerging-market-currencies.

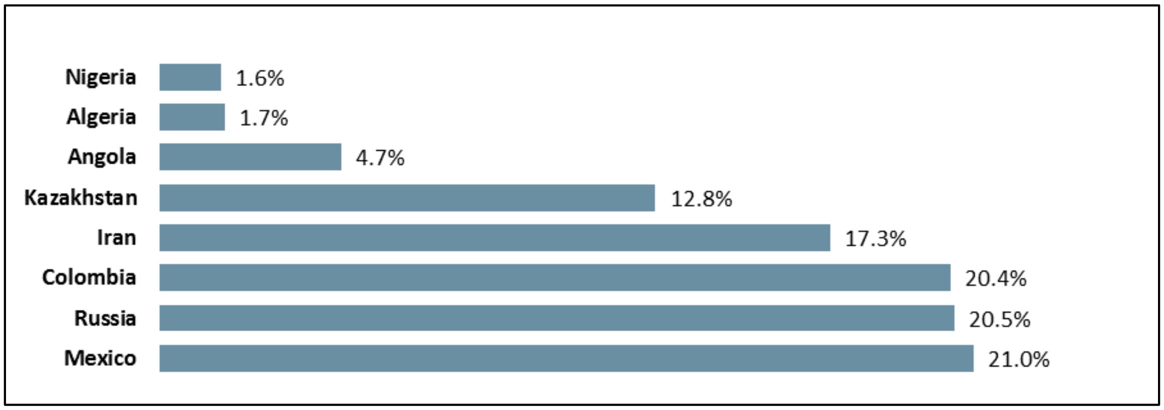
[413] Nevzat Devranoglu, "Turkish Lira Hits Weakest Level Since 2018 Currency Crisis Due to Covid-19," *Nasdaq*, March 17, 2020, https://www.nasdaq.com/articles/turkish-lira-hits-weakest-level-since-2018-currency-crisis-due-to-Covid-19-2020-03-17.

[414] Johnson, Steve, "Currency Sell-Off Threatens Emerging Market Response to Covid-19," *Financial Times*, March 3, 2020. https://www.ft.com/content/94ad9d70-2ca2-4490-96fb-5b01b509ed37.

[415] "COVID-19-Hit Iran Asks IMF for Aid amid US Sanctions," *Deutsche Walle*, March 13, 2020, https://www.dw.com/en/covid-19-hit-iran-asks-imf-for-aid-amid-us-sanctions/a-52763114. Iran is currently under U.S. sanctions, which include, among other things, prohibitions on the ability of the United States to vote in favor of lending IMF or World Bank assistance to Iran. The United States, however, cannot unilaterally block lending to a particular country. Approving an IMF or World Bank loan requires a majority of the total voting power and the U.S. voting power is 16.5% of the total voting power at the IMF and 15.4% at the World Bank. Iran has not borrowed from the IMF since 1962, but did borrow from the World Bank between 2003 and 2005 over U.S. opposition.

disagreement among the IMF membership over who is recognized as Venezuela's legitimate leader: Nicolás Maduro or Juan Guaidó.[416])

Figure 25. Depreciation Against the Dollar Since January 1, 2020



Source: Created by CRS. Data from Bloomberg.

International Economic Cooperation

Initial efforts at coordinating the economic response to the COVID-19 pandemic across countries have been uneven. Governments are divided over the appropriate response and in some cases have acted unilaterally, particularly when closing borders and imposing export restrictions on medical equipment and medicine. An emergency meeting of G-7 (Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States) finance ministers on March 3, 2020, fell short of the aggressive and concrete coordinated action that investors and economists had been hoping for, and U.S. and European stock markets fell sharply after the meeting.[417] However, on March 16, 2020, the leaders of the G-7 countries held an emergency summit by teleconference to discuss and coordinate their policy responses to the economic fallout from the global spread of COVID-19. In the joint statement released by the G-7 leaders after the emergency teleconference summit, the leaders stressed they are committed to doing "whatever is necessary to ensure a strong global response through closer cooperation and enhanced cooperation of efforts."[418] The countries pledged to coordinate research efforts, increase the availability of medical equipment; mobilize "the full range" of policy instruments, including monetary and fiscal measures as well as targeted actions, to support workers, companies, and sectors most affected by the spread of COVID-19; task the finance ministers to coordinate on a weekly basis, and direct the IMF and the World Bank Group, as well as other international organizations, to support countries worldwide as part of a coordinated global response.[419] G-7 coordination has not been unproblematic however, including disagreement among G-7 foreign affairs ministers about how to refer to the virus (coronavirus or the "Wuhan virus") and concerns about collaboration on vaccine research.[420]

[416] Joshua Goodman, "IMF Rejects Maduro's Bid for Emergency Loan to Fight Virus," *StarTribune*, http://www.startribune.com/venezuela-seeks-emergency-5-billion-imf-loan-to-fight-virus/568868442/.

[417] Jack Ewing and Jeanna Smialek, "Economic Powers Vow to Fight Crisis," *New York Times*, March 3, 2020.

[418] White House, G-7 Leaders' Statement, March 16, 2020, https://www.whitehouse.gov/briefings-statements/g7-leaders-statement/.

[419] Ibid.

[420] "Pompeo, G-7 Foreign Ministers Spar over 'Wuhan Virus'," *Politico*, March 25, 2020; Katrin Bennhold and David E. Sanger, "U.S. Offered 'Large Sum' to German Company for Access to Coronavirus Vaccine Research, German

The United States is chairing the G-7 in 2020, and while the June summit at Camp David had been canceled due to concerns about COVID-19, on May 20, President Trump indicated that the summit may be held after all.

The G-20, which has a broader membership of major advanced and emerging-market economies representing 85% of world GDP, was slower to respond to the pandemic.[421] Even though G-20 coordination is widely viewed as critical in the response to the global financial crisis of 2008-2009, several factors may have complicated G-20 coordination in the current context: the Trump Administration's prioritization of an "America First" foreign policy over one committed to multilateralism; the 2020 chair of the G-20, Saudi Arabia, is embroiled in its own domestic political issues and oil price war; and U.S.-China tensions make G-20 consensus more difficult.[422] The G-20 held a summit by teleconference on March 26, 2020, but the resulting communique was criticized for failing to include concrete action items beyond what national governments were already doing.[423] However, G-20 coordination appears to be gaining momentum, most notably with the G-20 agreement on debt relief for low-income countries (see "Looming Debt Crises and Debt Relief Efforts").

Meanwhile, international organizations including the IMF and multilateral development banks, have tried to forge ahead with economic support given their current resources. Additionally, the Financial Stability Board (FSB), an international body including the United States that monitors the global financial system and makes regulations to ensure stability, released a statement on March 20, 2020, that its members are actively cooperating to maintain financial stability during market stress related to COVID-19.[424] The FSB is encouraging governments to use flexibility within existing international standards to provide continued access to funding for market participants and for businesses and households facing temporary difficulties from COVID-19, while noting that many FSB members have already taken action to release available capital and liquidity buffers.

Looming Debt Crises and Debt Relief Efforts

COVID-19 could trigger a wave of defaults around the world.[425] In Q3 2019—before the outbreak of COVID-19—global debt levels reached an all-time high of nearly $253 trillion, about 320% of global GDP.[426] About 70% of global debt is held by advanced economies and about 30% is held by emerging markets. Globally, most debt is held by nonfinancial corporations (29%), governments (27%) and financial corporations (24%), followed by households (19%). Debt in

Officials Say," New York Times, March 15, 2020.

[421] The G-20 includes the G-7 countries plus Argentina, Australia, Brazil, China, India, Indonesia, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, and the European Union (EU).

[422] Matthew Goodman and Mark Sobel, "Time to Pull the G-20 Fire Bell," Center for Strategic and International Studies, March 18, 2020.

[423] Matthew Goodman, Stephanie Segal, and Mark Sobel, "Assessing the G20 Virtual Summit," Center for Strategic and International Studies, March 27, 2020.

[424] "FSB Coordinates Financial Sector Work to Buttress the Economy in Response to Covid-19," Financial Stability Board, Press Release 6/2020, March 20, 2020.

[425] John Plender, "The Seeds of the Next Debt Crisis," *Financial Times*, March 4, 2020.

[426] Emre Tiftik, Khadija Mahmood, Jadranka Poljak, and Sonja Gibbs, "Global Debt Monitor: Sustainability Matters," Institute for International Finance, January 13, 2020. This includes debt held by governments, financial institutions, nonfinancial institutions, and households.

emerging markets has nearly doubled since 2010, primarily driven by borrowing from state-owned enterprises.

High debt levels make borrowers vulnerable to shocks that disrupt revenue and inflows of new financing. The disruption in economic activity associated with COVID-19 is a wide-scale exogenous shock that will make it significantly more difficult for many private borrowers (corporations and households) and public borrowers (governments) around the world to repay their debts. COVID-19 has hit the revenue of corporations in a range of industries: factories are ceasing production, brick-and-mortar retail stores and restaurants are closing, commodity prices have plunged (Bloomberg commodity price index—a basket of oil, metals, and food prices—has dropped 27% since the start of the year and is now at its lowest level since 1986), and overseas and in some cases domestic travel is being curtailed.[427] Some governments, including Argentina and Lebanon, were already experiencing debt pressures, which have been exacerbated by the pandemic. Other countries are facing new debt pressures created by the pandemic, while some countries, such as Abu Dhabi and Egypt, have completed successful sovereign bond sales since the outbreak of the pandemic.[428]

Households are facing a rapid increase in unemployment and, in many developing countries, a decline in remittances. With fewer resources, corporations and households may default on their debts, absent government intervention. These defaults will result in a decline in bank assets, making it difficult for banks to extend new loans during the crisis or, more severely, creating solvency problems for banks. Meanwhile, many governments are dramatically increasing spending to combat the pandemic, and are likely to face sharp reductions in revenue, putting pressure on public finances and raising the likelihood of sovereign (government) defaults. Debt dynamics are particularly problematic in emerging economies, where debt obligations denominated in foreign currencies (usually U.S. dollars). Many emerging market currencies have depreciated since the outbreak of the pandemic, raising the value of their debts in terms of local currency.

Governments will face difficult choices if there is a widespread wave of defaults. Most governments have signaled a commitment to or already implemented policies to support those economically impacted by the pandemic. These governments face decisions about the type of assistance to provide (loans versus direct payments), the amount of assistance to provide, how to allocate rescue funds, and what conditions if any to attach to funds. Governments have undertaken extraordinary fiscal and monetary measures to combat the crisis. However, developing countries that are constrained by limited financial resources and where health systems could quickly become overloaded are particularly vulnerable.

In terms of defaults by governments (sovereign defaults), emergency assistance is generally provided by the IMF, and sometimes paired with additional rescue funds from other governments on a bilateral basis. The IMF and other potential donor countries will need to consider whether the IMF has adequate resources to respond to the crisis, how to allocate funding if the demand for funding exceeds the amount available, what conditions should be attached to rescue funding, and whether IMF programs should be paired with a restructuring of the government's debt ("burden sharing" with private investors).

International efforts are underway to help the most vulnerable developing countries grapple with debt pressures. In mid-April 2020, the IMF tapped its Catastrophe Containment and Relief Trust (CRRT), funded by donor countries, to provide grants to cover the debt payments of 25 poor and

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[427] "Covid-19 Worsens Debt Crisis in Poor Countries," Jubilee Debt Campaign, March 22, 2020.

[428] Trieu Pham, "EM Sovereign Debt Issuance: Encouraging Signs but Not Yet Back to Business as Usual," *ING*, May 26, 2020.

vulnerable countries to the IMF for six months. The IMF hopes that additional donor contributions will allow this debt service relief to be extended for two years. Additionally, the G-20 finance ministers agreed to suspend debt service payments for the world's poorest countries through the end of 2020. The Institute for International Finance (IIF), which represents 450 banks, hedge funds, and other global financial funds, also announced that private creditors will join the debt relief effort on a voluntary basis. This debt standstill will free up more than $20 billion for these countries to spend on improving their health systems and fighting the pandemic.[429] Private sector commitments were critical for official creditors, so that developing countries could redirect funds to improving health systems rather than repaying private creditors.

However, the debt standstill is complicated. There is debate among creditor governments about what debts should be included in the standstill, and how it can be enforced. On May 1, the IIF in a letter laid out some of the obstacles facing private sector participation in the debt still, including reliance on "voluntary" participation, each participating creditor will need to make its own assessments, the standstill could require a lengthy contract-by-contract approach, and the participating borrowing countries may face risks, such as rating downgrades and inability to borrow from financial markets (often referred to as "loss of market access"). Some economists have characterized the letter as a list of reasons private creditors may cite as justification for their refusal to participate in the debt standstill.[430] Reportedly, some African countries are opting to negotiate debt relief individually with China and other creditor nations because of concerns they will be blocked from financial markets if they participate in the G-20 debt standstill.[431]

Other Affected Sectors

Public concerns over the spread of the virus have led to self-quarantines, reductions in airline and cruise liner travel, the closing of such institutions as the Louvre, and the rescheduling of theatrical releases of movies, including the sequel in the iconic James Bond series (titled, "No Time to Die").[432] School closures have affected 1.5 billion children worldwide, challenging parental leave policies.[433] Other countries have limited the size of public gatherings.

Some businesses are considering new approaches to managing their workforces and work methods. These techniques build on, or in some places replace, such standard techniques as self-quarantines and travel bans. Some firms are adopting an open-leave policy to ensure employees receive sick pay if they are, or suspect they are, infected. Other firms are adopting paid sick leave policies to encourage sick employees to stay home and are adopting remote working policies.[434]

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[429] Davide Barbuscia, Marwa Rashad, and Andrea Shalal, "G20 Countries Agree Debt Freeze for World's Poorest Countries," *Reuters*, April 15, 2020

[430] Patrick Bolton, Lee Buchheit, Pierre-Olivier Gourinchas, et. al, "Sovereign Debt Standstills: An Update" *VoxEU*, May 28, 2020.

[431] Jevans Nyabiage, "All Eyes on China as Africa Spurns G20 Debt Relief Plan," *South China Morning Post*, May 26, 2020.

[432] Rosenberg, Alyssa, "Covid-19 Shut Down Mona Lisa and James Bond. We Can't Let it Isolate Us," *Washington Post*, March 4, 2020. https://www.washingtonpost.com/opinions/2020/03/04/Covid-19-shut-down-mona-lisa-james-bond-we-cant-let-it-isolate-us/.

[433] Taylor, Adam, Teo Armus, Rick Noak, "Covid-19 Turmoil Widens as U.S. Death Toll Mounts; Xi Cancels Japan Trip," *Washington Post*, March 5, 2020; Strauss, Valerie, "1.5 Billion Children Around Globe Affected by School Closure. What Countries Are Doing to Keep Kids Learning During Pandemic," *Washington Post*, March 27, 2020. https://www.washingtonpost.com/education/2020/03/26/nearly-14-billion-children-around-globe-are-out-school-heres-what-countries-are-doing-keep-kids-learning-during-pandemic/.

[434] Hill, Andrew and Emma Jacobs, "Covid-19 May Create Lasting Workplace Change," *Financial Times*, February 27,

Microsoft and Amazon initially instructed all of their Seattle-based employees to work from home until the end of March 2020, but Microsoft indicated in October it would allow a large share of its employees to work from home permanently.[435]

The drop in business and tourist travel caused a sharp drop in scheduled airline flights by as much as 10%; airlines estimated they lost $113 billion in 2020 (an estimate that could prove optimistic given the Trump Administration's announced restrictions on flights from Europe to the United States and the growing list of countries that are similarly restricting flights),[436] while airports in Europe estimated they lost $4.3 billion in revenue due to fewer flights.[437] Industry experts estimated that many airlines could face bankruptcy in 2020 under current conditions as a result of travel restrictions imposed by a growing number of countries.[438] The loss of Chinese tourists was another economic blow to countries in Asia and elsewhere that benefitted from the growing market for Chinese tourists and the stimulus such tourism provided.

The decline in industrial activity reduced demand for energy products such as crude oil, causing prices to drop sharply, which negatively affects energy producers, renewable energy producers, and electric vehicle manufacturers, but generally is positive for consumers and businesses. Saudi Arabia pushed other OPEC (Organization of the Petroleum Exporting Countries) members collectively to reduce output by 1.5 million barrels a day to raise market prices. U.S. shale oil producers, who are not represented by OPEC, support the move to raise prices.[439] An unwillingness by Russia to agree to output reductions added to other downward pressures on oil prices and caused Saudi Arabia to engage in a price war with Russia that drove oil prices below $25 per barrel at times, half the estimated $50 per barrel break-even point for most oil producing countries.[440] Rising oil supplies and falling demand combined to create an estimated surplus of 25 million barrels a day and overwhelmed storage capacity at times and challenged the viability of U.S. shale oil production.[441] In 2019, low energy prices combined with high debt levels reportedly caused U.S. energy producers to reduce their spending on capital equipment, reduced their profits and, in some cases, led to bankruptcies.[442] Reportedly, in late 2019 and early 2020, bond and

2020. https://www.ft.com/content/5801a710-597c-11ea-abe5-8e03987b7b20.

435 Armus, Teo, "Live Updates: Covid-19 Turmoil Widens as U.S. Death Toll Mounts; Xi Cancels Japan Trip," *Washington Post*, March 5, 2020, https://www.washingtonpost.com/world/2020/03/05/Covid-19-live-updates/.

436 Taylor, Adam, "Airlines Could Suffer up to $113 Billion in Lost Revenue Due to Covid-19 Crisis, IATA Says," *Washington Post*, March 5, 2020. https://www.washingtonpost.com/world/2020/03/05/Covid-19-live-updates/.

437 "Airlines Slash Flights to Cut Costs as Covid-19 Hits Travel Demand," *Financial Times*. https://www.ft.com/content/c28b5790-62c6-11ea-a6cd-df28cc3c6a68.

438 Smyth, Jamie Smyth, Andrew Edgecliffe-Johnson, Peggy Hollinger, Myles McCormick, David Keohane, and Richard Milne, "Most Airlines Face Bankruptcy by End of May, Industry Body Warns," *Financial Times*, March 16, 2020.

439 Brower, Derek, "Cash-Strapped US Shale Producers Pray for OPEC Aid," *Financial Times*, March 3, 2020. https://www.ft.com/content/9161e62c-5cb1-11ea-b0ab-339c2307bcd4.

440 Strauss, Delphine, "Why There Are No Winners from the Oil Price Plunge This Time," *Financial Times*, March 10, 2020. https://www.ft.com/content/da2b0700-622c-11ea-b3f3-fe4680ea68b5; Mufson, Steve and Will Englund, "Oil Price War Threatens Widespread Collateral Damage," *Washington Post*, March 10, 2020. https://www.washingtonpost.com/climate-environment/oil-price-war-threatens-widespread-collateral-damage/2020/03/09/3e42c9e2-6207-11ea-acca-80c22bbee96f_story.html.

441 Sheppard, David and Derek Brower, "U.S. Crude Oil Price Drops Below $20," *Financial Times*, March 29, 2020. https://www.ft.com/content/bc938195-82d3-43eb-b031-740028451382.

442 "Texas Oil Groups: Panhandling Ahead," *The Financial Times*, January 20, 2020.

equity investors, as well as banks, reduced their lending to shale oil producers and other energy producers that typically use oil and gas reserves as collateral.[443]

Disruptions to industrial activity in China reportedly caused delays in shipments of computers, cell phones, toys, and medical equipment.[444] Factory output in China, the United States, Japan, and South Korea all declined in the first months of 2020.[445] Reduced Chinese agricultural exports, including to Japan, are leading to shortages in some commodities. In addition, numerous auto producers have faced shortages in parts and other supplies that have been sourced in China. Reductions in international trade have also affected ocean freight prices. Some freight companies argue they could be forced to shutter if prices did not rebound quickly.[446] Disruptions in the movements of goods and people reportedly caused some companies to reassess how international they want their supply chains to be.[447] According to some estimates, nearly every member of the Fortune 1000 has been affected by disruptions in production in China.[448]

Conclusions

The quickly evolving nature of the COVID-19 crisis continues to raise a number of issues that make it difficult to estimate the full cost to global economic activity. These issues include, but are not limited to the following:

- How long will the crisis last?
- How many workers will be affected both temporarily and permanently?
- How many countries will be infected and how much economic activity will be reduced?
- When will the economic effects peak?
- How much economic activity will be lost in the short run and over the long term as a result of the viral outbreak?
- What have been the most effective monetary and fiscal policies at the national and global level to address the crisis?
- Will the crisis have temporary or permanent effects on how businesses organize their work forces?
- Many of the public health measures taken by countries such as Italy, Taiwan, South Korea, Hong Kong, and China have sharply impacted their economies (with plant closures, travel restrictions, and so forth). How are government and policymakers weighing the tradeoffs between public health and the economic impact of policies to contain the spread of the virus?

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443 Ibid.

444 Hille, Kathrin, Alistair Gray, and Patrick McGee, "Covid-19 Delays PC and Smartphone Shipments for Weeks," *Financial Times,* March3, 2020. https://www.ft.com/content/72742872-5c31-11ea-b0ab-339c2307bcd4.

445 Newmyer, Tory, "The Finance 202: Stocks Stage Major Comeback, but Manufacturing Report Points to Continued Covid-19 Pain," *Washington Post,* March 3, 2020. https://www.washingtonpost.com/news/powerpost/paloma/the-finance-202/2020/03/03/the-finance-202-stocks-stage-major-comeback-but-manufacturing-report-points-to-continued-Covid-19-pain/5e5d84a6602ff10d49ac081f/?itid=hp_hp-cards_hp-card-politics%3Ahomepage%2Fcard-ans.

446 Lynch, David J., "Economic Fallout from China's Covid-19 Mounts Around the World," *Washington Post,* February 13, 2020. https://www.washingtonpost.com/business/economy/economic-fallout-from-chinas-Covid-19-mounts-across-the-globe/2020/02/13/7bb69a12-4e8c-11ea-9b5c-eac5b16dafaa_story.html?itid=lk_inline_manual_12

447 Ibid.

448 Ibid.

Appendix. Table A-1. Select Measures Implemented and Announced by Major Economies in Response to COVID-19

United States	*U.S. Federal Reserve* **March 3:** Cut the target range for the federal funds rate by 0.5 percentage point. **March 12:** Expanded reverse repo operations, adding $1.5 trillion of liquidity to the banking system. **March 15:** Cut the target range for the federal funds rate by a full percentage point to a range of 0.00% to 0.25% and restarted quantitative easing with the purchase of at least $500 billion in Treasury securities and $200 billion in mortgage-backed securities. **March 16:** Increased reverse repo operations by another $500 billion. **March 17:** U.S. Treasury Secretary Mnuchin approved the Federal Reserve's creation of a "Commercial Paper Funding Facility," (CPFF) through March 17, 2021, which will allows the Fed to create a corporation which can purchase commercial paper, short-term, unsecured loans made by businesses for everyday expenses and authorized up to $10 billion from the Treasury to help cover loan losses incurred under this program. **March 17:** Relaunched the Primary Dealer Credit Facility (PDCF) for at least six months. Starting March 20, the PDCF will offer short-term loans to banks secured by collateral such as municipal bonds or investment-grade corporate debt. **March 18:** Launched the Money Market Mutual Fund Liquidity Facility (MMLF) through the end of September, a new program to lend money to banks so they can purchase assets from money market funds. Treasury is offering up to $10 billion to cover loan losses the Fed incurs from the program. **March 23:** Announced a series of measures designed to stabilize markets, enhance liquidity and stimulate growth. The measures included the roll out of 2 new facilities, the Primary Market Corporate Credit Facility (PMCCF) for new bond and loan issuance and the Secondary Market Corporate Credit Facility (SMCCF) to provide liquidity for outstanding corporate bonds. The FOMC removed its caps on planned QE purchases and will now purchase Treasuries and agency mortgage-backed securities "in the amounts needed to support smooth market functioning and effective transmission of monetary policy to broader financial conditions and the economy." *U.S. Congress* **March 5:** Passed, and the President signed, a bill providing $8.3 billion in emergency funding for federal agencies to respond to the COVID-19 outbreak (H.R. 6074: COVID-19 Preparedness and Response Supplemental Appropriations Act 2020). **March 13:** The House of Representatives passed a COVID-19 response package (H.R. 6201; P.L. 116-127, Families First COVID-19 Response Act); measure was signed by President Trump on March 18, 2020. The measure appropriates about $100 billion and includes tax credits for employers offering paid sick leave and increases to unemployment benefits and food assistance. **March 19**: The Senate introduced the COVID-19 Aid, Relief, and Economic Security Act (S. 3548) to provide $2.0 trillion in assistance to businesses and workers. **March 27:** Passed, and the President signed, the COVID-19 Aid, Relief, and Economic Security Act (CARES Act, H.R. 748, P.L. 116-136), a $2.1 trillion fiscal stimulus package. It includes $454 billion in loans for businesses, $349 billion in loans for small businesses, $300 billion for direct payments of $1,200 each for lower- and middle-income individual taxpayers (and $500 for each child), $250 billion for unemployment insurance, and $221 billion in tax deferrals, among other measures.

	March 30: Some Members of the House of Representatives announced they had begun work on a fourth COVID-19 bill targeting a number of issues, including short supplies of medical equipment and protective gear to enhance worker protections, infrastructure needs, and additional payments to individuals. *Trump Administration* **March 13:** President Trump declared a state of emergency, allowing the Federal Government to distribute up to $50 billion in aid to states, cities, and territories. **March 17:** The Internal Revenue Service postponed the April 15 tax-payment deadline for 90 days and will waive interest and penalties. (The extension and waiver is available only to individuals and corporations that owe $1 million or $10 million or less, respectively.) **March 17:** Administration officials begin negotiations with Members of Congress on a third stimulus package. **March 31:** President Trump calls for $2 trillion infrastructure spending, possibly as part of fourth COVID-19 stimulus bill.
Albania	*The Bank of Albania* **March 25:** Cut its benchmark interest rate to a record-low 0.5% and its one-day lending rate to 0.9% on to help lending in the economy affected by the COVID-19 outbreak. It also announced that it would inject unlimited liquidity into the banking sector, ensure the normal functioning of the electronic payments system, and that, together with the government, it had agreed to postpone until the end of May all loan repayments by businesses and individuals facing difficulties due to the outbreak. *Government of Albania* **March 20:** Passed measures totaling $370 million in its budget to soften the impact from the COVID-19 crisis, including $25 million for the health sector; guarantees worth $100 million to companies unable to pay their employees; and $65 million to help the needy, small businesses, and those unable to work because of stay-at-home orders. It also announced that it would write off penalties on delayed electricity bill payments worth some $150 million, postpone taxes on company profits, and cut the wages of government ministers and lawmakers by half for the duration of the crisis.
Argentina	*Central Bank of Argentina* **March 19:** Indicated that it would lower reserve requirements for banks that extended special credit lines to small and medium-sized enterprises at a maximum annual interest rate of 24% in a bid to offset the impact of COVID-19. *Government of Argentina* **March 19:** Announced a fiscal stimulus package of 700 billion pesos ($11.3 billion) to mitigate the impact of the COVID-19 and support the economy. The main measures include providing credit to productive activities (350 billion pesos), increasing public investments (100 billion pesos), and waiving payroll taxes for firms affected by the COVID-19.
Armenia	**March 17:** The Central Bank of Armenia cut its key refinancing rate by 25 basis points to 5.25% from 5.5% due to the effects of the COVID-19 outbreak on the economy.
Australia	*Reserve Bank of Australia* **March 3:** Cut its benchmark interest rate by 25 basis points to 0.5% due to the significant effect of the COVID-19 outbreak on the Australian economy. **March 19:** Cut its cash rate by 25 basis points to 0.25% and and introduced a series of measures: (1) targeting the 3-year government bond yield at 0.25% via purchases in the secondary market, (2) providing a three-year term funding facility to authorized deposit-taking institutions worth at least AU$90 billion at a fixed rate of 0.25%, aiming to support credit to small and medium-sized enterprises, (3) fixing the

	exchange settle balances at the central bank at 10 basis points. It will also continue to provide liquidity by conducting one-month and three-month repo operations until further notice. Longer-term repo operations of six-month maturity or longer would be undertaken at least weekly. The central bank also set out forward guidance, saying that it will not increase the cash rate until progress is made towards full employment and confident that inflation is sustainably within its target band. **March 19:** Through its daily money market operation, it has injected cash into the banking system (through repurchasing agreements), aiming to ease liquidity constraints in the stressed bond market: AU$12.7 billion (March 19), AU$10.7 billion (March 18), AU$8.8 (March 17), AU$5.9 billion (March 16), and AU$8.8 (March 13). *Government of Australia* **March 12:** Announced a AU$17.6 billion ($11.4 billion) stimulus package that includes support for business investment, cash flow assistance for small and medium sized business and employees, and household stimulus payments. **March 16:** The Australian Securities and Investments Commission ordered large equity market participants to reduce their number of executed trades by 25% from the levels executed on March 13, 2020, until further notice. **March 19:** Announced that the Australian Office of Financial Management (AOFM) will be provided with an investment capacity of $15 billion to enable smaller lenders to continue supporting Australian consumers and small businesses. (AOFM will be able to purchase residential mortgage backed securities and invest in a range of other asset backed securities and warehouse facilities over the next 12 months.) **March 22:** Announced an additional AU$66.4 billion ($38.5 billion) fiscal package, which extends income support measures for existing welfare and newly unemployed workers, and boosted previously announced measures for businesses such as cash flow and wage subsidies. The government is also expected to give local businesses AU$100,000 if the company has a turnover of less than AU$50 million each year and underwrite 50% of up AU$40 billion in loans offered by local lenders to small and medium sized companies. **March 30:** Unveiled an economic package of AU$130 billion ($79.85 billion) to subsidize the wages of an estimated 6 million people, marking a third tranche of stimulus designed to limit the fallout of the COVID-19 pandemic on the country's economy. The "job keeper" allowance, which would bring the country's COVID-19-related stimulus so far to A$320 billion (about 15% of Australia's gross domestic product), will provide eligible companies with AU$1,500 every fortnight for six months for each employee. Any company that lost 30% of its revenue can apply for the funds.
Austria	*Government of Austria* **March 14:** Set up an initial 4 billion euro ($4.4 billion) "corona crisis fund" to cover, among other things, benefits for affected workers, as well as bridge loans and credit guarantees to shore up businesses' liquidity. **March 18:** Announced that it will spend up to 38 billion euros ($42 billion) to secure jobs and keep companies afloat, and it will provide another 9 billion euros in guarantees and warranties, 15 billion euros in emergency aid, and 10 billion euros in tax deferrals.
Bosnia and Herzegovina	**March 17:** The prime minister met with the IMF Resident Representative in Bosnia to request assistance from the IMF. The IMF indicated that it may extend a 165 million euros ($181 million) loan to Bosnia under a Rapid Financing Instrument (RFI) to finance the increasing costs sustained by the country's health system in combating COVID-19.
Brazil	*Central Bank of Brazil* **March 18:** Cut its benchmark interest rate by 50 basis points to 3.75% to cushion the economic blow of the COVID-19 pandemic. It also sold $830 million in two rounds of spot foreign exchange intervention and announced a repurchase program

	for dollar-denominated sovereign bonds held by Brazilian banks, which will be carried out in conjunction with the Treasury. **March 23:** Announced that it planned to inject 1.2 trillion reais ($233.81 billion) into the country's financial system to counteract the effects of the COVID-19 outbreak, with more than half that amount comprising loans to banks. Under the program, lenders will be able to package their loan portfolios into long-term deposits to be acquired by the central bank in a move aimed at freeing up 670 billion reais for fresh loans. It also (1) cut long-term reserve requirements to 17% from 25%, freeing up 68 billion reais currently in compulsory deposits with the central bank to banks, (2) announced measures allowing small and mid-sized lenders to issue up to 2 billion reais in special long-term bonds guaranteed by a privately held deposit insurance fund, limited to an amount equivalent to its shareholders' equity, and (3) will extend loans backed by corporate bonds to financial institutions between March 23 and April 30 to add liquidity to their investment funds. *Government of Brazil* **March 16:** Announced a fiscal stimulus package of 147.1 billion reais ($28.6 billion) to mitigate the impact of the COVID-19 and boost the economy. It does not contain new money, but is a range of measures that aim to protect the most vulnerable population through social assistance payments (83.4 billion reais), support domestic companies and defer business taxes (59.4 billion reais), and increase investments in healthcare to combat the COVID-19 (4.5 billion reais). The government also announced a 3.1 billion reais boost to the "Bolsa Família" assistance for some of Brazil's poorest families. **March 16:** The National Monetary Council (CMN) approved the measures that will allow banks to (1) increase loans and offer better terms to firms and households over the next six months and (2) extend certain loan maturities for the next six months. It also lowered capital requirements for banks. **April 1:** Announced that it will cut the IOF financial tax for 90 days. It will be temporary and cost 7 billion reais. It will also extend the deadline for submitting the 2019 base year net income report to June 30 from April 30 and allow companies to postpone payment of certain tax contributions for two months and reduce wages by up to 70% (or the minimum wage) for three months, among other measures.
Bulgaria	*Government of Bulgaria* **March 30:** Announced it will spend more than 1 billion levs ($566 million) to pay part of workers' salaries in companies whose operations have been hit by the COVID-19 crisis, part of part of an overall 4.5 billion-lev package. **March 31:** Announced plans to raise the ceiling on new debt it can raise to 10 billion levs due to the COVID-19 pandemic.
Cambodia	*Government of Cambodia* **March 5:** Announced that it would allocate $30 million to finance Cambodia's COVID-19 screening and monitoring efforts. **March 10:** Allocated between $800 million to $2 billion to address the economic impacts of the novel COVID-19 outbreak.
Canada	*Bank of Canada* **March 4:** Lowered its target for the overnight rate by 50 basis points to 1.25% (setting the bank rate to 1.5% and the deposit rate to 1%). **March 12:** Announced that it will broaden the scope of the current Government of Canada bond buyback program and temporarily add new Term Repo operations. **March 13:** Lowered its benchmark overnight rate to 1.25% from 1.75% in response to the epidemic. **March 13:** Announced its intention to launch the Bankers' Acceptance Purchase Facility (BAPF), starting the week of March 23, 2020, in an effort to support the continuous functioning of financial markets; it will conduct secondary market purchases of one-month Bankers' Acceptances issued and guaranteed by any

	Canadian bank and of sufficiently high quality. BAPF operations will be conducted weekly with the purchase amount and reserve rate being adjusted to reflect market conditions. (For the first operation, the Bank of Canada will purchase up to $10 billion of one-month Bankers' Acceptances with a reserve rate of the overnight index swap rate plus 20 basis points.) **March 16:** Announced that it will broaden eligible collateral for its term repo facility and increase purchases of mortgage-backed securities (Canada Mortgage Bonds). **March 27:** Cut its overnight interest rate by 50 basis points to 0.25%, its lowest level since June 2010 and the third cut in March, to support an economy hit hard by the outbreak of COVID-19. It also announced that it would begin purchases of CA$5 billion per week of Government of Canada securities in the secondary market. *Canadian Government* **March 6:** Announced an investment of CA$27 million to fund COVID-19 research and accelerate the development, testing, and implementation of measures to deal with the COVID-19 outbreak. **March 11:** Unveiled CA$1 billion ($750 million) in funding for vaccine research and health measures. **March 13:** Established a Business Credit Availability Program (BCAP) to support financing in the private sector through the Business Development Bank of Canada (BDC) and Export Development Canada (EDC); it will allow BDC and EDC to provide more than $10 billion of additional support to businesses. **March 13:** The Office of the Superintendent of Financial Institutions (OSFI) lowered the Domestic Stability Buffer requirement for domestic systemically important banks by 1.25% of risk weighted assets; it will increase the lending capacity of Canada's large banks and support the supply of credit to the economy by more than CA$300 billion. **March 25:** Almost doubled the value of an aid package previously announced to help people and businesses deal with losses from the COVID-19 outbreak, from CA$27 billion to CA$52 billion ($36.6 billion). It will give people affected by the outbreak CA$2,000 a month, delay student loan repayments, and defer tax payments, among other measures to boost the economy.
Chile	*Central Bank of Chile* **March 16:** Cut its benchmark rate by 75 basis points to 1% and announced measures to inject liquidity, including allocating $4 billion to purchase inflation-linked bank bonds and providing additional credit to banks. **March 31:** Cut its benchmark interest rate by 50 basis points to 0.50% amid the COVID-19 pandemic. *Government of Chile* **March 19:** Announced a stimulus package of $11.75 bn to mitigate the negative economic impact of the outbreak of COVID-19 and civil unrest. The measures include extending unemployment insurance to those who are sick or unable to work from home, delaying tax payments for small businesses, a cash bonus for approximately 2 million workers who lack formal employment, and emergency funds for municipalities.
China	*People's Bank of China (PBOC)* **February 3:** Expanded reverse repo operations by $174 billion; added another $71 billion on February 4. **February 16:** Cut the one-year medium-term lending facility rate by 10 basis points. **February 20:** Cut the one-year and five-year prime rates by 10 and 5 basis points, respectively. **March 13:** Lowered bank reserve requirements, freeing up about $79 billion to be loaned out.

	March 30: Lowered the interest rate on reverse repurchase agreements to 2.20% from 2.40%, as authorities stepped up easing measures to relieve pressure on the economy that has been hit hard by the epidemic. *PRC Government* **February:** Asked banks to extend the terms of business loans and commercial landlords to reduce rents. **February 24:** The Asian Infrastructure Investment Bank (AIIB) contributed $1 million in medical equipment to help China control the spread of COVID-19. **February 27:** Announced a number of tax relief measures to tackle COVID-19 disruption, including a temporary reduction its value-added tax (VAT) and the elimination of VAT on medical, catering, accommodation, hairdressing, and laundry services as well as on masks and protective clothing. **March:** Earmarked $15.9 billion to fight the epidemic. **March 21:** Announced that it would cut fees on a large scale to stimulate private-sector investment and also accelerate the development of "new infrastructure" to help spur the economy. **March 19:** Reportedly is considering a fiscal stimulus package worth trillions of yuan to revive the economy amid the COVID-19 pandemic. The ramped-up spending will aim to spur infrastructure investment, backed by as much as 2.8 trillion yuan ($394 billion) of local government special bonds. **March 27:** The Communist Party's Politburo announced that it would step up macroeconomic policy changes and pursue more proactive fiscal policy. It called for expanding the budget deficit, issuing more local and national bonds, guiding interest rates lower, delaying loan repayments, reducing supply-chain bottlenecks and boosting consumption.
Colombia	*Central Bank of Colombia* **March 18:** Announced a $400 million dollar to peso swap to take place on March 19, and that it would increase the resources available to financial institutions and ease rules on which institutions can have access to funds. **March 27:** Cut its benchmark interest rate by 50 basis points to 3.75% in an effort to boost economic growth amid fall-out from COVID-19. *Government of Colombia* **March 18:** Announced that it has 14.8 trillion pesos ($3.65 billion) to spend on emergency measures to ease the economic fallout from COVID-19, but it will not take on additional debt to finance the efforts (12.1 trillion pesos will come from the country's savings programs). It will initially spend 1 trillion pesos on the healthcare system and 500 billion pesos on additional payments to social welfare programs for families, young people and the elderly, accelerate a plan to return value added tax to the neediest Colombians from April, and make 48 trillion pesos available to give credit guarantees to small and medium-sized businesses and households.
Congo-Kinshasa (Democratic Republic of the Congo)	**March 24:** The Central Bank of the Congo cut its base interest rate to 7.5% from 9.0% in order to cushion the economic impact of the COVID-19 outbreak. It will also cut mandatory reserve requirements and provide liquidity to banks.
Cyprus	*Government of Cyprus* **March 15:** Unveiled a 700 million euro support package for companies and workers to deal with the impact of the spread of COVID-19, which includes a temporary VAT reduction, support for individuals and companies affected, additional paid sick leave, and 100 million euro for the public health sector. **March 23:** Announced that it is revising the economic package announced on March 15. It will amount to at least 1.5 billion euro and include direct support, deferred government income in the form of payment suspension of direct and indirect taxes

	and other fees, as well as government guarantees (which would not incur a fiscal impact unless they materialize).
Czech Republic	*Czech National Bank* **March 16:** The Czech National Bank lowered its main two-week repo rate by 50 basis points to 1.75%, reversing its February rate hike to combat the hit from the virus outbreak. It also raised the number of repo operations that provide liquidity to banks to three times a week from once, noting that bids would be met with zero spread to the repo rate. **March 17:** Revised the countercyclical capital buffer for exposures located in the Czech Republic to 1.75 %. **March 26:** Cut its main two-week repo rate by 75 basis points to 1.00% and announced that it was ready to cut interest rates further if needed. *Government of the Czech Republic* **March 9:** Adopted a number of economic measures, which will include providing 100 billion CZK ($3.9 billion) in direct support and 900 billion CZK ($34.8 billion) in indirect in the form of guarantees to maintain the employment rate, paying out (through the respective employers) 60% of the average contribution base to employees affected by the quarantine, supporting employers who continue, despite their businesses being shut down, to pay out 100% of the salary to affected employees by covering 80% of salary costs (up to 1.2 billion CZK), and allocating 10 billion CZK ($390 million) to the Czech-Moravian Guarantee and Development Bank for immediate granting of interest-free loans with a one-year deferral with the possibility of a two-year extension for businesses affected by the COVID-19 ("COVID Loans Program"). (On March 16, the government earmarked another 1 billion CZK to the COVID Loans Program.) **March 13:** Extended the deadline for the filing of tax returns until 1 July and waived fines stemming from the late submission of tax declarations or reports. **March 13:** The Czech Banking Association (ČBA) will allow banks to voluntarily extend the deadlines on loan and mortgage payments. **March 23:** Approved a five-fold rise in this year's budget deficit, as it offers help to businesses hit hard by the COVID-19 outbreak. **April 1:** Announced that it had approved a scheme for a moratorium of up to six months on consumer, company, and mortgage loan payments to help the country through the COVID-19 crisis.
Denmark	*Danmarks Nationalbank* **March 12:** Released banks' emergency buffer and will be offering low interest rate loans to banks. **March 26:** Injected $2.85 billion in loans to Danish banks and financial institutions by auctioning off U.S. dollars in two loans with a maturity date on April 8 and June 19 and a cut-off rate of 0.32 and 0.34, respectively. **April 1:** Sold $750 million worth of its mint 30-year government bonds in an auction that was held a month early to expedite funding of aid packages due to COVID-19 that is expected to cost the state more than 60 billion Danish crowns ($8.8 billion). *Government of Denmark* **March 10:** Will grant tax breaks to businesses affected by the COVID-19 as part of a series of measures worth $20 billion. Large businesses will be given an additional 30 days to pay value added tax, while all companies will be granted four additional months to pay their labor contributions. The government is also lifting the ceiling on businesses' tax accounts, so that corporations can avoid paying the negative interest rates they are charged when placing cash in the bank. **March 12:** Indicated that it would release banks' counter-cyclical capital buffer, freeing about 200 billion Danish crowns ($30 billion) for lending. Other fiscal measures, worth 2.8 billion Danish crowns ($416 million), include compensation to

	companies for salary payments to employees who have fallen ill or been quarantined due to the COVID-19. **March 18:** Proposed an economic aid package worth 40 billion kroner ($5.8 billion) to help small businesses cover (for three months) most of the losses in revenue and some of their fixed expenses as a result of the COVID-19 outbreak. Under the program, companies who have seen their revenues decline by 40% or more will receive government grants to help cover between 25% to 80% of their fixed costs, and self-employed and small firms who see their revenues fall more than 30% will also be offered government compensation worth 75% of their normal monthly income. **March 31:** Announced that it will postpone by three months around 200,000 companies' deadline of end-May to submit their annual reports in an effort to help companies affected by the COVID-19 outbreak.
Egypt	*Central Bank of Egypt* **March 16:** Cut by 300 basis points both the overnight lending rate (from 13.25% to 10.25%) and the overnight deposit rate (from 12.25% to 9.25%) in what it described as a "preemptive" move to support the economy in the face of the COVID-19 outbreak. **March 23:** Told commercial banks to cut interest on dollar deposits to 1% above the London Interbank Offered Rate (Libor) instead of 1.5% above Libor, starting March 23, in order to control the exchange market and reduce the expected dollarization operations after cutting interest rates on March 16. **March 29:** Instructed Egyptian banks to apply temporary limits on daily withdrawals and deposits in a move seemingly designed to control inflation and hoarding during the coronavirus' spread, after 30 billion Egyptian pounds ($1.91 billion) were withdrawn from banks in the past three weeks. The daily limit for individuals would be 10,000 Egyptian pounds ($635) and 50,000 pounds for companies. *Government of Egypt* **March 14:** Indicated that the government will allocate 100 billion Egyptian pounds ($6.4 billion) to finance a "comprehensive" state plan for combating the COVID-19 outbreak. **March 22:** Announced that the government would allocate 20 billion Egyptian pounds ($1.27 billion) to support the stock exchange. **March 30:** Ordered relevant authorities to boost strategic reserves of staple goods, as global concerns about food security rise amid the COVID-19 crisis.
Eswatini (Swaziland)	**March 21:** The Central Bank of Eswatini cut its main lending rate by 100 basis points to 5.5%, citing global and domestic economic developments and the impact of COVID-19. The reduction was to ensure the equal pegging of the local currency with the South African rand after the South African Reserve Bank (SARB) cut its main lending rate by 100 basis points to 5.25% on March 19.
European Union	*European Central Bank (ECB)* **March 12:** Announced that it would provide banks with loans at a rate as low as minus 0.75%, below the-0.5% deposit rate, increase bond purchases by 120 billion euros ($135.28 billion) this year (with a focus on corporate debt), and allow euro zone banks to fall short of some key capital and cash requirements (in order to keep credit flowing to the economy). **March 18:** Launched a new, 750 billion euro ($818 billion) temporary asset purchase program of private and public sector securities to counter the risks posed by the outbreak and escalating diffusion of COVID-19 (the Pandemic Emergency Purchase Programme). Purchases will be conducted until the end of 2020 and will include all the asset categories eligible under the existing asset purchase program. It will also support commercial debt markets by expanding the range of eligible assets under the corporate sector purchase program to nonfinancial commercial paper of sufficient credit quality, and by easing collateral standards by expanding the scope of Additional Credit Claims to include claims related to the financing of the corporate sector.

	March 26: Announced that under the new 750 billion euro ($818 billion) temporary bond purchase Pandemic Emergency Purchase Program (PEPP), it would not apply self-imposed limits on how many bonds it could buy from any single euro zone country. Under its long-running asset purchase scheme, the ECB has capped bond buys at 33% of each euro zone state's debt. *European Commission* **March 11:** Announced a 37 billion euro ($41 billion) "Corona Investment Fund" that would use "spare" money from the EU budget to help businesses, health-care systems, and sectors in need; additionally, the EU's own investment fund will guarantee 8 billion euros ($8.9 billion) of loans to 100,000 small- and medium-sized enterprises and affected companies may be able to delay the payment of their existing loans. **March 19:** Adopted a Temporary Framework to enable Member States to use the full flexibility foreseen under state aid rules to support the economy in the context of the COVID-19 outbreak. It provides for five types of aid: (1) direct grants, selective tax advantages and advance payments (Member States will be able to set up schemes to grant up to 800,000 euros to a company to address its urgent liquidity needs); (2) state guarantees for loans taken by companies from banks; (3) subsidized public loans to companies; (4) safeguards for banks that channel state aid to the real economy; and (5) short-term export credit insurance.
Fiji	**March 18:** The Reserve Bank of Fiji cut its Overnight Policy Rate by 25 basis points to 0.25% in order to stimulate demand and cushion the blow to its important tourism industry from the global spread of COVID-19.
France	*Government of France* **March 12:** Pledged more generous guarantees on loans made to small businesses, more cash for firms struggling to hold on to workers, and a solidarity fund to help companies cushion the blow from the COVID-19 outbreak; it also announced that the government would be ready to increase funds available to help companies reduce workers' hours, instead of laying them off. **March 16:** Announced that the government would guarantee 300 billion euros in bank loans for small and medium-sized businesses. **March 17:** The Autorité des Marchés Financiers (AMF), France's financial-markets authority, stated that it would forbid short selling of stock in 92 companies during the March 17 session. **March 17:** Announced that it would spend 45 billion euros ($50 billion) to help small businesses and employees struggling with the COVID-19 outbreak, including through an expanded partial-unemployment package in which the state pays the salaries of employees who are not needed during the crisis.
Gambia	**February 28:** The Central Bank of The Gambia lowered its policy rate by 50 basis points to 12.0% amid risks from the COVID-19 outbreak and uncertainty surrounding global food prices.
Georgia	**April 1:** The government announced that it will put 2 billion lari ($606 million) from its state budget toward helping the economy through the COVID-19 pandemic, in addition to 351 million lari that will be allocated for the healthcare system from the state budget. The government will fund three months' payments for electricity and gas consumption to Georgians who used less than 200 kilowatts of electricity and 200 cubic meters of gas a month in March, April, and May.
Germany	*Government of Germany* **March 13:** Pledged to provide unlimited liquidity assistance to German companies hit by the pandemic. (The measure envisages an expansion of loans provided by KfW, the state development bank, and will allow companies to defer billions of euros in tax payments.) The Bundestag also expanded the Kurzarbeit or short-time work scheme, under which companies that put their workers on reduced hours can receive state

	support. The government also indicated that it would boost investments by €3.1 billion per year (about $3.5 billion) between 2021 and 2024. **March 23:** Agreed to a package worth more than 750 billion euros ($808 billion) to mitigate the damage of the COVID-19 outbreak. It includes 156 billion euros in debt to finance higher social spending, 50 billion-euro liquidity fund for self-employed people, 600 billion-euro rescue fund (400 billion euros in guarantees,100 billion euros in loans through state-run development bank KfW, and 100 billion euros earmarked for equity stakes in companies). Additionally, the state's KfW bank has 500 billion euros available to boost liquidity of German companies. **March 30:** Announced that, in response to COVID-19, it would expand export loan guarantees on short-term payments to include transactions within the EU and with Australia, Canada, Iceland, Japan, New Zealand, Norway, Switzerland, Britain, and the United States.
Ghana	**March 18:** The Bank of Ghana (Ghana's central bank) cut its interest rate to 14.5% from 16% due to the negative economic impacts it anticipates from the spread of the COVID-19.
Greece	*Government of Greece* **March 9:** Will suspend the payment of sales taxes due at the end of March (for four months) of social security contributions by companies (until June 30). **March 17:** Announced a package of up to 2 billion euros ($2.20 billion) to support businesses following the COVID-19 outbreak **March 17:** The Hellenic Bank Association will offer businesses hit by the COVID-19 crisis a six-month freeze on loan payments as part of relief efforts to help borrowers deal with the economic shutdown. **March 30:** Announced new tax breaks and economic assistance to thousands of businesses and workers to buffer its economy from a national lockdown triggered by the COVID-19 pandemic. The support measures include a one-off benefit for 1.7 million, or 81% of private sector workers whose jobs are temporarily suspended and payment of their social security contributions for 45 days, extend financial aid for the self-employed, and suspend VAT and tax arrear payments for 800,000 businesses.
Guatemala	**March 29:** The government announced that it would use nearly $26 million from an emergency fund to help the country's neediest families, as measures to combat the spread of a COVID-19 impact on the economy and jobs, It plans to withdraw 200 million quetzals ($25.8 million) from the emergency fund and give families 1,000 quetzals ($129) to help pay for electricity, water and supplies.
Hong Kong	*Hong Kong Monetary Authority* **March 3:** Lowered its base rate charged through the overnight discount window by 50 basis points to 1.5% after the U.S. Federal Reserve delivered a rate cut of the same margin. **March 16:** Lowered its base rate charged through the overnight discount window to 0.86%, after the U.S. Federal Reserve delivered a rate cut. It also cut the level of capital buffers it requires financial institutions to hold to 1% from 2% of their risk-weighted assets to help companies and lenders weather the impact of the COVID-19 outbreak. *Government of Hong Kong* **February 26:** Announced a HK$120 billion ($15.4 billion) relief package as part of its 2020-2021 budget, including a payment of HK$10,000 ($1,200) to each permanent resident of the city 18 or older, paying one month's rent for people living in public housing, cutting payroll, income, property, and business taxes, low-interest, government-guaranteed loans for businesses, and an extra month's worth of payments to people collecting old-age or disability benefits.
Hungary	*Hungarian National Bank*

	March 16: Announced emergency steps to help businesses, boosting the range of collateral it accepts from banks and calling on lenders to apply a loan repayment moratorium for firms hit by the coronavirus economic fallout. (It said in a statement that performing corporate loans in domestic banks' balance sheets totaled close to 3.6 trillion forints, and that it would apply a 30% haircut on those, boosting the range of collaterals that can be used and thus also lifting banks' lending potential by more than 2.5 trillion forints ($8.10 billion)). It also offered to inject forint liquidity into the banking system via foreign exchange swaps. **March 18:** Urged domestic banks to introduce a moratorium on household loan repayments considering the "extraordinary situation" due to the coronavirus crisis, and that if banks did not bring in the measure, the Bank would ask the government to pass a decree enforcing it. It also announced that it was considering restarting its mortgage note buying program to provide more long-term liquidity for the banking system and reduce the financing costs of household loans. **March 24:** Launched new measures to boost liquidity and flagged further steps if needed to prevent long-term damage to the economy from the coronavirus pandemic. It moved to pump more money into the banking system by introducing a massive fixed-rate collateralized loan instrument. Lending will be provided to banks at a fixed interest rate in unlimited quantity, to support bank lending and also government bond purchases. It also released domestic lenders from the requirement to hold a certain level of cash as reserves. **April 1:** Announced its collateralized loan tenders, offering liquidity to banks at a fixed rate of 0.9% on various maturities, and that it would offer them to domestic open-ended investment funds, in order to support the government securities market and the real estate market and help offset the fallout from the coronavirus pandemic. *Government of Hungary* **April 4:** Created a $2 billion special fund to aid the fight against COVID-19 and it will include contributions from banks and foreign retailers. Hungarian banks will be expected to pay 55 billion forints ($163 million) in the fund this year, with multinational retailers adding 36 billion forints. Local governments will have to divert vehicle taxes amounting to a total of 34 billion forints to the fund, while political parties will pay half of their central budget revenue to the fund for a total of 1.2 billion forints. **April 6:** Announced a stimulus package, which includes subsidized loans to Hungarian companies and funds to preserve jobs. It would amount to 18%-20% of gross domestic product (GDP), including National Bank of Hungary programs. The prime minister said that the government was ready to pay some of the wage costs of companies forced to cut working hours, would support investments with 450 billion forints ($1.3 billion), and would provide targeted support for sectors such as tourism, the food industry, and construction. Subsidized loans to companies will total more than 2 trillion forints, while pensioners will get one month's extra pension to be disbursed in four tranches from early 2021.
Iceland	*The Central Bank of Iceland* **March 11:** Cut its benchmark interest rate by 50 basis points to 2.25%, as it tries to alleviate the potential impact of the COVID-19 on its tourism-dependent economy. It will also lower deposit institutions' average reserve requirement to 0% from 1% to ease banks' liquidity positions. **March 18:** Cut its key interest rate for the second time in a week by 50 basis points to 1.75% and reduced the banks' countercyclical capital buffer to 0% from 2%. March 23: Announced that it would start buying up treasury bonds in order to boost liquidity and support government plans to increase spending to help the economy weather the COVID-19 outbreak. *Government of Iceland* **March 10:** Announced an action plan to respond to the economic impact of COVID-19, which includes deferring taxes and levies, providing temporary relief to the tourism industry, and accelerating ongoing and planned infrastructure projects.

	March 21: Announced a 230-billion-krona ($1.6 billion) package (8% of gross domestic product) to cushion the impact of COVID-19 on the economy. It includes state guarantees on bridge loans to businesses and the payment of as much as 75% of an employee's lost salaries over the next two-and-a-half months. In addition, public projects worth 20 billion krona will be moved forward to this year and tax breaks for banks will be implemented sooner than originally planned.
India	*Reserve Bank of India* **March 12:** Announced a $2 billion injection into the foreign-exchange market to support the rupee. **March 13:** Announced a plan to add liquidity through short-term repurchase operations. **March 14:** Plans to infuse 250 billion rupees ($3.4 billion) into the system through short-term repurchase operation. **March 19:** Announced that it will buy bonds on the open market for a total of 100 billion Indian rupees ($1.35 billion) due to mature between 2022 and 2025 to try to keep all market segments liquid and stable. **March 27:** Lowered its benchmark repo rate by 75 basis points to 4.40% and announced several other steps to tackle the impact of COVID-19 on various industries from the lockdown, some of which include cutting banks' cash reserve ratio and targeted long term repos operations. The reverse repo rate was reduced by 90 basis points to 4%. *Government of India* **March 15:** Pledged $10 million towards South Asian Association for Regional Cooperation (SAARC) "COVID-19 emergency fund." **March 15:** Is reportedly "pushing" state-run banks to approve new loans amounting to 500 billion-600 billion rupees by the end of March. **March 26:** Announced a 1.7-trillion-rupee ($22.6 billion) economic stimulus plan providing direct cash transfers and food security measures to give relief to millions of poor people hit by a nationwide lockdown over COVID-19. It will provide direct cash transfers to 200 million women and the elderly, hand out free cooking gas cylinders to 83 million poor families, and help feed about 800 million poor people over the next three months by distributing 5 kilograms of staple food-grains wheat or rice for each person free of cost, with a kilogram of pulses for every low-income family. The government outlined plans for medical insurance cover of 5 million rupees ($66,000) for every frontline health worker, from doctors, nurses and paramedics to those involved in sanitary services.
Indonesia	*Bank Indonesia (Bank Sentral Republik Indonesia)* **February 20:** Cut the seven-day reverse repurchase rate by 25 basis points to 4.75%. **March 19:** Cut the seven-day reverse repurchase rate by 25 basis points to 4.50% and indicated that it will intensify intervention to ensure market confidence and liquidity. It has purchased government bonds to combat capital outflows amid the COVID-19 epidemic, including 27 trillion rupiah ($2 billion) on February 20 and 6 trillion rupiah ($405 million) on March 13, adding to 8 trillion rupiah of bonds purchased March 12. **March 25:** Announced with the country's financial regulator that currency market and stock trading hours will be limited next week as part of efforts to contain the spread of COVID-19. *Government of Indonesia* **February 25:** Announced a stimulus package worth 10.3 trillion rupiah ($742.6 million) to protect its economy from the impact of the COVID-19 outbreak. It includes 4.6 trillion rupiah in subsidies for basic needs for poor households, 1.5 trillion rupiah for the state property financing program, 443.4 billion rupiah for

	airlines and travel agents, 298.5 billion rupiah to bring in foreign tourists, 3.3 trillion rupiah cover for shortfalls in regional budgets, and fiscal transfers (147 billion rupiah). **March 13:** Announced a 120 trillion rupiah ($8.1 billion) stimulus package to support the economy, of which 22.9 trillion rupiah will be tax breaks, lasting six months starting in April. The government is also exempting companies in 19 manufacturing sectors from having to pay import taxes, while giving them a 30% corporate tax discount, relaxing rules for exports (e.g., fisheries and forestry products) and imports (e.g., steel, sugar, flour and salt), and easing rules on loan restructuring for small- and medium-sized companies. **March 17:** Ordered the Finance Minister to divert 40 trillion rupiah ($2.7 billion) from the non-urgent government budget to increase spending in programs that could provide direct support to household consumption or increase people's purchasing power. **March 31:** Announced a national public health emergency and that it would spend 405.1 trillion rupiah ($24.85 billion) more on COVID-19 response, social welfare programs, and economic stimulus, including a 3 percentage point cut in corporate tax rates to 22%.
Iran	*Central Bank of Iran* **February/March:** Indicated that it would help small businesses affected by the COVID-19 outbreak by providing tax breaks and allowing defaults on bank loans for several months. **March 12:** Requested $5 billion emergency funding from the International Monetary Fund's Rapid Financing Instrument to help Iran fight the COVID-19 outbreak. **March 17:** Allocated at least 250 million euro to import medicine and medical equipment required to fight COVID-19. *Government of Iran* **March 12:** Asked the United Nations to allocate resources to help it tackle COVID-19 and facilitate imports as a way of boosting the country's sanctions-hit healthcare system. **March 15:** Announced a series of banking, welfare and tax relief measures to support businesses and families as the COVID-19 outbreak puts severe strain on the economy. Employees will be able to defer health insurance, tax and utility bill payments for the next three months, while the 3 million poorest Iranians will receive an additional cash subsidy starting March 17, 2020. **March 23:** The European Union's High Representative of the Union for Foreign Affairs and Security Policy (Josep Borrell) announced that the EU would provide 20 million euros in humanitarian aid to Iran to help alleviate the COVID-19 and support Iran's request for IMF financial help. **March 26:** President Hassan Rouhani wrote to Supreme Leader Ayatollah Ali Khamenei requesting permission to withdraw $1 billion from the country's sovereign wealth fund (the National Development Fund) to support the healthcare system, which is overstretched by the COVID-19 outbreak. **March 28:** Announced that it would allocate 20% of its annual state budget to fighting the pandemic in the country. The budget allocation, amounting to about 1,000 trillion rials, would include grants and low-interest loans to those affected by COVID-19, Rouhani said. While the allocated amount is worth some $6.3 billion at the rial's free market exchange rate of about 160,000 rials per dollar, the government may decide to allocate some of the funds at the official rate of 42,000 (which is used to subsidize food and medicine).
Ireland	**March 9:** The government announced that it will set aside 3 billion euros ($3.44 billion) to provide additional funding to the health service (435 million euros), boost workers' sick pay and benefits (2.4 billion euros), and offer liquidity assistance to businesses affected (200 million euros).
Israel	*Bank of Israel*

	March 18: Announced it would allocate up to $15 billion for swap transactions between currencies for domestic banks, part of a move aimed at shoring up the Israeli economy amid the COVID-19 pandemic. **April 6:** Cut its benchmark interest rate to 0.1% from 0.25%, its first rate cut in five years, expanded its repo transactions so that the agreements can include corporate bonds—in addition to government bonds—as security, and will provide loans to banks for a term of three years (with a fixed interest rate of 0.1%) with the goal of increasing the supply of bank credit to small businesses. The size of the plan will be 5 billion shekels. *Government of Israel* **March 9:** The Finance Ministry announced that it was opening a 4 billion-shekel credit line for banks to lend money to small and medium-sized businesses facing a cash crisis with a high-level government guarantee. **March 11:** Will expand an aid package (for a second time) to help the country deal with the COVID-19 outbreak by 6 billion shekels to a total of 10 billion shekels ($2.8 billion). Of that, 8 billion shekels will be in a fund to provide cheap loans to businesses, 1 billion shekels will boost the health system by increasing medicine stocks and preparing hospitals to receive a larger number of patients, and 1 billion will be earmarked for needs such as the police force. **March 16:** Will expand its aid package (for a third time) to help businesses hurt by the COVID-19 crisis by another 5 billion shekels ($1.3 billion). **March 30:** Announced that it will spend 80 billion shekels ($22 billion) to help the economy weather the COVID-19 crisis—70 billion shekels in addition to 10 billion already promised to boost welfare services for those who have lost their jobs or are on unpaid leave and to assist the private sector. It includes a 20-billion-shekel social safety net, with stipends for those who lost income; 40 billion shekels earmarked to assist businesses with tax breaks, loans, and other services; about 10 billion for the healthcare system; and nearly 8 billion will be spent to speed up the recovery.
Italy	*Government of Italy* **March 11:** Announced two packages worth 25 billion euros ($28.3 billion): A package worth 12 billion euros will provide extra funding for the health system as well as a mix of measures to help companies and households, including freezing tax and loan payments and boosting unemployment benefits to ensure no jobs were lost. The remainder will be a reserve to pay for any further measures. The government also indicated that payments on mortgages will be suspended across Italy. ABI, Italy's banking lobby, said lenders would offer debt moratoriums to small firms and households grappling with the economic fallout from the virus. **April 6:** Announced a new emergency decree aimed at granting liquidity and bank loans worth more than 400 billion euros to companies hit by COVID-19. The new legislation, combined with a previous stimulus package in March, would allow banks to offer credit totaling over 750 billion euros ($809.78 billion).
Japan	*Bank of Japan* **March 16:** Announced that it would (1) double its upper limit of annual purchases of exchange traded funds to 12 trillion yen ($112.46 billion) and of real-estate investment trusts to 180 billion yen ($1.7 billion) per year, (2) expand its upper limit of its corporate bond balance and commercial paper balance by 1 trillion yen ($9.5 billion) each, and (3) start a lending program for commercial banks, providing them with one-year loans in exchange for corporate collateral worth 8 trillion yen ($75.6 billion). *Government of Japan* **February 13:** Unveiled a set of measures worth 15.3 billion yen ($140 million) to fight the spread of COVID-19; secured 500 billion yen ($4.7 billion) for emergency lending and loan guarantees at the Japan Finance Corporation and other institutions for small businesses hit hard by the virus outbreak.

	March 10: Unveiled a second package of measures totaling 430.8 billion yen ($4.1 billion) in spending to cope with the fallout of the COVID-19 outbreak (focusing on support to small and mid-sized firms) and boosted to 1.6 trillion yen ($15.1 billion) its special financing for small- and mid-size firms hit by the virus, up from 500 billion yen. **March 23:** Announced that it is working on a package of measures to combat the widening economic fallout from the COVID-19 that will involve direct fiscal spending exceeding 15 trillion yen ($137 billion). Including loans and other steps that does not include direct spending, the size of the package may exceed 30 trillion yen. **April 6:** Announced a 108 trillion yen ($989 billion, equivalent to 20% of gross domestic product) stimulus package, Japan's largest ever, to rescue the COVID-19-hit economy. It will include cash handouts worth 6 trillion yen for households and small businesses hit by the virus and offers businesses deferrals on tax and social service costs worth 26 trillion yen. The first phase of the package aims to stop job losses and bankruptcies, while a second round of aid, after the virus is contained, will try to support a V-shaped economic recovery.
Kazakhstan	*National Bank of Kazakhstan* **April 3:** Cut its policy rate to 9.5% from 12.0% in an unscheduled move aimed at boosting economic growth. *Government of Kazakhstan* **March 23:** The president ordered state-owned companies to start selling part of their foreign currency revenue on the domestic market to support the local tenge currency (and to pay out up to 100% of last year's profits in dividends) in order to soften the impact of the oil price crash and the COVID-19 outbreak on the economy. He also ordered a standstill on bank loan repayments by individuals and small- and medium-sized businesses for the duration of the state of emergency, announced that the government would pay 42,500 tenge ($95) per month to people who have lost their source of income, was delaying tax payments for small businesses, and stood ready to more than triple spending on a program to provide temporary employment through infrastructure maintenance and construction projects. Together with soft loan program and other spending, the volume of the stimulus package is expected to reach $10 billion. **April 2:** Announced that it plans to borrow $3 billion on foreign capital markets to finance its budget deficit this year, due to the collapse in energy prices and the additional stimulus spending amid the COVID-19 outbreak.
Kenya	*Central Bank of Kenya* **March 23:** Cut its benchmark lending rate by 100 basis points to 7.25% and lowered the cash reserve ratio for commercial banks to 4.25% from 5.25%. The move to lower the cash ratio is expected to release an extra 35.2 billion shillings ($330.83 million) for banks to lend to customers trying to deal with the outbreak. *Government of Kenya* **March 16:** The World Bank announced that it is making $60 million available to Kenya's health sector to help it deal with the COVID-19 outbreak. **March 24:** Announced that it will seek emergency assistance from the IMF of up to $350 million, and $750 million from the World Bank, release 49 billion shillings ($460 million) to pay pending bills to suppliers, and expedite the payment of close to 10 billion ($94 million) shillings in value-added tax refunds to businesses in the next two to three months. **March 25:** Announced that the value-added tax rate would be cut to 14% from 16% and corporation tax would be reduced to 25% from 30% under plans scheduled to come into force by April, and that there would be 100% tax relief for Kenyans earning a monthly income of up to 24,000 Kenyan Shillings ($226) to increase their disposable income.
Kuwait	*Central Bank of Kuwait*

	March 16: Cut by 100 basis points its deposit rate to 1.5% and its overnight, one-week, and one-month repo rates to 1%, 1.25%, and 1.75%, respectively. **April 2:** Announced a stimulus package to support vital sectors and small and medium enterprises (SMEs) amid the fallout from the COVID-19 pandemic. It cut capital adequacy requirements by 2.5%, eased the risk weighting for SMEs to 25% from 75%, raised the maximum lending limit to 100% from 90%, and increased the maximum financing for residential real estate developments to the value of the property or the cost of development. The measures are expected to raise banks' lending capacity by 5 billion dinars ($16 billion). *Government of Kuwait* **April 1:** Announced measures aimed at shoring up its economy against the pandemic, including soft long-term loans from local banks to provide liquidity for small and medium-sized enterprises and directing government agencies to pay obligations to the private sector as soon as possible.
Malaysia	*Government of Malaysia* **February 27:** Announced the "Economic Stimulus Package 2020" to mitigate the economic impact of COVID-19, improve the cash flow of affected businesses, stimulate private consumption, and accelerate domestic investment activities. It includes exempting accommodation services from services tax, providing sales tax exemptions, and lifting duties on certain imports. **March 27:** Announced a stimulus package worth 250 billion ringgit ($58.28 billion), its second in a month, to help cushion the economic blow from the pandemic. It includes a 25 billion ringgit direct fiscal injection by the government aimed at helping families and business owners; one-off payments and discounts on utilities for people whose livelihoods have been affected; 1 billion ringgit for a food security fund; and a 50 billion ringgit loan scheme for larger companies, which will offer guarantees of up to 80% of the sum borrowed to shore up working capital in the corporate sector.
Mauritius	**March 10:** The Bank of Mauritius cut its key repo rate by 50 basis points to 2.85% amid the COVID-19 outbreak, which is expected to have a significant impact on the domestic economy.
Mexico	*Banxico (Bank of Mexico)* **February 13:** Cut its key rate by 25 basis points to 7.0%. **March 19:** Lowered its benchmark interest rate by 50 basis points to 6.50% in an out-of-cycle cut in a bid to support the country's financial markets, reduced the rates on its additional ordinary liquidity facility, and cut by 50 billion pesos ($2.06 billion) the monetary regulation deposit that private banks must observe.
Moldova	*National Bank of Moldova* **March 4:** Cut its main interest rate by 100 basis points to 4.50%, citing the domestic disinflationary trend and global economic concerns related to the COVID-19 outbreak. **March 20:** Cut its main interest rate for the second time in March to 3.25% from 4.50% in order to support banking system amid markets volatility due to the COVID-19 spread.
Mongolia	**March 11:** The Central Bank of Mongolia cut its policy rate 100 basis points to 10.0% in response to increased uncertainties in connection with the spread of COVID-19. It also lowered the reserve requirement on banks..
Morocco	**March 15:** Morocco's King Mohammed VI ordered the creation of a 10 billion-dirham ($1 billion) fund to upgrade health infrastructure, help vulnerable economic sectors such as tourism, maintain jobs, and mitigate the social repercussions of the outbreak. **March 17:** Bank Al-Maghrib (Central Bank of the Kingdom of Morocco) cut its benchmark interest rate by 25 basis points to 2% in order to help shore up economic activity following a drought and the outbreak of COVID-19.

Netherlands	*Government of the Netherlands* **March 12:** Announced that it would expand loan guarantees for small and medium sized enterprises, from 50% to 75%. **March 12:** The Tax Authority will allow companies affected by COVID-19 to defer income, corporate, turnover, and wage taxes for the time being. **March 17:** Announced measures to support companies, ranging from tax exemptions to having up to 90% of wages lost for work hour reductions paid by the government.
New Zealand	*Reserve Bank of New Zealand* **March 16:** Cut the official cash rate by 75 basis points to a record low of 0.25%, and pledged to keep it at this level for at least 12 months. **March 22:** Announced that it will purchase up NZ$30 billion ($17 billion) of government bonds in the secondary market over the next 12 months. It will seek to buy NZ$750 million bonds a week across a range of maturities, via an auction process. **March 24:** Reduced banks' core funding ratios to 50% from 75% to help banks make credit available. **March 30:** Announced that it was deploying more tools to provide additional liquidity to the corporate sector and support market functioning to offset the impact of the pandemic. A new weekly Open Market Operation—to be held each Tuesday—will provide liquidity in exchange for eligible corporate and asset-backed securities by offering up to NZ$500 million ($300 million) for terms out to approximately three months, starting on March 31. The bank also will offer to purchase government bonds maturing on May 15, 2021, for liquidity management purposes. *Government of New Zealand* **March 16:** Announced a spending package of NZ$12.1 billion ($7.3 billion), equivalent to 4% of GDP in an attempt to fight the effects of COVID-19 on the economy; approximately NZ$5 billion will go toward wage subsidies for businesses, NZ$2.8 billion toward income support, NZ$2.8 billion in business tax relief, and NZ$600 million toward the airline industry. **March 24:** Announced that retail banks will offer a six-month principal and interest payment holiday for mortgage holders and small business customers whose incomes have been affected by the economic disruption from COVID-19. The government and the banks will also implement a NZ$6.25 billion ($3.62 billion) Business Finance Guarantee Scheme for small and medium-sized businesses. It will include a limit of NZ$500,000 per loan and will apply to firms with a turnover of between NZ$250,000 and NZ$80 million per annum (the government will carry 80% of the credit risk, with the other 20% to be carried by the banks).
Norway	*Norges Bank* **March 13:** Cut its key interest rate to 1% from 1.5%, as it seeks to counter the economic impact of the COVID-19 pandemic. It indicated that it would offer funding to banks to help counter the volatility in financial markets and announced that banks' countercyclical capital buffer would be reduced from 2.5% to 1%, to help banks continue to lend money. **March 20:** Cut its key policy rate by 75 basis points to 0.25% from 1.0% in a bid to alleviate the economic impact from the COVID-19 outbreak. It also offered a third batch of extraordinary loans to the banking industry to ensure it has enough for the months ahead. **March 30:** Increased its planned issuance of government bonds this year to between 70 billion and 85 billion Norwegian crowns ($6.68 billion-$8.11 billion) from an original plan of 55 billion crowns, following the government's decision to offer loans worth tens of billions of crowns in emergency funding to companies hurt by the coronavirus outbreak.

	March 31: Will increase further its daily purchase of Norwegian currency to 2 billion crowns ($190 million) per day from 1.6 billion crowns in order to make funds available for the government's fiscal budget. (On March 18, it announced that it would increase it to 1.6 billion Norwegian crowns per day from 500 million crowns.) *Government of Norway* **March 13:** Announced that it would pay a greater part of the bill for all companies seeking to make temporary layoffs, suspended all airport fees for the first six months of 2020, and lifted for a period of 10 months the tax charged for each passenger. **March 15:** Announced that it would offer companies at least 100 billion Norwegian crowns ($9.7 billion) in funding in the form of loan guarantees (50 billion crowns to small and medium sized companies seeking bank loans) and bond issues (50 billion crowns to large firms issuing corporate bonds). In addition, payments of payroll taxes will be postponed. **March 20:** Presented legislation that would temporarily reduce the value-added tax, postpone tax filing deadlines and add worker and business protections under a 280 billion kroner ($24 billion) plan to boost the economy amid the pandemic. Along with the tax provisions, the legislative package includes two previously announced lending programs that the government said would provide up to 100 billion kroner in support for Norwegian businesses, improving their access to credit to ensure liquidity. **March 27:** Proposed new measures to support businesses hit by the viral outbreak and a sharp fall in the price of oil. They include, among other things, covering fixed costs for companies affected by the coronavirus outbreak at a cost of 10 billion to 20 billion Norwegian crowns ($958 million to $1.92 billion) per month for two months.
Oman	**March 18:** The Central Bank of Oman announced that it will provide about 8 billion Omani rials ($20.8 billion) in extra liquidity to banks as one of several measures aimed at supporting the economy. It also asked banks to cut banking fees, adjust capital and credit ratios, allow repayment postponements for up to six months, and facilitate lending, particularly in sectors affected by the COVID-19, including healthcare, travel and tourism.
Pakistan	*State Bank of Pakistan* **March 17:** Cut its key interest rate by 75 basis points to 12.50% in response to the anticipated slowdown due to COVID-19, provided additional support to investment, offering a new package of 100 billion rupees ($630.5 million) for investment in the manufacturing sector to fund investors at 7% for 10 years., and announced that it would refinance banks to provide 5 billion rupees ($31.5 million) at a maximum of 3% for the purchasing of equipment used to fight the COVID-19. **March 24:** Cut its benchmark interest rate for the second time in a week, lowering it by 150 basis points to 11% amid considerable uncertainty about how the COVID-19 outbreak would impact the global economy and Pakistan. *Government of Pakistan* **March 24:** Announced a financial-relief package of more than 1 trillion rupees ($6.3 billion) to support the economy and poorer workers. It will include help to the export and industry sectors, tax breaks, procurement of medical and other equipment required to fight the pandemic, and the distribution of a monthly cash stipend among the poor.
Paraguay	*Central Bank of Paraguay* **March 13:** Cut its benchmark interest rate by 25 basis points to 3.75%, as part of a series of measures aimed at dealing with the impact of the COVID-19 outbreak. Banks' reserve requirements will also be reduced to help the financial sector refinance debts. *Government of Paraguay*

	March 13: Announced tax relief measures, as well as $150 million of credit lines in state banks and loans from multilateral agencies.
Peru	*Central Reserve Bank of Peru* **March 19:** Cut its benchmark interest rate by 100 basis points to 1.25%, from 2.25% to counter the economic impact of the COVID-19 pandemic and announced that, if necessary, could employ other additional liquidity injection instruments to alleviate the crisis. **March 29:** Announced that that as part of the 90 billion soles stimulus plan announced on March 29, the Bank would inject 30 billion soles into banks for loans to mainly smaller companies to help cover their working capital. **April 2:** Announced that it is preparing a major bond issuance to help underwrite an unprecedented stimulus package to counter the economic impact of the fast-spreading pandemic. *Government of Peru* **March 29:** Announced that it is planning an economic stimulus package worth around 90 billion soles ($26.41 billion or 12% of gross domestic product) to support citizens and the key mining sector that have been impacted by COVID-19. It will have three phases of 30 billion soles each: containing the disease, ensuring companies' payment chains by granting credit guarantees, and reactivating production, particularly in the copper industry.
Philippines	*Central Bank of the Philippines (Bangko Sentral ng Pilipinas)* **March 19:** Cut the rate on its overnight reverse repurchase facility by 50 basis points to 3.25%, authorized a temporary relaxation of regulations on compliance reporting by banks, calculations of penalties on required reserves and single borrower limits, and approved a temporary reduction to zero of the term spread on rediscounting loans relative to the overnight lending rate. **March 23:** Revealed it would purchase up to 300 billion Philippine peso ($5.9 billion) worth of short-term securities under a repurchase agreement with the Bureau of the Treasury in a bid to inject a fresh round of liquidity into the market and to keep a lid on interest rates in the process. **March 24:** Announced a 200 basis points reduction in the reserve requirement ratio (RRR) to calm financial markets and boost lending. The cut, effective March 30, will bring the ratio to 12% and ensure there is sufficient liquidity to counter the economic impact of the COVID-19 outbreak. *Government of the Philippines* **March 13:** Instructed the Government Service Insurance System and the Social Security System "to take advantage of the low stock prices" and "support the stock market by at least doubling their daily average purchase volumes" from 2019. **March 16:** The government announced a 27.1-billion peso package to help fight the COVID-19 pandemic and provide economic relief to affected sectors. **March 17:** The Philippine Stock Exchange halted all stock, bond and currency trading until further notice, after President Rodrigo Duterte placed Luzon, the country's economic powerhouse, under "enhanced community quarantine". **March 22:** The Philippine Congress is reportedly drafting a stimulus package of at least 200 billion pesos ($3.9 billion) as part of a supplemental budget to shore up the economy from the impact of the COVID-19 outbreak. **March 19:** The Philippine Stock Exchange reopened with shortened hours.
Poland	*National Bank of Poland* **March 17:** Cut its benchmark interest rate by 50 basis points to 1.0% from 1.5% in response to the COVID-19 pandemic; it also lowered its lombard rate to 1.50% from 2.50% and the rediscount rate to 1.05% from 1.75%, reduced banks' required reserve ratios to 0.5% from 3.5%, announced plans to boost banking sector liquidity (through

	the extension of repo operations), and offered "large-scale" purchases of government bonds as part of its open-market operations. *Government of Poland* **March 18:** Announced an economic stimulus package of 212 billion zloty ($52 billion, or approximately 9% of gross domestic product) to assist entrepreneurs and employees during the COVID-19 crisis. It consists of 5 pillars: employee safety, company financing, health protection, strengthening the financial system, and a public investment program. Specific measures include holidays in debt repayments and social contributions, loan guarantees, as well as payments of salaries to those unable to work. **March 26:** Announced that the state bank BGK will issue bonds worth around 16 billion zlotys ($3.9 billion) in 2020-2021 as part of a wider plan to combat the coronavirus impact on the economy. The state will buy the bonds back in 2021-2025, spending around 2.5 billion zlotys a year in the first year and then around 3.7 billion zlotys annually.
Portugal	*Government of Portugal* **March 13:** Announced a 2.3 billion-euro package that will include delaying some tax payments and granting soft loans. Companies will be allowed to suspend social security payments and maintain employees' contracts with payments equal to two-thirds of salaries, funded largely by the state, and workers who have to stay at home to care for school children of up to 12 years of age will receive 66% of their base salaries. **March 18:** Announced a 9.2 billion-euro package to support workers and provide liquidity for companies affected by the COVID-19 outbreak. It consists of 5.2 billion euros in fiscal stimulus, 3 billion in state-backed credit guarantees, and 1 billion related to social security payments. (Just over half of the 3 billion euros in credit lines announced is aimed at companies working in tourism, hotels and restaurants. The other half goes to industries like textiles, clothing and wood. Around a third is set aside for micro and small enterprises.)
Qatar	*Qatar Central Bank* **March 16:** Cut the deposit rate by 50 basis points to 1%, lending rate by 100 basis points to 2.50%, and repurchase rate (repo) by 50 basis points to 1%. *Government of Qatar* **March 15:** The Emir of Qatar announced several measures to shield the economic and financial sectors in the country from the impact of the COVID-19, including (1) allocating 75 billion Qatari riyals ($20.6 billion) to support and provide financial and economic incentives in the private sector, (2) directing the Central Bank of Qatar to provide additional liquidity to banks operating in the country and putting in place the appropriate mechanism to encourage banks to postpone loan installments and obligations of the private sector with a grace period of six months, (3) directing the Qatar Development Bank to postpone the installments for all borrowers for a period of six months, (4) directing the government to increase its investments in the stock exchange by 10 billion Qatari riyals ($2.75 billion), (5) exempting food and medical goods from customs duties for a period of six months, and (6) exempting the various sectors of the economy from electricity and water fees for a period of 6 months.
Romania	**March 20:** The National bank of Romania cut its benchmark interest rate by 50 basis points to 2.0% in order to curb the economic fallout from the COVID-19 outbreak. It also cut its lending rate facility to 2.50% from 3.50% and will provide liquidity to banks via repo transactions and purchase leu-denominated debt on the secondary market.
Saudi Arabia	*Saudi Arabian Monetary Authority* **March 15:** Announced that it had prepared a 50 billion riyal ($13.32 billion) package to help small and medium-sized enterprises cope with the economic impacts of

	COVID-19; it also lowered by 75 basis points both its repo rate to 1%, and its reverse repo rate to 0.5%. *Government of Saudi Arabia* **March 20:** Introduced an additional stimulus package worth 120 billion riyals ($32 billion) to aid businesses, including the postponement of value-added tax (VAT), excise tax, and income tax payments for a period of three months and exemptions of various government levies and fees. **March 30:** Announced that it will finance treatment for anyone infected with COVID-19 in the country, and took steps to boost wheat and livestock supplies amid global fears of a food shortage.
Serbia	*National Bank of Serbia* **March 11:** Cut its reference interest rate by 50 basis points to 1.75% to help minimize economic disruption caused by the COVID-19 outbreak. *Government of Serbia* **March 29:** Announced that it plans to offer about 5 billion euros ($5.54 billion) in loans and subsidies to businesses to help them cope with the economic impact of COVID-19 and make a one-time payment of 100 euros to every citizen older than 18. The president indicated that the state would use 700 million euros to pay minimum wages of 30,367 dinars ($288.58) and allow tax delays for micro and small enterprises for the three months after the end of the state of emergency to avoid job loss.
Seychelles	**March 24:** The Central Bank of Seychelles cut its monetary policy rate by 100 basis points to 4.0%, indicating that this was the first phase of its response to the challenge from the spread of the COVID-19, which is expected to lower this year's earnings from tourism by 70% and trigger a double-digit drop in economic growth.
Singapore	*Monetary Authority of Singapore* **March 30:** Announced that it would adopt a 0% per annum rate of appreciation of the policy band starting at the prevailing level of the Singapore Dollar Nominal Effective Exchange Rate (S$NEER), currently slightly below the mid-point of the policy band. *Government of Singapore* **February 18:** Announced around $4.5 billion in financial packages to help contain the COVID-19 outbreak, including $575 million to fight and contain the disease, mainly through healthcare funding, and 4 billion in economic stimulus measures to manage its impact on businesses, jobs and households. **March 26:** Unveiled stimulus plan worth around S$48 billion ($33.7 billion) to deal with the economic fallout from COVID-19 (of which S$17 billion will be drawn from the national reserves). A key part of the stimulus package involves ramping up a jobs support scheme first announced in February. The government will now offset up to 25% of the first S$4,600 of workers' monthly wages for a nine-month period (up from the 8% quantum and S$3,600 cap announced in February), while self-employed workers will be eligible to receive monthly payments of S$1,000 for nine months. Some hard-hit sectors will receive additional support: the government would offset up to 50% of wages in the food services sector and up to 75% of wages in the aviation and tourism sectors. A previously announced cash payout to all adult Singaporeans would be tripled and low-income families will also receive grocery vouchers.
Slovakia	*Government of the Slovak Republic* **March 29:** Announced plans for an aid package of up to 1 billion euros a month to help firms and employees hurt by the pandemic. Under the plan, the state would (1) pay 80% of wages for employees at firms forced to shut, (2) help self-employed people and employees in firms that suffer falling revenue, with payments linked to the size of the revenue drop, (3) allow employers to postpone their contributions to

	state social and health systems and delay some tax payments if they suffer a 40% drop in revenue; (4) allow firms to offset accumulated losses from past years going back to 2014 against corporate income tax, and (5) offer firms bank guarantees of up to 500 million euros a month.
South Africa	*South African Reserve Bank* **March 19:** Cut its main lending rate by 100 basis points to 5.25% as it sought to offset the drag from the COVID-19 outbreak and the plunge in oil prices. **March 20:** Announced measures to inject liquidity into local markets, including intraday overnight supplementary repos to provide liquidity support to clearing banks, lowering the standing facilities' borrowing rate by 100 basis points to 200 basis point below the benchmark repo rate, and lowering the standing facilities' lending rate to the repo rate from the previous rate of repo plus 100 basis points. **March 25:** Announced that it would begin buying an unspecified amount of government bonds as part of additional emergency policy measures aimed at easing a severe liquidity crunch triggered by the COVID-19.
South Korea	*Bank of Korea* **March 16:** Cut the seven-day repurchase rate by 50 basis points to 0.75% in an effort to soften the impact of the COVID-19 pandemic on the Korean economy. It also lowered borrowing costs for the bank's low interest rate loan programs and relaxed collateral rules of its repurchasing operations, to ensure companies can easily and cheaply access credit. **March 19:** Announced that it will buy government bonds worth 1.5 trillion won ($1.2 billion) to bolster liquidity in the bond market and back short-term liquidity in banks under increased loan demand due to fallout from COVID-19. *Government of the Republic of Korea* **March 3:** Announced a 11.7 trillion won ($9.8 billion) stimulus package that includes funding for medical institutions and quarantine efforts, assistance to small- to medium-sized businesses struggling to pay wages to their workers, and subsidies for child care. **March 17:** The National Assembly approved a supplementary budget worth 11.7 trillion won ($9.4 billion) to help contain COVID-19 and cushion the economic fallout. The government has indicated that it plans to execute at least 75% of its spending within the next two months. **March 18:** Pledged 50 trillion won ($40 billion) in emergency financing for small businesses and other stimulus measures to help the economy. Some highlights of the package include 12 trillion won in low-interest financing for small firms, 5.5 trillion won in loan guarantees, easing loan terms and suspending interest payments for small businesses. The Bank of Korea reportedly will actively provide liquidity support for around half of the new package. **March 20:** South Korea's financial authorities and local banks agreed to set up a bond market stabilization fund worth more than 10 trillion won ($7.9 billion) as part of the country's efforts to calm financial markets roiled by the spread of COVID-19. **March 24:** Announced that it would double the planned economic rescue package announced on March 18 to 100 trillion won ($80 billion) to save companies hit by the COVID-19 and put a floor under crashing stocks and bond markets. It includes 29.1 trillion won in loans to small- and medium-sized companies and 20 trillion won will be used to buy corporate bonds and commercial paper of companies facing a credit crunch. As part of the rescue package, the Financial Services Commission will establish a 10.7 trillion won facility set up to stabilize stock markets. It will also commence a bond buying facility in April that will be funded by 84 institutions, including the Bank of Korea, commercial banks and insurers. **March 29:** Announced that an "emergency disaster relief payment" of up to 1 million won ($820) would be made to all households (except the top 30% by income), totaling some 9.1 trillion won ($7.44 billion). It is also preparing another extra budget

	worth 7.1 trillion won ($5.80 billion) for parliamentary approval in April, and will exempt some small and medium-sized companies from paying utility bills.
Spain	*Government of Spain* **March 12:** Approved the creation of a 2.8 billion euro ($3 billion) aid package to help regional authorities mitigate the economic impact from COVID-19, and announced a 1 billion euro contribution to the health ministry's budget and 14 billion euros ($15.1 billion) in liquidity for small and medium companies (e.g., small businesses affected by the outbreak would be exempt from paying taxes for six months). It also announced that it would open a 400 million euro credit line to aid the tourism industry. **March 17:** Unveiled a package of 200 billion euros ($219 billion) to mitigate the effects of COVID-19 (117 billion euros will be mobilized by the state, with the rest coming from private companies). It will include state-backed credit guarantees for companies, loans and aid for vulnerable people, a moratorium on mortgage payments and evictions; the government will also guarantee water, electricity and internet to for people adversely affected.
Sri Lanka	**March 16:** The Central Bank of Sri Lanka cut the Standing Deposit Facility Rate (SDFR) and the Standing Lending Facility Rate (SLFR) by 25 basis points to 6.25% and 7.25%, respectively, and the Statutory Reserve Ratio (SRR) on all rupee deposit liabilities of licensed commercial banks was reduced by 1 percentage point to 4% **March 16:** The Colombo Stock Exchange was closed until March 19, as the government extended the public holiday in a bid to halt the spread of COVID-19 in the country. **April 3:** The Central Bank of Sri Lanka cut by a further 25 basis points its benchmark interest rates (the Standing Deposit Facility Rate and Standing Lending Facility Rate to 6.00% and 7.00%, respectively), its second such reduction in three weeks, in a move to support the economy amid the coronavirus pandemic.
Sweden	*Sveriges Riksbank* **March 13:** Stated that it would lend up to 500 billion crowns ($51 billion) to Swedish companies via banks to shore up credit flows as the epidemic wreaks havoc on financial markets. **March 16:** Announced that it would buy securities for up to an additional 300 billion Swedish crowns ($31 billion) in 2020 to facilitate credit supply and mitigate the downturn in the economy caused by the COVID-19, reduced the overnight lending rate to banks to 0.2 percentage point above its repo rate (from 0.75 percentage point), and indicated that it would be flexible with the collateral banks can use when they borrow money from the Riksbank, giving lenders more scope to use mortgage bonds as collateral. *Government of Sweden* **March 16:** Presented a package worth more than 300 billion Swedish crowns ($31 billion) to support the economy in the face of the COVID-19 pandemic. It included measures such as the central government assuming the full cost for sick leave from companies through the months of April and May 2020 and for temporary redundancies due to the crisis, and allowing companies to put off paying tax and VAT for up to a year (retroactive to the start of 2020).
Switzerland	*Swiss National Bank* **March 23:** Hiked its foreign currency interventions to their highest level since the Brexit referendum in 2016 in an effort to stem the rise in the franc, which has appreciated as investors sought safe assets while stock markets have plunged during the coronavirus pandemic. *Government of Switzerland*

	March 13: Unveiled an emergency economic-aid package of roughly 10 billion francs ($10.5 billion) for workers and small businesses. It includes 8 billion francs for "Kurzarbeit," or short-time work, and 580 million francs in guaranteed bank loans. **March 20:** Announced a new 32 billion franc ($32.56 billion) aid package to support companies and workers hit by the widening COVID-19 outbreak. The bulk of the cash (20 billion francs) will go into guarantees for bank loans to companies at "very modest" interest rates. Firms will be able to get loans worth up to 10% of their revenue, to a maximum of 20 million francs. Amounts of 500,000 francs will be paid out immediately and guaranteed by the government. The government's short-time working scheme would also be extended to fixed-term, temporary workers, and trainees. The package follows one worth 10 billion francs announced on March 13, bringing the total stimulus to 42 billion francs ($42.8 billion). **March 31:** Announced that it is stepping up its funding plans in response to government measures to cushion the economic impact of the pandemic, doubling the volume of outstanding short-term money market instruments. The Federal Finance Administration (FFA) will increase the outstanding volume of short-term money market instruments, from around 6 billion francs ($6.24 billion) to 12 billion francs, and will once again step up sales of its own Confederation bond holdings.
Taiwan	*Central Bank of the Republic of China (Taiwan)* **March 19:** Cut its benchmark rate by 25 basis points to 1.125%, and announced that it would expand the scope of repurchase facility operations and provide banks with T$200 billion ($6.6 billion) of financing to support small and medium sized companies which have been hard hit by the COVID-19 outbreak. *Government of Taiwan* **February 25:** Approved a T$60 billion ($2 billion) package to help cushion the impact of the COVID-19 outbreak on its export-reliant economy, including loans for small businesses, subsidies for hard-hit tour agencies, tax cuts for tour bus drivers, and vouchers to spend on food in night markets. **March 12:** Announced that an additional T$40 billion ($1.33 billion) from the Employment Stabilization Fund and the Tourism Development Fund would be available to stimulate Taiwanese economy. **March 19:** The president said that the government would help its hard-hit airline industry access T$50 billion in financing, and did not rule out further economic stimulus. **March 19:** Authorized its National Stabilisation Fund to intervene and buy stocks on the market, as the island's bourse continues to fall on COVID-19 worries.
Thailand	*Bank of Thailand* **March 20:** Cut its key interest rate by 25 basis points to 0.75%, as the spread of COVID-19 exerted further pressure on the Thai economy. **March 22:** Together with the Ministry of Finance and the Securities and Exchange Commission, announced three measures to address liquidity concerns and ensure the functioning of local financial markets: (1) setting up a special facility that allows commercial banks that purchase units in high-quality money market funds or daily fixed-income funds to use them as collateral for liquidity support (initial estimate is 1 trillion baht); (2) creation of a 70-100 billion baht "Corporate Bond Stabilization Fund" that invests in high-quality, newly issued bonds by corporates that cannot fully rollover maturing corporate bonds, and (3) Bank of Thailand will continue to purchase government bonds to provide liquidity to the market. *Government of Thailand* **March 10:** Approved a stimulus package worth an estimated 400 billion baht ($12.74 billion) to help alleviate the impact of the COVID-19 outbreak. It includes 150 billion baht of soft loans, a 20 billion baht fund to help firms and workers affected, and tax benefits and support for utilities costs.

	March 24: Approved a package of stimulus measures worth at least 117 billion baht ($3.56 billion) to try to mitigate the impact of the coronavirus outbreak. The measures include cash handouts worth 45 billion baht for 3 million workers outside the social security system; soft loans worth 60 billion baht; and tax breaks. Separately, small firms will be offered 10 billion baht of loans and business tax payments will be delayed. **March 30:** Announced that it is preparing a third stimulus package, worth more than 500 billion baht ($15.3 billion), to alleviate the impact of the coronavirus crisis. **March 31:** Agreed to triple the number of workers receiving cash handouts to nine million to help ease the impact of the spreading coronavirus. It had previously planned to provide cash handouts of 15,000 baht ($458) each to 3 million workers, taking the total to 45 billion baht ($1.38 billion). Now its total handout will reach 135 billion baht ($4.13 billion).
Tunisia	*Central Bank of Tunisia* **March 17:** Cut its key interest rate by 100 basis points to 6.75%, as it responded to the negative impact of the COVID-19 on the global growth outlook. **April 1:** Asked banks and financial institutions to suspend the distribution of 2019 dividends and allow customers to defer loan payments for three months as part of a package to ease the social and economic effects of the coronavirus. *Government of Tunisia* **March 21:** Announced that it would allocate 2.5 billion dinars ($850 million) to combat the economic and social effects of the COVID-19 health crisis. Among new measures, the government will delay tax debts, postpone taxes on small- and medium-sized businesses, delay repayment of low-income employee loans, and provide financial assistance to poor families and those who have lost their jobs due to the crisis and loans and aid to help companies affected. **March 23:** The finance minister announced that the International Monetary Fund will disburse $400 million to help the country face the effects of COVID-19. **March 28:** The European Union granted Tunisia 250 million euros in aid to help it cope with the economic and social effects of the viral outbreak.
Turkey	*Central Bank of Turkey* **March 17:** Lowered its benchmark one-week repo rate by 100 basis points to 9.75%, as it responded to the negative impact of the COVID-19 on the global growth outlook. **March 31:** Announced emergency measures to stem the fallout from a growing pandemic. It would (1) allow primary dealers to sell to the Bank (for a temporary period) debt they purchased from the Unemployment Insurance Fund, (2) extend 60 billion lira ($9 billion) worth of rediscount credits, (3) add more lending options well below its 9.75% policy rate, (4) hold swap auctions with six-month maturities for lira against dollars, euros, or gold at an interest rate 125 basis points lower than the policy rate, and (5) allow lenders to use mortgage- and asset-backed securities as collateral for foreign exchange operations. *Government of Turkey* **March 18:** Unveiled a 100 billion-lira ($15.4 billion) plan to help businesses affected by the COVID-19 pandemic. It includes measures from tax cuts and payment deferrals for businesses to an increase in minimum pension payouts.
Ukraine	**March 19:** The government published a new law that will exempt taxpayers from paying the land and property taxes from March 1 to April 30, introduced a moratorium on tax audits from March 18 to May 31, and suspended some tax-related penalties from March 1 to May 31.
Uganda	*Bank of Uganda*

	March 24: Sold dollars in the interbank market to support the local currency, which has been experiencing sharp depreciation due to COVID-19-related disruptions. **April 6:** Cut its policy rate by 100 basis points to 8.0% to support the economy which has been hit by the impact of COVID-19. It also announced that it had "directed" commercial banks to defer all discretionary payments, such as dividends and bonus payments, for at least 90 days from March.
United Arab Emirates (UAE)	*Central Bank of the UAE* **March 15:** Announced a 100 billion dirham ($27 billion) stimulus package to deal with the economic effects of the COVID-19 pandemic; it cut the rate on one-week certificates of deposit by 75 basis points and will also ease regulatory limits on loans. **April 5:** Announced new measures to guarantee liquidity in the banking system in the face of the pandemic, boosting its stimulus to a total of 256 billion dirhams ($70 billion) from a previously announced 100 billion dirhams ($27 billion) package. It also halved banks' reserve requirements for demand deposits to 7% from 14%, which will inject about 61 billion dirhams of liquidity to support banks' lending and liquidity management, extended the duration of a previously announced deferral of loan principal and interest payments for customers until the end of the year, and said banks participating in the scheme can benefit from a capital buffer relief of 50 billion dirhams until December 2021, among other measures. *Government of the UAE* **March 30:** Announced that it would inject funding into state-owned Emirates Airlines to help it deal with the impact of COVID-19 on its business. **April 5:** Announced that it would reinforce its stockpile of strategic goods and waive residency visa fines for the rest of the year in response to the viral outbreak.
United Kingdom	*Bank of England* **March 11:** Cut its benchmark interest rate by half a percentage point, to 0.25%, revived a program to support lending to small and midsize businesses, and reduced bank capital requirements to further boost credit. **March 19:** Cut its benchmark rate by 15 basis points to 0.1% to try to mitigate the impact of COVID-19 on the British economy, added 200 billion pounds ($232 billion) to its asset purchase program (including sovereign and private debt), increased its banks' borrowing allowance under the Term Funding Scheme for Small and Medium Enterprises from 5% to 10% of participants' stock of real economy lending, and cancelled its 2020 stress test of the 8 major UK banks. **April 2:** Announced that it will double the size of its corporate bond purchase program to at least 20 billion pounds ($24.7 billion), part of a previously announced stimulus package to help the economy. It will begin ramping up its corporate bond purchases through a series of reverse auctions starting on April 7, holding three a week, and it will be able to buy 20 million pounds of any single bond—double the previous amount. *UK Government* **March 11:** Announced a stimulus package totaling 30 billion pounds ($39 billion). It will include 7 billion pounds ($8.6 billion) available to support the labor market, 5 billion pounds ($6.1 billion) to help the health-care system, and 18 billion pounds ($22 billion) to support the UK economy, bringing the total fiscal stimulus to 30 billion pounds ($39 billion). (Among the specific measures, there will be a tax cut for retailers, cash grants to small businesses, a mandate to provide sick pay for people who need to self-isolate, subsidies to cover the costs of sick pay for small businesses, and expanded access to government benefits for the self-employed and unemployed.) **March 17:** Unveiled a package of 350 billion pounds ($424 billion) to support the economy; it includes 330 billion pounds of guaranteed loans for businesses that need cash to pay rent or suppliers, 20 billion pounds of tax cuts and grants for businesses in 2020, a three-month mortgage payment holiday for borrowers affected by the virus, and a one-year "business rates" holiday for businesses in the retail, leisure, and hospitality industry.

	March 28: Will ease regulations for affected businesses, including simplifying the insolvency system to keep companies trading, easing administrative requirements and barriers to the import of personal protective equipment, and helping new companies produce and distribute hand sanitizer within a matter of days.
Vietnam	*State Bank of Vietnam* **February 24:** Ordered commercial banks to eliminate, cut, or delay interest payments on loans to companies facing losses due to the coronavirus outbreak. **March 16:** Cut by 100 basis points both its refinance rate (to 5%) and the overnight lending rate in the inter-bank market (to 6%), and by 50 basis points its discount rate (to 3.5%). *Government of Vietnam* **March 3:** Announced measures worth 27 trillion dong ($1.16 billion) to help businesses cope with the coronavirus epidemic and help the economy stick to its 6.8% growth target this year. They include tax breaks, delayed tax payments, and a reduction in land lease fees. The government will also speed up state spending on infrastructure projects.
Zimbabwe	*Reserve Bank of Zimbabwe* **March 26:** Cut its main lending rate to 25% from 35% and set a fixed exchange rate (at 25 Zimbabwe dollars to the U.S. dollar) as part of measures to support the economy. It indicated that it had suspended the managed floating exchange rate system to provide for greater certainty in the pricing of goods and services in the economy. *Government of Zimbabwe* **March 29:** Published new exchange control regulations making it legal for Zimbabweans to use electronic and cash foreign currencies in domestic transactions, as the country readies for a 21-day lockdown to prevent the spread of COVID-19.
Multi-Country and International Institutions' Responses	**March 4:** The **International Monetary Fund (IMF)** made $50 billion in loans available to deal with the COVID-19 through its rapid-disbursing emergency financing facilities, including $10 billion of zero-interest loans to the poorest IMF member countries. On March 16, the IMF announced that it "stands ready to mobilize its $1 trillion lending capacity to help our membership" and that it has "40 ongoing arrangements—both disbursing and precautionary—with combined commitments of about $200 billion," some of which could be used for this crisis, and that it is aiming to boost its debt relief fund to $1 billion from its current level of $400 million. **March 3:** The **World Bank** announced an initial package of up to $12 billion in loans for countries to help countries cope with the effects of the COVID-19 outbreak. Specifically, it comprises up to $2.7 billion new financing from IBRD, $1.3 billion from IDA, complemented by reprioritization of $2 billion of the Bank's existing portfolio, and $6 billion from IFC, as well as policy advice and technical assistance ($8 billion is new funding and the remaining $4 billion is redirected from current lines of credit). **March 11:** The **Inter-American Development Bank (IADB)** announced that it has up to $2 billion in resources that can be programmed to countries requesting support for disease monitoring, testing and public health services, and that it could work with countries that have undisbursed loan balances to redirect resources to pandemic-response efforts. **March 13:** The **European Bank for Reconstruction and Development (EBRD)** unveiled an emergency €1 billion "Solidarity Package" of measures to help companies across its regions deal with the impact of the COVID-19 pandemic. Under the emergency program, the EBRD will set up a "resilience framework" to provide financing for existing EBRD clients with strong business fundamentals experiencing temporary credit difficulties, comprising emergency liquidity, working capital and trade finance.

	March 15: The Bank of Canada, the Bank of England, the Bank of Japan, the European Central Bank, the **U.S. Federal Reserve**, and the Swiss National Bank agreed to lower the pricing on the standing US dollar liquidity swap arrangements by 25 basis points, so that the new rate will be the US dollar overnight index swap (OIS) rate plus 25 basis points. **March 16:** The **European Investment Bank Group (EIBG)** proposed a 40 billion euro financing package consists of dedicated guarantee schemes to banks based on existing program for immediate deployment (20 billion euros), liquidity lines to banks to ensure additional working capital support for SMEs and mid-caps (10 billion euros), and asset-backed securities purchasing programs to allow banks to transfer risk on portfolios of SME loans (10 billion euros). **March 16:** The **Islamic Development Bank (IsDB)** Group announced that it is setting-up a special "Strategic Preparedness and Response Facility" of $730 million to mitigate the negative health and socio-economic impact of the COVID-19 pandemic. It will include $280 million from the Bank and Islamic Solidarity Fund for Development (ISFD) for sovereign projects and programs, $300 million from International Islamic Trade finance Corporation (ITFC) for trade finance and $150 million from the Islamic Corporation for the Insurance of Investment and Export Credit (ICIEC) for insurance coverage. **March 16:** The **Central American Bank for Economic Integration (CABEI)** granted a nonreimbursable financial package worth $8 million to the eight countries of the Central American Integration System in order to combat the widening economic fallout from the COVID-19 (Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, Belize, and the Dominican Republic will each receive $1 million). **March 18:** The **Asian Development Bank (ADB)** announced a $6.5 billion initial package to address the immediate needs of its developing member countries (DMCs) as they respond to the COVID-19 pandemic. The initial package includes approximately $3.6 billion in sovereign operations for a range of responses to the health and economic consequences of the pandemic, $1.6 billion in non-sovereign operations for micro, small, and medium-sized enterprises, domestic and regional trade, and firms directly impacted, about $1 billion in concessional resources through reallocations from ongoing projects and assessing possible needs for contingencies, and $40 million in technical assistance and quick-disbursing grants. (Since February 2020, ADB has provided more than $225 million to meet urgent needs of both governments and businesses in DMCs.) **March 19:** The **U.S. Federal Reserve** announced the establishment of temporary U.S. dollar liquidity arrangements (swap lines) with 9 central banks to help lessen strains in global U.S. dollar funding markets. These new facilities will support the provision of U.S. dollar liquidity in amounts up to $60 billion each for the Reserve Bank of Australia, the Banco Central do Brasil, the Bank of Korea, the Banco de Mexico, the Monetary Authority of Singapore, and the Sveriges Riksbank, and $30 billion each for the Danmarks Nationalbank, the Norges Bank, and the Reserve Bank of New Zealand. **March 19:** The Board of Directors of the **New Development Bank** approved RMB 7 billion ($1 billion) Emergency Assistance Program Loan to the People's Republic of China. The Program will help finance urgent and unexpected public health expenditures in Hubei, Guangdong, and Henan. **March 20:** The **Development Bank of Latin America (CAF)** announced that it has opened an additional $2.5 billion line of credit to support the measures that member countries are taking to mitigate the effects of COVID-19. On March 3, it approved a credit line worth $300 million to manage emergencies related to COVID-19 and the possibility of granting technical help of up to $5 million for initiatives related to the outbreak in countries across the region. **March 26:** The **Group of 20 (G20)** announced that it would inject "over $5 trillion into the global economy, as part of targeted fiscal policy, economic measures, and guarantee schemes to counteract the social, economic and financial impacts" of COVID-19.

Source: Congressional Research Service based on information from news articles and press releases.

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Acknowledgments

The authors would like to thank and acknowledge the expert assistance provided by Amber Wilhelm, Visual Information Specialist, CRS, in the preparation of this report.

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