Economic and Financial Policy Responses to the COVID-19 Pandemic: Review and Analysis

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Abstract

One year ago, both the World Health Organization and the United States Secretary of Health and Human Services declared the outbreak of COVID-19 to be a public health emergency. Within weeks, confirmed cases were announced in Europe, Asia, and Latin America. Responses in the form of lockdowns, travel restrictions, widespread cancellation of events, facility and workplace closures, and agricultural disruption resulted in vast social and economic disruption. These disruptions led to stress and volatility in the financial markets and the largest global recession since the Great Depression. While regulatory measures instituted since the Great Financial Crisis have increased resiliency in the core of the financial system, the COVID-19 shocks nevertheless revealed systemic financial problems. The crisis also saw unprecedented intervention by central banks in the form of credit and liquidity facilities. Combined with additional fiscal and monetary policy responses, as well as regulatory intervention, the government responses reached truly unprecedented levels.

This paper provides a review and framework for policymakers, regulators and educators to evaluate the U.S. financial and economic policy responses undertaken in response to the COVID-19 pandemic. Then, it examines several critical areas of financial stability concern that were brought to light during the pandemic: stresses in central clearing counterparties, pre-emptive redemption of money market fund shares by investors in response to broaching of weekly liquid asset levels, and extreme dysfunction in credit and U.S. Treasury markets. Finally, this paper touches on the critical equity and financial inclusion impacts of COVID-19, as an area that deserves urgent attention and the full force of economic and financial policy.

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Table of Contents

INTRODUCTION — page 2

SECTION I. OVERVIEW OF ECONOMIC AND FINANCIAL POLICY RESPONSES — page 3

Executive Actions — page 3

Fiscal and Health Policy Responses — page 5

Monetary Policy and Financial Responses — page 8

SECTION II. FINANCIAL STABILITY CONCERNS — page 20

Central Clearing Counterparties — page 21

Money Market Funds — page 23

Credit and U.S. Treasury Markets — page 24

SECTION III. FINANCIAL INCLUSION CONCERNS — page 29

CONCLUSION — page 32

Introduction

One year ago, the World Health Organization declared the outbreak of COVID-19 a Public Health Emergency of International Concern. The next day, the United States Secretary of Health and Human Services declared a public health emergency under Section 319 of the Public Health Service Act. Within weeks, vast numbers of confirmed cases of the virus were reported by other countries around the globe, including in Europe, Asia, and Latin America. Shortly thereafter, the World Health Organization declared COVID-19 to be a global pandemic.

Responses came in the form of lockdowns, travel restrictions, widespread cancellation of events, facility and workplace closures, and agricultural disruption, resulting in vast social and economic disruption. These disruptions led to stress and volatility in the financial markets and the largest global recession since the Great Depression. While regulatory measures instituted since the Great Financial Crisis have increased resiliency in the core of the financial system, the COVID-19 shocks nevertheless revealed systemic financial problems. The crisis also saw unprecedented intervention by central banks in the form of credit and liquidity facilities. Combined with additional fiscal and monetary policy responses, as well as regulatory intervention, the government responses reached truly unprecedented levels.

This paper provides a review and framework for policymakers, regulators and educators to evaluate the U.S. financial and economic policy responses undertaken in response to the

COVID-19 pandemic. Then, it will examine several critical areas of financial stability concern that were brought to light during the pandemic. These areas of concern include stresses and pro-cyclical margin hikes by central clearing counterparties (CCPs), pre-emptive redemption of money market fund shares by investors in response to broaching of weekly liquid asset thresholds, and extreme dysfunction in credit and U.S. Treasury markets. All three of these areas require significant additional analysis and attention. Finally, this paper will touch on equity and financial inclusion impacts of COVID-19, as an area that deserves urgent attention and the full force of economic and financial policy.

Section I. Overview of Financial and Economic Policy Responses

Executive Actions

At the earliest stage of the COVID-19 crisis, executive action was undertaken aimed at allocating health and medical resources. Subsequent executive orders focused on aspects of the economy, including unemployment benefits, payroll taxes, housing evictions, and student loan payments. While many of these directives were not focused on the financial sector, some did intend to accelerate economic development and investment activity. Perhaps most relevant, Executive Order 13924, aimed at all agencies, permitted the federal financial regulators to enlist regulatory forbearance in response to COVID-19.

Health Care Related Executive Orders

At the onset of the pandemic, on January 31, 2020, the U.S. Secretary of Health and Human Services declared a pubic health emergency under Section 319 of the Public Health Service Act.[2] Subsequently, in Proclamation 9994 of March 13, 2020, the President of the United States declared that the COVID-19 outbreak in the U.S. constituted a national emergency, beginning March 1, 2020.[3] Following this, the President issued a series of executive orders related to the pandemic, including:

- Prioritizing and Allocating Health and Medical Resources to Respond to the Spread of COVID-19, Signed March 18, 2020, 85 FR 16227.
- Preventing Hoarding of Health and Medical Resources to Respond to the Spread of COVID-19, Signed March 23, 2020, 85 FR 17001.
- Delegating Additional Authority Under the Defense Production Act with Respect to Health and Medical Resources to Respond to the Spread of COVID-19, Signed March 27, 2020, 85 FR 18403.
- Fighting the Spread of COVID-19 by Providing Assistance to Renters and Homeowners, Signed August 8, 2020, 85 FR 49935.

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[2] 42 U.S.C. 247d.

[3] “Declaring a National Emergency Concerning the Novel Coronavirus Disease (COVID-19) Outbreak, Proclamation 9994 of March 13, 2020, available at https://www.federalregister.gov/documents/2020/03/18/2020-05794/declaring-a-national-emergency-concerning-the-novel-coronavirus-disease-covid-19-outbreak.

Financial Sector and Regulatory Executive Orders

Some of the executive orders were specifically focused on the financial sector, including:

- Delegating Authority Under the Defense Production Act to the Chief Executive Officer of the United States International Development Finance Corporation to Respond to the COVID-19 Outbreak, Signed May 14, 2020, 85 FR 30583.
- Regulatory Relief to Support Economic Recovery, Signed May 22, 2020, 85 FR 31353 (EO 13924).
- Accelerating the Nation's Economic Recovery from the COVID-19 Emergency by Expediting Infrastructure Investments and Other Activities, Signed June 4, 2020, 85 FR 35165.

Of particular note is Executive Order 13924, which orders regulatory relief to support economic recovery, and includes the U.S. financial sector. It directs the heads of all agencies to use any emergency authorities previously invoked in response to the COVID-19 outbreak. It also requires the heads of all agencies to identify regulatory standards that may inhibit economic recovery and consider taking "appropriate action" to rescind, modify, waive or exempt persons or entities from those requirements. Additionally, the Order provides compliance assistance for regulated entities in respect of the COVID-19 outbreak. Specifically, compliance assistance includes:

> (1) The heads of all agencies are directed to accelerate procedures by which a regulated person or entity may receive a pre-enforcement ruling with respect to whether proposed conduct in response to the COVID-19 outbreak (including response to legislative or executive economic stimulus actions) is consistent with statutes and regulations administered by the agency,
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> (2) The heads of all agencies are directed to consider whether to formulate policies of enforcement discretion that … decline enforcement against persons and entities that have attempted in reasonable good faith to comply with applicable statutory and regulatory standards, including whose persons and entities acting in conformity with a pre-enforcement ruling,
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> (3) In formulating any policies of enforcement discretion under subsection (b) of this section, an agency head should consider a situation in which a person or entity makes a reasonable attempt to comply with guidance on action suggested to stem the transmission and spread of COVID-19.

In response to EO13924, the Office of Information and Regulatory Affairs (OIRA), a subagency within the Office of Management and Budget (OMB), issued Memorandum M-20-31 (the Memo), which directs the federal agencies to adopt measures aimed at according greater due process to individual and company targets for investigations and enforcement actions. The Memo stipulates that these best practices and recommendations must be adopted into final rules by November 26, 2020.[4] The stated goal is for agencies to recalibrate enforcement and adjudication activities for the sake of economic relief and stimulus.

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[4] "Memorandum for the Deputy Secretaries of Executive Departments and Agencies," Executive Office of the President, Office of Management and Budget, M-20-31, August 31, 2020, available at https://www.whitehouse.gov/wp-content/uploads/2020/08/M-20-31.pdf.

Fiscal and Health Policy Responses

In March 2020, Congress acknowledged that a fiscal policy response was also required to address the economic shock caused by COVID-19. The crisis was both a supply and a demand shock to the economy, significantly raising the odds of recession. Thus, executive action and monetary policy would likely be insufficient to ameliorate the economic pain brought on by the pandemic. Many argued that the unprecedented size and nature of the crisis should determine the size of the legislative response, rather than a dollar-based threshold or comparison to stimulus in prior recessions. To date, lawmakers have enacted five major pieces of legislation, costing several trillion dollars. Additional fiscal policy responses remain under consideration.

Coronavirus Preparedness and Response Supplemental Appropriations Act

On March 6, 2020, prior to the most severe pandemic-induced economic turndown, The Coronavirus Preparedness and Response Supplemental Appropriations Act was enacted. The Act was passed with near unanimous support from both the House of Representatives and the Senate.[5] The Act appropriated $48.3 billion for vaccine development and public health funding, with most dollars going to the Department of Health and Human Services. 81% of the funds were allocated domestically, and 19% of the funds were allocated internationally.[6] The focus of the Act was primarily health, although $20 million was allocated for the Small Business Administration disaster loan program to support loan subsidies to entities financially impacted by COVID-19.[7]

The Families First Coronavirus Response Act

On March 18, 2020, a week and a half after the Coronavirus Preparedness and Response Supplemental Appropriations Act, The Families First Coronavirus Response Act was enacted. The enactment of the Families First Act coincided with the official declaration of national

[5] The Act passed the House by 415-2, with Republican Reps. Andy Biggs (R-AZ5) and Ken Buck (R-CO4) opposing. The Act passed the Senate by 96-1 with Sen. Rand Paul (R-KY) opposing. See https://www.govtrack.us/congress/bills/116/hr6074/summary.

[6] Coronavirus Preparedness and Response Supplemental Appropriations Act of 2020, Public Law No: 116-123, March 6, 2020, available at https://www.congress.gov/bill/116th-congress/house-bill/6074.

[7] Coronavirus Preparedness and Response Supplemental Appropriations Act of 2020, Public Law No: 116-123, March 6, 2020, available at https://www.congress.gov/bill/116th-congress/house-bill/6074.

emergency, which took place on March 13, 2020.[8] The law provided for (1) expansion of unemployment insurance by $1 billion, (2) paid sick leave at an employee's full salary, up to $511 per day, and paid family leave at 2/3 of a parent's usual salary, and (3) requirements that private health insurance plans and Medicare cover the costs of COVID-19 testing.[9]

CARES Act

On March 27, 2020, following a dramatic reduction in global economic activity as a result of social distancing measures instituted to curb the spread of COVID-19, The Coronavirus Aid, Relief, and Economic Security Act (CARES Act) was signed into law.[10] The major provisions of the legislation included $300 billion in one-time cash payments to individual Americans (with most single adults receiving $1,200 and families with children receiving a larger amount), $260 billion in increased unemployment benefits, the creation of the Paycheck Protection Program that provides loans to small businesses with an initial $350 billion in funding (later increased by $320 billion by subsequent legislation), $500 billion to the Economic Stabilization Fund (the Main Street Lending Program, which is discussed further in a subsequent section on Federal Reserve programs), and $339.8 billion to state and local governments. At more than $2 trillion in total stimulus, the law is the largest economic stimulus package in the history of the United States.[11]

Paycheck Protection Program

On March 27, 2020, the Paycheck Protection Program was enacted as part of the CARES Act, to provide loans to eligible small businesses with 500 or fewer employees.[12] On April 24, 2020, the Paycheck Protection Program and Health Care Enhancement Act was signed into law,

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[8] Proclamation on Declaring a National Emergency Concerning the Novel Coronavirus Disease (COVID-19) Outbreak, The White House, March 13, 2020, available at https://www.whitehouse.gov/presidential-actions/proclamation-declaring-national-emergency-concerning-novel-coronavirus-disease-covid-19-outbreak/. The Proclamation was made pursuant to section 501(b) of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. 5121-5207 (the "Stafford Act").

[9] Families First Coronavirus Response Act, Public Law No: 116-127, March 18, 2020, available at https://www.congress.gov/bill/116th-congress/house-bill/6201.

[10] Public Law 116-136, available at https://www.govinfo.gov/content/pkg/PLAW-116publ136/html/PLAW-116publ136.htm.

[11] Boccia, Romina, and Bogie, Justin, "This is How Big the COVID-19 CARES Act Relief Bill Is," The Heritage Foundation Commentary, April 20, 2020, available at https://www.heritage.org/budget-and-spending/commentary/how-big-the-covid-19-cares-act-relief-bill.

[12] Businesses in certain industries with more than 500 employees were eligible if they met applicable U.S. Small Business Administration employee-based size standards for those industries. See https://www.sba.com/funding-a-business/government-small-business-loans/ppp/how-it-works/.

providing an additional $320 billion to the PPP.[13] Between April 3 and April 16, 2020, 1.7 million loans were made, with 4,975 lenders approving those loans. The average loan size was $206,000, and 74% of loans were $150,000 or less.[14]

Consolidated Appropriations Act, 2021

The Consolidated Appropriations Act was passed on December 21, 2020, and after weeks of intense negotiations during a Congressional lame-duck session, was signed into law on December 27, 2020. The Act combined $900 billion in stimulus relief for the pandemic with a $1.4 trillion omnibus spending bill for the 2021 fiscal year, preventing a federal government shutdown. It is one of the largest spending laws ever enacted, surpassing even the $2.2 trillion CARES Act of March 2020. At 5,593 pages, it is also one of the longest bills ever passed by the United States Congress.[15]

The Coronavirus Response and Relief Supplemental Appropriations Act, 2021, is located in Division M of the Consolidated Appropriations Act. Division N contains additional coronavirus provisions. Specifically, the law included $325 billion for small businesses, including forgivable loans vis a vis the Paycheck Protection Program, $166 billion for $600 stimulus checks for Americans with adjusted gross income of less than $75,000, $120 billion for extension of increased federal unemployment benefits, $82 billion for schools and universities, $69 billion for vaccines, testing and health providers, and $25 billion for federal aid to state and local governments for rental assistance programs.[16]

One of the key points of contention in congressional negotiations related to the Act was the use of the Federal Reserve's emergency lending powers going forward. Specifically, some proposals included language that would have overridden emergency lending authorities the Federal Reserve had prior to the enactment of the CARES Act to stand up programs and facilities. Other proposals were rejected for placing undue constraints and limiting critical emergency lending authorities.[17]

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[13] Paycheck Protection Program and Health Care Enhancement Act, Public Law 116-139, available at https://www.govinfo.gov/content/pkg/PLAW-116publ139/html/PLAW-116publ139.htm.

[14] Report by the U.S. Small Business Administration on the Paycheck Protection Program, April 16, 2020, Approvals through 12 pm EST, available at https://www.sba.gov/sites/default/files/2020-04/PPP%20Deck%20copy.pdf.

[15] H.R. 133 - Consolidated Appropriations Act, 2021, Pu. L. 116-260, available at https://www.congress.gov/bill/116th-congress/house-bill/133/text.

[16] H.R. 133 - Consolidated Appropriations Act, 2021, Pu. L. 116-260, available at https://www.congress.gov/bill/116th-congress/house-bill/133/text.

[17] "Waters Releases Extended Statement for the Record on the Consolidated Appropriations Act, 2021: "More Relief Is Needed, But this Bill is a Step in the Right Direction," Press Release, December 22, 2020, available at https://financialservices.house.gov/news/documentsingle.aspx?DocumentID=407075.

Ultimately, it was agreed that the Federal Reserve can still work with the Treasury Department to establish new emergency lending programs and facilities to help businesses, nonprofit organizations, and state, territory, tribal, and local governments.[18] Notably, former Federal Reserve Chairman Ben Bernanke made a rare statement on the matter, arguing that it is "vital that the Federal Reserve's ability to respond promptly to damaging disruptions in credit markets not be circumscribed. The relief act should ensure, at least, that the Federal Reserve's emerging lending authorities, as they stood before the passage of the CARES Act (in March), remain fully intact and available to respond to future crises."[19]

Monetary Policy and Financial Responses

During the pandemic, the Federal Reserve stated that it was prepared to use "its full range of tools" to support the flow of credit to households and businesses, and thereby promote its maximum employment and price stability goals.[20] These tools included traditional monetary policy, such as lowering the target range for the federal funds rate, conducting open market operations, making changes to the discount window, and encouraging the use of intraday credit. They also included the establishment of credit facilities like the Primary Market Corporate Credit Facility, the Secondary Market Corporate Credit Facility, and the Term Asset-Backed Securities Loan Facility.

Some of the tools that were leveraged by the Federal Reserve were also utilized in previous crises, including the Great Financial Crisis. Others were new extensions of the Federal Reserve's expansive Section 13(3) powers, such as the Secondary Market Corporate Credit Facility, which purchased secondary market investment-grade corporate bonds and exchange-traded funds. This extraordinary action was indicative of the Federal Reserve's intention to support credit to employers by providing liquidity to the market for outstanding corporate bonds, and address the unprecedented disruption to jobs and income caused by the pandemic.[21]

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[18] "Waters Releases Extended Statement for the Record on the Consolidated Appropriations Act, 2021: "More Relief Is Needed, But this Bill is a Step in the Right Direction," Press Release, December 22, 2020, available at https://financialservices.house.gov/news/documentsingle.aspx?DocumentID=407075.

[19] Taylor, Andrew and Rugaber, Christopher, "Fight over Fed powers stalls $900 billion aid plan," AP News, December 19, 2020, available at https://apnews.com/article/e3247d049ee1cac7a7ab4230cbfbf060.

[20] "Federal Reserve issues FOMC statement," Federal Reserve Press Release, March 15, 2020, available at https://www.federalreserve.gov/newsevents/pressreleases/monetary20200315a.htm.

[21] "Federal Reserve announces extensive new measures to support the economy," Federal Reserve Press Release, March 23, 2020, available at https://www.federalreserve.gov/newsevents/pressreleases/monetary20200323b.htm.

Lowering of Fed Funds Rate

In light of the evolving risks to the economy posed by the coronavirus, the Federal Reserve announced on March 3, 2020, that it had unanimously agreed to lower the target range for the federal funds rate by 0.50 percentage point to 1 to 1.25 percent.[22] Since the federal funds rate is the benchmark rate for other short-term rates, and affects longer-term interest rates as well, the Federal Reserve's action resulted in a reduced cost of borrowing vis a vis mortgages, auto loans, and home equity loans.

On March 15, 2020, the Federal Reserve issued a statement announcing its decision to lower the target range for the federal funds rate further, to 0 to 0.25 percent.[23] At that time, the FOMC also announced its intention to maintain this target range until it is confident that the economy has weathered the pandemic and is on track to achieve its maximum employment and price stability goals.[24] This type of "forward guidance" by the Federal Reserve was intended to put downward pressure on longer-term interest rates, as well.

At the time of this writing, the Federal Reserve expects to maintain an accommodative stance of monetary policy and target range for the federal funds rate of 0 to 0.25 percent. The Federal Reserve's recent FOMC statement indicates that with inflation running persistently below the long-run goal of 2 percent, the Committee decided to keep the target range for the federal funds rate and expects to maintain this target range until labor market conditions have reached levels consistent with the Committee's assessments of maximum employment.[25]

Open Market Operations

In addition to lowering the target range for the federal funds rate, the Federal Reserve returned to using a tool employed during the Great Recession: securities purchases, or quantitative easing (QE). The Federal Reserve announced on March 15, 2020, that it would increase its holding of Treasury securities by $500 billion and its holding of agency mortgage-backed securities by $200 billion. The Committee also committed to reinvest all principal payments from the Federal Reserve's holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities. The Open Market Desk also expanded its overnight and term repurchase agreement operations.[26]

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[22] FOMC Statement, March 3, 2020, available at https://www.federalreserve.gov/newsevents/pressreleases/monetary20200303a.htm.

[23] FOMC Statement, March 15, 2020, available at https://www.federalreserve.gov/newsevents/pressreleases/monetary20200315a.htm.

[24] FOMC Statement, March 15, 2020, available at https://www.federalreserve.gov/newsevents/pressreleases/monetary20200315a.htm.

[25] Federal Reserve Press Release, January 27, 2021, available at https://www.federalreserve.gov/monetarypolicy/files/monetary20210127a1.pdf.

[26] FOMC Statement, March 15, 2020, available at https://www.federalreserve.gov/newsevents/pressreleases/monetary20200315a.htm.

On March 23, 2020, the Federal Reserve announced that such purchases would be open-ended, and that it would therefore buy securities “in the amounts needed to support smooth market functioning and effective transmission of monetary policy to broader financial conditions.” Subsequently, market functioning became smoother, and the Federal Reserve reduced purchases through April and May. On June 10, the Federal Reserve announced that it would stop tapering its purchases and would buy at least $480 billion a month in Treasuries and $40 billion a month in residential and commercial mortgage-backed securities until further notice.[27] On January 27, 2021, the Federal Reserve announced it will continue to increase its holdings of Treasury securities by at least $80 billion per month and of agency mortgage-backed securities by at least $40 billion per month until substantial further progress has been made towards the Committee’s maximum employment and price stability goals.[28]

Changes to the Discount Window

Also on March 15, the Federal Reserve announced other actions to support the flow of credit to households and businesses. These actions included changes to the discount window, which plays an important role in supporting the liquidity and stability of the banking system and the effective implementation of monetary policy. By providing access to funding, the discount window helps banks manage their liquidity risks efficiency and avoid withdrawing credit during periods of market stress. Providing liquidity in this way is one of the original purposes of the Federal Reserve System.[29]

The Federal Reserve announced that it would lower the primary credit rate of the discount window by 150 basis points to 0.25 percent, effective March 16, 2020. This reduction in the primary credit rate reflected a 100 basis point reduction in the target range for the federal funds rate and a 50 basis point narrowing in the primary credit rate relative to the top of the target range. Narrowing the spread of the primary credit rate relative to the general level of overnight interest rates was intended to help encourage use of the window by depository institutions seeking to meet unexpected funding needs due to COVID-19. The Board also announced that banks could borrow from the discount window for periods as long as 90 days, prepayable and renewable by the borrower on a daily basis.[30]

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[27] “Statement Regarding Treasury Securities, Agency Mortgage-Backed Securities, and Agency Commercial Mortgage-Backed Securities Operations,” Federal Reserve Bank of New York, June 10, 2020, available at https://www.newyorkfed.org/markets/opolicy/operating_policy_200610.

[28] Federal Reserve Press Release, January 27, 2021, available at https://www.federalreserve.gov/monetarypolicy/files/monetary20210127a1.pdf.

[29] “Federal Reserve Actions to Support the Flow of Credit to Households and Businesses,” Federal Reserve Press Release, March 15, 2020, available at https://www.federalreserve.gov/newsevents/pressreleases/monetary20200315b.htm.

[30] “Federal Reserve Actions to Support the Flow of Credit to Households and Businesses,” Federal Reserve Press Release, March 15, 2020, available at https://www.federalreserve.gov/newsevents/pressreleases/monetary20200315b.htm.

Intraday Credit

In its March 15, 2020 statement, the Federal Reserve noted its encouragement of depository institutions use of intraday credit extended by the Federal Reserve Banks, on both a collateralized and uncollateralized basis. The Federal Reserve noted that this use of intraday credit from the Federal Reserve is intended to support the smooth functioning of payment systems and the clearing and settlement of transactions across the credit markets, as well as the general provision of liquidity to households and businesses.[31]

Bank Capital and Liquidity Buffers

Since the Great Financial Crisis of 2007-2008, U.S. depository institutions had built up substantial amounts of capital and liquidity in excess of regulatory minimums and buffers. The largest firms were estimated to have $1.3 trillion in common equity and $2.9 trillion in high quality liquid assets. U.S. banking regulatory agencies have also increased capital and liquidity requirements, improving the quality of regulatory capital, raising the minimum capital requirements, establishing capital and liquidity buffers, and implementing annual capital stress tests.[32] During the pandemic, the Federal Reserve took regulatory action to encourage banks to use these buffers to increase lending.[33]

Reserve Requirements

For years, reserve requirements were central to the implementation of monetary policy because they created a stable demand for reserves. However, in January 2019, the FOMC announced its intention to implement monetary policy in an ample reserves regime. Therefore, reserve requirements do not play a significant role in the operating framework. The Board thus reduced reserve requirement ratios to zero percent effective March 26, 2020. This action eliminated reserve requirements for many depository institutions and was intended to help support lending to households and businesses.[34]

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[31] "Federal Reserve Actions to Support the Flow of Credit to Households and Businesses," Federal Reserve Press Release, March 15, 2020, available at https://www.federalreserve.gov/newsevents/pressreleases/monetary20200315b.htm.

[32] "Federal Reserve Actions to Support the Flow of Credit to Households and Businesses," Federal Reserve Press Release, March 15, 2020, available at https://www.federalreserve.gov/newsevents/pressreleases/monetary20200315b.htm.

[33] "Total Loss-Absorbing Capacity, Long-Term Debt, and Clean Holding Company Requirements for Systemically Important U.S. Bank Holding Companies and Intermediate Holding Companies of Systemically Important Foreign Banking Organizations: Eligible Retained Income," Interim Final Rule, 85 FR 17003-17006, March 26, 2020, available at https://www.federalregister.gov/documents/2020/03/26/2020-06371/total-loss-absorbing-capacity-long-term-debt-and-clean-holding-company-requirements-for-systemically.

[34] "Federal Reserve Actions to Support the Flow of Credit to Households and Businesses," Federal Reserve Press Release, March 15, 2020, available at https://www.federalreserve.gov/newsevents/pressreleases/monetary20200315b.htm.

Facilities to Introduce the Flow of Credit

To keep the credit markets functioning at times of high stress, the Federal Reserve revived several programs that were originally instituted during the Great Financial Crisis under Section 13(3) of the Federal Reserve Act and with the permission of the Secretary of the Treasury. The goal was to address the periods of time when institutions and individuals were inclined to hoard cash. In such situations, dealers can encounter barriers to financing rising inventories of securities they accumulate as they make markets.[35]

Primary Dealer Credit Facility

The first program instituted was the Primary Dealer Credit Facility (PDCF), intended to facilitate the smooth functioning of the markets and support the availability of credit to businesses and households. In the PDCF, the Federal Reserve offers low interest rate overnight and term loans of up to 90 days to 24 large financial institutions known as primary dealers. As collateral, the dealers are permitted to provide a broad range of equities and investment grade debt securities, including commercial paper and municipal bonds. The interest rate charged on the loans is the primary credit rate, or discount rate, at the Federal Reserve Bank of New York.[36]

Primary Market Corporate Credit Facility

The Primary Market Corporate Credit Facility (PMCCF) was activated to serve as a funding backstop for new corporate debt issued by eligible issuers. Under the PMCCF, the Federal Reserve Bank of New York committed to lend to a special purpose vehicle (SPV) on a non recourse basis. The SPV is to purchase qualifying bonds as the sole investor in a bond issuance, and purchase portions of syndicated loans or bonds at issuance. The Reserve Bank is secured by all the assets of the SPV. The PMCCF was invoked under Section 13(3) of the Federal Reserve Act, with permission from the U.S. Treasury, and received a $75 billion equity investment in the SPV to support the PMCCF as well as the Secondary Market Corporate Credit Facility.[37]

Secondary Market Corporate Credit Facility

The Federal Reserve also instituted the Secondary Market Corporate Credit Facility (SMCCF) to purchase existing investment-grade corporate bonds as well as exchange-traded funds investing in investment-grade corporate bonds. The facility was intended to “allow companies

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[35] “Federal Reserve Board announces establishment of a Primary Dealer Credit Facility (PDCF) to support the credit needs to households and businesses,” Federal Reserve Press Release, March 17, 2020, available at https://www.federalreserve.gov/newsevents/pressreleases/monetary20200317b.htm.

[36] “Federal Reserve Board announces establishment of a Primary Dealer Credit Facility (PDCF) to support the credit needs to households and businesses,” Federal Reserve Press Release, March 17, 2020, available at https://www.federalreserve.gov/newsevents/pressreleases/monetary20200317b.htm.

[37] Term Sheet: Primary Market Corporate Credit Facility, The Federal Reserve, April 9, 2020, available at https://www.federalreserve.gov/newsevents/pressreleases/files/monetary20200409a5.pdf.

access to credit so that they are better able to maintain business operations and capacity during the period of dislocations related to the pandemic." As with the PMCCF, the SMCCF was invoked under Section 13(3) of the Federal Reserve Act, with permission from the U.S. Treasury, and received $75 billion from the Treasury Exchange Stabilization Fund to cover potential losses along with the PMCCF.[38]

Commercial Paper Funding Facility

The Commercial Paper Funding Facility (CPFF) was another crisis-era program reinstated during the pandemic, in which the Federal Reserve buys commercial paper, and essentially lends directly to corporates for up to three months at a rate between 1 to 2 percentage points higher than overnight lending rates. Essentially, the CPFF eliminates the risk that eligible issuers will not be able to repay investors by rolling over their maturing commercial paper obligations. Again, the CPFF was invoked under Section 13(3) of the Federal Reserve Act and with permission from the U.S. Treasury, which allocated $10 billion to the CPFF to cover losses.[39]

Money Market Mutual Fund Liquidity Facility

Also under Section 13(3) of the Federal Reserve Act, and with the permission of the Treasury Secretary, The Federal Reserve re-instituted the Money Market Mutual Fund Liquidity Facility (MMLF), lending to banks against collateral they purchase from prime money market funds. The Treasury provided $10 billion from its Exchange Stabilization Fund to cover potential losses of the Federal Reserve assisting prime money market funds in meeting demands for redemptions by households and other investors. Types of assets eligible as collateral for the loans include unsecured and secured commercial paper, agency securities, and Treasury securities. The structure of the program was very similar to the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF) of 2008-2010.[40]

Repo Operations

The Federal Reserve significantly expanded the scope of its repurchase agreement (repo) operations, to increase liquidity to money markets. In the repo market, financial institutions borrow and lend cash and securities on a short-term basis, usually overnight. Problems in the repo market negatively impact the federal funds rate, which is the Federal Reserve's primary tool for achieving price stability and full employment. Therefore, to alleviate these problems, the Federal Reserve makes cash available to primary dealers in exchange for Treasury and other

[38] Term Sheet: Secondary Market Corporate Credit Facility, The Federal Reserve, April 9, 2020, available at https://www.federalreserve.gov/newsevents/pressreleases/files/monetary20200409a2.pdf.

[39] "FAQs: Commercial Paper Funding Facility," The Federal Reserve Bank of New York, July 23, 2020, available at https://www.newyorkfed.org/markets/commercial-paper-funding-facility/commercial-paper-funding-facility-faq.

[40] "Federal Reserve Board broadens program of support for the flow of credit to households and businesses by establishing a Money Market Mutual Fund Liquidity Facility (MMLF)," Federal Reserve Release, March 18, 2020, available at https://www.federalreserve.gov/newsevents/pressreleases/monetary20200318a.htm.

government-backed securities. Prior to the onset of COVID-19, the Federal Reserve was offering $100 billion in overnight repo and $20 billion in two-week repo. These amounts were subsequently expanded, with the Federal Reserve offering $1 trillion in daily overnight repo, and $500 billion in one month and $500 billion in three-month repo.[41]

Other Section 13(3) Federal Reserve Lending Programs

The Term Asset-Backed Securities Loan Facility

On March 23, 2020, the Federal Reserve established the Term Asset-Backed Securities Loan Facility (TALF) to support the flow of credit to consumers and small businesses. The purpose of TALF is to enable the issuance of asset-backed securities. backed by student loans, auto loans, credit card loans, small business loans, and certain other assets, as well as to improve market conditions for asset-backed securities (ABS) generally.[42] The 2020 TALF was modeled after the TALF program that was announced in 2008 and in effect from 2009 to 2010, which addressed stresses in the ABS markets due to the Great Financial Crisis.[43]

Under the 2020 TALF, the Federal Reserve Bank of New York lends to a special purpose vehicle (SPV) on a non-recourse basis, which in turns provides funding secured by eligible collateral to eligible borrowers. To initiate the TALF, the U.S. Department of Treasury made an equity investment of $10 billion in the SPV. TALF lending is then conducted on a non-recourse basis to holders of AAA-rated ABS backed by newly- and recently- originated consumer and small business loans. The loans have a term of three years, are non-recourse to the borrower, and are fully secured by eligible collateral.[44]

As mentioned, a key objective for TALF is to increase the flow of credit to consumers and small businesses, and improve market conditions for ABS generally. Unfortunately, the program has

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[41] Leonard, Christopher, “How Jay Powell’s Coronavirus Response is Changing the Fed Forever,” Time Magazine, June 11, 2020, available at https://time.com/5851870/federal-reserve-coronavirus/.

[42] Term Asset Backed-Securities Loan Facility, Board of Governors of the Federal Reserve System, available at https://www.federalreserve.gov/monetarypolicy/talf.htm.

[43] “The Term Asset-Back Securities Loan Facility: Opportunities for American Businesses,” The Wharton School, Joshua J. Harris Alternative Investments Program, September 2020, available at https://altinvest.wharton.upenn.edu/wp-content/uploads/2020/10/The-Term-Asset-Backed-Securities-Loan-Facility-Opportunities-for-American-Businesses_formatted.pdf. “Rather than limiting the type of eligible collateral to AAA-rated ABS, TALF should be expanded to include all investment grade assets. This change would greatly increase the types and amount of eligible collateral, which in turn would result in broader support for asset prices and better functioning capital markets. Importantly, this change would also be consistent with the Federal Reserve’s Secondary Market Corporate Credit Facility (SMCCF), which supports market liquidity by purchasing investment grade corporate bonds as well as US-listed exchange traded funds that provide exposure to U.S. corporate bonds. The activities of the SMCCF pertain to all investment grade corporate bonds, not just AAA-rated debt.”

[44] Term Asset Backed-Securities Loan Facility, Board of Governors of the Federal Reserve System, available at https://www.federalreserve.gov/monetarypolicy/talf.htm.

fallen short of this goal. Utilization of TALF has been very minor, with the Federal Reserve Board reporting that the total outstanding amount of loans made by the SPV to eligible borrowers is less than $3 billion.[45] The TALF ceased extending credit on December 31, 2020.[46] However, the facility remains in place and available, should it be needed going forward.

One potential modification to TALF would be expanding the type of eligible collateral to all investment grade assets, rather than just AAA-rated ABS. This change would greatly increase the types and amount of eligible collateral, which in turn would result in broader support for asset prices and better functioning capital markets. This change would also be consistent with the Federal Reserve's Secondary Market Corporate Credit Facility (SMCCF), which pertains to all investment grade corporate bonds, not just AAA-rated debt.[47]

The Main Street Lending Program

On April 9, 2020, the Federal Reserve announced the Main Street Lending Program to provide credit to small- and medium- sized businesses suffering due to the coronavirus pandemic.[48] The Federal Reserve's Main Street Lending Program consists of the Main Street New Loan Facility and Main Street Expanded Loan Facility. The term sheets for the program state that U.S. businesses are eligible for loans if they meet either of the following conditions: (1) the

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[45] "Periodic Report: Update on Outstanding Lending Facilities Authorized by the Board under Section 13(3) of the Federal Reserve Act," February 8, 2021, available at https://www.federalreserve.gov/publications/files/pdcf-mmlf-cpff-pmccf-smccf-talf-mlf-ppplf-msnlf-mself-msplf-nonlf-noelf-02-09-21.pdf#page=5.

[46] "Periodic Report: Update on Outstanding Lending Facilities Authorized by the Board under Section 13(3) of the Federal Reserve Act," February 8, 2021, available at https://www.federalreserve.gov/publications/files/pdcf-mmlf-cpff-pmccf-smccf-talf-mlf-ppplf-msnlf-mself-msplf-nonlf-noelf-02-09-21.pdf#page=5.

[47] "The Term Asset-Back Securities Loan Facility: Opportunities for American Businesses," The Wharton School, Joshua J. Harris Alternative Investments Program, September 2020, available at https://altinvest.wharton.upenn.edu/wp-content/uploads/2020/10/The-Term-Asset-Backed-Securities-Loan-Facility-Opportunities-for-American-Businesses_formatted.pdf. "Rather than limiting the type of eligible collateral to AAA-rated ABS, TALF should be expanded to include all investment grade assets. This change would greatly increase the types and amount of eligible collateral, which in turn would result in broader support for asset prices and better functioning capital markets. Importantly, this change would also be consistent with the Federal Reserve's Secondary Market Corporate Credit Facility (SMCCF), which supports market liquidity by purchasing investment grade corporate bonds as well as US-listed exchange traded funds that provide exposure to U.S. corporate bonds. The activities of the SMCCF pertain to all investment grade corporate bonds, not just AAA-rated debt."

[48] "The Main Street Lending Program: Opportunities for American Businesses, Part I: Leverage Limitations," The Wharton School, Joshua J. Harris Alternative Investments Program, April 2020, available at https://altinvest.wharton.upenn.edu/wp-content/uploads/2020/04/The-Main-Street-Lending-Program_April2020.pdf.

business has 10,000 employees or fewer, or (2) the business had 2019 revenues of $2.5 billion or less.[49]

Loans under the new program would have a four year maturity, and principal and interest payments on the loans would be deferred for one year. The minimum loan size would be $1 million and the interest rate would be an adjustable rate of the short-term overnight financing rate plus 250-400 basis points. Eligible banks can originate new Main Street Loans, or use the Main Street Lending Program to increase the size of existing loans to businesses.[50] To ensure credit flows to small- and medium- sized business, the Federal Reserve will purchase up to $600 billion of the loans.[51]

Several recommendations were made regarding improvements to the Main Street Lending Program. As a result, it was modified multiple times prior to its termination on January 8, 2021.[52] In particular, the argument was made that excluding borrowers from the Main Street Lending Program with an EBITDA-based leverage test would inevitably leave out many viable companies. Some borrowers, such as early-stage growth companies, simply do not have positive EBITDA. In those cases, an EBITDA-based leverage metric is not generally used to measure creditworthiness. However, those early-stage growth companies are engaged in

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[49] Main Street Lending Program, Board of Governors of the Federal Reserve System, available at https://www.federalreserve.gov/monetarypolicy/mainstreetlending.htm.

[50] "The Main Street Lending Program: Opportunities for American Businesses, Part II: Credit Risk Retention," The Wharton School, Joshua J. Harris Alternative Investments Program, April 2020, available at https://altinvest.wharton.upenn.edu/wp-content/uploads/2020/04/The-Main-Street-Lending-Program_April2020.pdf. "The Main Street Lending Program was created with the stated goal of ensuring that credit flows to small- and medium- sized businesses during a pandemic-induced crisis. Unfortunately, operational, legal and economic challenges in the Program such as credit risk retention requirements may prevent banks from participating, which will in turn leave out a number of viable businesses. The Federal Reserve should reconsider the details of the credit risk retention requirements in the Program and encourage banks to manage their own risk. Rather than discouraging eligible lenders from participating, it should incentivize them to lend, thus enhancing access to credit for small- and medium- sized businesses."

[51] Main Street Lending Program, Board of Governors of the Federal Reserve System, available at https://www.federalreserve.gov/monetarypolicy/mainstreetlending.htm.

[52] English, William B. and Liang, Nellie, "Designing the Main Street Lending Program: Challenges and options," The Brookings Institution, June 18, 2020, available at https://www.brookings.edu/research/designing-the-main-street-lending-program-challenges-and-options/.

important growth and innovation that is crucial to lifting the U.S. out of its pandemic-induced recession.[53]

Loans to Nonprofit Organizations

In July 2020, the Federal Reserve expanded the Main Street Lending Program to nonprofit organizations, including hospitals, schools, and social service organizations that were in sound financial condition before the onset of the pandemic. Borrowers are required to have at least 10 employees and endowments of no more than $3 billion. The loans are made for a term of five years, but payment of principal is deferred for the first two years. As with the loans made to private businesses, lenders were required to retain 5 percent of the loans.[54]

Supervisory Action

The Federal Reserve Board issued several statements, guidance, and rules to support financial institutions in light of the COVID-19 pandemic. Specifically, the Federal Reserve Board performed an additional round of stress tests due to the continued uncertainty surrounding COVID-19. Large banks were tested against two scenarios featuring severe recessions to assess their resiliency under several outcomes.[55] The "severely adverse" scenario featured the unemployment rate peaking at 12.5% at the end of 2021 and then declining to about 7.5%. It also featured a decline in gross domestic product of about 3 percent from the third quarter of 2020 through the first quarter of 2021.[56]

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[53] "The Main Street Lending Program: Opportunities for American Businesses, Part I: Leverage Limitations," The Wharton School, Joshua J. Harris Alternative Investments Program, April 2020, available at https://altinvest.wharton.upenn.edu/wp-content/uploads/2020/04/The-Main-Street-Lending-Program_April2020.pdf. "Excluding borrowers from the Main Street Lending Program with an EBITDA-based leverage test will inevitably leave out many viable companies. Some borrowers, such as early-stage growth companies, simply do not have positive EBITDA. In those cases, an EBITDA-based leverage metric is not generally used to measure creditworthiness. However, those early-stage growth companies are engaged in important growth and innovation that will be crucial to lifting the U.S. out of its pandemic-induced recession."

[54] "Federal Reserve Board modified Main Street Lending Program to provide greater access to credit for nonprofit organizations such as educational institutions, hospitals, and social service organizations," Press Release, Board of Governors of the Federal Reserve System, July 17, 2020, available at https://www.federalreserve.gov/newsevents/pressreleases/monetary20200717a.htm.

[55] "Federal Reserve Board releases hypothetical scenarios for second round of bank stress tests," Federal Reserve Press Release, September 17, 2020, available at https://www.federalreserve.gov/newsevents/pressreleases/bcreg20200917a.htm.

[56] "Federal Reserve Board releases hypothetical scenarios for second round of bank stress tests," Federal Reserve Press Release, September 17, 2020, available at https://www.federalreserve.gov/newsevents/pressreleases/bcreg20200917a.htm.

The Federal Reserve undertook a number of these supervisory and regulatory actions in response to COVID-19.[57] For example, following its stress tests and sensitivity analysis, the Federal Reserve Board announced several additional actions to ensure that large banks remain resilient despite economic uncertainty from COVID-19. For the third quarter of 2020, the Board required large banks to preserve capital by suspending share repurchases, capping dividend payments, and limiting dividends based on recent income. The Board also required banks to re-evaluate their longer-term capital gains.[58]

Regulatory Action

The Federal Reserve began encouraging banks, particularly the largest banks and community banks, to dip into regulatory capital and liquidity buffers to increase lending during the pandemic. While the reforms instituted after the Great Financial Crisis require banks to hold additional loss-absorbing capital to prevent problems, these capital buffers can be used during a downturn to increase lending. Towards this end, the Federal Reserve Board, together with the other federal banking agencies, revised a core aspect of the buffer requirements in the capital rule, the definition of "eligible retained income."[59]

Before these revisions to the capital rule, the limitations on capital distributions could have been severe if a depository institution experienced a modest reduction in its capital ratios, undermining the ability of the bank to use its capital buffers. This same concern applied to covered companies and the Total Loss Absorbing Capacity (TLAC) buffer requirements, because the TLAC buffers use the former definition of eligible retained income. The interim final rule revised the definition of "eligible retained income" to allow covered companies to use their capital buffers in a more gradual manner, thereby promoting lending activity.[60]

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[57] "Coronavirus Diease 2019 (COVID-19)," Federal Reserve Board, available at https://www.federalreserve.gov/supervisory-regulatory-action-response-covid-19.htm.

[58] "Federal Reserve Board releases results of stress tests for 2020 and additional sensitivity analyses conducted in light of the coronavirus event," Federal Reserve Press Release, June 25, 2020, available at https://www.federalreserve.gov/newsevents/pressreleases/bcreg20200625c.htm.

[59] "Total Loss-Absorbing Capacity, Long-Term Debt, and Clean Holding Company Requirements for Systemically Important U.S. Bank Holding Companies and Intermediate Holding Companies of Systemically Important Foreign Banking Organizations: Eligible Retained Income," Interim Final Rule, 85 FR 17003-17006, March 26, 2020, available at https://www.federalregister.gov/documents/2020/03/26/2020-06371/total-loss-absorbing-capacity-long-term-debt-and-clean-holding-company-requirements-for-systemically.

[60] "Total Loss-Absorbing Capacity, Long-Term Debt, and Clean Holding Company Requirements for Systemically Important U.S. Bank Holding Companies and Intermediate Holding Companies of Systemically Important Foreign Banking Organizations: Eligible Retained Income," Interim Final Rule, 85 FR 17003-17006, March 26, 2020, available at https://www.federalregister.gov/documents/2020/03/26/2020-06371/total-loss-absorbing-capacity-long-term-debt-and-clean-holding-company-requirements-for-systemically.

Consumer-Related Actions

On March 31, 2020, the Federal Reserve announced that it did not intend to cite in an examination or initiate an enforcement action for failure to report the quarterly Home Mortgage Disclosure Act (HMDA) data to provide its supervised financial institutions with flexibility, reduce administrative burden, and allow the institution to focus its time and attention on serving its customers. The Board stated that at a later date, it would provide additional information as to how and when it expects supervised financial institutions to resume quarterly data submissions. However, in the meantime, supervised institutions are expected to continue collecting and recording HMDA data in anticipation of making annual data submissions.[61]

In another significant action, the Federal Reserve Board, the Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency issued a joint statement on the Community Reinvestment Act (CRA) consideration for activities in response to COVID-19. The statement set forth that the agencies would favorably consider retail banking services and retail lending activities in an institution's assessment that are responsible to the needs of low- and moderate- income individuals, small business, and small farms affected by COVID-19 consistent with safe and sound banking practices. In addition, the statement held that financial institutions would receive CRA consideration for community development activities.[62]

Fannie Mae and Freddie Mac

Fannie Mae and Freddie Mac undertook a number of actions in response to the COVID-19 crisis. On March 18, 2020, Freddie Mac announced a nationwide suspension of all foreclosure sales and evictions of borrowers living in single-family homes owned by the company. It also announced additional mortgage relief options, including an expansion of its forbearance program to incorporate additional impacted borrowers. Freddie Mac also reminded servicers of its existing mortgage relief options available to assist borrowers, while also making additional disaster related loan modifications available.[63]

Fannie Mae also announced COVID-19 payment deferral, a payment deferral option for homeowners who experienced financial hardship due to the pandemic. Homeowners could request a forbearance plan through their mortgage services, and under the CARES Act, the forbearance plan must be provided to the eligible homeowner for an initial period of up to 6 months. The plan can be extended for up to 12 months if the borrower requests it.

[61] CA20-6: Home Mortgage Disclosure Act (HMDA) Quarterly Reporting during the COVID-19 Pandemic, Board of Governors of the Federal Reserve System, March 31, 2020, available at https://www.federalreserve.gov/supervisionreg/caletters/caltr2006.htm.

[62] CA 20-4: CRA Consideration for Activities in Response to the Coronavirus, Board of Governors of the Federal Reserve System, March 19, 2020, available at https://www.federalreserve.gov/supervisionreg/caletters/caltr2004.htm.

[63] "Freddie Mac Announces Enhanced Relief for Borrowers Impacted by COVID-19," Press Released, March 18, 2020, available at https://freddiemac.gcs-web.com/news-releases/news-release-details/freddie-mac-announces-enhanced-relief-borrowers-impacted-covid?_ga=2.35388966.607577691.1606160218-1977357347.1606160218.

Homeowners are still required to repay their forbearance, but they do not have to repay all at once.[64]

Summary of Monetary Policy and Financial Responses

As mentioned, some of the tools that were leveraged by the Federal Reserve were also utilized in previous crises, and others were new extensions of the Federal Reserve's expansive Section 13(3) powers. Tools such as lowering the federal funds rate, conducting open market operations, making changes to the discount window, and encouraging the use of intraday credit are well-studied and produced the expected level of efficacy. These actions increased liquidity in the financial system, and reduced market volatility. Notably, however, taking these actions left the Federal Reserve with few remaining monetary policy options.[65]

Other tools, such as facilities to introduce the flow of credit and lending programs are newer extensions of Section 13(3) power, and require further study and modification. In fact, as mentioned, several changes were made to the Main Street Lending Program, prior to its termination on January 8, 2021. Nevertheless, significant additional work remains in the processing of loans that were extended before the program was ended. Utilization of TALF has been very minor, as the amount of loans extended has been less than $3 billion.[66] While the TALF ceased extending credit on December 31, 2020, the facility remains in place and available, should it be needed going forward. Therefore, a key consideration is whether TALF should be modified to expand the type of eligible collateral to all investment grade assets, rather than just AAA-rated ABS.[67]

<u>Section II. Financial Stability Concerns</u>

The executive actions, fiscal and health policy responses, and monetary and financial policy activities undertaken during the pandemic had some a somewhat calming effect on the economy and financial market dislocations. However, the shock to the financial system instigated by the pandemic brought to the forefront long-standing concerns about certain

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[64] "Fannie Mae Announces COVID-19 Payment Deferral," Press Release, May 13, 2020, available at https://www.fanniemae.com/newsroom/fannie-mae-news/fannie-mae-announces-covid-19-payment-deferral.

[65] Cheng, Jeffrey, et. al, "What's the Fed doing in response to the COVID-19 crisis? What more could it do?" The Brookings Institution Report, January 25, 2021, available at https://www.brookings.edu/research/fed-response-to-covid19/.

[66] "Periodic Report: Update on Outstanding Lending Facilities Authorized by the Board under Section 13(3) of the Federal Reserve Act," February 8, 2021, available at https://www.federalreserve.gov/publications/files/pdcf-mmlf-cpff-pmccf-smccf-talf-mlf-ppplf-msnlf-mself-msplf-nonlf-noelf-02-09-21.pdf#page=5.

[67] "The Term Asset-Back Securities Loan Facility: Opportunities for American Businesses," The Wharton School, Joshua J. Harris Alternative Investments Program, September 2020, available at https://altinvest.wharton.upenn.edu/wp-content/uploads/2020/10/The-Term-Asset-Backed-Securities-Loan-Facility-Opportunities-for-American-Businesses_formatted.pdf.

aspects of the regulatory framework. Specifically, since the Great Financial Crisis, significant attention has been paid to derivatives regulation, money market funds, and fixed income market structure. Dodd Frank and additional reforms in 2014 resulted in new regulatory schemes for central clearing of derivatives, money market mutual funds, and fixed income markets. But, until 2020, these reforms were relatively untested. Thus, it makes sense now for policymakers to take note of key areas where the reforms implemented did not have the intended effects, and in fact may have resulted in increased systemic risk.

Central Clearing Counterparties

Following the explosive growth of derivatives leading up to the Great Financial Crisis, the G20 mandated that all OTC derivatives be cleared and settled through Central Clearing Counterparties (CCPs). The goal of central clearing was to reduce systemic risk and increase transparency in the derivatives markets by managing counterparty risk through the use of margin and netting. Importantly, all CCPs must comply with domestic regulations as well as global financial market infrastructure (FMI) standards. Thus, CCPs must employ robust risk management frameworks, initial margin models that are correctly calibrated and not excessively procyclical, and default waterfalls with multiple loss-absorbing layers in their rulebooks.[68]

In their July 2020 report, the Financial Stability Board (FSB) found that financial market infrastructures, particularly CCPs, functioned well during the COVID-19 pandemic, despite challenging financial and operational conditions.[69] In their November 2020 report, the FSB reported that use of central clearing in derivatives trading reduced aggregate collateral demands because it allowed exposures and payment obligations to be multilaterally netted.[70] CCPs themselves reported that their risk management frameworks served them well during the pandemic — their financial models and rules worked as designed and adapted quickly to changing market conditions.[71]

However, market events during the pandemic did reveal an area of concern: CCP margin hikes and margin breaches. High asset price volatility and large trading volumes led to significant increases in initial and variation margin during the pandemic. These margin calls, in turn, contributed to increased demand for cash. Data shows that there were large increases in initial and variation margin calls in Q1 2020, due to large transaction volumes and portfolio rebalancing. While it should certainly be expected that margin calls would occur during volatile

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[68] BIS Principles for Financial Market Infrastructures (PFMI), available at https://www.bis.org/cpmi/info_pfmi.htm.

[69] "COVID-19 Pandemic: Financial Stability Implications and Policy Measures Taken, Report submitted to the G20 Finance Ministers and Governors," Financial Stability Board, July 15, 2020, at 1, available at https://www.fsb.org/wp-content/uploads/P150720-2.pdf.

[70] "Holistic Review of the March Market Turmoil," Financial Stability Board, November 17, 2020, at 24, available at https://www.fsb.org/2020/11/holistic-review-of-the-march-market-turmoil/.

[71] "CCPs Again Demonstrate Strong Resilience in Times of Crisis," A CCP12 Paper, July 7, 2020 available at https://ccp12.org/wp-content/uploads/2020/07/CCPs_again_demonstrate_strong_resilience_in_times_of_crisis.pdf.

markets, some market participants did not anticipate the extent of the margin increases, and thus they needed to use their cash buffers or obtain additional funding.[72]

Additional concerns about margin increases were expressed regarding perceived asymmetries in margin increases across different CCPs in different regions, as well as the proposed application by one CCP of initial margin multipliers to all clearers.[73] In response, in May 2020, the Commodity Futures Trading Commission (CFTC) issued a staff letter reminding CCPs, trading venues and clearing members to properly prepare for further price volatility. Clearing members were asked to monitor customer accounts to ensure that appropriate levels of margin were being collected.[74] The Bank for International Settlements (BIS) also published a bulletin on this matter, noting that margin hikes should be expected during heightened volatility.[75]

Importantly, the BIS formulated conclusions that regulators need retrospectively analyze how the risk management frameworks held up in the pandemic. There is a trade-off between dynamic and pro-cyclical margin adjustment in times of stressed markets, and the precautionary application of higher margin requirements during normal periods. The "microprudential perspective" would suggest that margins should be dynamically adjusted even during times of market stress. However, the "macroprudential perspective" would actually suggest limiting margin increases during times of stress, in order to prevent further stress on clearing participants.[76]

Ultimately, the stresses on CCPs during the pandemic lead policymakers to two important questions. The first question is whether margin breaches during the pandemic lead regulators to conclude that overall margin levels should be permanently higher during normal periods. This would require a recalibration of the entire CCP business model, and would certainly add to the overall cost of central clearing. The second question is how policymakers can address the unresolved challenge of how to resolve a failing CCP without impacting financial stability.[77]

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[72] "Holistic Review of the March Market Turmoil," Financial Stability Board, November 17, 2020, at 25, available at https://www.fsb.org/2020/11/holistic-review-of-the-march-market-turmoil/.

[73] Smithers Excell, Julia, "CCPs, Cleared Derivatives and Counterparties," White & Case Alert, July 9, 2020, available at https://www.whitecase.com/publications/alert/ccps-cleared-derivatives-and-coronavirus.

[74] U.S. Commodity Futures Trading Commission Staff Advisory on Risk Management and Market Integrity under Current Market Conditions, to Designated Contract Markets, Futures Commission Merchants, and Derivatives Clearing Organizations, CFTC Letter No. 20-17, May 13, 2020, available at file:///Users/sarahhammer/Downloads/20-17.pdf.

[75] Huang, Wenqian, and Takats, Elod, "The CCP-bank nexus in the time of Covid-19," BIS Bulletin, No. 13, May 11, 2020, available at https://www.bis.org/publ/bisbull13.pdf.

[76] Huang, Wenqian, and Takats, Elod, "The CCP-bank nexus in the time of Covid-19," BIS Bulletin, No. 13, May 11, 2020, available at https://www.bis.org/publ/bisbull13.pdf.

[77] "Guidance on financial resources to support CCP resolution and on the treatment of CCP equity in resolution," Financial Stability Board Consultative Document, May 4, 2020, available at https://www.fsb.org/wp-content/uploads/P020520.pdf.

Indeed, the issue of how to handle the resolution of a CCP remains a systemically important issue in global financial regulation and public policy.

Money Market Funds

In response to significant distress in money market funds and the "breaking of the buck" by one large U.S. money market fund during the Great Financial Crisis, the Securities Exchange Commission (SEC) in 2010 adopted amendments to Rule 2a-7 of the Investment Company Act of 1940 (the "Money Market Fund Rule"). Those amendments included requiring money market funds to maintain a portion of their portfolios in instruments that can be readily converted to cash, reducing the maximum weighted average maturity of portfolio holdings, improving the quality of portfolio securities, requiring money market funds to report portfolio holdings monthly to the SEC, and permitting money market funds to suspend redemptions.[78]

In 2014, the SEC adopted additional amendments to Rule 2a-7, requiring a floating net asset value (NAV) for institutional prime money market funds (including institutional municipal money market funds). In doing so, the SEC allowed the daily share prices of these funds to fluctuate along with changes in the market value of a fund's assets. Institutional prime money market funds were no longer permitted to use special pricing and valuation conventions that allowed them to maintain a stable NAV of $1. The amendments also provided non-government money market fund boards new tools in the form of liquidity fees and redemption gates, if the fund's level of weekly liquid assets falls below a 30% threshold.[79]

Since the 2014 amendments, a key concern about the imposition of liquidity fees and redemption gates has been the propensity for investors to anticipate when a fund might reach the specified threshold (in this case, if a fund's weekly liquid assets fall below 30%).[80] At the time of the 2014 amendments to Rule 2a-7, some policymakers questioned whether liquidity fees and gates may actually *trigger* a run on money market funds, because when investors anticipate the weekly liquid assets may fall below 30%, they would *pre-emptively* redeem shares ahead of others, prior to imposition of fees and gates.[81] Undoubtedly, incentivizing pre-emptive redemption of shares would run contrary to the purpose of Rule 2a-7 amendments.

These concerns now appear validated. A December 2020 study by scholars with the Federal Reserve Board found that, despite the Federal Reserve's re-institution of the Money Market Mutual Fund Liquidity Facility, outflows in money market funds increased substantially during

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[78] Securities and Exchange Commission Release No. IC-29132; File Nos. S7-11-09, S7-20-09, 17 CFR Parts 270 and 274, Money Market Fund Reform, Final Rule, effective May 5, 2010, available at https://www.sec.gov/rules/final/2010/ic-29132.pdf.

[79] "SEC Adopts Money Market Fund Reform Rules," U.S. Securities and Exchange Commission Press Release, Jay 23, 2014, available at https://www.sec.gov/news/press-release/2014-143.

[80] Fisch, Jill, "The Broken Buck Stops Here: Embracing Sponsor Support in Money Market Fund Reform," European Corporate Governance Institute Law Working Paper No. 275/2014, November 2015, at 970, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2456255.

[81] "SEC Adopts Money Market Fund Reform Rules," U.S. Securities and Exchange Commission Press Release, Jay 23, 2014, available at https://www.sec.gov/news/press-release/2014-143.

the COVID-19 pandemic. Relative to normal times, a one standard deviation decrease in weekly liquidity assets was associated with a one percentage point increase in daily outflows during the crisis. In addition, the research found that money market fund outflows accelerated significantly as funds' weekly liquid assets approached the 30% threshold.[82] These findings were also corroborated by industry reports,[83] as well as a December 2020 Report of the President's Working Group on Financial Markets.[84]

To be sure, the developments in money market funds during March 2020 indicate that reform of these funds is not yet completed. The issue of systemic risk in money market funds requires significant additional study and careful reconsideration by regulators. At the time of this writing, the SEC has published a request for public comment on potential reform measures to improve the resilience of money market funds.[85] Notably, ongoing reform efforts may consider provisions in addition to weekly liquid asset levels and redemption fees and gates. They may also consider minimum balances at risk, overall liquidity management, countercyclical weekly liquid asset requirements, the floating net asset value, and perhaps even capital buffer requirements.[86]

Corporate Bond and U.S. Treasury Markets

Since the Great Financial Crisis, concerns have been expressed about the risks of corporate bond funds and exchange-traded funds (ETFs). The low interest rate environment facilitated corporate debt issuance and investors searching for yield piled into these funds. Fixed income mutual funds and ETFs accounted for 11% of the U.S. bond market as of December 2018, with the share of assets under management in fixed income ETFs rising at a faster rate than fixed

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[82] Li, Lei, et. al., "Liquidity Restrictions, Runs, and Central Bank Interventions: Evidence from Money Market Funds, December 29, 2020, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3607593.

[83] "Lessons from COVID-19: Overview of Financial Stability and Non-Bank Financial Institutions," BlackRock Public Policy ViewPoint, September 2020, available at https://www.blackrock.com/corporate/literature/whitepaper/viewpoint-lessons-from-covid-overview-financial-stability-september-2020.pdf

[84] "Report of the President's Working Group on Financial Markets: Overview of Recent Events and Potential Reform Options for Money Market Funds," December 2020, available at https://home.treasury.gov/system/files/136/PWG-MMF-report-final-Dec-2020.pdf.

[85] "SEC Requests Comment on Potential Money Market Fund Reform Options Highlighted in President's Working Group Report," Securities Exchange Commission Press Release, February 4, 2021, available at https://www.sec.gov/news/press-release/2021-25.

[86] "Report of the President's Working Group on Financial Markets: Overview of Recent Events and Potential Reform Options for Money Market Funds," December 2020, available at https://home.treasury.gov/system/files/136/PWG-MMF-report-final-Dec-2020.pdf.

income mutual funds.[87] One regulatory concern has been the potential mismatch between the liquidity of funds' underlying assets and the investors' ability to redeem mutual fund shares daily, or even intraday (as in the case of selling ETF shares in the secondary market).[88]

During the pandemic, the corporate bond market experienced significantly higher trading volumes, extreme volatility, and elevated trading costs. Compared to the preceding two years, average daily trading volumes for corporate bonds in March and April 2020 increased by approximately 48% and remained elevated through May, before returning to typical levels in June and July.[89] Transaction costs, as measured by bid-ask spreads, spiked to historical levels in March 2020, prior to the Federal Reserve's actions to implement a number of credit facilities.[90] For investment grade corporate bonds, bid-ask spreads rose 150-200 points, and for high-yield bonds, bid-ask spreads rose as much as 100 basis points.[91]

During this volatile period, bond mutual fund outflows were elevated to an extent not seen since the Great Financial Crisis.[92] SEC staff estimate that bond mutual funds experienced $255 billion of net outflows in March (about five percent of assets under management)[93], with another

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[87] "Report on the Design of Exchange-Traded Funds and Bond Funds — Implications for Fund Investors and Underlying Security Markets Under Stressful Conditions," Securities Exchange Commission Subcommittee on ETFs and Bond Funds, April 10, 2019, available at https://www.sec.gov/spotlight/fixed-income-advisory-committee/etfs-and-bond-funds-subcommittee-report-041519.pdf.

[88] "Report on the Design of Exchange-Traded Funds and Bond Funds — Implications for Fund Investors and Underlying Security Markets Under Stressful Conditions," Securities Exchange Commission Subcommittee on ETFs and Bond Funds, April 10, 2019, available at https://www.sec.gov/spotlight/fixed-income-advisory-committee/etfs-and-bond-funds-subcommittee-report-041519.pdf.

[89] Kothari, S.P., et. al., "U.S. Credit Markets Interconnectedness and the Effects of the COVID-19 Economic Shock," U.S. Securities and Exchange Commission, Division of Economic and Risk Analysis, October 2020, available at https://www.sec.gov/files/US-Credit-Markets_COVID-19_Report.pdf.

[90] These credit facilities are discussed in Section I.

[91] Kothari, S.P., et. al., "U.S. Credit Markets Interconnectedness and the Effects of the COVID-19 Economic Shock," U.S. Securities and Exchange Commission, Division of Economic and Risk Analysis, October 2020, at 6, available at https://www.sec.gov/files/US-Credit-Markets_COVID-19_Report.pdf.

[92] "Holistic Review of the March Market Turmoil," Financial Stability Board, November 17, 2020, at 21, available at https://www.fsb.org/2020/11/holistic-review-of-the-march-market-turmoil/.

[93] Sharpe, Steven and Zhou, Alex, "The Corporate Bond Market Crisis and the Government Response, FEDS Notes, October 7, 2020, available at https://www.federalreserve.gov/econres/notes/feds-notes/the-corporate-bond-market-crises-and-the-government-response-20201007.htm.

$421 billion in outflows from bond ETFs.[94] U.S. bond funds met their redemptions, but some funds domiciled outside the U.S. suspended redemptions due to inability to accurately conduct valuation.[95] In addition, certain corporate bond ETFs exhibited large differences between ETF share prices and the estimated value of their underlying assets, indicating illiquidity in underlying assets.[96] To date, concerns remain about the ability of bond mutual funds to meet redemptions and ETFs to access sufficient liquidity so that investors can sell shares during periods of market stress.

An additional issue highlighted by the pandemic is dealer inventory of corporate bonds. During March 2020, dealer inventory fell to low levels, exacerbating the widening of bid-ask spreads. Prior to the pandemic, concentration levels for the ten largest corporate bond dealers were about 70 percent.[97] As the pandemic led to selling pressure, some dealers reportedly reached their balance sheet capacity and were unable to absorb more sales.[98] [99] During the two weeks leading up to the announcement by the Federal Reserve of new credit facilities, dealers (particularly non-primary dealers) shifted from buying to selling, causing their corporate bond

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[94] Kothari, S.P., et. al., “U.S. Credit Markets Interconnectedness and the Effects of the COVID-19 Economic Shock,” U.S. Securities and Exchange Commission, Division of Economic and Risk Analysis, October 2020, at 7, available at https://www.sec.gov/files/US-Credit-Markets_COVID-19_Report.pdf.

[95] “Lessons from COVID-19: Overview of Financial Stability and Non-Bank Financial Institutions,” BlackRock Public Policy ViewPoint, September 2020, available at https://www.blackrock.com/corporate/literature/whitepaper/viewpoint-lessons-from-covid-overview-financial-stability-september-2020.pdf.

[96] “Holistic Review of the March Market Turmoil,” Financial Stability Board, November 17, 2020, at 22, available at https://www.fsb.org/2020/11/holistic-review-of-the-march-market-turmoil/.

[97] Liang, Nellie J., “Corporate Bond Market Dysfunction During COVID-19 and Lessons from the Fed’s Response, “Hutchins Center Working Paper #69,” October 1, 2020, available at https://www.brookings.edu/wp-content/uploads/2020/10/WP69-Liang_1.pdf.

[98] Sharpe, Steven and Zhou, Alex, “The Corporate Bond Market Crisis and the Government Response, FEDS Notes, October 7, 2020, available at https://www.federalreserve.gov/econres/notes/feds-notes/the-corporate-bond-market-crises-and-the-government-response-20201007.htm.

[99] Some researchers argue that the illiquidity of stressed bond markets has increased after the introduction of the Volcker Rule in 2010. See Bao, Jack, et. al, “The Volcker Rule and Market-Making in Times of Stress,” Finance and Economics Discussion Series 2016-102, Divisions of Research & Statistics and Monetary Affairs, Washington: Board of Governors of the Federal Reserve System, available at https://www.federalreserve.gov/econresdata/feds/2016/files/2016102pap.pdf.

inventories to plummet.[100] Dealers began accumulating inventory again only after the introduction of the PDCF and SMCCF.[101]

A final and very important area of concern is U.S. Treasuries. At more than $18 trillion, U.S. Treasuries constitute the largest and most liquid government securities market in the world. In March of 2020, when the pandemic led market participants to sell securities, this selling included U.S. Treasuries, particularly longer-dated securities. Bid-ask spreads widened on five- and ten- year U.S. Treasury securities, as well as on the thirty-year Treasury bond. The widening doubled for the ten-year Treasury note, and rose 50 percent for the five-year Treasury note.[102] At the same time, order book depth at interdealer brokers (measured as the average quantity of securities available for sale or purchase at the best bid and offer prices), declined to levels comparable to the Great Financial Crisis.[103] Moreover, Treasury price volatility increased to the highest level seen in 15 years for the five days ending March 19, 2020.[104]

The selling pressure that emerged in U.S. Treasuries was in part due to companies seeking cash and investment funds managing significant redemptions.[105] It was also the result of foreign institutions seeking to raise U.S. dollar cash in order to hold precautionary liquidity and intervene in foreign exchange markets.[106] An additional reason market participants were sellers of U.S. Treasuries was implementation of the Supplementary Leverage Ratio (SLR), which

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[100] Sharpe, Steven and Zhou, Alex, “The Corporate Bond Market Crisis and the Government Response, FEDS Notes, October 7, 2020, available at https://www.federalreserve.gov/econres/notes/feds-notes/the-corporate-bond-market-crises-and-the-government-response-20201007.htm.

[101] Liang, Nellie J., “Corporate Bond Market Dysfunction During COVID-19 and Lessons from the Fed’s Response, “Hutchins Center Working Paper #69,” October 1, 2020, available at https://www.brookings.edu/wp-content/uploads/2020/10/WP69-Liang_1.pdf.

[102] Fleming, Michael and Fuela, Francisco, “Treasury Market Liquidity during the COVID-19 Crisis,” Liberty Street Economics, The Federal Reserve Bank of New York, April 17, 2020, available at https://libertystreeteconomics.newyorkfed.org/2020/04/treasury-market-liquidity-during-the-covid-19-crisis.html.

[103] Fleming, Michael and Fuela, Francisco, “Treasury Market Liquidity during the COVID-19 Crisis,” Liberty Street Economics, The Federal Reserve Bank of New York, April 17, 2020, available at https://libertystreeteconomics.newyorkfed.org/2020/04/treasury-market-liquidity-during-the-covid-19-crisis.html.

[104] Fleming, Michael and Fuela, Francisco, “Treasury Market Liquidity during the COVID-19 Crisis,” Liberty Street Economics, The Federal Reserve Bank of New York, April 17, 2020, available at https://libertystreeteconomics.newyorkfed.org/2020/04/treasury-market-liquidity-during-the-covid-19-crisis.html.

[105] “U.S. Treasuries: the lessons from March’s market meltdown,” The Financial Times, July 29, 2020, available at https://www.ft.com/content/ea6f3104-eeec-466a-a082-76ae78d430fd.

[106] “Fed’s New Repo Measures Followed a Billion Treasury Exodus,” Bloomberg Markets, April 1, 2020, available at https://www.bloomberg.com/news/articles/2020-04-01/over-100-billion-of-treasuries-dumped-by-foreign-central-banks?srnd=markets-vp.

since 2015 requires dealers to hold capital equal to 3-5 percent of repo exposure. The SLR thus subjects both direct holdings of Treasuries and reverse repo positions by dealers to balance sheet constraints.[107] Treasury market structure dynamics relating to high-speed algorithmic traders and hedge funds likely exacerbated the selling pressure.[108]

Fortunately, the Federal Reserve was able to stabilize markets by purchasing large quantities of Treasuries and expanding the scope of its repo operations so financial institutions could borrow significantly more dollars using their Treasuries as collateral.[109] Additionally, the Office of the Comptroller of the Currency, the Federal Reserve, and the Federal Deposit Insurance Corporation approved an interim final rule that permits depository institutions subject to the SLR to elect to temporarily exclude U.S. Treasury securities and cash from the SLR denominator.[110] These and other measures alleviated balance sheet constraints and ultimately stabilized U.S. Treasury market liquidity.

Given the size and importance of U.S. Treasury markets, the dysfunction that occurred is worrisome and ripe for further review. Several measures have been proposed for consideration: a new Federal Reserve standing repo facility that would serve as a backstop for the U.S. financial system by providing funding to regulated dealers based on U.S. Treasury collateral; a mandate for wider use of central clearing for U.S. Treasury securities;[111] targeted changes to bank regulations that inhibit market-making while not materially improving the safety and soundness of these institutions; collection and disclosure of data to improve monitoring of funding risks.[112] As the U.S. Treasury and financial regulators continue to gather data and industry assessments from March and April 2020, no doubt they will vigorously investigate these options.

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[107] Maiello, Michael, “Why was there a Treasury bond crisis amid the COVID-19 stock market crash?” Chicago Booth Review, October 13, 2020, available at https://review.chicagobooth.edu/finance/2020/article/why-was-there-treasury-bond-crisis-amid-covid-19-stock-market-crash.

[108] “U.S. Treasuries: the lessons from March’s market meltdown,” The Financial Times, July 29, 2020, available at https://www.ft.com/content/ea6f3104-eeec-466a-a082-76ae78d430fd.

[109] Bernanke, Ben and Yellen, Janet, “Former Fed Chairs Bernanke and Yellen testified on COVID-19 amid response to economic crisis,” The Brookings Institution, July 17, 2020, available at https://www.brookings.edu/blog/up-front/2020/07/17/former-fed-chairs-bernanke-and-yellen-testified-on-covid-19-and-response-to-economic-crisis/.

[110] “Supplementary Leverage Ratio: Interim Final Rule,” Office of the Comptroller of the Currency, OCC Bulletin 2020-52, May 15, 2020, available at https://occ.gov/news-issuances/bulletins/2020/bulletin-2020-52.html.

[111] Duffie, Darrell, “Still the World’s Safe Haven? Redesigning the U.S. Treasury Market After the COVID-19 Crisis,” Hutchins Center Working Paper #62, June 2020, available at https://www.brookings.edu/wp-content/uploads/2020/05/WP62_Duffie_v2.pdf.

[112] Liang, Nellie and Parkinson, Patrick, “Enhancing the liquidity of U.S. Treasury markets under stress,” The Brookings Institution, December 16, 2020, available at https://www.brookings.edu/research/enhancing-the-liquidity-of-u-s-treasury-markets-under-stress/.

Summary of Financial Stability Concerns

At the time of this writing, policymakers and regulators continue to gather data and industry insights from the financial market events of 2020. Further study is needed to fully understand the potential procyclical impact of margin increases in CCPs during extreme market volatility. Findings will assist decisionmakers in assessing whether changes are needed to CCP playbooks, or even their business models. Moreover, there is still significant work to be done to formulate a complete understanding of how CCP resolution would work in the unfortunate event of a failure. This is a question that the financial system cannot afford to leave unanswered.

Likewise, additional analysis is needed to determine how Rule 2a-7 should be adjusted to account for accelerated redemptions as money market funds approached weekly liquid asset thresholds during March 2020. Surely, a regulatory provision that triggers a pre-emptive run on money market runs contrary to its very purpose. Finally, fixed income market dislocations during the pandemic necessitate greater data gathering and investigation. It behooves policymakers and regulators to continue to evaluate corporate bond ETFs, dealer corporate bond inventory, and U.S. Treasury market structure during periods of market stress.

This is not necessarily to say that regulatory reforms instituted by Dodd Frank in 2010 and subsequently were incorrect. Systemic risk concerns in derivatives trading, money market funds, and excessive risk-taking were the rationales behind many of these rules. Surely those concerns warranted policy action. At the same time, it seems clear that in some cases, the regulations did not have the risk-reducing effects intended. Therefore, what is needed is continued thorough data gathering and deliberate analysis. In this way, it makes sense to assess the events of 2020 with a view to careful regulatory recalibration.

Section III. Financial Inclusion Concerns

One of the most devastating consequences of the COVID-19 pandemic is the extent to which it has exacerbated economic, racial, and gender inequality. Prior to the onset of the pandemic, racial minorities faced lower levels of income and wealth, higher unemployment, and greater food and housing insecurity, leaving them more vulnerable to the COVID-19 crisis.[113] Similarly, fewer women were employed, but those that were suffered lower earnings than men (the "gender wage gap"),[114] but held a higher percentage of service positions (often low paid and without paid leave and health benefits), making their jobs more susceptible to lockdowns and

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[113] Hardy, Bradley L., and Logan, Trevon D., "Racial Economic Inequality Amid the COVID-19 Crisis, The Hamilton Project, 2020-17, August 2020, available at https://www.brookings.edu/wp-content/uploads/2020/08/EA_HardyLogan_LO_8.12.pdf.

[114] See the U.S. Census Bureau, American Community Survey, Median Earnings in the Past 12 Months (in 2018 Inflation-Adjusted Dollars) of Workers by Sex, Table S2002, available at https://data.census.gov/cedsci/table?q=s2002&tid=ACSST1Y2018.S2002.

other pandemic restrictions.[115] To make matters worse, long standing systemic health inequities put many people from racial and ethnic minority groups at increased risk of getting sick and dying from COVID-19.[116]

These disparities were compounded by the pandemic. The U.S. unemployment rate peaked in April 2020 at an unprecedented level of 14.7%, a level not seen since data collection began in 1948, before declining to a still-elevated level of 6.7% in December.[117] Women, young workers, and racial and ethic minorities were the hardest hit.[118] Minority women suffered the greatest harm, with data showing that the unemployment rate for Black women age 20 and over is 25% higher than the national average. For Latinx women, the unemployment rate is just under 50% higher than the national average.[119]

In terms of small business, the impact has been similarly grim. Prior to the onset of COVID-19, there were about 31 million small businesses in the US.[120] In 2019, those small businesses employed about half of the private workforce and created 1.6 million jobs. However, heading into the pandemic, nearly half of small businesses had two weeks or less of cash liquidity on hand.[121] Minority-owned small businesses were hit disproportionately hard, reporting poor revenue projections and difficulty obtaining loans.[122] Likewise, female-owned small businesses

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[115] Raghu, Maya and Tucker, Jasmine, “The Wage Gap Has Made Things Worse for Women on the Front Lines of COVID-19,” National Women’s Law Center, March 30, 2020, available at https://nwlc.org/blog/the-wage-gap-has-made-things-worse-for-women-on-the-front-lines-of-covid-19/.

[116] “Health Equity Considerations and Racial and Ethnic Minority Groups,” Centers for Disease Control and Prevention, July 24, 2020, available at https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/race-ethnicity.html.

[117] Statistica Research Department, January 12, 2021, available at https://www.statista.com/statistics/273909/seasonally-adjusted-monthly-unemployment-rate-in-the-us/#:~:text=The%20seasonally%2Dadjusted%20national%20unemployment,rate%20was%20at%206.7%20percent.

[118] “Unemployment Rates During the COVID-19 Pandemic: In Brief,” Congressional Research Service, November 6, 2020, available at https://fas.org/sgp/crs/misc/R46554.pdf.

[119] Labor Force Statistics from the Current Population Survey, U.S. Bureau of Labor Statistics, available at https://www.bls.gov/web/empsit/cpsee_e16.htm.

[120] Small businesses are defined by the Small Business Administration as companies with fewer than 250 to 1,500 employees.

[121] “Place Matters: Small Business Financial Health in Urban Communities,” Research by JP Morgan Chase & Co., September 2019, available at https://www.jpmorganchase.com/institute/research/small-business/place-matters-small-business-financial-health-in-urban-communities.

[122] “Coronavirus Pandemic Hits Minority-Owned Small Businesses Disproportionately Hard, New Poll Shows,” U.S. Chamber of Commerce, Tuesday, August 4, 2020, available at https://www.uschamber.com/press-release/coronavirus-pandemic-hits-minority-owned-small-businesses-disproportionately-hard-new.

were heavily impacted, with data showing lower revenue projections, investment plans, and staffing expectations than male business counterparts.[123]

While government efforts such as the Main Street Lending Program and the PPP program aimed to assist small businesses, they contained features that made them relatively unattractive to both lenders and borrowers.[124] Worse, concerns have been raised about perpetuation of lending discrimination in the PPP program. Banks that had established client lists continued to prioritize larger existing clients over smaller new clients so they could receive larger loan processing fees.[125] Additionally, a matched-pair test conducted in 2020 by the National Community Reinvestment Coalition showed significant bias in the PPP lending program.[126]

Addressing these disparities would require robust data. Unfortunately, however, the PPP program has experienced significant problems in data gathering as well as reporting. Throughout 2020, the Small Business Administration (SBA) failed to collect borrower demographic information, including data on race and gender. Often, loan level data and loan size data have not been available. In addition, much of the data that was actually collected has not been made available to the public.[127] There have also been assertions that during 2020, the Small Business Administration may have released false and/or inflated figures on the PPP program.[128]

As regulators and policymakers take on the issues raised throughout this paper, they should do so with deep consideration of how the COVID-19 pandemic has exacerbated economic, racial, and gender inequality. The harms of inequality should be viewed as unacceptable and therefore addressed with urgency and the full force of economic and financial policy. Government should

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[123] "Special Report on Women-Owned Small Businesses During COVID-19," U.S. Chamber of Commerce, August 26, 2020, available at https://www.uschamber.com/report/special-report-women-owned-small-businesses-during-covid-19.

[124]Hammer, Sarah, "The Main Street Lending Program: Opportunities for American Businesses, Part I: Leverage Limitations," April 2020, available at https://altinvest.wharton.upenn.edu/wp-content/uploads/2020/04/The-Main-Street-Lending-Program_April2020.pdf. See also Hammer, Sarah, "The Main Street Lending Program: Opportunities for American Businesses, Part II: Credit Risk Retention," May 2020, available at https://altinvest.wharton.upenn.edu/wp-content/uploads/2020/05/The-Main-Street-Lending-Program_Part-2.pdf.

[125] Stewart, Emily, "The PPP program worked how it was supposed to. That's the problem," July 13, 2020, available at https://www.vox.com/recode/2020/7/13/21320179/ppp-loans-sba-paycheck-protection-program-polling-kanye-west.

[126] "Lending Discrimination within the Paycheck Protection Program," National Community Reinvestment Coalition, July 15, 2020, available at https://ncrc.org/lending-discrimination-within-the-paycheck-protection-program/.

[127] See https://www.sba.gov/funding-programs/loans/coronavirus-relief-options/paycheck-protection-program/ppp-data.

[128] "Faulty data collection raises questions about Trump's claims on PPP program," *The Washington Post,* July 14, 2020, available at https://www.washingtonpost.com/business/2020/07/14/ppp-job-claims-sba/.

apply a financial inclusion lens to more than executive and fiscal policies, but also to monetary policy and financial regulation. While the full scale of policy considerations are too expansive to fully explore in this paper, it is worth noting that specific examples of proposed actions include addressing potential disparities in the Federal Reserve and Small Business Administration lending programs. Undoubtedly, there is still opportunity to reform and improve these programs.

Conclusion

The economic and financial crisis caused by the global outbreak of COVID-19 and ensuing social and economic disruption is unparalleled in recent history. The pandemic led to stress, volatility, and disruptions in the financial markets and the largest global recession since the Great Depression. Regulatory measures instituted since the Great Financial Crisis such as capital and liquidity requirements at banks increased resiliency in the financial system, but in some cases, may have had procyclical effects. In other cases, the distress caused by the pandemic revealed risks created by other regulatory provisions, such as weekly liquid asset thresholds in prime institutional money market funds or margin increases at CCPs. Moreover, illiquidity in the corporate bond market and dysfunction in U.S. Treasuries were revealed to be ongoing areas of serious concern.

Government undertook a number of steps to address these stresses, including executive order, fiscal action, monetary policy, and regulatory forbearance. Of particular note are the extensive and in some cases, unprecedented, lending and credit facilities instituted by the Federal Reserve. Questions remain about the efficacy of some of these measures; no doubt there is still opportunity to reform aspects of the lending programs.

Finally, the COVID-19 pandemic further devastated economic, racial and gender inequality in the U.S. As regulators and policymakers take on the issues raised in this paper, they should do so with deep consideration of how the COVID-19 pandemic has exacerbated economic, racial, and gender inequality. The harms of inequality should be viewed as unacceptable and therefore addressed with urgency and the full force of economic and financial policy. As we move forward, it is crucial for government to apply a financial inclusion lens to more than executive and fiscal policies, but to monetary policy and financial regulation as well.