
BOOK REVIEW

WHAT IS THE LAW'S ROLE IN A RECESSION?

LAW AND MACROECONOMICS: LEGAL REMEDIES TO RECESSIONS.
By Yair Listokin. Cambridge, M.A.: Harvard University Press. 2019. Pp. 280. \$48.00.

SHUTDOWN: HOW COVID SHOOK THE WORLD'S ECONOMY. By Adam Tooze. New York, N.Y.: Viking. 2021. Pp. xiv, 368. \$28.00.

Reviewed by Gabriel Rauterberg & Joshua Younger, Ph.D.***

In March 2020, the world faced not only a public health emergency but also one of the most profound shocks to the global economy in the modern era — a shock deeper and broader than any other in eighty years.¹ Never before had virtually all of the world's economies suffered a contraction at the same time (Tooze, p. 5). Global output decreased by nearly 3.4% in 2020, the largest contraction since the Second World War.² The United States saw the largest recorded demand shock in its history (-32.9%),³ and the unemployment rate peaked around 15% during 2020,⁴ higher than at any point during the Great Recession.⁵

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¹ See INT'L MONETARY FUND, WORLD ECONOMIC OUTLOOK: A LONG AND DIFFICULT ASCENT 24 (2020), <https://www.imf.org/-/media/Files/Publications/WEO/2020/October/English/text.ashx> [<https://perma.cc/N6LM-35DU>].

² JAMES K. JACKSON ET AL., CONG. RSCH. SERV., R46270, GLOBAL ECONOMIC EFFECTS OF COVID-19, at 4, 38 (2021), <https://sgp.fas.org/crs/row/R46270.pdf> [<https://perma.cc/4Z7T-NAD2>]. Initial estimates were much higher, but significant economic intervention by states likely reduced the negative short-term economic impact. INT'L MONETARY FUND, *supra* note 1, at 1. These estimates were furthermore based on a forecast that was later confirmed in realized data. See *GDP Growth (Annual %)*, WORLD BANK, <https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG> [<https://perma.cc/5X9R-8PB9>].

³ *Gross Domestic Product, 2nd Quarter 2020 (Advance Estimate) and Annual Update*, BEA 20-37, BUREAU ECON. ANALYSIS (Aug. 18, 2020), <https://www.bea.gov/news/2020/gross-domestic-product-2nd-quarter-2020-advance-estimate-and-annual-update> [<https://perma.cc/PL8F-KLUS>].

⁴ See *The Employment Situation — December 2021*, USDL-22-0015, BUREAU LAB. STAT. (Jan. 7, 2022, 8:30 AM), <https://www.bls.gov/news.release/pdf/empst.pdf> [<https://perma.cc/LYU9-5XH6>].

⁵ Rakesh Kochhar, *Unemployment Rose Higher in Three Months of COVID-19 Than It Did in Two Years of the Great Recession*, PEW RSCH. CTR. (June 11, 2020), <https://www.pewresearch.org/fact-tank/2020/06/11/unemployment-rose-higher-in-three-months-of-covid-19-than-it-did-in-two-years-of-the-great-recession> [<https://perma.cc/8CQT-NJ84>].

In response, the United States, European Union, and dozens of other governments embarked on massive campaigns of economic stimulus. Over a year and a half, the United States Congress spent almost \$5 trillion across three major fiscal packages.⁶ Just the first of those bills, the Coronavirus Aid, Relief, and Economic Security Act⁷ (CARES Act), at \$2.2 trillion,⁸ was already twice the size of the Obama Administration's principal response to the Great Recession, the American Recovery and Reinvestment Act of 2009.⁹ The European Union likewise engaged in massive fiscal stimulus, also outpacing its response to the Global Financial Crisis of 2008 (GFC).¹⁰ For a wide range of nations, this has led to the largest expansion of government spending — and associated fiscal deficits — relative to the economy's size, since World War II.¹¹ Indeed, the urgency and scale of the fiscal response to Covid-19 has drawn analogies to war finance, as opposed to more traditional forms of business cycle management.¹²

Another arm of those nations' governments, their independent central banks, similarly engaged in financial intervention on a scale not seen in eighty years. Though the details are myriad and nuanced, this is clear simply from the growth of those banks' balance sheets. In 2003, the total assets held by the three largest central banks in the developed world — the Bank of Japan, the European Central Bank, and the Federal Reserve or "Fed" (the central bank of the United States) — added up to roughly \$2.5 trillion.¹³ As Figures 1 and 2 show, the GFC led those banks' balance sheets to more than double in size. But even against that backdrop, the growth since the coronavirus is astonishing. Those three central banks now hold almost \$25 trillion in assets.¹⁴ That

⁶ See *infra* p. 1361.

⁷ Pub. L. No. 116-136, 134 Stat. 281 (2020) (codified as amended in scattered sections of the U.S. Code).

⁸ Andrew Taylor et al., *Trump Signs \$2.2T Stimulus After Swift Congressional Votes*, AP NEWS (Mar. 28, 2020), <https://apnews.com/article/donald-trump-financial-markets-ap-top-news-bills-virus-outbreak-2099a53bb8adf2def7ee7329ea322f9d> [<https://perma.cc/JAK3-3A7Y>].

⁹ Pub. L. No. 111-5, 123 Stat. 115 (codified as amended in scattered sections of the U.S. Code); Romina Boccia & Justin Bogie, *This Is How Big the COVID-19 CARES Act Relief Bill Is*, HERITAGE FOUND. (Apr. 20, 2020), <https://www.heritage.org/budget-and-spending/commentary/how-big-the-covid-19-cares-act-relief-bill> [<https://perma.cc/C3QR-2CHK>].

¹⁰ Compare Matina Stevis-Gridneff, *E.U. Adopts Groundbreaking Stimulus to Fight Coronavirus Recession*, N.Y. TIMES (Dec. 10, 2020), <https://www.nytimes.com/2020/07/20/world/europe/eu-stimulus-coronavirus.html> [<https://perma.cc/EF3R-PS2B>], with Stephen Castle & David Jolly, *Giant Stimulus Plan Proposed for Europe*, N.Y. TIMES (Nov. 26, 2008), <https://www.nytimes.com/2008/11/27/business/worldbusiness/27euro.html> [<https://perma.cc/X937-FN7Z>].

¹¹ See Esteban Ortiz-Ospina & Max Roser, *Government Spending*, OUR WORLD IN DATA, <https://ourworldindata.org/government-spending> [<https://perma.cc/WB9G-LHBN>].

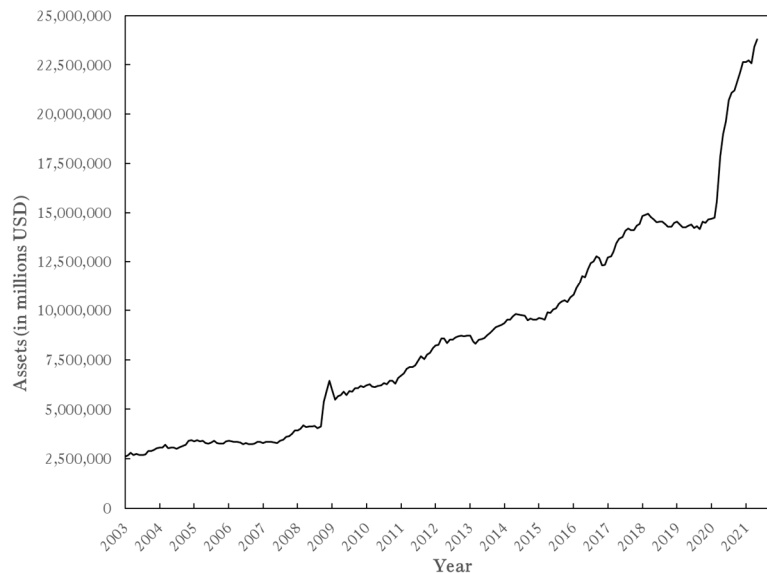
¹² Antoine Martin & Joshua Younger, *War Finance and Bank Leverage: Lessons from History*, YALE SCH. MGMT. (Sept. 8, 2020), <https://som.yale.edu/blog/war-finance-and-bank-leverage-lessons-from-history> [<https://perma.cc/AWK9-9JJY>].

¹³ See *infra* Figure 1.

¹⁴ *Id.*

significantly exceeds the total assets of the United States' commercial banking sector, which holds about \$22 trillion in assets.¹⁵ Over roughly a year, the Federal Reserve alone doubled its asset holdings from around \$4 trillion to \$8 trillion, making for arguably the most aggressive expansion of the United States' money supply since the Federal Reserve's founding in 1913.¹⁶

Figure 1: Growth in Total Assets of the Federal Reserve, European Central Bank, and Bank of Japan Since 2003¹⁷

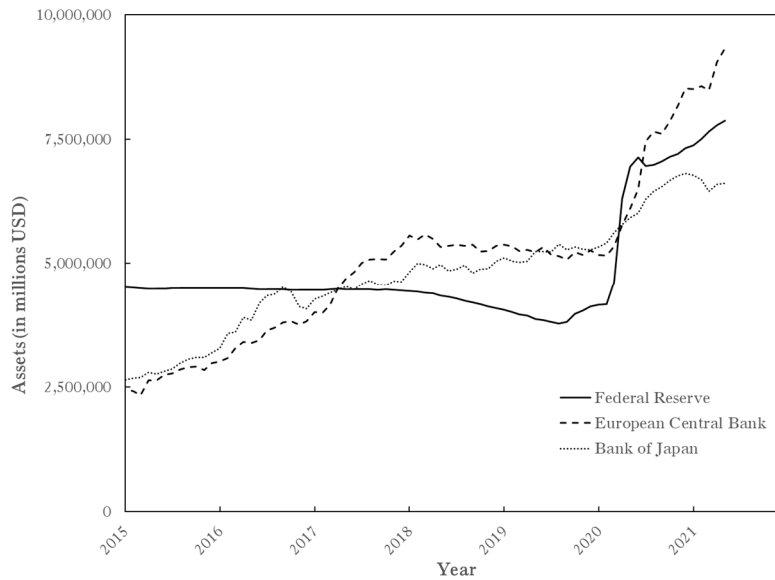


¹⁵ *Total Assets, All Commercial Banks*, FRED, <https://fred.stlouisfed.org/series/TLAACBW027SBOG> [<https://perma.cc/6TEW-UT65>].

¹⁶ *Credit and Liquidity Programs and the Balance Sheet*, BD. GOVERNORS FED. RSRV. SYS. (Jan. 7, 2022), https://www.federalreserve.gov/monetarypolicy/bst_recenttrends.htm [<https://perma.cc/WJ6S-LALA>]; see Josh Younger, *Revisiting the Ides of March, Part III: Scary Stories to Tell in the Dark*, COUNCIL ON FOREIGN RELS.: FOLLOW THE MONEY (July 23, 2020, 4:30 PM), <https://www.cfr.org/blog/revisiting-ides-march-part-iii-scary-stories-tell-dark> [<https://perma.cc/N8FJ-TF65>].

¹⁷ These figures are based on calculations by the authors using central bank data. The Federal Reserve data is from *Assets: Total Assets: Total Assets (Less Eliminations from Consolidation): Wednesday Level*, FRED, <https://fred.stlouisfed.org/series/WALCL> [<https://perma.cc/A62N-2VCX>], the European Central Bank data is from *Central Bank Assets for Euro Area (11 - 19 Countries)*, FRED, <https://fred.stlouisfed.org/series/ECBASSETSW> [<https://perma.cc/X8FU-GUCS>]; and *EUR/USD — Euro US Dollar*, INVESTING.COM, <https://www.investing.com/currencies/eur-usd-historical-data> [<https://perma.cc/E79N-37MN>], and the Bank of Japan data is from *Bank of Japan: Total Assets for Japan*, FRED, <https://fred.stlouisfed.org/series/JPNASSETS> [<https://perma.cc/45U6-ZLRQ>]; and *USD/JPY — US Dollar Japanese Yen*, INVESTING.COM, <https://www.investing.com/currencies/usd-jpy-historical-data> [<https://perma.cc/C4R7-HEDQ>]. The calculations may be made available upon request.

Figure 2: Growth in Central Bank Assets Since 2015



The sheer scale of these monetary and fiscal interventions is staggering, and the level of governmental spending represents a sharp break from once-dominant macroeconomic orthodoxies (Tooze, pp. 12–13, 22). These changes to the practice of fiscal policy and central banking raise fundamental questions about the design of the institutions through which governments intervene in and manage the economy. What does the scale, character, and complexity of central banks' interventions tell us about those banks' appropriate objectives and design? And we have named only two parts — the treasury department and central bank — of the modern state's vast governmental apparatus. Alongside fiscal policy and central banks, what is the role of the rest of the legal system in addressing economic crises and recessions?

Professor Yair Listokin's *Law and Macroeconomics: Legal Remedies to Recessions* and Professor Adam Tooze's *Shutdown: How Covid Shook the World's Economy* are books to turn to in this time. While their approach, style, and guiding convictions differ, they are complementary. What the books share is a willingness to probe the basic issues of institutional design and a capacity to shed light on the questions above. The crucible of a global pandemic may be far from the more "garden-variety" recessions of the past, but the stresses it introduces are informative and revealing, and may only be a foretaste of future crises of the Anthropocene.

In *Law and Macroeconomics*, published in 2019, Listokin asks us to imagine that we are in a deep recession, and that the traditional macroeconomic tools for responding to that recession have reached their limits — central bankers have vigorously deployed monetary policy, while Congress is either unable or unwilling to provide further fiscal support and stimulus. Listokin asks: *Can the rest of the legal system — judges, juries, the regulators of the vast administrative state — do anything more about the recession? Should they? If so, what?*

Listokin's principal argument is that there is a valuable, but overlooked third option in the policy toolkit, which he calls "expansionary legal policy": the use of courts, administration, and regulation to further stimulate overall demand for goods and services during recessions (p. 130). In effect, the book suggests, all legal officials with discretion should exercise that discretion with macroeconomic objectives in mind, including the goal of providing stimulus during recessions.

Published shortly before Covid-19 appeared, *Law and Macroeconomics* explores these issues. It's obvious, but still worth saying: The book was prescient, almost astonishingly so. The questions Listokin asks are now key economic issues of the day, and the experience of Covid makes revisiting the book eminently worthwhile. Born out of reflection on the last global financial crisis and the resultant Great Recession of a decade past, the book was written in anticipation of the next such event. Unfortunately, it arrived faster and with far greater force than anyone expected.

Shutdown, published late in 2021, focuses on the economic effects of the Covid crisis in the immediate year following the pandemic's arrival. It combines that narrative with an ambitious effort to characterize the crisis conceptually, to situate it in history, and to lay a foundation for learning its lessons about how the global economy and its governance have changed. Through a wide-ranging blend of politics, economics, and social critique, Tooze situates the massive fiscal and monetary interventions of the Covid-19 era in these broader contexts. A centerpiece of the book is a vivid narrative of the near collapse of the U.S. Treasury market in March 2020, and the spectacular response of the Federal Reserve to those dislocations (pp. 111–54).

This Review's approach, in essence, is to analyze the framework of the first book through the events narrated by the second. Along the way, it offers a brief primer on the financial dislocations as well as the monetary and fiscal innovations of 2020. On that note, a warning is in order. Discussing the regulation of the macroeconomy can be challenging along two fronts. First, macroeconomic activity, central banking, and financial regulation are part of a highly complex ecology that includes both political and economic elements, and which is not fully understood. Second, it necessarily involves a high degree of technical jargon, both in terms of analytical vocabulary and arcane regulatory

detail. While we aim for clarity, the entry costs are perhaps higher than for the usual fare.

This Review proceeds as follows. In Part I, we discuss the main contributions of *Law and Macroeconomics* and *Shutdown*. In Part II, we develop *Law and Macroeconomics*' vision of expansionary legal policy, by applying it to the events of 2020, using *Shutdown* as our narrative and analytical guide. We provide two in-depth case studies of "law and macroeconomics" in action. First, the "interim final rule" through which the Fed temporarily altered certain fundamental capital structure restrictions on banks. Second, the asset cap that the Fed imposed on the global megabank Wells Fargo — which was a legitimate exercise of its supervisory authority — intended to enforce certain standards of conduct, but also limited Wells Fargo's ability to provide credit to financial markets during the crisis. One is an example of expansionary legal policy and the other of its opposite.

These case studies illustrate our main claims about expansionary legal policy. First, that Listokin's "law and macro" framework is both useful and amenable to substantially more development. Second, that during a recession the most powerful institution in the legal system for exercising discretion to stimulate demand is the regulation of commercial banks. That said, more precision is in order, particularly given the checkered history of ad hoc regulatory flexibility (for example, the savings and loan (S&L) crisis and Japanese banking crisis). We therefore seek to provide at least a partial analytic framework through which to consider when and how banking regulators should exercise discretion as expansionary legal policy. Finally, Part III draws on *Shutdown* to briefly consider how the developments of 2020 suggest the need to revisit the issue of central banks' institutional design and objectives.

I. LAW AND MACROECONOMICS AND SHUTDOWN

Listokin's *Law and Macroeconomics* makes two major arguments. Its first and central contribution is a novel case for expansionary legal policy. To appreciate Listokin's argument, it is first necessary to understand his account of the causes of recessions and of the limits of the two classic tools for combatting recessions — fiscal and monetary policy. Reflecting mainstream macroeconomic views,¹⁸ Listokin sees economy-

¹⁸ See, e.g., N. GREGORY MANKIW, *MACROECONOMICS* 265 (7th ed. 2009) ("Most macroeconomists believe that the key difference between the short run and the long run is the behavior of prices. In the long run, prices are flexible and can respond to changes in supply or demand. In the short run, many prices are 'sticky' at some predetermined level." (emphasis omitted)); see also *id.* at 265 ("[C]lassical macroeconomic theory applies to the long run but not to the short run."); ROBERT J. ROSSANA, *MACROECONOMICS* 397 (1st ed. 2011) ("The New Keynesian model uses unanticipated shocks to aggregate demand to explain business cycles."). See generally JORDI GALÍ,

wide fluctuations in activity (often called “the business cycle”) as driven by shocks to aggregate supply and demand (p. 1).¹⁹ Because in the short run prices and wages are “sticky,” meaning they often take a considerable amount of time to adjust, shocks tend to affect demand.²⁰ To oversimplify, the macroeconomic view runs something like this: Some event, like a banking panic or global pandemic, suggests to businesses that demand for their products or services may suffer imminently and for an unknown period of time. To control costs, businesses often look to reduce labor expenses, but given the practical difficulties involved in lowering wages (they are, as noted above, “sticky”), businesses often choose instead to invest less and hire fewer new workers. The initial “shock” to both income and investment thus results in a vicious cycle of reduced economic activity and output due to the failure of wages and prices to rapidly adjust. Because the government is not a profit-driven actor it can, through monetary and fiscal policy, shift aggregate demand. The government can thus counteract these adverse effects and maintain or increase economic activity.²¹ In effect, events like financial crises can result in the collapse of spending by the private sector (that is, low aggregate demand), resulting in resources in the economy lying idle and a decline in economic activity and growth (p. 26). This creates a distinctive role for the government as economic actor. Indeed, governments have important tools for addressing recessions via both fiscal and monetary channels. But, Listokin argues, history suggests their efficacy is typically limited, both in principle and in practice (pp. 2–3).

The critical thrust of Listokin’s argument, which focuses on the limits of the traditional tools, is important to framing his affirmative case for expansionary legal policy. It is thus worth quickly sketching how the two classic policy tools work. It is also worth discussing them because of the spectacular and adventurous use governments made of them during the Covid crisis. This will relate to some of the limits of Listokin’s arguments.

There are two principal tools through which public institutions²² can shape an economy — monetary and fiscal policy. Monetary policy typically involves a central bank influencing the economy by managing interest rates and the money supply (pp. 54–57). Fiscal policy involves the government’s ability to borrow, tax, and spend (pp. 31–32). It’s important to first understand why fiscal and monetary policy are important and powerful. A core claim of modern Keynesian and new

MONETARY POLICY, INFLATION, AND THE BUSINESS CYCLE: AN INTRODUCTION TO THE NEW KEYNESIAN FRAMEWORK AND ITS APPLICATIONS (2d ed. 2015).

¹⁹ MANKIW, *supra* note 18, at 284.

²⁰ *Id.*

²¹ *See id.*

²² We are being purposefully broad in this definition, to leave space for the continued independence of federal governments and their associated central banks.

Keynesian macroeconomics is that government intervention during recessions can powerfully stimulate demand because there is excess capacity, such as unemployed workers and unused factories, idle in the economy (p. 26). In normal times, government demand for goods and services might simply displace nongovernmental demand and raise prices. During a recession, however, government demand not only puts unused capacity to work, but it generates greater economic activity as individuals with resources now spend them, hopefully generating a virtuous cycle (the economist Keynes's famous "multiplier").²³

But both tools also face significant limits during a recession. Monetary policy loses much of its efficacy when interest rates can no longer be lowered (pp. 81–101). In essence, while low interest rates promote spending by making it cheaper to borrow and less attractive to save, the interest rate cannot easily fall below 0%, and it was already near that number in the United States before Covid-19 (p. 5).²⁴ Though policy rates can in principle be taken below zero, and central bankers have done so in places like Europe and Japan, the stimulative impact of negative interest rates is hotly debated and negative interest rates come with potential side effects — with a particularly healthy note of skepticism in the United States.²⁵ Reflecting these concerns, even in the most acute phases of the pandemic Federal Reserve Chair Jerome Powell essentially rejected the potential for negative interest rates under his watch.²⁶ There are, of course, more nontraditional forms of stimulus, including quantitative easing and forward guidance, but their efficacy in supporting economic activity is also still the subject of debate.²⁷ Fiscal policy can also face limits, though principally in the form of political gridlock, ideological opposition to stimulus, and administrative dysfunction in its design and provision (pp. 3, 95–98). Thus, while monetary and fiscal policy are powerful in principle, Listokin argues that they can prove inadequate in practice (pp. 95–98). As a result, recessions

²³ Cf. JOHN MAYNARD KEYNES, *THE GENERAL THEORY OF EMPLOYMENT, INTEREST AND MONEY* 102–06 (1936) (developing the concept of a ratio between income and investment reflecting individuals' marginal propensity to consume).

²⁴ See Ben S. Bernanke, *What Tools Does the Fed Have Left? Part 1: Negative Interest Rates*, BROOKINGS (Mar. 18, 2016), <https://www.brookings.edu/blog/ben-bernanke/2016/03/18/what-tools-does-the-fed-have-left-part-1-negative-interest-rates> [https://perma.cc/6RQ9-UPPX].

²⁵ See David Krisch & Jian Zhang, Off. of the Comptroller of the Currency, *Do Negative Interest Rate Policies Actually Work? (And at What Cost?)*, ONPOINT (Feb. 11, 2021), <https://www.occ.gov/publications-and-resources/publications/economics/on-point/pub-on-point-negative-interest-rate-policies.pdf> [https://perma.cc/3JWS-C2VZ].

²⁶ Catarina Saraiva, *Powell Pushes Back Against Possibility of Negative Fed Rates*, BLOOMBERG (May 13, 2020, 1:55 PM), <https://www.bloomberg.com/news/articles/2020-05-13/powell-says-fed-not-weighing-negative-rates-but-leaves-on-table> [https://perma.cc/MV3A-BTY2].

²⁷ See, e.g., Ben Bernanke, *The New Tools of Monetary Policy*, BROOKINGS (Jan. 4, 2020), <https://www.brookings.edu/blog/ben-bernanke/2020/01/04/the-new-tools-of-monetary-policy> [https://perma.cc/TNF4-7AJB].

will predictably produce a major economic shortfall with severe social costs.

These two traditional tools should, Listokin argues, thus be supplemented with the use of the remainder of the legal system to also promote macroeconomic objectives, especially stimulus in the event of recession.²⁸ He terms this third option in the policy toolkit *expansionary legal policy*, which refers to the use of courts, administration, and regulation to further stimulate overall demand for goods and services during recessions (p. 3).²⁹ In effect, the book suggests, all legal officials with discretion should exercise it with macroeconomic objectives top of mind, particularly the goal of providing stimulus during recessions. When a judge decides on a contract remedy or a regulator decides on whether to approve a project, the *ex ante* state of the economy should matter, with expansionary, demand-driven decisions favored during recessions. Viewed in this context, law is another means by which to manage cycles in the economy. Or so Listokin argues.

The book's second contribution is to suggest that core concerns of law and legal scholarship could enrich the theory and practice of central banking — an intersection that has been largely overlooked.³⁰ In particular, Listokin argues that the study of central banking could benefit from legal scholarship's traditional emphases on institutional design, administration, and political legitimacy (pp. 3–4). Indeed, it is hard to think of a time when these questions have been as timely. Not only has direct and indirect federal involvement in the economy in the past few years reached an unprecedented scale, but unrest around inequality, racial injustice, and the government's economic role have all made central banks a focus of academic and popular scrutiny. In the wake of the last crisis and fueled by the adventurous macroeconomic policymaking of this one, once-radical positions like Modern Monetary Theory now pose serious questions for fiscal and monetary design.³¹

As we will show further in Part II, we think that there are important limits to how Listokin develops his framework. For us, Listokin misses where the natural and most powerful setting for expansionary legal policy lies, namely, in the commercial banking system. In the introduction,

²⁸ “I propose a different macroeconomic policy tool: law. . . . I also will argue for the benefits of novel legal instruments . . . for stimulating aggregate demand when monetary policy is ineffective.” (p. 3).

²⁹ The author groups the use of legal instruments to stimulate aggregate demand as “expansionary legal policy” (p. 3). Listokin's book has been reviewed by many others, though no review we know of has brought his framework into sustained conversation with events since Covid began. See, e.g., Bruno Meyerhof Salama, *Law and Macroeconomics as Mainstream*, 71 U. TORONTO L. REV. 264 (2021) (book review).

³⁰ See sources cited *infra* notes 151–155 for some exceptions to this neglect of central banking in legal research.

³¹ See generally Usman W. Chohan, *Modern Monetary Theory (MMT): A General Introduction* (Ctr. for Aerospace & Sec. Stud., Working Paper No. EC017UC, 2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3569416 [<https://perma.cc/MZ32-8MHB>].

Listokin offers two rationales for ignoring financial regulation. One is that it is extensively explored by other legal scholars and economists, which is a fair point about the allocation of scholarly energy (p. 6). But, more importantly, Listokin argues, “even the best financial regulation is doomed to periodic failure,” “there may be no way to regulate our way out of such [crisis] events,” and “law must offer responses once crises have struck in addition to trying to prevent crises through prophylactic regulation” (pp. 6–7).

The important feature of financial regulation that Listokin misses is the central role of the incentives created by bank regulation in driving and coordinating economic activity in all environments. Not only does good macroprudential regulation reduce the probability and severity of financial crises through *ex ante* design, but it can also be used to *stimulate aggregate demand* during a crisis through the exercise of *ex post administrative discretion*. This opportunity owes first and foremost to the simple fact that commercial banks, not central banks, are the primary source of money in the economy. Though we are used to spending paper currency, which is a liability of the central bank and part of the monetary base, this currency in circulation makes up only around 11% of the total monetary stock³² and a dwindling share of consumer transaction activity.³³ The vast majority of money is “credit money” created by banks in the form of deposits. Credit money is a liability of these private institutions and not the federal government or central bank.³⁴ The volume and distribution of this money is shaped by the full suite of bank regulations set by federal authorities, making these rules central to economic management. We develop this point through the case studies in Part II.

Another limitation involves Listokin’s views of fiscal intervention. A key motivation for Listokin’s argument is that in practice monetary and fiscal policy fail to fully mitigate recessions. This has clearly been true of many past crises. Post mortems on past administrations have routinely criticized them for failing to adopt accommodative monetary policy and sufficiently generous fiscal policy in the face of a contracting economy. Alongside the classic critique of the federal government’s response to the Great Depression are the many criticisms of the Obama Administration’s fiscal stimulus during the Great Recession. In many

³² See *Money Stock Measures — H.6 Release*, BD. GOVERNORS FED. RSRV. SYS. (Dec. 28, 2021), <https://www.federalreserve.gov/releases/h6/20211228> [<https://perma.cc/JZ2X-48DZ>].

³³ KELSEY COYLE ET AL., FED. RSRV. SYS., 2021 FINDINGS FROM THE DIARY OF CONSUMER PAYMENT CHOICE 6 (2021), <https://www.frbsf.org/cash/files/2021-findings-from-the-diary-of-consumer-payment-choice-may2021.pdf> [<https://perma.cc/QD32-YE2V>].

³⁴ They are, of course, insured by the Federal Deposit Insurance Corporation. See Federal Deposit Insurance Act of 1950, 12 U.S.C. §§ 1811–1835a.

respects, how monetary and fiscal authorities responded to the pandemic also illustrates the general power of his argument.

An underpowered fiscal response was not, however, the case for the coronavirus pandemic. Indeed, while prescient, *Law and Macroeconomics* is distinctly a pre-Covid book. The practice of central banking that it envisions and the political limits it contemplates reflect the intellectual milieu of the GFC and the difficulties of enacting significant fiscal stimulus during it. But those limits were blown away by central bank and fiscal action during 2020 and early 2021 (p. 3).³⁵ As Tooze notes, while the total size of fiscal stimulus during the Biden Administration is unclear, it is colossal in scale and has already provoked criticism that it represents a level of government spending that exceeds economic slack (Tooze, p. 289).³⁶ While the Obama stimulus, the American Recovery and Reinvestment Act of 2009, spent \$800 billion,³⁷ the Biden Administration stimulus of March 2021 represented \$1.9 trillion in spending (Tooze, p. 289) on top of a \$900 billion program in December 2020³⁸ and the \$2 trillion CARES Act in March 2020.³⁹ At almost \$5 trillion, the federal government has unleashed unprecedented fiscal force, in what Larry Summers called, “the boldest act of macroeconomic stabilization policy in U.S. history.”⁴⁰

The United States was also by no means alone in the scale of its response. Based on information from the International Monetary Fund, as of October 2021 the total fiscal response to Covid-19 was roughly 16% of 2020 global gross domestic product (GDP), 10.2% of which was

³⁵ The author notes that during the GFC, “discretionary fiscal stimulus . . . was, after an initial burst, left largely untested” (p. 3).

³⁶ The author cites *How Much Would the American Rescue Plan Overshoot the Output Gap?*, COMM. FOR A RESPONSIBLE FED. BUDGET (Feb. 3, 2021), <https://www.crfb.org/blogs/how-much-would-american-rescue-plan-overshoot-output-gap> [<https://perma.cc/6BVJ-F9JD>].

³⁷ Zachary A. Goldfarb, *White House Defends \$800B Stimulus as a Key to Ending the Recession*, WASH. POST (Feb. 17, 2014), <https://www.washingtonpost.com/news/post-politics/wp/2014/02/17/white-house-defends-800b-stimulus-as-a-key-to-ending-the-recession> [<https://perma.cc/J6SR-ALKE>].

³⁸ Lawrence H. Summers, Opinion, *The Biden Stimulus Is Admirably Ambitious. But It Brings Some Big Risks, Too.*, WASH. POST (Feb. 4, 2021, 1:06 PM), <https://www.washingtonpost.com/opinions/2021/02/04/larry-summers-biden-covid-stimulus> [<https://perma.cc/NUN6-AQ2S>].

³⁹ Boccia & Bogie, *supra* note 9.

⁴⁰ Summers, *supra* note 38. The “output gap” represents the shortfall from estimated potential economic output due to a crisis. *How Much Would the American Rescue Plan Overshoot the Output Gap?*, *supra* note 36; Olivier Blanchard, *In Defense of Concerns over the \$1.9 Trillion Relief Plan*, PETERSON INST. FOR INT’L ECON.: REALTIME ECON. ISSUES WATCH (Feb. 18, 2021, 10:15 AM), <https://www.piie.com/blogs/realtime-economic-issues-watch/defense-concerns-over-19-trillion-relief-plan> [<https://perma.cc/829A-SYMT>]. While the Obama stimulus was about half the size of the output gap, the Biden stimulus was multiple times larger than the output gap. Summers, *supra* note 38.

spending (direct and foregone revenue) and 6.2% consisting of contingent liquidity commitments like loan guarantees.⁴¹ The total amount spent was almost \$17 trillion.⁴² For all but two of the eleven advanced economies, this totaled more than 19% of GDP, and for the United States it was an extraordinary 28%.⁴³ The response among emerging and low-income economies was more muted, but still material.⁴⁴ There has clearly been no lack of political will to stimulate aggregate demand via government spending and support over the past two years. And it is also notable that the United States actually leads the pack of advanced economies in the scale of its fiscal response.⁴⁵

Does that obviate the need for expansionary legal policy? Legislators appear to have overcome their 2008-vintage reluctance. By some accounts, they have even overdone it.⁴⁶ Though this certainly weakens some of Listokin's animating principles, it does not invalidate his thesis for several reasons. First, and most importantly, the logic of incorporating macroeconomic considerations into drafting and evaluating regulations and other legal actions is sound regardless of the efficacy of other tools for managing the business cycle. There are reasons why it should not dominate the decisionmaking process, but arguments in favor of incorporating Listokin's framework to some extent remain strong. Second, the magnitude of the fiscal response to Covid-19 reflects the magnitude of the shock itself. Policymakers may rediscover their timidity in the next such event, which Copernican considerations suggest will be much less acute than recent events. Law and macroeconomics may prove a much more fruitful toolkit under those conditions. Finally, as we describe below, the regulation of the commercial banking system is central to the efficient and timely implementation of fiscal and monetary stimulus, even at a Covid scale.

In that sense the impact of those rules on the ability of the central bank and federal government to intervene at the desired scale is central to their design. So while Listokin frames his analysis as an attempt to address what he perceives as the failures of imagination, will, and efficacy in the wake of 2008, his framework is in principle broader than that.

⁴¹ *Fiscal Monitor: Database of Country Fiscal Measures in Response to the COVID-19 Pandemic*, at tbl. 1, INT'L MONETARY FUND (Oct. 2021), <https://www.imf.org/en/Topics/imf-and-covid19/Fiscal-Policies-Database-in-Response-to-COVID-19> [<https://perma.cc/YE27-DFFF>].

⁴² *See id.*

⁴³ *See id.*

⁴⁴ *See id.*

⁴⁵ *See id.*

⁴⁶ Cf. Benjamin Wallace-Wells, *Larry Summers Versus the Stimulus*, NEW YORKER (Mar. 18, 2021), <https://www.newyorker.com/news/annals-of-populism/larry-summers-versus-the-stimulus> [<https://perma.cc/5GCE-69JL>].

Lastly, we should probably also add a cautionary note regarding wholesale expansion of legal actors' objectives across all of law and regulation. Macroeconomics is technically demanding and benefits from careful coordination across stimulative institutions. Imposing complex, multidimensional objectives on legal actors is liable to confuse many, and to make all actors' exercise of discretion more difficult to hold accountable. All of this counsels against wholesale expansion of governmental mandates. Nonetheless, for us, the enormous economic and social cost of prolonged recessions and the important role of stimulative government intervention overcome this cautionary note for at least some parts of the legal system, and we emphasize banking regulation. Indeed, the idea for an across-the-board expansion of administrative mandates is neither as politically far-fetched, nor as normatively radical, as it may at first seem. Ambitious and broad goals can and are articulated from the top down, to be incorporated into all aspects of policymaking. For instance, on his first day in office, President Biden signed an executive order for a "whole-of-government equity agenda," requiring that "each agency must assess whether, and to what extent, its programs and policies perpetuate systemic barriers to opportunities and benefits for people of color and other underserved groups."⁴⁷

* * *

A history of 2020 is necessarily a history of crisis. Mapping the crisis — or better, the set of interlocking crises — is at the heart of *Shutdown*. Indeed, one of *Shutdown*'s major contributions lies in pursuing the connected health, economic, financial, political, and geopolitical threads of the Covid crisis together. This is done with the dexterity and insight of a highly able guide, even if it is also — almost necessarily — highly incomplete and at times scattered.

The Covid crisis was foremost one of health and then of economics. On the latter count, Tooze reminds us that in the early months of the crisis, "[o]ver 3 billion adults were furloughed from their jobs or struggled to work from home"; 1.6 billion youth had their education put on hold (p. 5). Never before had the global economy suffered such a uniform downturn. And yet, "the world collectively willed that shutdown" (p. 5). Tooze sets out to trace "who made the decisions where and under which conditions" (p. 5).

Shutdown offers a history of the very recent past, and it succeeds as a rich, page-turning, and incisive narrative of the events immediately preceding Covid's emergence and the year that followed. But *Shutdown* also has broader ambitions, including to characterize the intellectual and political developments defining the pandemic era and what they augur for the future. Two themes weave their way through the contemporary history and analysis. First is an effort to conceptualize the crisis in order

⁴⁷ Exec. Order No. 13,985, 86 Fed. Reg. 7,009, 7,009 (Jan. 20, 2021).

to facilitate our understanding of it and of its lessons. Second is an effort to analyze the deeper and more structural obstacles to collective action in confronting a crisis and to identify potential avenues of effective collective agency. We take these three features — the history and two frames — as the major contributions of the book and consider each in turn.

Recounting the history Tooze tells would be impossible in a review, but we focus on a series of events in financial markets that are arguably the centerpiece of the book's narrative. They also provide the historical foundation for being able to apply Listokin's framework to the Covid era. We then turn to discussing and assessing Tooze's attempts to identify the deeper lessons of the Covid crisis.

In late February and early March 2020, unprepared governments of the world suddenly came to appreciate that a lethal and contagious virus was arriving on their shores (p. 95). For the global economy, the most immediate consequence of the coronavirus was a massive supply shock as global lockdowns reduced firms' ability to supply goods and resulted in the widespread idling of workforces (pp. 101–03). Rapidly, a demand shock also developed, as insecurity resulted in a collapse of consumption and investment, which further rattled the labor market (p. 102).⁴⁸ The result was a vicious cycle of demand and supply shocks that caused a sudden and dizzying collapse of economic activity worldwide. As Tooze recounts, “[g]lobal GDP reached its nadir on or around Good Friday, April 10, 20 percent down from where it had been at the beginning of the year. Never before in history had economic activity contracted this fast and this comprehensively across the world” (p. 107). Indeed, it is easy to forget given the economic rebound many nations have subsequently enjoyed, but this “was a more sudden and precipitous contraction even than during the Great Depression” (p. 107), more akin to the onset of war than more familiar forms of business cycle recession or financial crisis.

As the recognition of this impending economic hit arrived in financial markets in March, an initial “run to safety . . . became something more like a panic” (p. 108). The result was the most tumultuous and important event in the financial system of the Covid era — a “seismic tremor” to the market for U.S. government debt that could have plausibly become the largest financial crisis since the Great Depression (p. 109). At the core of Tooze's narrative is the story of that financial shock, the damage that it could have wrought, and how that damage ultimately did not come to pass. It is also the context of our two case studies of Listokin's “law and macroeconomic” framework in Part II.

In January and February, the effect of Covid on financial markets seemed to go largely as expected. Risky assets came under considerable

⁴⁸ Tooze observes that “[t]he idiosyncratic Covid shock thus morphed into a more familiar demand-driven recession” (p. 102).

pressure, including a sharp sell-off in equities and a significant repricing of short- and long-term corporate debt (p. 108). Short- and long-term interest rates declined rapidly as markets increasingly presumed that the Federal Reserve would cut its policy rate to provide stimulus⁴⁹ and would keep that rate low for an extended period of time — in part relying on guidance from central bankers themselves.⁵⁰ Though more violent and rapid than most shocks, these moves were consistent with past experience in direction and magnitude (pp. 108–09). And despite these stressors — arguably the most significant since the failure of Lehman Brothers — there was no sign that any major financial institution, let alone the system itself, was in any real danger of failure.⁵¹

What came next, however, was anything but expected. Fissures started appearing, not in credit or equities, the pricing and trading of which is sensitive to corporate performance and therefore the economic outlook more broadly, but in the market for Treasury securities, which are generally viewed as risk free.⁵² As Tooze notes, “[a] stock market collapse would have been bad for wealth and for raising new corporate capital,” an “inversion of the U.S. Treasury market, however, was a problem of a different order” (p. 109). It is not possible to grasp the import of this dysfunction without considering the central role Treasury securities play in the financial system — not just in the United States but globally. The marketable debt issued by the U.S. federal government, called Treasuries, has a distinctive status as “the ultimate safe asset” in finance. This special status in part owes to the size of the U.S.

⁴⁹ See *How the Federal Reserve Implements Monetary Policy*, FED. RESRV. BANK ST. LOUIS, at slides 32–33, <https://www.stlouisfed.org/education/monetary-policy-lecture-guide> [<https://perma.cc/YAA3-BQ7H>] (select link for PowerPoint Slides (pptx) to download).

⁵⁰ See Jeanna Smialek, *In Rare Statement, Fed Chair Keeps Rate Cut on Table as Virus Risks Roil Markets*, N.Y. TIMES (Feb. 28, 2020), <https://www.nytimes.com/2020/02/28/business/economy/federal-reserve-says-ready-to-act.html> [<https://perma.cc/F325-FN6H>].

⁵¹ See Neil Irwin, *Why the Stock Market Isn't Too Worried About Coronavirus*, N.Y. TIMES (Feb. 20, 2020), <https://www.nytimes.com/2020/02/20/upshot/coronavirus-stock-market.html> [<https://perma.cc/6AMD-Y7KU>].

⁵² See, e.g., Darrell Duffie, *Still the World's Safe Haven? Redesigning the U.S. Treasury Market After the COVID-19 Crisis 2* (Hutchins Ctr. on Fiscal & Monetary Pol'y at Brookings, Working Paper No. 62, 2020), https://www.brookings.edu/wp-content/uploads/2020/05/WP62_Duffie_v2.pdf [<https://perma.cc/MU6E-W6NU>]; Kathryn Judge & Anil Kashyap, *Reforming the Macroprudential Regulatory Architecture in the United States*, CLS BLUE SKY BLOG (July 26, 2021), <https://clsbluesky.law.columbia.edu/2021/07/26/reforming-the-macroprudential-regulatory-architecture-in-the-united-states> [<https://perma.cc/PWL5-PMTR>]; Andrew Metrick & Daniel K. Tarullo, *Congruent Financial Regulation 1* (Mar. 25, 2021) (unpublished manuscript), https://www.brookings.edu/wp-content/uploads/2021/03/BPEASP21_Metric-Tarullo_conf-draft.pdf [<https://perma.cc/Z528-WM65>]; Yesha Yadav, *The Failed Regulation of U.S. Treasury Markets*, 121 COLUM. L. REV. 1173, 1175 (2021); Yesha Yadav, *A Blueprint for Reforming US Treasury Markets 2* (Vand. Univ. L. Sch. Legal Stud. Rsch. Paper Series, Working Paper No. 20-58, 2020).

economy and that of the Treasury market itself (\$17 trillion in outstanding Treasuries at the beginning of 2020, \$23 trillion now).⁵³ But it also reflects the depth, breadth, and sophistication of the market for trading Treasury securities, their use as collateral to secure short-term loans,⁵⁴ and the U.S. government's control over the supply of the currency in which they are denominated (pp. 111–12). Treasuries serve as the risk-free benchmark against which many trillions of dollars in other assets are priced. They are seen as a safe store of value and are considered to supply high-quality collateral for transactions (p. 112). “You buy U.S. Treasury securities because the market is so big that in an emergency you can sell them without your sale affecting their price” (p. 112). And they are also an instrument of dollar dominance, making up the vast majority of central bank foreign exchange reserves around the world that underpin the status of the dollar as a global reserve currency (p. 112).⁵⁵

Though liquidity conditions⁵⁶ had been poor for several weeks amidst high levels of volatility, Treasury markets at the end of February still functioned reasonably well. But over the course of a few days in mid-March, transaction costs increased rapidly and dramatically.⁵⁷ Corporations, sovereigns, individuals, and investment funds all sought

⁵³ See *Market Value of Marketable Treasury Debt*, FRED, <https://fred.stlouisfed.org/series/MVMTDo27MNFRBDAL> [<https://perma.cc/6C3H-WP4W>].

⁵⁴ Data collected by the Federal Reserve Bank of New York, for example, show that their twenty-four trading counterparties, see *Primary Dealers*, FED. RSRV. BANK N.Y., <https://www.newyorkfed.org/markets/primarydealers> [<https://perma.cc/GB4N-VQV5>] (select “List of Primary Dealers”), intermediate more than \$1 trillion in overnight borrowing tied to Treasury collateral, see *Primary Dealer Statistics*, FED. RSRV. BANK N.Y., <https://www.newyorkfed.org/markets/counterparties/primary-dealers-statistics> [<https://perma.cc/34N6-ZDGH>].

⁵⁵ See, e.g., *Currency Composition of Official Foreign Exchange Reserves (COFER)*, INT’L MONETARY FUND (Dec. 23, 2021), <https://data.imf.org/?sk=E6A5F467-C14B-4AA8-9F6D-5A09EC4E62A4> [<https://perma.cc/DA28-37HN>]; *Major Foreign Holders of Treasury Securities*, DEP’T OF THE TREASURY (Jan. 18, 2022), <https://ticdata.treasury.gov/Publish/mfh.txt> [<https://perma.cc/KT9S-SY5H>]. As of the end of 2019, for example, U.S. dollar claims held by reporting foreign central banks totaled roughly \$6.7 trillion (roughly 60% of the more than \$11 trillion total), of which a bit more than \$4 trillion were Treasuries. See *World Currency Composition of Official Foreign Exchange Reserves*, INT’L MONETARY FUND, <https://data.imf.org/regular.aspx?key=41175> [<https://perma.cc/X5M2-5AEL>].

⁵⁶ The term “liquidity” is tossed about among investors and market makers with little standardization of its meaning or quantification. There is a conception that it represents the ability of a given secondary trading market to intermediate the purchase or sale of securities in amounts common to the needs of its participants (that is, a modest fraction of total transaction value on a normal day) without a disproportionate impact on the price of that security. This is often quantified as the depth of the market, which is the size visible on electronic trading platforms for which market makers have committed to transact near the current clearing price of that asset.

⁵⁷ Michael Fleming & Francisco Ruela, *Treasury Market Liquidity During the COVID-19 Crisis*, FED. RSRV. BANK N.Y.: LIBERTY ST. ECON. (Apr. 17, 2020), <https://libertystreeteconomics.newyorkfed.org/2020/04/treasury-market-liquidity-during-the-covid-19-crisis.html> [<https://perma.cc/RF4G-RAXL>].

the ultimate source of liquidity⁵⁸ in the U.S. dollar itself, liquidating even their Treasuries.⁵⁹ This massive liquidity demand ran into a number of unexpected issues. High-frequency traders, who had come to play a major market-making role in Treasuries, largely departed the market (p. 117). Significant operational concerns arose as trading desks scrambled to work from home,⁶⁰ and margin calls by major derivatives clearinghouses (especially for Treasury futures)⁶¹ led to growing concerns that

⁵⁸ In this context, liquidity refers to fungible and riskless assets that can be transferred with no impact on their value, which is fixed at precisely par. These are often referred to as “cash,” though the meaning of that term can be somewhat poorly specified at times. For nonbanks, liquidity usually references demand deposits at the largest commercial banks; for banks themselves, it refers to liabilities of the Federal Reserve itself (that is, bank reserves).

⁵⁹ Younger, *supra* note 16. A full version of why these liquidity issues developed would have to discuss a number of fairly complex issues, including the role that certain relative-value hedge funds had come to play in intermediating transactions in the Treasury market. Relative-value hedge funds seek to profit from policing small price discrepancies between similar securities (for example, cash versus futures or recently issued versus older securities). George Dikanarov, Joseph McBride & Andrew C. Spieler, *Relative Value Hedge Fund Strategies*, in *HEDGE FUNDS: STRUCTURE, STRATEGIES, AND PERFORMANCE* 242, 242 (H. Kent Baker & Greg Filbeck eds., 2017). Arguably, they were also highly leveraged in order to maintain their access to banker capital. Starting in 2017, the United States had embarked on a historically unprecedented peacetime fiscal expansion. See Barry Blom, *CBO's Projections of Deficits and Debt for the 2018–2028 Period*, CBO BLOG (Apr. 19, 2018), <https://www.cbo.gov/publication/53781> [<https://perma.cc/PW5G-RAB8>]. Data suggest that hedge funds and other much more lightly regulated entities stepped in to fill the gap between what banks could accommodate and the scale of intermediation the market required (p. 118). As issuance ramped up, their exposure increased dramatically — from less than \$1.2 trillion at the beginning of 2018 to more than \$2 trillion in the months prior to the Covid crisis. Ayelen Banegas, Phillip J. Monin & Lubomir Petrasek, *Sizing Hedge Funds' Treasury Market Activities and Holdings*, BD. GOVERNORS FED. RESRV. SYS.: FEDS NOTES (Oct. 6, 2021), <https://www.federalreserve.gov/econres/notes/feds-notes/sizing-hedge-funds-treasury-market-activities-and-holdings-20211006.htm> [<https://perma.cc/2FDP-JE9Y>]. As this occurred, data from the Commodity Futures Trading Commission suggest these hedge funds were also accumulating a large net short position in derivatives, including futures contracts. *Id.* These relative-value hedge funds turned out to be a key systematic vulnerability. One side effect of the volatility spike was a sharp decline in market depth made worse by increased reliance on notoriously flighty high-frequency firms. Josh Younger, *Revisiting the Ides of March, Part I: A Thousand Year Flood*, COUNCIL FOREIGN RELS.: FOLLOW THE MONEY (July 20, 2020, 7:40 PM), <https://www.cfr.org/blog/revisiting-ides-march-part-i-thousand-year-flood> [<https://perma.cc/W7T4-KZNV>]. As conditions deteriorated, instruments with more reliable and better perceived underlying liquidity outperformed. *Id.* Amidst this tiering, Treasury futures pricing became increasingly disconnected from the deliverable basket of securities, leading to paper losses on those market-making-style hedge fund exposures. Josh Younger, *Revisiting the Ides of March, Part II: The Going Gets Weird*, COUNCIL FOREIGN RELS.: FOLLOW THE MONEY (July 22, 2020, 2:50 PM), <https://www.cfr.org/blog/revisiting-ides-march-part-ii-going-gets-weird> [<https://perma.cc/5MUH-TCT3>].

⁶⁰ Tracy Alloway, *JPMorgan Analysts Say Work-From-Home May Hit Funding Markets*, BLOOMBERG (Mar. 10, 2020, 9:34 PM), <https://www.bloomberg.com/news/articles/2020-03-11/jpmorgan-warns-work-from-home-risks-disrupting-funding-markets> [<https://perma.cc/WNW9-KDWV>].

⁶¹ Nick Rustad, *March Volatility and Clearing*, FUTURES INDUS. ASS'N (Dec. 17, 2020), https://www.cftc.gov/media/5491/GMAC_121720FIA/download [<https://perma.cc/VCE8-SDGT>]; Joshua Younger, *Cross-Margining and Financial Stability*, YALE SCH. MGMT.: PROGRAM ON FIN. STABILITY (June 22, 2021), <https://som.yale.edu/blog/cross-margining-and-financial-stability>

market making in Treasuries could collapse, and quickly. Lastly, as we will discuss later, the regulation of banks had reduced their willingness to make markets in debt securities, although the magnitude of those effects is hotly contested.

Turning Treasuries into cash at this scale and under these circumstances essentially required bank-affiliated dealers to warehouse them on their balance sheets, which meant growing the overall size and leverage of the largest banking institutions. In that sense, quickly repatriating an unknown but large quantity of securities into the banking system was a costly and disruptive proposition. In the context of other demands on banks' scarce capital resources, it might have led to precisely what policymakers fought so hard to avoid in 2008: a forced and disorderly de-levering of financial institutions.⁶² As the weight of these risks sank in, concerns emerged that market making in Treasuries would collapse entirely, adding to the urgency of sales and accelerating what was, in effect, a run on the financial system.

Abruptly, there was less than one-tenth of the levels of normal liquidity in the Treasury market (p. 112). Different debt securities with nearly identical values traded at disparate prices, and the cost of transacting exploded (pp. 112, 116). Soon it was nearly impossible to trade anything but the most recently issued securities (a relatively small share of outstanding issues). This posed immediate and material risks to the nearly \$50 trillion of debt instruments denominated in U.S. dollars for which Treasuries provide a pricing benchmark.⁶³ Treasuries are also the collateral that supports trillions of short-term loans and the "plumbing" of the financial system.⁶⁴

More foundationally, the impairment of the Treasury market threatened the banking system itself, which relies heavily on Treasury securities for liquidity management. With only a little hyperbole, Tooze can observe that "American government debts are the safe assets on which the entire structure of private finance rests" (p. 109). The dislocations in the Treasury market "risked unleashing a fire sale of everything else too" (p. 116), and threatened the ability of the U.S. government to raise financing by issuing future debt (p. 119).

[<https://perma.cc/D7ZX-67BN>]; see also CME GRP, CME CLEARING'S MARGINING PRACTICES: COVID PANDEMIC 3 (2020), https://www.cftc.gov/media/5496/GMAC_121720CME/download [<https://perma.cc/3H6W-RNR9>].

⁶² Younger, *supra* note 16.

⁶³ See *US Fixed Income Securities Statistics*, SIFMA (Dec. 17, 2021), <https://www.sifma.org/resources/research/us-fixed-income-securities-statistics> [<https://perma.cc/E7HB-V2PG>].

⁶⁴ See Jeffrey Cheng & David Wessel, *What Is the Repo Market, and Why Does It Matter?*, BROOKINGS (Jan. 28, 2020), <https://www.brookings.edu/blog/up-front/2020/01/28/what-is-the-repo-market-and-why-does-it-matter> [<https://perma.cc/8KP8-6D2W>].

This nightmare scenario of broad financial destruction never came to pass. But arguably this was only due to what may be the single largest and most aggressive intervention in the history of central banking. Like in 2008, the Federal Reserve responded to the emergency with a swath of measures designed to counteract market dysfunction. But this time, the Fed acted with a scale and speed that makes its GFC interventions pale in comparison.

By the time the Federal Reserve Open Market Committee met in emergency session on March 15, they had already announced trillions in liquidity support for the Treasury market.⁶⁵ That Sunday, Powell called a press conference and announced that the Fed was immediately cutting interest rates to zero, which it had done only once before, at the height of the GFC (p. 122). But the Fed did far more, creating an unprecedented program to purchase Treasuries securities. It had purchased Treasuries before — quantitative easing (QE) was by then a well-established tool of monetary policy.⁶⁶ But QE was typically done in a gradual and predictable fashion, with monthly targets for purchases and the accumulation of positions at a steady pace. This time, there was greater urgency. In their March 15 statement, the Board of Governors promised to acquire “at least \$500 billion” of Treasury securities over an unspecified period (p. 122).⁶⁷ Later in the month they broadened the policy further, committing to purchases “in the amounts needed to support smooth market functioning and effective transmission of monetary policy to broader financial conditions.”⁶⁸ Such open-ended intervention by any central bank in private financial markets was unprecedented.

In less than a month, the Fed purchased *five percent* of the entire \$20 trillion Treasury market (p. 129). It bought roughly \$1.7 trillion of securities on a permanent basis in March in addition to daily overnight and bi-weekly repo operations (though only a fraction of that offered

⁶⁵ The week prior, on March 12, the Federal Reserve Bank of New York announced a massive expansion of its repurchase program, including twice-weekly term operations of up to \$500 billion each through the end of their monthly schedule. In combination with \$175 billion in overnight and \$45 billion in bi-weekly existing term operations, this totaled more than \$4 trillion in offered funding. See *Statement Regarding Treasury Reserve Management Purchases and Repurchase Operations*, FED. RSRV. BANK OF N.Y. (Mar. 12, 2020), https://www.newyorkfed.org/markets/opolicy/operating_policy_200312a [<https://perma.cc/N6SE-MX8X>].

⁶⁶ BEN S. BERNANKE, BROOKINGS INST., *MONETARY POLICY IN THE NEW ERA* (2017), https://www.brookings.edu/wp-content/uploads/2017/10/bernanke_rethinking_macro_final.pdf [<https://perma.cc/R26H-2JTM>].

⁶⁷ Press Release, Bd. of Governors of the Fed. Rsrv. Sys., *Federal Reserve Issues FOMC Statement* (Mar. 15, 2020), <https://www.federalreserve.gov/newsevents/pressreleases/monetary20200315a.htm> [<https://perma.cc/UZ25-SRP4>].

⁶⁸ Press Release, Bd. of Governors of the Fed. Rsrv. Sys., *Federal Reserve Announces Extensive New Measures to Support the Economy* (Mar. 23, 2020), <https://www.federalreserve.gov/newsevents/pressreleases/monetary20200323b.htm> [<https://perma.cc/YNZ2-TRL7>].

liquidity was used in practice). The Fed also reactivated U.S. dollar swap lines, which in total pumped another \$400 billion of liquidity into foreign exchange markets,⁶⁹ and established a raft of facilities to support short-term funding as well as corporate and municipal bond markets (p. 122). “In effect, the Fed was assuming the role of a central bank to the world, dispensing dollars to every part of the credit system that was tight” (p. 122).

By any measure, these interventions were effective. Within weeks of the initial onslaught of Federal Reserve purchases and liquidity injections, the Treasury and funding markets had largely normalized.⁷⁰ By the fall of 2020, the state of financial markets broadly resembled normal conditions.⁷¹ Banks aggressively expanded their balance sheets to offer credit to businesses and households,⁷² and the U.S. Treasury was able to fund its largest deficits since the World Wars at historically low interest rates.⁷³ Though a true recovery in equity and credit markets would need to wait for affirmative progress on vaccines, they would soon reach historically high levels.⁷⁴

Alongside a wide-ranging historical narrative, Tooze also argues that the Covid crisis was a crisis of ideas and of government capacity. In his view, the spectacular interventions of fiscal and monetary authorities in developed and emerging economies, and the substantial reorganization of economic and social activity, all invite a question — namely, whether the vague constellation of ideas known as “neoliberalism” has reached a point of historical desuetude. By neoliberalism, Tooze means the effort to “depoliticize distributional issues, including the very unequal consequences of societal risks, whether those be due to structural change in the global division of labor, environmental damage, or disease” (p. 11).

⁶⁹ Data on usage are available at Junko Oguri, *Use of Federal Reserve Programs - 01/06/2021*, YALE SCH. MGMT. (Jan. 11, 2021), <https://som.yale.edu/blog/use-of-federal-reserve-programs-01062021> [<https://perma.cc/F82W-4UCU>]. It is also important to note that facilities maintained with the Japanese, European, Canadian and Swiss central banks were unlimited. *See id.*

⁷⁰ *See* Younger, *supra* note 16.

⁷¹ *See National Financial Conditions Index (NFCI)*, FED. RSRV. BANK CHI. (Jan. 5, 2022), <https://www.chicagofed.org/publications/nfci/index> [<https://perma.cc/3JVF-9MYF>].

⁷² Huberto M. Ennis & Arantxa Jarque, *Bank Lending in the Time of COVID*, FED. RSRV. BANK RICHMOND (Feb. 2021), https://www.richmondfed.org/publications/research/economic_brief/2021/eb_21-05 [<https://perma.cc/657S-7E2Q>].

⁷³ *See* Younger, *supra* note 16; *see also The Budget and Economic Outlook: 2021 to 2031*, CONG. BUDGET OFF. (Feb. 11, 2021), <https://www.cbo.gov/publication/56970> [<https://perma.cc/E5AK-S33N>].

⁷⁴ Andrew Ross Sorkin et al., *What Is Going On?*, N.Y. TIMES: DEALBOOK (May 7, 2021), <https://www.nytimes.com/2020/08/19/business/dealbook/stock-market-record-high.html> [<https://perma.cc/Y4XD-M46D>] (“The S&P 500 . . . set[] a record at the close of trading yesterday. . . . The blue-chip index shed a third of its value in the early stages of the pandemic and then roared back, soaring more than 50 percent from its low in late March.”).

(Elsewhere he also characterizes neoliberalism as the “idea that the natural envelope of economic activity could be ignored or left to markets to regulate” (p. 13).)

Why does Tooze think the year of Covid might have rung a “death knell” (p. 13) for neoliberalism? Because the health and economic shock “tore down partitions that were fundamental to the political economy of the last half century, lines that divided the economy from nature, economics from social policy and from politics per se” (p. 17).⁷⁵ 2020 was thus “a comprehensive crisis of the neoliberal era,” including its “environmental envelope, its domestic, social, economic, and political underpinnings, and the international order” (p. 22). Recognizing this, Tooze thinks, illuminates the crisis’s place in a history running from economic and political orthodoxies of the 1970s into the coming era of climate crisis (p. 22).⁷⁶

One of the most tantalizing, and sometimes frustrating, features of Tooze’s history is the way in which it tries on, briefly and ambivalently, a set of options as potentially offering avenues for effective collective action.⁷⁷ Tooze’s diagnosis of the failure of most developed states is one of the most recurrent ideas of the book: “[T]he coronavirus cruelly exposed the deep incapacity of most modern societies to cope with the kinds of challenges that the era of the Anthropocene will throw up with ever-greater force” (p. 292). The Chinese state is singled out for its “ruthless” competence, speed, and organization, sometimes almost flatteringly so (pp. 295–98). More interestingly, however, the unlikely models of effective agency most often floated by Tooze are central bankers. Tooze suggests that “[t]he significance of central banking . . . is that it is one arena in which the authorities have been forced to grasp the scale of the challenges facing us” (p. 293). The problem for Tooze is that “those massive interventions” were driven by “the fragile and inegalitarian dynamic of debt-fueled economic growth” and that a vacuum of systemic challenge provided the context in which the Fed can freely act (p. 293). Ultimately, given the list of challenges Tooze has in mind — the rise of China, climate change, democratic dysfunction — he is understandably reticent to suggest where a robust new paradigm for collective action lies.

Having explored these two books we now turn to interrogating Listokin’s “law and macroeconomic” framework within the setting of

⁷⁵ “[I]n extremis, the entire monetary and financial system could be directed toward supporting markets and livelihoods, thus forcing the question of who was supported and how” (p. 17).

⁷⁶ Tooze also suggests that Covid was “the first comprehensive crisis of the age of the Anthropocene” (p. 22).

⁷⁷ Another suggestion is that “[g]iven the limitation of our social, cultural, and political coping capacities, we depend ultimately on technoscientific fixes” (p. 292); “[t]o meet the environmental challenges ahead, we have to take the innovative potential of science and technology revealed by the first centuries of modernization and actually unlock and fully mobilize it at a global level.” (pp. 292–93).

spring 2020. We use two Fed interventions as case studies for thinking through expansionary legal policy in action. By doing so, we hope to show how a more refined, cautious, and deliberate form of expansionary legal policy could be developed that takes seriously the tradeoffs of the approach.

II. EXPANSIONARY LEGAL POLICY

What is the law's role in managing macroeconomic cycles? Recall that the core argument of *Law and Macroeconomics* is that beyond monetary and fiscal policy, actors with discretion across the rest of the legal system should act with macroeconomic objectives in mind, particularly the goal of stimulating aggregate demand during recessions (p. 4). This vision of "expansionary legal policy" is an important idea as well as a controversial one (p. 3). In this Part, we aim to deepen the basic "law and macroeconomic framework." While we think that framework is worthwhile, it is also, in Listokin's formulation, limited in two important respects.

First, as we noted in Part I, we believe that Listokin dismisses what is arguably the most potent lever for expansionary legal policy — the vast commercial banking system, which creates most of the "money" in the economy in the form of holding, loaning out, and returning deposits. Because the banking system is highly regulated, policymakers can and do shape its incentives in profoundly influential ways. We call banking regulators' use of their administrative discretion to manage macroeconomic cycles "expansionary banking regulation." It is one form of *countercyclical banking regulation*, which can also be baked into financial regulation *ex ante*. (By "countercyclical" we mean banking regulation that favors limiting the size of banks when the economy is rapidly growing (relative to a neutral baseline) and expanding bank size when the economy is contracting and in recession.) It is difficult to think of a more powerful form of expansionary legal policy than expansionary banking regulation. In sections A and B, we develop this claim with two case studies of banking intervention during the pandemic that illustrate expansionary banking policy.

Second, *Law and Macroeconomics* explores the benefits of expansionary legal policy in depth but sometimes seems to see no costs. Expansionary banking regulation can have costs, however; expansionary legal policy always and everywhere during recessions would prove disastrous. In section C, we illustrate these costs by briefly analyzing historical examples in which banking regulators have used their discretion to incentivize lending by banks (with some serious negative consequences). With a better appreciation of the benefits *and* costs of expansionary regulatory discretion, we develop in skeletal form an analytical framework for guiding the application of expansionary banking regulation that takes into account this broader calculus. We also hope our case

studies show that conducting expansionary legal policy is an immensely important but also subtle and complex task that requires carefully weighing competing policy considerations.⁷⁸

A. The Financial Crisis that Wasn't: March 2020, the Treasury Market, and Fed Rulemaking as Expansionary Legal Policy Writ Large

Our first case study of expansionary legal policy involves the exercise of administrative discretion by the Federal Reserve to indirectly increase aggregate demand through easing the ability of commercial banks to facilitate financial activity. Understanding how and why this was an important lever for easing the operation of the financial system during a time of crisis involves us in some necessarily technical, but profoundly important, features of banking regulation.

The regulatory regime adopted in the wake of the GFC took years to finalize and is labyrinthine in its details.⁷⁹ We only need to analyze two of its most fundamental dimensions for banks — capital requirements and liquidity regulation. Capital requirements may be the single most important form of regulation imposed on banks.⁸⁰ The basic logic is to require banks to hold assets in excess of their debt, creating a residual accounting liability that bears the name “capital.” From a supervisory standpoint, capital exists primarily to guard against failure and protect depositors and other creditors in the event of unexpected losses.⁸¹

Under the international bank regulatory standards known as Basel III, the most exacting form of capital requirement (known as “Tier 1 capital”) encompasses the value paid for common stock and income the

⁷⁸ For instance, the book's strongest examples for designing policy with macroeconomics in mind are tax expenditures (pp. 42–46). Tax expenditures are exemptions from taxation that the U.S. government provides to otherwise taxable transactions, reducing government revenue but promoting the relevant transaction. Prominent examples include the tax deductibility of health insurance premiums and donations to nonprofits. See U.S. DEP'T OF THE TREASURY, TAX EXPENDITURES (2021), <https://home.treasury.gov/system/files/131/Tax-Expenditures-FY2022.pdf> [<https://perma.cc/22TN-K9XD>] (noting tax expenditures for “[e]xclusion of employer contributions for medical insurance premiums and medical care,” *id.* para. 121, and “[d]eductibility of charitable contributions,” *id.* para. 116). We would elaborate by showing how specific tax expenditures have been used for stimulative purposes in the past.

⁷⁹ See generally MICHAEL S. BARR, HOWELL E. JACKSON & MARGARET E. TAHYAR, FINANCIAL REGULATION: LAW AND POLICY 157–332, 659–750 (2016) (providing a detailed history and analysis of bank regulation).

⁸⁰ *Id.* at 259.

⁸¹ The Federal Reserve explains that “[t]he primary function of capital is to support the bank's operations, act as a cushion to absorb unanticipated losses and declines in asset values that could otherwise cause a bank to fail, and provide protection to uninsured depositors and debt holders in the event of liquidation.” *Capital Adequacy*, BD. GOVERNORS FED. RSRV. SYS. (Dec. 29, 2021), <https://www.federalreserve.gov/supervisionreg/topics/capital.htm> [<https://perma.cc/B9WX-GMCR>]. As such, consistently ensuring adequate levels of capital is at the core of maintaining safety and soundness of the banking system.

firm accrues and retains (retained earnings).⁸² Minimum capitalization levels are typically set as a specific fraction of assets⁸³; if the minimum was 6% (as is currently the case for some regulations⁸⁴) and a firm's total assets were \$1000, they would need \$60 of Tier 1 capital.

Before the financial crisis of 2008, capital requirements focused on *risky assets*.⁸⁵ To simplify greatly, if a bank held \$1000 in risky assets, \$1000 in riskless assets, and had a 10% capital requirement, then it only had to hold \$100 in capital (10% of \$1000) because only risky assets contributed to minimum regulatory capital requirements (subject to weighting based on supervisory perceptions of the probability of default and likely recovery rates). The GFC revealed that even very safe-seeming assets, such as highly rated mortgage-backed securities, could actually prove toxic. In other words, the market and regulators systematically underestimated credit risk in both the pricing and risk weights of subprime mortgages and other structured products, such that banks were severely undercapitalized. Additionally, the size and complexity of some financial institutions generated systemic risks to financial stability that substantially increased the social costs of their failure (the phenomenon of “too big to fail”).

To address these issues, capital requirements for certain key purposes were altered to include *all assets* regardless of their risk profile, with certain types of off-balance sheet exposures scoped in as well for the largest institutions. The resulting T1 Leverage Ratio and Supplementary Leverage Ratio (SLR) require a certain fraction of equity capital to total bank leverage, including riskless cash (that is, deposits of Federal Reserve banks) and debt issued by the U.S. federal government (“Treasuries”).⁸⁶ Another more comprehensive measure of systemic importance was used to tailor additional capital requirements for

⁸² Basel Comm. on Banking Supervision, *Definition of Capital*, BANK FOR INT'L SETTLEMENTS (Apr. 3, 2020), https://www.bis.org/basel_framework/standard/CAP.htm?type=all [<https://perma.cc/5S2F-FME4>].

⁸³ As we will see throughout this Review, defining the term “total assets” in practice can take a number of roads, each of which results in very different incentive structures.

⁸⁴ Basel Comm. on Banking Supervision, *Definition of Capital in Basel III — Executive Summary*, BANK FOR INT'L SETTLEMENTS, https://www.bis.org/fsi/fsisummaries/defcap_b3.pdf [<https://perma.cc/9ESA-TU48>].

⁸⁵ See BARR, JACKSON & TAHYAR, *supra* note 79, at 285–89.

⁸⁶ See Regulatory Capital Rules: Regulatory Capital, Enhanced Supplementary Leverage Ratio Standards for Certain Bank Holding Companies and Their Subsidiary Insured Depository Institutions, 79 Fed. Reg. 24,528, 24,530 (May 1, 2014) (adopting current U.S. standards for enhanced SLR); *cf.* Martin & Younger, *supra* note 12.

the largest institutions⁸⁷ in the form of a surcharge that increased their risk-based minimums.⁸⁸

The second plank of the post-GFC regulatory framework is liquidity requirements.⁸⁹ Retail bank deposits may be relatively sticky, but wholesale deposits (particularly non-operating⁹⁰ balances) pose greater run risk (there is a far greater chance that in the event of a negative signal about bank liquidity or solvency, the bank may face the sudden and rapid withdrawal of wholesale lending). Non-bank activity also relies on short-term collateralized lending like repurchase agreements, which, as institutions like Bear Stearns and Lehman Brothers discovered, can be quite fickle indeed. To mitigate run risk, regulators introduced a liquidity coverage ratio (LCR) requirement in which larger banks were required to stockpile high-quality liquid assets (HQLA).⁹¹ HQLA include mostly Federal Reserve liabilities, Treasury securities, and some mortgage-backed securities⁹² to cover the liquidity shock from runnable funds over a 30-day horizon.⁹³ The premise of this requirement — ultimately to be tested in 2020 — is that certain types of securities have sufficiently deep and liquid secondary markets during times of stress that they can be exchanged for cash (“monetized”) quickly at

⁸⁷ So-called global systemically important banks (G-SIBs) are defined and identified by the Financial Stability Board. *2021 List of Global Systemically Important Banks (G-SIBs)*, FIN. STABILITY BD. (Nov. 23, 2021), <https://www.fsb.org/wp-content/uploads/P231121.pdf> [https://perma.cc/S887-5DCT].

⁸⁸ See BASEL COMM. ON BANKING SUPERVISION, BANK FOR INT'L SETTLEMENTS, THE G-SIB ASSESSMENT METHODOLOGY — SCORE CALCULATION 4 (2014), <https://www.bis.org/bcbs/publ/d296.pdf> [https://perma.cc/G46G-YDW8].

⁸⁹ See BARR, JACKSON & TAHYAR, *supra* note 79, at 320–22 (explaining Basel III liquidity requirements).

⁹⁰ Operational wholesale deposits are those typically used for payments related to business as usual (BAU) activity. These balances experience relatively high levels of turnover, and while they are somewhat more rate- and credit-sensitive than retail deposits, they are not terribly flight-prone. Nonoperational balances, on the other hand, are generally thought of as static liquidity pools and therefore less affected by noneconomic considerations and more prone to runs.

⁹¹ Liquidity Coverage Ratio: Liquidity Risk Measurement Standards, 79 Fed. Reg. 61,440 (Oct. 10, 2014) (codified at 12 C.F.R. pts. 50, 249, 349).

⁹² The LCR rule assigned haircuts to HQLA based on their perceived liquidity and stable values. Federal Reserve liabilities, Treasury securities, and mortgage-backed securities with explicit federal backing (those issued and wrapped by the Government National Mortgage Association) were all designated Level 1 and received credit for 100% of their market value, mortgage-backed securities with implicit federal backing (those issued and wrapped by the Federal Home Loan Mortgage Corporation (FHLMC) and Federal National Mortgage Association (FNMA)) were Level 2A and received 80% credit, and other select securities were Level 2B at 50%. See BASEL COMM. ON BANKING SUPERVISION, BANK FOR INT'L SETTLEMENTS, BASEL III: THE LIQUIDITY COVERAGE RATIO AND LIQUIDITY RISK MONITORING TOOLS (2013), <https://www.bis.org/publ/bcbs238.pdf> [https://perma.cc/MES6-6DEE].

⁹³ As with HQLA, different sources of funding receive different weights in this calculation. For details see *U.S. Basel III Liquidity Coverage Ratio Final Rule*, DAVIS POLK (Sept. 23, 2014), <https://www.davispolk.com/insights/client-update/us-basel-iii-liquidity-coverage-ratio-final-rule> [https://perma.cc/H9V9-F7JD].

low cost and in large size. Banks, in a sense, were being forced to plan for a rainy day in terms of both capital and liquidity.

I. The Role of Bank Capital Structure Regulations in the Treasury Market Issues of March 2020. — The financial crisis of 2008 thus motivated a raft of reforms aimed, among other things, at ensuring that bank capital, funding, and liquidity were all secured against plausible threat. As the pandemic accelerated and markets began to panic, it became clear that the new regime was headed for its first real-world stress test.

There are always a number of underlying factors contributing to any shock. But a likely contributor to the Treasury market's dysfunction in March of 2020 included the unintended consequences of some of the very regulations designed to safeguard the stability of the financial system (Tooze, pp. 118–19). One of the side effects of increased bank capital requirements — particularly those like the SLR⁹⁴ and Global Systemically Important Bank (GSIB) surcharge, which are agnostic to credit risk — was to disincentivize low margin, high-turnover activity.⁹⁵

Intermediating transactions involving Treasury securities is a prime example. Often referred to as the most deep and liquid market in the world, investors had come to expect to be able to trade at very low cost and in very large size. For providing liquidity under those conditions to make economic sense, it had to be possible with very high levels of leverage, which means large nominal inventory exposures on dealer balance sheets.⁹⁶ This was relatively easily and cheaply done under the old regime of binding risk-based capital requirements, in which activity primarily involving Treasury securities had only a marginal impact on overall capital requirements. But the implementation of rules relating to size more generally, especially the SLR, significantly increased the

⁹⁴ Under this framework, banks must set aside a minimum of three percent against all assets — corporate bonds, Treasuries, and even deposits with the Federal Reserve. See Changes to Applicability Thresholds for Regulatory Capital and Liquidity Requirements, 84 Fed. Reg. 59,230, 59,260 (Nov. 1, 2019). An enhanced SLR (eSLR) applies to G-SIB holding companies, and requires an additional two percent leverage buffer unless the bank forgoes certain capital distributions and bonus payments. See Regulatory Capital Rules: Implementation of Risk-Based Capital Surcharges for Global Systemically Important Bank Holding Companies, 80 Fed. Reg. 49,082, 49,101 (August 14, 2015); Regulatory Capital Rules: Regulatory Capital, Enhanced Supplementary Leverage Ratio Standards for Certain Bank Holding Companies and Their Subsidiary Insured Depository Institutions, 79 Fed. Reg. 24,528, 24,538 (May 1, 2014). As anyone familiar with bank regulation knows, the rabbit hole goes deeper still.

⁹⁵ See BASEL COMM. ON BANKING SUPERVISION, *supra* note 88; BD. OF GOVERNORS OF THE FED. RESV. SYS., CALIBRATING THE GSIB SURCHARGE (2015), <https://www.federalreserve.gov/aboutthefed/boardmeetings/gsib-methodology-paper-20150720.pdf> [<https://perma.cc/NGX7-M496>].

⁹⁶ Market making in Treasury securities involves bridging several gaps between sellers and buyers: timing, size, and issue-specific details. This combination leads to the buildup of sizeable inventories on dealer balance sheets. Data collected by the Federal Reserve Bank of New York, for example, shows more than \$250 billion held on average between early 2019 and mid-2020 among the primary dealers. *Primary Dealer Statistics*, *supra* note 54.

costs of holding Treasuries on a bank's balance sheet. With leverage effectively limited in this way, bank-affiliated dealers in particular were increasingly incentivized to avoid this activity where possible. In the meantime, the demands of the Treasury market were only growing.

At the same time, regulators were forced to rethink the efficacy of the bank regulatory regime erected in response to 2008. The most acute issues were fourfold. First, aside from being risk-free, Treasuries are unlike many other markets (for example, equities) in part because there are many nonfungible individual securities that often require warehousing by market makers to bridge the timing mismatch between sellers and buyers. This is particularly true during periods of so-called "one-way flows," in which there are essentially more sellers than buyers. Thus, maintaining a functioning Treasury market under the conditions of March 2020 potentially required bank-affiliated dealers to hold larger inventories that, under SLR, had significant associated capital costs. Second, because Fed asset purchases create new reserves⁹⁷ that are for the most part locked in the commercial banking system⁹⁸ and tend to be concentrated in the largest institutions,⁹⁹ the associated increase in the size of those balance sheets in the context of leverage constraints risked crowding out other forms of activity. Third, preemptive hoarding by businesses as the pandemic accelerated led them to tap contingent bank liquidity commitments like revolving credit facilities en masse. This created new loans that exacerbated the growth of the banking system's assets. Finally, banks were called up to act as the distribution network for Paycheck Protection Program (PPP) loans,¹⁰⁰ which were a key aspect of the CARES Act and subsequent fiscal stimulus and created additional deposits, further exacerbating leverage constraints.

⁹⁷ Paul J. Sheard, *A QE Q&A: Everything You Ever Wanted to Know About Quantitative Easing*, STANDARD & POOR'S RATINGS SERVS. (Aug. 7, 2014), <https://www.hks.harvard.edu/sites/default/files/centers/mrcbg/files/PSheardQEQAAugust2014.pdf> [<https://perma.cc/4QEP-BA4M>].

⁹⁸ Reserves can primarily be drained via two mechanisms. The first is reverse repurchase transactions, collateralized by Treasury or agency mortgage-backed securities, via either domestic counterparties (including member banks, government-sponsored entities, and larger money market funds) or foreign central banks. The second is non-bank Federal Reserve accounts like those of the U.S. Treasury (the Treasury General Account, or TGA), financial market utilities including the major clearinghouses (for example, those operated by the Chicago Mercantile Exchange, London Clearing House, Options Clearing Corporation, Depository Trust Company, etc.), or government-sponsored entities (for example, the FHLMC, FNMA, regional members of the Federal Home Loan Bank system, Federal Farm Credit Corporation, and so on). All these facilities have explicit or implicit capacity limits.

⁹⁹ See Gara Afonso, Marco Cipriani, Steph Clampitt, Haitham Jendoubi, Gabriele La Spada & Will Riordan, *How Bank Reserves Are Distributed Matters. How You Measure Their Distribution Matters Too.*, FED. RSRV. BANK N.Y.: LIBERTY ST. ECON. (Nov. 24, 2020), <https://libertystreeteconomics.newyorkfed.org/2020/11/how-bank-reserves-are-distributed-matters-how-you-measure-their-distribution-matters-too> [<https://perma.cc/F93Q-XXSX>].

¹⁰⁰ The merits of this approach are still the subject of debate. There were, for example, many examples of banks prioritizing certain clients for PPP loans. Emily Flitter & Stacy Cowley, *Banks*

In combination, these factors created significant and rapidly accelerating demands on the banking system to provide liquidity by expanding their balance sheets. This is where the SLR comes in. Though not immediately binding, capital adequacy rules like the SLR, which made balance sheet a scarce and often costly resource, had the potential to create increasingly perverse incentives. In the extreme this could have forced banks to pull back from intermediation and credit creation at a time of acute economic vulnerability.

Thus regulators¹⁰¹ opted to temporarily amend those rules.¹⁰² Specifically, they changed the definition of total leverage exposure, the denominator in the SLR, and the size measure on which related capital requirements are based. They excluded Treasury securities held by banks on their balance sheets¹⁰³ and banks' cash held at the Federal Reserve from the SLR's calculation.¹⁰⁴

This rule change had several important impacts. First, it freed bank-affiliated dealers to intermediate Treasury markets more effectively by holding larger inventories without concern for the leverage capital costs of that activity. Second, it severed the link between the Fed's balance sheet and bank capital, allowing quantitative easing to proceed apace without crowding out lending and intermediation — at least over the short run. Third, by significantly increasing leverage capital buffers, it generated lending capacity with which banks could extend credit to individuals (for example, mortgages) and corporations (for example, term lending and revolvers). It also allowed the federal government to rely on the banking system to distribute aid without significantly increasing their capital costs.

Gave Richest Clients "Concierge Treatment" for Pandemic Aid, N.Y. TIMES (Oct. 11, 2021), <https://www.nytimes.com/2020/04/22/business/sba-loans-ppp-coronavirus.html> [<https://perma.cc/5C35-TUPP>].

¹⁰¹ The Federal Reserve is the sole regulator of Bank Holding Companies (BHCs), but the Federal Deposit Insurance Corporation and Office of the Comptroller of the Currency are also involved in the regulation of depository institutions (e.g., the bank operating companies). Both are subject to separate SLR requirements.

¹⁰² They did so first for BHCs and later for Insured Depository Institutions (IDIs). Temporary Exclusion of U.S. Treasury Securities and Deposits at Federal Reserve Banks from the Supplementary Leverage Ratio, 85 Fed. Reg. 20,578 (Apr. 14, 2020); Regulatory Capital Rule: Temporary Exclusion of U.S. Treasury Securities and Deposits at Federal Reserve Banks from the Supplementary Leverage Ratio for Depository Institutions, 85 Fed. Reg. 32,980 (June 1, 2020).

¹⁰³ Importantly, the carve-outs did not include Treasury collateral held against short-term loans such as reverse repurchase agreements. They did, however, include the inventories of bank-affiliated securities dealers that are primarily financed via repurchase agreements, but for which the collateral remains on the balance sheet of the borrower for accounting and regulatory disclosure purposes.

¹⁰⁴ Temporary Exclusion of U.S. Treasury Securities and Deposits, 85 Fed. Reg. at 20,586; Regulatory Capital Rule, 85 Fed. Reg. at 32,982.

This is expansionary legal policy on a grand scale. By excluding reserves and Treasury securities from total leverage exposure calculations for BHCs, the Fed first and foremost reduced the risk of spillover from market-functioning issues in Treasuries into financial markets more broadly and severed the link between bank funding cost (driven in large part by capital requirements) and monetary stimulus via asset purchases and expansion of the monetary base. Over the medium term, however, this rule change in effect created additional aggregate lending and intermediation capacity with which to support aggregate demand. While Listokin provides examples of how macroeconomic considerations can be applied to legal decisions, the potential impact of these decisions falls a few orders of magnitude short by comparison.¹⁰⁵

Tooze, for his part, is more skeptical of the role regulations played in the market-functioning issues that plagued Treasuries in March of 2020. In *Shutdown*, he notes that the sheer quantity of selling vastly outstripped the ability of bank-affiliated dealers to absorb Treasuries regardless of those banks' binding regulatory constraints (pp. 118–19).¹⁰⁶ It should be noted that there was strong speculative demand for Treasuries at the time, as evidenced by a substantial rally in yields across maturities.¹⁰⁷ In that sense dealers would not have needed to warehouse the entirety of those sales. However, Tooze is right to point out that regulations were not solely responsible for these market-functioning issues. For one, the rise of non-bank market makers (often referred to as principal trading firms, or PTFs) played a key role in catalyzing the

¹⁰⁵ That said, in the world of prudential regulation, temporary measures are rarely optimal. Market making and short-term credit intermediation can be adjusted quickly, and their provision can thus change rapidly. That means market making and short-term credit provision can benefit directly and efficiently from short-term rule changes. Though central to maintaining financial stability, the impact of these activities on aggregate demand is second order at best. For Listokin and other advocates of expansionary legal policy, increasing lending capacity in a downturn, particularly one catalyzed by a massive and mostly exogenous demand shock, is far more important. In this context, the temporary measures introduced by the Fed reduced the risk of contingent commitments such as draws on revolving credit facilities from crowding out other forms of activity. But temporary measures arguably do little for new loan demand, since bank willingness to enter new longer-term commitments is arguably informed by the current set of permanent rules rather than temporary changes. In that sense, because the temporary exclusion of Treasury securities and reserves from total leverage exposure could not be counted for the full term of most loans, longer-term lending might not benefit directly.

¹⁰⁶ Tooze notes that banks argued things might have been easier if they had been subject to fewer regulations but that while “[t]hose regulations may have made a difference at the margin, . . . the disturbances in the Treasury market in March 2020 were so large that no conceivable expansion in bank balance sheet capacity could have absorbed them” (pp. 118–19).

¹⁰⁷ See Saqib Iqbal Ahmed & Ira Iosebashvili, *U.S. Treasury Yields 2020 Drop Makes Way for Slow Grind Back in 2021*, REUTERS (Dec. 30, 2020, 1:13 AM), <https://www.reuters.com/article/us-usa-bonds-yields-yearend/u-s-treasury-yields-2020-drop-makes-way-for-slow-grind-back-in-2021-idUSKBN2940H4> [<https://perma.cc/A4B5-TY7N>].

crisis.¹⁰⁸ It should also be noted that the SLR was never strictly binding at the BHC or bank operating company level at any point during March and April of 2020, even before the temporary carve-outs were introduced. The role of the SLR was more in structuring internal risk management and capital planning processes than in explicitly constraining the activity of bank-affiliated dealers.

Even so, the broader lesson of this episode is that relatively inflexible size constraints on BHCs, particularly those BHCs actively involved in lending and intermediating key markets, create pro- rather than countercyclical incentives. An economic crisis is not the time for a forced and rapid delevering of the financial system by banks, hedge funds, or anyone else. Restricting access to credit and liquidity just when they are most needed risks exacerbating the demand shock and, in the extreme, layering a financial crisis on top of it.

2. *The Consequences.* — The events of March 2020 were, in many ways, a validation of the post-2008 regulatory framework. At no point during the turmoil of March and April 2020 were the safety and soundness of any major financial institution in question, let alone the stability of the system as a whole. The pricing of bank credit risk was, in fact, somewhat less affected by the pandemic than other industries.¹⁰⁹ Tooze raises this repeatedly and, in our view, correctly, as a strong validation of the reformed macroprudential regulatory system. Counterfactuals are, as always, difficult to analyze with confidence. But at a high level, a plausible interpretation of March 2020 is that increased capital, funding, and liquidity requirements transformed what could have become a *financial credit crisis* (in which bank failure was possible) into a *liquidity crisis* for which the Federal Reserve and other central banks have much more effective tools.

This success has not come without costs, however. The Fed has only supported market functioning on a comparable scale on a handful of occasions¹¹⁰ since its establishment in 1913, and the purchase and liquidity programs in March 2020 dwarf any such action outside of wartime. The Federal Reserve has also only very rarely been forced to revise supervisory standards to stabilize the banking system.¹¹¹ These actions set important precedents, increasing the importance of central

¹⁰⁸ See Lorie K. Logan, Exec. Vice President, Fed. Rsv. Bank of N.Y., Remarks at Brookings-Chicago Booth Task Force on Financial Stability (TFFS) Meeting, Panel on Market Liquidity: Treasury Market Liquidity and Early Lessons from the Pandemic Shock (Oct. 23, 2020), <https://www.newyorkfed.org/newsevents/speeches/2020/log201023> [<https://perma.cc/E2UV-6NL3>].

¹⁰⁹ See SIRIO ARAMONTE & FERNANDO AVALOS, BANK FOR INT'L SETTLEMENTS, CORPORATE CREDIT MARKETS AFTER THE INITIAL PANDEMIC SHOCK 1 (2020), <https://www.bis.org/publ/bisbull26.pdf> [<https://perma.cc/VB86-JANJ>].

¹¹⁰ See Kenneth D. Garbade & Frank M. Keane, *Market Function Purchases by the Federal Reserve*, FED. RSRV. BANK N.Y.: LIBERTY ST. ECON. (Aug. 20, 2020), <https://libertystreeteconomics.newyorkfed.org/2020/08/market-function-purchases-by-the-federal-reserve.html> [<https://perma.cc/7HXL-YPYU>].

¹¹¹ See Martin & Younger, *supra* note 12.

banks in managing future crises. And we are of course already running a society-scale experiment in monetary economics, as history offers little guidance on the longer-run impacts of massively expanded central bank balance sheets on inflation, growth, and asset prices.

The obvious question is: Is the tradeoff worth it? The social benefits of reducing the risk of major bank failures are many. But the experience of the past few years suggests that doing so introduces some rigidities into certain markets where bank intermediation plays an important role. These effects are more pronounced in the intermediation of risk-free assets that serve a core social function — for example, funding federal government spending — but are more reliant on leverage to be economically viable. The result is a kind of unstable equilibrium: when banks dominate market making, they are also responsible for monetizing stockpiles of high-quality liquid assets across the financial system under stress, which requires taking on more leverage. Absent other market makers that are not subject to the same balance sheet constraints taking on a commensurate share of this burden, investors will likely find the quality of those assets unchanged but their liquidity more questionable.

Though relative-value hedge funds have fulfilled this role in the past, one lesson of the Covid market panic is they cannot be relied upon during times of acute stress. Thus, in practice the market has been guided, whether intentionally or not, to rely on large-scale central bank intervention. Measures can of course be taken to mitigate the potential impact of these shocks,¹¹² and by extension the extent and frequency with which the Federal Reserve is forced to step in. But this setup still fundamentally presents an apparent tradeoff: financial stability in exchange for a more prominent role for the central bank.

B. Wells Fargo: Regulatory Settlements and Macroeconomic Policymaking

There is perhaps no better example of the potential conflicts between micro- and macroprudential policymaking than recent supervisory action taken by the Fed against Wells Fargo & Company. The last several years have seen a series of well-documented scandals at Wells Fargo, including the creation of millions of unauthorized accounts;¹¹³ a fine issued by the Office of the Comptroller of the Currency (OCC) in response

¹¹² See GRP. OF THIRTY, U.S. TREASURY MARKETS: STEPS TOWARD INCREASED RESILIENCE 1 & n.3 (2021), https://group30.org/images/uploads/publications/G30_U.S._Treasury_Markets-Steps_Toward_Increased_Resilience__1.pdf [<https://perma.cc/7PRB-8TZB>]; Lael Brainard, Governor, Bd. of Governors of the Fed. Rsrv. Sys., Speech at the 2021 Annual Washington Conference, Institute of International Bankers: Some Preliminary Financial Stability Lessons from the COVID-19 Shock (Mar. 1, 2021), <https://www.federalreserve.gov/newsevents/speech/brainard20210301a.htm> [<https://perma.cc/6Q5X-GH4E>].

¹¹³ The activity in question was first revealed publicly in a consent order issued by the Consumer Financial Protection Bureau, Consent Order, Wells Fargo Bank, N.A., Docket No. 2016-CFPB-

to improper repossession of military personnel's vehicles;¹¹⁴ an Occupational Safety and Health Administration (OSHA) order related to retaliation against whistleblowers;¹¹⁵ an SEC fine related to practices in its brokerage arm;¹¹⁶ and more.¹¹⁷ As a result, in early 2018, the Federal Reserve reacted to the institution's "weak compliance practices"¹¹⁸ by issuing a consent order imposing numerous requirements, including, most importantly, the so-called "asset cap."¹¹⁹ The Federal Reserve limited the firm's size and thus its potential growth for an indefinite period.¹²⁰ This cap would end only when Wells Fargo demonstrated sufficient progress in addressing the deficiencies cited in the order. Recently, the OCC found Wells Fargo's actions insufficient in certain areas and levied additional financial penalties.¹²¹

0015 (2016), https://files.consumerfinance.gov/f/documents/092016_cfpb_WFBconsentorder.pdf [<https://perma.cc/3NX4-2JSW>], and later documented in an independent internal investigation conducted by Wells Fargo's board of directors, INDEP. DIRS. OF THE BD. OF WELLS FARGO & CO., SALES PRACTICES INVESTIGATION REPORT (2017), <https://www.wellsfargomedia.com/assets/pdf/about/investor-relations/presentations/2017/board-report.pdf> [<https://perma.cc/SK6Z-MYUP>], and by its own statements, Press Release, Wells Fargo, Wells Fargo Reports Completion of Expanded Third-Party Review of Retail Banking Accounts, Paving Way to Complete Remediation Effort (Aug. 31, 2017), <https://newsroom.wf.com/English/news-releases/news-release-details/2017/Wells-Fargo-Reports-Completion-of-Expanded-Third-Party-Review-of-Retail-Banking-Accounts-Paving-Way-to-Complete-Remediation-Effort/default.aspx> [<https://perma.cc/VDP9-KZDY>].

¹¹⁴ News Release, Off. of the Comptroller of the Currency, OCC Assesses Penalty Against Wells Fargo; Orders Restitution for Violations of the Servicemembers Civil Relief Act (Sept. 29, 2016), <https://www.occ.gov/news-issuances/news-releases/2016/nr-occ-2016-119.html> [<https://perma.cc/7GKK-WKGU>].

¹¹⁵ News Release, U.S. Dep't of Labor, OSHA Orders Wells Fargo to Reinstate Whistleblower, Fully Restore Lost Earnings in Banking Industry (Apr. 3, 2017), <https://www.dol.gov/newsroom/releases/osha/osha20170403> [<https://perma.cc/B6NY-GT8U>].

¹¹⁶ Order Instituting Administrative and Cease-and-Desist Proceedings, Wells Fargo Advisors, LLC, Docket No. 3-18556 (2018), <https://www.sec.gov/litigation/admin/2018/33-10511.pdf> [<https://perma.cc/XZ4L-KPYW>].

¹¹⁷ See Ethan Wolf-Mann, *Wells Fargo Scandals: The Complete List*, YAHOO! FINANCE (Mar. 12, 2019), <https://www.yahoo.com/now/wells-fargo-scandals-the-complete-timeline-141213414.html> [<https://perma.cc/SDW9-V8UD>].

¹¹⁸ See Order to Cease and Desist Issued Upon Consent Pursuant to the Federal Deposit Insurance Act at 2, Wells Fargo & Company, Docket No. 18-007-B-HC (2018).

¹¹⁹ In this case prohibiting management from taking action or making decisions that increased their consolidated total assets as measured at the consolidated BHC level via line 5 of Schedule HC to the FR Y-9C form relative to line 12 of the Schedule FR Y-9C as filed for the period ending December 31, 2017. *Id.* at 8.

¹²⁰ Press Release, Bd. of Governors of the Fed. Rsrv. Sys., Responding to Widespread Consumer Abuses and Compliance Breakdowns by Wells Fargo, Federal Reserve Restricts Wells' Growth Until Firm Improves Governance and Controls. Concurrent with Fed Action, Wells to Replace Three Directors by April, One by Year End (Feb. 2, 2018), <https://www.federalreserve.gov/newsevents/pressreleases/enforcement20180202a.htm> [<https://perma.cc/9PEY-3M9L>].

¹²¹ Consent Order, Wells Fargo Bank, N.A., Docket No. AA-ENF-2021-29 (Sept. 9, 2021), <https://www.occ.gov/static/enforcement-actions/ea2021-035.pdf> [<https://perma.cc/9KRX-NJRR>]; Press Release, Off. of the Comptroller of the Currency, OCC Assesses \$250 Million Civil Money Penalty, Issues Cease and Desist Order Against Wells Fargo (Sept. 9, 2021),

At the “micro”-level of imposing punishment, with potential deterrence effects, the Fed’s approach is entirely within its authority and mandate. By its own admission Wells Fargo had failed to uphold adequate standards of consumer protection.¹²² As with an individual criminal defendant, the state was playing its part by stringently enforcing moral standards of behavior through penalties. As then–Chair Janet Yellen noted at the time: “The enforcement action we are taking today will ensure that Wells Fargo will not expand until it is able to do so safely and with the protections needed to manage all of its risks and protect its customers.”¹²³

But of course Wells Fargo is not an individual. It is one of the four largest domestic banks. It is critical to the proper functioning of the financial system, appearing on every list of Global Systemically Important Financial Institutions (G-SIFIs) since the Financial Stability Board (FSB) started publishing them in 2011.¹²⁴ It plays a central role in the allocation of capital across the U.S. economy, with a significant footprint across corporate and retail activities as well as securities dealing.¹²⁵ As a result, even under normal conditions, such rigid limitations could have macroeconomic consequences. To the extent that its competitors, which faced size constraints due to the SLR and GSIB capital rules described above, could not fully accommodate Wells Fargo’s loss of additional capacity for loans and other forms of financial intermediation, the asset cap could impose headwinds on credit creation and growth more broadly.

Since the onset of the global pandemic, the penalties imposed on Wells Fargo at the micro-level have arguably begun to carry a significantly greater macro cost. The initial shock and subsequent recovery have exposed the need for a more elastic banking system during periods of extreme stress. Wells’s lack of ability to grow its balance sheet has been cited as an exacerbating factor in the economic turmoil of the past

<https://www.occ.gov/news-issuances/news-releases/2021/nr-occ-2021-05.html> [https://perma.cc/DS4K-KRE5].

¹²² WELLS FARGO & CO., LEARNING FROM THE PAST, TRANSFORMING FOR THE FUTURE: BUSINESS STANDARDS REPORT (2018), <https://www08.wellsfargomedia.com/assets/pdf/about/corporate/business-standards-report.pdf> [https://perma.cc/EK3Y-U8RE].

¹²³ Press Release, Bd. of Governors of the Fed. Rsrv. Sys., *supra* note 120.

¹²⁴ See *Global Systemically Important Financial Institutions (G-SIFIs)*, FIN. STABILITY BD. (Nov. 23, 2021), <https://www.fsb.org/work-of-the-fsb/market-and-institutional-resilience/post-2008-financial-crisis-reforms/ending-too-big-to-fail/global-systemically-important-financial-institutions-g-sifis> [https://perma.cc/P74K-NVUL].

¹²⁵ See Wells Fargo & Co., *Consolidated Financial Statements for Holding Companies — FR Y-9C*, BD. GOVERNORS FED. RSRV. SYS. (Dec. 31, 2017), <https://www.ffiec.gov/npw/FinancialReport/ReturnFinancialReportPDF?rpt=FRY9C&id=1120754&dt=20171231> [https://perma.cc/9HPH-HSD2].

eighteen months.¹²⁶ During that time, a large proportion of the more than \$12 trillion in fiscal and monetary support provided has been intermediated by the private sector.¹²⁷

There were some specific areas in which policymakers acted to blunt this impact. The PPP, for instance, relied on commercial banks for distribution.¹²⁸ Realizing the asset cap could prove to be a problematic bottleneck, regulators permitted Wells Fargo to increase its total assets to facilitate PPP and other federal stimulus programs.¹²⁹ Though the rest of its consent order was left unchanged, there was clearly recognition that prior regulatory action could have negative externalities for the macroeconomy.

Trillions in quantitative easing since the beginning of 2020 have also mechanically grown the size of the banking system.¹³⁰ These asset purchases are offset by the creation of new liabilities of the Federal Reserve (bank reserves), most of which remain on the balance sheets of commercial banks. This policy interacted with the asset cap in two ways. First, growing reserves likely crowded out other forms of lending as Wells Fargo struggled to stay below its asset cap. Second, it likely increased capital requirements, and therefore overall funding costs, for other large banks. This occurred via the SLR,¹³¹ which imposes a five percent minimum capitalization requirement regardless of risk, and the GSIB surcharge, which is added to risk-based capital requirements to socialize the costs of failure for institutions that are “too big to fail.”¹³² Though in an unconstrained environment Wells Fargo would likely have taken

¹²⁶ Some estimates suggest this unused balance sheet capacity grew to more than \$500 billion. Zoltan Pozsar, *Global Money Dispatch*, CREDIT SUISSE (Jan. 13, 2021), https://research-doc.credit-suisse.com/docView?language=ENG&format=PDF&sourceid=em&document_id=1083321301&serialid=xnXOekW9FoaduVU3ROfVSBiZkSot%2BaTVGidYhL%2FBU%2BU%3D [https://perma.cc/DD6T-HH5Q].

¹²⁷ See *COVID Money Tracker*, COMM. FOR A RESPONSIBLE FED. BUDGET, <https://www.covidmoneytracker.org> [https://perma.cc/UNR8-2KL2].

¹²⁸ *Paycheck Protection Program (PPP) Information Sheet: Lenders*, U.S. DEP'T TREASURY, <https://home.treasury.gov/system/files/136/PPP%20Lender%20Information%20Fact%20Sheet.pdf> [https://perma.cc/YQQ5-B8AV].

¹²⁹ Amendment of Consent Order, Wells Fargo & Co., Docket No. 20-007-B-HC (Apr. 8, 2020), <https://www.federalreserve.gov/newsevents/pressreleases/files/enf20200408a1.pdf> [https://perma.cc/L3LP-2WBS].

¹³⁰ *Factors Affecting Reserve Balances – H.4.1*, BD. GOVERNORS FED. RSRV. SYS., <https://www.federalreserve.gov/releases/h41> [https://perma.cc/3GRA-LZFG]; MARC LABONTE, CONG. RSCH. SERV., R46411, *THE FEDERAL RESERVE'S RESPONSE TO COVID-19: POLICY ISSUES 24–25* (2021), <https://crsreports.congress.gov/product/pdf/R/R46411> [https://perma.cc/PNV2-3ZBJ].

¹³¹ See BASEL COMM. ON BANKING SUPERVISION, BANK FOR INT'L SETTLEMENTS, *BASEL III LEVERAGE RATIO FRAMEWORK AND DISCLOSURE REQUIREMENTS* (2014), <https://www.bis.org/publ/bcbs270.pdf> [https://perma.cc/44WZ-Q86J].

¹³² BASEL COMM. ON BANKING SUPERVISION, BANK FOR INT'L SETTLEMENTS, *GLOBAL SYSTEMICALLY IMPORTANT BANKS: UPDATED ASSESSMENT METHODOLOGY AND THE HIGHER LOSS ABSORBENCY REQUIREMENT 3–4* (2013), <https://www.bis.org/publ/bcbs255.pdf> [https://perma.cc/7H8F-D9GH].

on a significant fraction of the increase in total leverage exposure (the denominator for SLR) and Method II GSIB points (in size as well as other categories), its falling market share by these measures created by the asset cap meant an increased relative impact on other large banks.

Listokin would surely argue that this was a foreseeable risk. The Wells Fargo order was a classic example of regulation done without heed of macroeconomic considerations — of law and microeconomics without law and macroeconomics. In that sense the framework of *Law and Macroeconomics* would have been valuable in designing the initial consent order. Hard size constraints on commercial banks are arguably too heavy-handed when viewed through a broader lens. Allowance should arguably be made for flexibility in times of stress, when banks can and should extend their balance sheets to offset economic shocks. As an analogy, we can turn to François Ewald, who suggested that insurance required a transformation of perspective.¹³³ If an automobile collision was focally about moral wrongdoing, then no-fault insurance made no sense. Collisions had to become morally neutralized as “accidents” before efficient policy could be pursued.¹³⁴ When it comes to wrongdoing by banks, we may sometimes have to change lens from punishment to policy to ensure smooth macroeconomic functioning in times of distress.

C. *An Analytical Framework for Expansionary Banking Regulation*

Our two case studies illustrate how banking regulators can engage in expansionary legal policy — the exercise of discretion by legal actors to achieve macroeconomic objectives and particularly the stimulation of aggregate demand during recessions. Our main (critical) point was that Listokin missed what may be the most powerful lever available for expansionary legal policy — namely, the *exercise of administrative discretion by banking regulators to stimulate aggregate demand* through those regulators’ influence over commercial banks. This stimulative exercise of discretion is fundamentally a form of capital forbearance: a policy of either explicit or de facto reductions in bank capitalization requirements.¹³⁵

Our cautionary note is that it has been pursued before, and with a mixed track record. In the 1980s, for example, poor risk management

¹³³ FRANÇOIS EWALD, *THE BIRTH OF SOLIDARITY: THE HISTORY OF THE FRENCH WELFARE STATE* (Melinda Cooper ed., Timothy Scott Johnson trans., Duke Univ. Press 2020) (1986).

¹³⁴ See *id.* at 189–91.

¹³⁵ In a strict sense, forbearance refers to electing not to require individuals or institutions to take actions that could be reasonably enforced. In everyday life, this comes up most commonly in the student loan market, in which borrowers can reduce or defer interest and principal due to hardship. In a bank regulatory context, it more frequently takes the form of de facto reductions in safety and soundness standards by reinterpreting existing statutes and accounting principles to avoid the need to recognize the insolvency of troubled institutions.

practices resulted in negative net income across a wide range of banking thrifts. In the S&L crisis that followed, 296 such institutions were closed by the Federal Savings and Loan Insurance Company (FSLIC) and another 747 by the Resolution Trust Company at total cost to taxpayers of \$123 billion over a roughly ten-year period ending in 1995.¹³⁶

Capital forbearance by regulators led to a large number of “zombie” institutions, which continued operating despite being fundamentally insolvent.¹³⁷ Such an approach essentially kicks the can in the hopes that things will work out — presumably due to some exogenous economic factor that lifts all boats — and consequently has been described as a form of “regulatory gambling.”¹³⁸ In the end, the gamble did not succeed and this policy likely increased the overall cost of these resolutions and arguably led to the insolvency of FSLIC itself.¹³⁹

The Japanese banking system provides another less-than-encouraging example. In the wake of a collapse in Japanese real estate prices, the local banking system saw a steady deterioration in its overall financial health.¹⁴⁰ By the 1990s, it was clear that the banking system’s capital position was severely degraded.¹⁴¹ Regulators were keenly aware of the problem, but like FSLIC chose to reassess their standards rather than recognize insolvencies — a form of capital forbearance.¹⁴² The result was a set of perverse incentives that arguably led to further deterioration in their capital position and subsequently significant inefficiencies in the allocation of credit,¹⁴³ a banking crisis in the late 1990s,¹⁴⁴ and decades of stagnant economic growth.¹⁴⁵

In a sense, both the S&L crisis in the United States and the banking crisis in Japan offer examples of law and macroeconomics as applied to bank regulation. Though the capital forbearance offered by supervisors

¹³⁶ See Timothy Curry & Lynn Shibut, *The Cost of the Savings and Loan Crisis: Truth and Consequences*, 13 FDIC BANKING REV., no. 2, 2000, at 26, 31.

¹³⁷ Edward J. Kane, *Dangers of Capital Forbearance: The Case of the FSLIC and “Zombie” S&Ls*, 5 CONTEMP. POL’Y ISSUES 77, 78 (1987).

¹³⁸ Ramon P. DeGennaro & James B. Thomson, *Capital Forbearance and Thrifts: Examining the Costs of Regulatory Gambling*, 10 J. FIN. SERVS. RSCH. 199, 199 (1996); see *id.* at 201.

¹³⁹ CONG. BUDGET OFF., CBO STAFF MEMORANDUM: THE COST OF FORBEARANCE DURING THE THRIFT CRISIS 1, 3 (1991), https://www.cbo.gov/sites/default/files/102nd-congress-1991-1992/reports/1991_06_thecostofforbearance.pdf [<https://perma.cc/STC8-BFS5>].

¹⁴⁰ See Akihiro Kanaya & David Woo, *The Japanese Banking Crisis of the 1990s: Sources and Lessons* 1, 8 (Int’l Monetary Fund, Working Paper No. WP/00/7, 2000), <https://www.imf.org/external/pubs/ft/wp/2000/wp0007.pdf> [<https://perma.cc/7EEK-M8KM>].

¹⁴¹ *Id.* at 1.

¹⁴² See David E. Sanger, *Japanese Tell U.S. that Their Banks Are in Big Trouble*, N.Y. TIMES (Oct. 5, 1998), <https://www.nytimes.com/1998/10/05/world/japanese-tell-us-that-their-banks-are-in-big-trouble.html> [<https://perma.cc/GB2H-N865>].

¹⁴³ Joe Peek & Eric S. Rosengren, *Unnatural Selection: Perverse Incentives and the Misallocation of Credit in Japan*, 95 AM. ECON. REV. 1144, 1144–45 (2005).

¹⁴⁴ Kanaya & Woo, *supra* note 140, at 26–28.

¹⁴⁵ See Kyoji Fukao et al., *The Structural Causes of Japan’s Lost Decades*, in THE WORLD ECONOMY: GROWTH OR STAGNATION? 70 (Dale W. Jorgenson, Kyoji Fukao & Marcel P. Timmer eds., 2016).

was targeted at a relatively small subset of the banking system, its intent was to avoid or reduce the impact of mass insolvency on aggregate demand. Does its failure mean that history argues against capital forbearance more generally? Not necessarily. These episodes share two key characteristics that are important to bear in mind. First, they were crises that originated in the *financial sector*, not the real economy. Second, regulatory forbearance was focused on *risk-based capital requirements*, not leverage or other size-based measures.

Seen in this context, the failure of forbearance policies in both the United States and Japan is not terribly surprising. Financial crises are often the result of a *structural mispricing of credit risk*. Policies that delay the process of resolving that inefficiency can lead to the misallocation of resources and poor support to aggregate demand. As history has shown, they can make the problem worse.

The temporary SLR relief offered by the Federal Reserve in April 2020 stands in sharp contrast. As the Federal Reserve rapidly expanded its balance sheet amidst a “dash for cash” by a wide range of economic and financial-market participants, the rapid and largely involuntary accumulation of risk-free assets threatened to crowd out some forms of credit creation as banks were increasingly bound by leverage. In the meantime, banks had entered the crisis in a very strong position from both a risk-based-capitalization and a liquidity standpoint.¹⁴⁶ Thus, the SLR calculation was designed to sever the link between capital requirements and bank size to allow for *more* rather than *less* efficient price discovery, and thus to support aggregate demand.

Countercyclical capital buffers (CCyBs) provide another example. Rather blunt instruments, CCyBs are surcharges typically added to risk-based capital requirements, which can be adjusted by policymakers based on macroeconomic conditions. The goal is to both lean against the wind by increasing these add-ons during periods of potential excess credit growth and reduce them during periods of stress.¹⁴⁷ As of this writing, the Bank of International Settlements lists at least twenty-seven nations with some form of CCyB, even if many were set to zero percent before the most recent shock and though not all have been actively managed.¹⁴⁸ The efficacy of these rules relies on a willingness to act in both directions, which relies in practice on a reasonably efficient bureaucracy

¹⁴⁶ Alice Abboud et al., *COVID-19 as a Stress Test: Assessing the Bank Regulatory Framework 3* (Bd. of Governors of the Fed. Rsrv. Sys., Fin. & Econ. Discussion Series, Working Paper No. 2021-024, 2021), <https://www.federalreserve.gov/econres/feds/files/2021024pap.pdf> [<https://perma.cc/TSA5-YHSY>].

¹⁴⁷ BASEL COMM. ON BANKING SUPERVISION, BANK FOR INT'L SETTLEMENTS, GUIDANCE FOR NATIONAL AUTHORITIES OPERATING THE COUNTERCYCLICAL CAPITAL BUFFER 1 (2010), <https://www.bis.org/publ/bcbs187.pdf> [<https://perma.cc/SSW8-WNFY>].

¹⁴⁸ See BIS, *Countercyclical Capital Buffer (CCyB)*, <https://www.bis.org/bcbs/ccyb> [<https://perma.cc/8953-S4QL>].

with strong governance and an implicit or explicit financial stability mandate.¹⁴⁹ As originally formulated, this regulatory mechanism was arguably more focused on limiting excesses than stimulating aggregate demand — it is more of an adjustable add-on to minimums rather than a form of relief. Even so, it is notable that national authorities were clearly willing to aggressively reduce CCyBs at the onset of the Covid-19 pandemic.¹⁵⁰ Because, compared to other forms of capital forbearance, they are more formalized in both the frequency with which they are adjusted and the framework under which those decisions are made, and they are implemented as an add-on to minimum safety and soundness standards, these rules may avoid the moral hazard implications of more ad-hoc forms of risk-based capital forbearance. At the same time, this arguably makes them a more potent tool for limiting excesses than fighting contractions.

Taken together, these historical examples motivate a framework for thinking about law and macroeconomics as applied to bank regulations. Capital forbearance has its place, but only after a few conditions have been met. First, the shock must be nonfinancial in origin, suggesting an ex ante healthy banking sector. Second, forbearance should focus on avoiding perverse incentives and price distortions rather than creating them. Given increased reliance on central bank balance-sheet expansion as a tool of monetary stimulus and the poor track record of risk-based capital forbearance, this likely means focusing on risk-agnostic constraints like SLR and some elements of GSIB surcharges. Third, though more transparent and mechanical approaches like CCyBs have their place, ad hoc exercises of administrative discretion along the lines of temporary SLR relief in the United States may end up having greater stimulative effect.

III. THE PURPOSES AND PLACE OF CENTRAL BANKS

Listokin is surely right that legal scholars have largely, though not completely,¹⁵¹ ignored central banking. Legal scholarship's emphases on institutional design and democratic legitimacy would add much to its study. But what Listokin could not have foreseen is that the Covid-

¹⁴⁹ See Rochelle M. Edge & J. Nellie Liang, *Financial Stability Committees and Basel III Macroprudential Capital Buffers* 23–24 (Bd. of Governors of the Fed. Rsrv. Sys., Fin. & Econ. Discussion Series, Working Paper No. 2020-016, 2020), <https://www.federalreserve.gov/econres/feds/files/2020016pap.pdf> [<https://perma.cc/L4G7-5K4L>].

¹⁵⁰ *Id.*; Nellie Liang & Pat Parkinson, *Enhancing Liquidity of the U.S. Treasury Market Under Stress* 12 (Hutchins Ctr. on Fiscal & Monetary Pol'y at Brookings, Working Paper No. 72, 2020), https://www.brookings.edu/wp-content/uploads/2020/12/WP72_Liang-Parkinson.pdf [<https://perma.cc/F792-K6GZ>].

¹⁵¹ See, e.g., PETER CONTI-BROWN, *THE POWER AND INDEPENDENCE OF THE FEDERAL RESERVE* 13 (2016); Peter Conti-Brown, Yair Listokin & Nicholas R. Parrillo, *Towards an Administrative Law of Central Banking*, 38 *YALE J. ON REGUL.* 1, 38 (2021).

19 pandemic would transform some of the core questions concerning central bank legitimacy and design. These questions should be of broad interest to legal scholars. In its role as the guardian of the money supply — through the regulation of BHCs and the implementation of monetary policy — the Federal Reserve is “arguably the most powerful administrative agency in government.”¹⁵² Indeed, David Wessel called the Federal Reserve the “fourth branch of government”¹⁵³ — arguably co-equal with the other three, not in the breadth of its authority, but in its enormous power and impact on society. Yet central bankers typically function relatively autonomously, enjoying job protections, budgetary autonomy, and administrative control, which insulate them from the more directly political branches.¹⁵⁴ That being the case, perhaps no institution of the administrative state raises questions of democratic legitimacy as sharply as independent central banks, which in profound ways shape a nation’s economic destiny. As one leading scholar has noted, “perhaps the defining question in central banking” is “central bank independence.”¹⁵⁵

The theoretical foundations for the modern economic defense of central bank independence were articulated in the 1970s.¹⁵⁶ Widespread

¹⁵² Conti-Brown, Listokin & Parrillo, *supra* note 151, at 1.

¹⁵³ DAVID WESSEL, IN FED WE TRUST: BEN BERNANKE’S WAR ON THE GREAT PANIC 4 (2009).

¹⁵⁴ See, e.g., CONTI-BROWN, *supra* note 151, at 114, 190, 208. The extent to which a central bank enjoys real independence from more directly political branches of government obviously varies across countries and within the country across time. See Peter Conti-Brown, *The Institutions of Federal Reserve Independence*, 32 YALE J. ON REGUL. 257, 259 (2015).

There is also a large legal literature on central bank independence. See, e.g., SARAH BINDER & MARK SPINDEL, THE MYTH OF INDEPENDENCE: HOW CONGRESS GOVERNS THE FEDERAL RESERVE (2017); CONTI-BROWN, *supra* note 151; PAUL TUCKER, UNELECTED POWER: THE QUEST FOR LEGITIMACY IN CENTRAL BANKING AND THE REGULATORY STATE (2018); Gillian E. Metzger, *Through the Looking Glass to a Shared Reflection: The Evolving Relationship Between Administrative Law and Financial Regulation*, 78 LAW & CONTEMP. PROBS. 129 (2015); Ricardo Reis, *Central Bank Design*, J. ECON. PERSPS., Fall 2013, at 17.

¹⁵⁵ Peter Conti-Brown, *The Central Banking Century: An Introduction to Institutional Central Banking*, in RESEARCH HANDBOOK ON CENTRAL BANKING 1, 3 (Peter Conti-Brown & Rosa M. Lastra eds., 2018).

¹⁵⁶ Seminal work includes Professors Finn Kydland and Edward Prescott’s Nobel Prize-winning contribution, Finn E. Kydland & Edward C. Prescott, *Rules Rather than Discretion: The Inconsistency of Optimal Plans*, 85 J. POL. ECON. 473 (1977), as well as: Robert J. Barro & David B. Gordon, *A Positive Theory of Monetary Policy in a Natural Rate Model*, 91 J. POL. ECON. 589 (1983); Robert J. Barro & David B. Gordon, *Rules, Discretion and Reputation in a Model of Monetary Policy*, 12 J. MONETARY ECON. 101 (1983); and Guillermo A. Calvo, *On the Time Consistency of Optimal Policy in a Monetary Economy*, 46 ECONOMETRICA 1411 (1978). See also Milton Friedman, *A Monetary and Fiscal Framework for Economic Stability*, 38 AM. ECON. REV. 245 (1948); Ben S. Bernanke, Governor, Fed. Rsr. Bd., Remarks at the Meeting of the Eastern Economic Association: The Great Moderation (Feb. 20, 2004), <https://www.federalreserve.gov/boarddocs/speeches/2004/20040220> [<https://perma.cc/HM8R-VCFX>].

adoption of central bank independence was a sweeping feature of institutional change in the 1970s and 1980s.¹⁵⁷ In the United States, central bank independence takes the form of the Federal Reserve's status within the federal government as a species of independent administrative agency.¹⁵⁸ The most senior officials in the Fed are the seven members of its Board of Governors, who are appointed by the President for fourteen-year terms, and a Chair who is appointed for a four-year term.¹⁵⁹ The Fed also enjoys unusual budgetary autonomy and funds itself largely by revenue from its open-market operations.¹⁶⁰

Monetary authorities' response to the Covid-19 pandemic should motivate us to revisit our diagnosis of the legitimacy of central bank independence and design. A number of developments in the character of the Federal Reserve's actions are particularly consequential: the scale of intervention, the coordination (real and perceived) between monetary and fiscal authorities, the magnitude of distributional effects, and the shifting allocation of responsibility *within* the executive branch for addressing financial crises.

¹⁵⁷ Cross-sectional studies seeking to quantify the degree of central bank independence across a wide range of countries have found a steady trend over the past seventy-five years. Alex Cukierman et al., *Measuring the Independence of Central Banks and Its Effect on Policy Outcomes*, 6 *WORLD BANK ECON. REV.* 353 (1992). More recent work suggests the United States has among the most independent central banks in the world. See Marco Arnone et al., *Measures of Central Bank Autonomy: Empirical Evidence for OECD, Developing, and Emerging Market Economies* 35 (Int'l Monetary Fund, Working Paper No. WP/06/228, 2006), <https://www.imf.org/en/Publications/WP/Issues/2016/12/31/Measures-of-Central-Bank-Autonomy-Empirical-Evidence-for-OECD-Developing-and-Emerging-Market-19833> [<https://perma.cc/H89A-GM94>]; see also Ben S. Bernanke, Chairman, Bd. of Governors of the Fed. Rsrv. Sys., Speech: Central Bank Independence, Transparency, and Accountability (May 25, 2010), <https://www.federalreserve.gov/newsevents/speech/bernanke20100525a.htm> [<https://perma.cc/Z4CZ-ZQWR>]. For an outsider to administrative governance, some of the significance of the Fed's construction might be lost. Contrast the Fed with another administrative agency, the Environmental Protection Agency, whose head is one official removable by the President at will. See Metzger, *supra* note 154, at 132.

¹⁵⁸ As Professor Gillian Metzger notes, “[t]he Fed, meanwhile, represents the apogee of independence that is the traditional hallmark of financial regulation.” Metzger, *supra* note 154, at 134. The Fed's structure is unusual and complex. Conti-Brown, *supra* note 154, at 259 (analyzing the “much-invoked but as often misunderstood set of institutional arrangements that constitute the Fed's unique independence”). The Federal Reserve is a central banking “system” that includes twelve separate Federal Reserve Banks, a seven-person Board of Governors, and the Federal Open Market Committee (which includes the Presidents of the Reserve Banks and members of the Board of Governors). *About the Federal Reserve System*, *BD. OF GOVERNORS OF THE FED. RSRV. SYS.*, <https://www.federalreserve.gov/aboutthefed/structure-federal-reserve-system.htm> [<https://perma.cc/QVA8-PWL6>]. The Federal Reserve Act, ch. 6, 38 Stat. 251 (1913) (codified as amended in scattered sections of 12 U.S.C.), is the basic statute creating and governing the Fed.

¹⁵⁹ Conti-Brown, *supra* note 154, at 295; see Colleen Baker, *The Federal Reserve as Last Resort*, 46 *U. MICH. J.L. REFORM* 69, 83 (2012); Colleen Baker, *The Federal Reserve's Use of International Swap Lines*, 55 *ARIZ. L. REV.* 603, 627 (2013); Christina Parajon Skinner, *Central Bank Activism*, 71 *DUKE L.J.* 247, 254 (2021).

¹⁶⁰ Metzger, *supra* note 154, at 133; Conti-Brown, *supra* note 154, at 280–83.

First, there is the sheer scale of intervention. For Tooze (pp. 126, 130), this is a generalized form of the “Draghi Doctrine”: now central banks around the world are willing to do “whatever it takes.”¹⁶¹ Monetary policymakers have taken extraordinary measures to support their economies and maintain financial stability, including very low overnight interest rates, an expanded asset-purchase program, and a raft of facilities to maintain liquidity in the financial system. For the Federal Reserve in particular, the result, arguably, has been the most aggressive expansion of the money supply since its founding in 1913. The size of the Federal Reserve’s balance sheet has gone from less than \$1 trillion in the early 2000s, to \$2 trillion after the GFC, to an astonishing \$7 trillion since the pandemic began.¹⁶² Second, the coordination between the putatively independent Federal Reserve and the Treasury Department under Steve Mnuchin was intensive and extraordinary.¹⁶³ Third, although monetary policy is often considered a paradigm of efficiency-oriented policy with little potential for distributional effects, the Federal Reserve has engaged in multiple secondary-market purchasing programs with undeniable and important distributional consequences.¹⁶⁴ Fourth is the character and scope of the Fed’s interventions as not just a domestic, but perhaps more importantly a global, provider of liquidity.¹⁶⁵

¹⁶¹ In July 2012, then-President of the European Central Bank (ECB) Mario Draghi remarked: “Within our mandate, the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough.” Associated Press, “*Whatever It Takes: Key Moments from Draghi’s Time at ECB*,” AP NEWS (Oct. 28, 2019), <https://apnews.com/article/bo5fb41be19f4ba7b69785e882686bf4> [<https://perma.cc/ZN5V-5FQE>]. This was broadly seen as a turning point in the European sovereign funding crisis, after which the ECB was seen as willing to take extraordinary actions to safeguard the stability of the single currency and monetary union.

¹⁶² See *Assets: Total Assets: Total Assets (Less Eliminations from Consolidation): Wednesday Level*, *supra* note 17.

¹⁶³ See, e.g., Kate Davidson & Bob Davis, *How Mnuchin Became Washington’s Indispensable Crisis Manager*, WALL ST. J. (Mar. 31, 2020, 7:30 AM), <https://www.wsj.com/articles/steven-mnuchin-is-trying-to-rescue-the-economy-from-the-coronavirus-11585654202> [<https://perma.cc/WL33-CCW9>].

¹⁶⁴ See generally Laura Feiveson et al., *Distributional Considerations for Monetary Policy Strategy* (Bd. of Governors of the Fed. Rsv. Sys., Fin. & Econ. Discussion Series, Working Paper No. 2020-073, 2020), <https://www.federalreserve.gov/econres/feds/files/2020073pap.pdf> [<https://perma.cc/NZ6Z-MPL7>].

¹⁶⁵ In many ways, this is a reprise — though expanded in scale — of the Fed’s liquidity provision during the GFC. See BANK FOR INT’L SETTLEMENTS, BIS PAPERS NO. 79: RE-THINKING THE LENDER OF LAST RESORT 48–59 (2014), <https://www.bis.org/publ/bppdf/bispap79.pdf> [<https://perma.cc/VF49-P8NS>]. There may be no better narrative of the Fed’s liquidity swap lines to other central banks (and thereby those nations’ commercial banks) than Tooze’s *Crashed*. See generally ADAM TOOZE, *CRASHED: HOW A DECADE OF FINANCIAL CRISES CHANGED THE WORLD 202–19* (2018). Tooze also provides an eye-opening analysis of the Fed’s intervention as a distinctive and problematic site of global governance.

Alongside these developments has been a change in the nature of the banking system itself and the allocation of risk between the private intermediaries and the central bank. These developments became clear only in the past couple of years, and they will likely take years to fully understand. But it seems clear that the post-financial crisis regulatory system limited the growth of the largest banks by several measures,¹⁶⁶ which was a core objective of the reforms, but the cost was arguably an increase in the size and frequency at which central banks may be forced to intervene as liquidity providers because of banks' reduced role in making certain markets.

Once again the economic impact of the Covid-19 pandemic provides a good, albeit admittedly rather extreme, case study. When the financial system faces a massive need for cash — as it did when Covid first arrived in the United States — there are basically two ways to supply it. Commercial banks can meet that demand by growing in size and becoming more leveraged, or the central bank can meet it by expanding the base money supply. Regulation after the financial crisis significantly limited banks' leverage. So, when a massive financial dislocation hit in March 2020, the result was that banks remained stable, but the Federal Reserve had to provide extraordinary (and effective) intervention, growing enormously in size.¹⁶⁷

¹⁶⁶ Size in this context can be defined many ways. To first order it includes all on balance-sheet assets, but has been expanded conceptually by the SLR to scope-in other forms of exposure (short-term lending, derivative, and other off-balance-sheet items). See BASEL COMM. ON BANKING SUPERVISION, *supra* note 131. The GSIB surcharge described earlier goes further, incorporating a wide range of metrics to cover a number of key ways in which banks can be considered “large”: their size again, but also degree of interconnectedness, complexity, crossjurisdictional exposure, and reliance on short-term wholesale funding. See BASEL COMM. ON BANKING SUPERVISION, *supra* note 88, at 2. This is all intended in principle to formalize a definition and measure of the risk a given institution is “too big to fail” and to scale capital requirements commensurate with the downstream potential costs to society in the event of failure. That no such failures occurred or even seemed remotely likely during the Covid-19 shock suggests these regulations served their purpose under stress. See FIN. STABILITY BD., LESSONS LEARNT FROM THE COVID-19 PANDEMIC FROM A FINANCIAL STABILITY PERSPECTIVE (2021), <https://www.fsb.org/wp-content/uploads/P130721.pdf> [<https://perma.cc/NX5F-KN3X>] [hereinafter FIN. STABILITY BD., LESSONS LEARNT FROM THE COVID-19 PANDEMIC]; FIN. STABILITY BD., EVALUATION OF THE EFFECTS OF TOO-BIG-TO-FAIL REFORMS 49 (2021), <https://www.fsb.org/wp-content/uploads/P010421-1.pdf> [<https://perma.cc/P847-PPJR>].

¹⁶⁷ Events in early 2020 in the financial markets have far richer lessons for the architecture of the financial system than scholars have recognized. As dislocations in the Treasury market in March illustrate, the post-crisis regulatory regime may have changed the very nature of U.S. financial crises, substituting a *liquidity crisis* (in which the financial system requires the injection of liquidity from the central bank) for a *credit crisis* (in which commercial banks grow in leverage and face the risk of bankruptcy). The GFC involved a credit crisis at major banks in which their liabilities may have exceeded their assets. This risk of insolvency led to the infamous “bailouts,” as the government injected cash into banks and facilitated mergers to ensure their solvency. Though the economic shock in 2020 was much larger than in 2008, no major U.S. bank faced potential insolvency as the banks had during the earlier financial crisis. Instead, leading commercial banks faced a major

Tooze notes repeatedly in *Shutdown* that post-GFC banking regulation met its “crash test” in 2020, and showed that our financial system is indeed safer, with a less prominent role for the commercial banking system. Preserving financial stability is at the core of macroprudential policymaking. That the banking system survived the Covid pandemic largely unscathed is a testament to the efficacy of those reforms in meeting that specific and well-defined policy goal.¹⁶⁸ As noted earlier, in effect they transformed what would have been a credit crisis into a liquidity crisis, the latter being well within the abilities of central banks to solve.

But as a corollary those regulatory changes in effect implied a much more prominent role for the Federal Reserve under stress. In a sense, the ultimate issue lurking in the background here is which has worse social consequences in financial crises — a more leveraged banking system or a central bank holding far more assets. The reason for this tradeoff is that when the size of the commercial banking system is constrained, then it is more likely that an activist Federal Reserve will be needed to supply liquidity and intermediation. Given the last twenty years, if forced to choose between a more volatile and larger central bank balance sheet and a more leveraged banking system, one might be tempted to prefer the former. Nonetheless, such a heavy footprint for public officials in private markets raises questions of governmental theory with immediate policy relevance, including the ability of the Federal Reserve to maintain its independence downstream.

While the benefits of a large Federal Reserve balance sheet are arguably clear, its costs are far more difficult to quantify and track. In the short term, large asset-purchase programs and liquidity facilities can be effective in giving irrational markets time and space to heal,¹⁶⁹ but they have an ongoing distortive impact on price discovery, the consequences of which may not be clear for some time.¹⁷⁰ Over longer horizons, one grows concerned about ratcheting effects, in which the urge to provide stimulus during stress is greater than the willingness to withdraw it as economic activity normalizes, resulting in the central bank

demand for liquidity that they could not collectively intermediate themselves, requiring major central bank intervention.

¹⁶⁸ See FIN. STABILITY BD., LESSONS LEARNT FROM THE COVID-19 PANDEMIC, *supra* note 166.

¹⁶⁹ Richard H. Clarida et al., *The COVID-19 Crisis and the Federal Reserve's Policy Response* (Bd. of Governors of the Fed. Rsrv. Sys., Fin. & Econ. Discussion Series, Working Paper No. 2021-035, 2021), <https://www.federalreserve.gov/econres/feds/files/2021035pap.pdf> [<https://perma.cc/8LLB-H7JW>].

¹⁷⁰ See BANK FOR INT'L SETTLEMENTS, LARGE CENTRAL BANK BALANCE SHEETS AND MARKET FUNCTIONING (2019), <https://www.bis.org/publ/mktc11.pdf> [<https://perma.cc/RF49-KKWX>].

balance sheet outpacing economic growth over longer horizons.¹⁷¹ This risks crowding out private credit formation and forcing a greater role for the government in managing economic activity. Finally, there is the specter of fiscal dominance, in which fiscal authorities are enabled by a permissive central bank. To paraphrase Professors Thomas Sargent and Neil Wallace, the former enforces discipline on the latter.¹⁷²

IV. CONCLUSION

At this point we return to our original motivation from the opposite end: How do we analyze Tooze's narrative of the economic and financial aspects of the pandemic through Listokin's law and macroeconomics framework? The exercise is instructive. The events of March 2020 highlight the promise of expansionary legal policy under the right conditions. But it also draws attention to an underdeveloped part of Listokin's framework: the role that administrative discretion should play in bank regulators' broader role of managing the business cycle.

The Federal Reserve pursues financial stability using a combination of familiar and novel tools. Promoting stability effectively in a crisis can lead to significant volatility in the Fed's balance sheet. This can have potentially negative knock-on consequences for a banking system that can in principle become constrained simply by its size (leverage), regardless of risk. This implicitly requires some administrative discretion to ensure the efficient transmission of both monetary and fiscal policy, in particular on the part of the Federal Reserve itself.¹⁷³ In that sense, law and economics has proven critical to both the more acute phases of crisis-fighting and the less dramatic mandate to manage the peaks and troughs of the business cycle.

Stepping back, we are left with the question of when, if ever, the Federal Reserve should act as the lender, buyer, and regulator of last resort. In considering these roles for the Fed, we face an apparent tradeoff: financial and economic stability in exchange for a more prominent (potentially much more prominent) role for the central bank. Whether this bargain is Faustian turns on more foundational questions

¹⁷¹ See UK PARLIAMENT, QUANTITATIVE EASING: A DANGEROUS ADDICTION? (2021), <https://publications.parliament.uk/pa/ld5802/ldselect/ldeconaf/42/4202.htm> [<https://perma.cc/43K6-TV26>].

¹⁷² Thomas J. Sargent & Neil Wallace, *Some Unpleasant Monetarist Arithmetic*, 5 FED. RESV. BANK MINNEAPOLIS Q. REV., Fall 1981, at 1; see also David Andolfatto, *Is It Time for Some Unpleasant Monetarist Arithmetic?*, 103 FED. RESV. BANK ST. LOUIS REV. 315 (2021).

¹⁷³ As noted earlier, the Federal Reserve is the principal regulator for BHCs. This generally covers the largest and most systematically important institutions, see 2020 *Systemic Risk Indicators*, FED. FIN. INSTS. EXAMINATION COUNCIL, https://www.ffiec.gov/npw/StaticData/Y15SnapShot/20201231_20210801_FRY15%20Snapshot.pdf [<https://perma.cc/TS9J-N85J>], and is arguably the most important such authority for using bank regulations and incentives to manage the business cycle.

pitting democratic and technocratic influences on the structure of society. This is no mere academic or remote consideration. When the Federal Reserve Board committed to “do whatever it takes” to rescue the Treasury market,¹⁷⁴ and later when it temporarily recalibrated the SLR in the interests of financial stability and economic activity,¹⁷⁵ it ventured deeply into this debate. The economic and financial dynamics of the Covid-19 pandemic have shown that commercial banking regulation cannot be easily separated from the questions of democratic, administrative, and political theory raised by an influential central bank. Policymakers will eventually be forced to confront these issues head-on and would be well served to consider their decisions in this broader context.

¹⁷⁴ By this we are referring to its authorization to purchase Treasury and other securities “in the amounts needed to support smooth market functioning and effective transmission of monetary policy to broader financial conditions.” Press Release, Bd. of Governors of the Fed. Rsrv. Sys., *supra* note 68.

¹⁷⁵ In its announcement of the interim final rulemaking, the Federal Reserve stated that its goals were primarily related to financial stability and macroeconomic impacts: to “ease strains in the Treasury market resulting from the coronavirus and increase banking organizations’ ability to provide credit to households and businesses.” Press Release, Bd. of Governors of the Fed. Rsrv. Bd., Federal Reserve Board Announces Temporary Change to Its Supplementary Leverage Ratio Rule to Ease Strains in the Treasury Market Resulting from the Coronavirus and Increase Banking Organizations’ Ability to Provide Credit to Households and Businesses (Apr. 1, 2020), <https://www.federalreserve.gov/newsevents/pressreleases/bcreg20200401a.htm> [<https://perma.cc/JJKC7-26B2>].