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100 YEARS OF RECESSIONS: LESSONS LEARNED, BUT NOT APPLIED

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Abstract

Large financial institutions, sometimes described as "too big to fail" (TBTF), are the epicenter of economic recessions through the past century. While literature has narrowed a set of causes for major recessions, such as in the Great Recession, fewer attempts have been identified to place each event in context as a series. By comparing causes, treatments, and outcomes of major recessions through the past century with a global perspective, beginning with the Great Depression and ending with the COVID-19 Recession, trends in governmental policy emerge as a framework in which recessions occur and are addressed. The use of fiscal relief packages, or "bailouts," and deregulation of mergers, acquisitions, and derivative swaps are assessed as factors in the expansion of the TBTF mentality.

Keywords: *Great Depression, 2008 Recession, financial crisis, economic relief, bailouts.*

INTRODUCTION

100 Years Of Recessions

In his 2007 book, statistician and risk analyst Nassim Nicholas Taleb made popular the theory of *Black Swan* economics. The Black Swan is an economic catastrophe with three characteristics: it is unpredictable; it carries a massive – even global – impact; and latent knowledge qualifies the event as entirely predictable (Taleb, 2007). In the context of philosophy, the Black Swan is akin to Hume's problem of induction: as Hume (1993) asserts, whether a moving billiard will cause another billiard to move upon collision cannot be confirmed by experience alone; even withstanding the laws of physics *a priori*, motion in the second billiard is a distinct event yet to pass. While physics might predict the transfer of motion, or the billiards player has only ever seen a billiard move after collision, on the thousandth hit the second billiard remains still. To the billiards player, this sudden deviation from expectations is a Black Swan; the player can no longer expect that a billiard will always begin moving upon collision in the future, and the understanding of physics is fundamentally altered.

In economic history, the first of the Black Swan events occurred on October 29, 1929 – Black Tuesday – with a stock market fall of nearly 12%. Over the next 3 days, margin calls prompted another fall of over 23%. By July 1932, the market hit record falls: in less than 3 years, over 89% of the Dow Jones Industrial Index (DJI) was wiped out (Richardson et al., 2013). Globally, Gross Domestic Product (GDP) fell by nearly 15% (Eichengreen, 2015), and international trade all but halved (Madsen, 2001). As an unprecedented event, the Great Depression hit the world, to use an expression, by storm.

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Taleb (2007) proposes that the 2008 Recession is another example of the Black Swan phenomenon: the Recession, which came about as the result of the recently innovated, relative to the history of finance, mortgage-backed securities (MBSs) and resulted in a loss of nearly $10.2 trillion in the United States (US) alone (Carney, 2009), can be explained as the culmination of reckless investors, unqualified borrowers, and poor national fiscal policy. In contrast, the 2019 recession, brought about by the advent of a global pandemic, is not a Black Swan. Pandemics have long been understood and, as Taleb (2007) asserts in an interview with *Bloomberg*, could have been mitigated with relatively low cost through early mask adoption (Bloomberg Markets and Finance, 2020b) and early fiscal relief for large airline companies (Bloomberg Markets and Finance, 2020a). That is, the economic impact of an economic shutdown could be easily predicted and addressed.

Fiscal relief – the disbursement of funds directly to the hands of banks, businesses, and households – was one common approach in addressing each of these major recessions. Arguably, the New Deal, considered the turning point of the Great Depression, did not match pace in spending with market losses. Meanwhile, while the 2008 Recession saw the collapse of the MBS market, the US government's investments into the Federal National Mortgage Association (FNMA, or "Fannie May") and the Federal Home Loan Mortgage Commission (FHLMC, or "Freddie Mac") was arguably successful in protecting the interests of homeowners and investors alike. However, the original rise of conglomerate investment banks, which some consider a direct result of the repeal of the Banking Act of 1932, known as the Glass-Steagall Act, brought new life to the *Too Big to Fail* (TBTF) mentality (Omarova, 2019).

When the 110th US Congress passed the Emergency Economic Stabilization Act of 2008, which established the Troubled Asset Relief Program (TARP) to provide fiscal relief towards financial institutions (Emergency Economic Stabilization Act of 2008, 2008), lawmakers and government officials reaffirmed the precedent of the TBTF model and confirmed the tolerance, at least temporarily, for TBTF conglomerations and their risk-taking behavior. Shortly afterwards, the Dodd-Frank Wall Street Reform and Consumer Protection Act (hereafter, Dodd-Frank) created the Consumer Financial Protection Bureau (CFPB) to instill regulations of investment banks. Within the same decade, US government officials made calls for deregulation of the CFPB (Morgenson, 2017). With regards to the 2019 crisis, the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) provided fiscal relief to the failing US airline industry (Coronavirus Aid, Relief, and Economic Security Act, 2020), thereby expanding TBTF models outside of the financial sector.

The research argues that the root issues of the 2008 and the 2019 recessions were not the specifics of fiscal policy or hedging against subprime loans but instead the mismanagement of TBTF conglomerates; possibly their very existence. A key lesson from the 2008 Recession was that TBTF businesses – JP Morgan Chase, Wells Fargo, and American International Group (AIG), for example – will be bailed out in a crisis at US taxpayers' expense. Similarly, conglomerate airlines, deemed TBTF, will be bailed out in a crisis, also at taxpayers' expense; and so on, until each industry's titans are supported – but not owned – by taxpayer-backed government policy. While recessions at the scale of the 2008 and 2019 crises are unlikely by nature of their catastrophic origins, their recent occurrences and the ongoing deregulation of the US financial industry have destabilized the global economy, negatively impacted consumers, and disrupted business worldwide. Fiscal relief – *bailouts* – will not scale and cannot be sustained as trade liberalization and the resulting economic growth produces global conglomerates in almost every industry.

Understanding the 2008 Recession

To begin understanding the causes of the 2008 Recession, economists point to the fragile US-based MBS market. Derivatives, a

longstanding financial invention which rose to popularity in the early 1970s through collateralized mortgage obligations (CMOs) and represents a contract backed by mortgages, were known to be high risk (Hull, 2006; Weber, 2009). Similarly, collateralized debt obligations (CDOs) operate as CMOs but may be backed by a wider range of debt. With CMOs and CDOs, mortgage lenders may consolidate mortgages by rating and issue securities on those consolidations (*Evolution of the U.S. Housing Finance System, 2006)*. While derivatives such as CMOs can be traded through regulated means on exchanges, the Commodity Futures Modernization Act of 2000 (CFMA) ensured that over the counter (OTC) derivatives trading cannot be regulated within the US (Consolidated Appropriations Act, 2001, 2000).

Beginning around the same time and continuing through the early 2000s, lending standards for mortgage borrowers declined, leading many mortgage originators to lend subprime mortgages to borrowers who were more likely to default. Fannie Mae and Freddie Mac were able to borrow funds at cheaper rates because of their government backing; approximately 50 to 75 basis points under private lending rates (Gwartney & Connors, 2009). Between the two firms, they owned nearly 90% of mortgage securities in the secondary market and 45% of home mortgages. Because of their government backing, the two firms were seen as secure backers of riskier subprime loans, and mortgage originators "had less incentive to scrutinize the credit worthiness of borrows" (Gwartney & Connors, 2009, para. 8). Subprime mortgage borrowers are seven to ten times more likely to default on their payments than prime borrowers with a conventional loan (Gwartney & Connors, 2009); hence, the mortgage-lending market was entering increasingly high-risk territories, even considering the nature of CDOs.

Economists point next to the mismanagement of fiscal policy at the hands of the US. Between 2005 and 2006, the Fed increased interest rates sharply, leading to a decline in housing demand and home values. From 2002 through 2005, following the 'Dotcom' crash of the US stock market, the Fed maintained a low interest rate to encourage economic recovery (Grubel, 2010). Grubel claims the Fed maintained this "easy money" policy longer than necessary, contrary to growing interest rates and stagnant wages in the middle class. Looser loan standards and low interest rates drove up demand for housing; as interest rates began rising, housing demand began declining in 2006 (Gwartney & Connors, 2009). Home equity dropped below the cost of the loans, and homeowners' expected returns failed to manifest. Meanwhile, increased interest rates led to an increase in monthly payments for Adjustable-Rate Mortgage (ARM) borrowers, many of whom could not afford the increase (Gwartney & Connors, 2009).

To further complicate circumstances of the 2008 Recession, foreign investments, in particular sovereign wealth funds, increased dramatically as investors engaged in riskier bets following "easy money" interest rates. Driven by high foreign demand for US Treasury bonds, long-term interest rates remained low despite the Fed's increases to short-term interest rates (Gwartney & Connors, 2009). By the end of 2008, correlated with rising wealth from increasing export rates, China and Japan owned a total of over 3.2 billion US dollars (USD) in sovereign debt (Grubel, 2010). As some major global exporters, such as China, kept commodity prices fixed, demand for US imports led to an increasingly riskier debt-to-income ratio, weakening foreign investors' confidence in the US capital markets, thereby reducing income for private US firms (Grubel, 2010). This combination of risky mortgage lending behavior, increasing interest rates, and weakening of foreign investments – thereby a reduction in investment inflow – led to decreased demand in the housing market, increased default rates, and cascading collapse of US capital markets and global sovereign debt trades (Grubel, 2010).

Economic Collapse of Conglomerate Investors

As mortgage defaults rose, investment firms such as The Bear Stearns Companies, Inc.

(“Bear Stearns”), Independent National Mortgage (“IndyMac Bank”), American International Group (AIG), and Lehman Brothers Holdings Inc. (“Lehman Brothers”) began to report losses. In March 2008, the Fed issued a loan to Bear Stearns to cover the investment firm’s losses (Ip & Hitt, 2009). This loan set the first precedent that the US government would back the TBTF investment firms.

AIG also used CDOs to raise funds backing insurance policies taken out by the subprime borrowers; like Bear Stearns and IndyMac, the investment firm relied primarily on selling CMOs. In September 2008, as AIG’s debt portfolio grew too large, rating agencies lowered the insurance firm’s credit rating out of fear that the firm would not be able to repay its CDSs, leading to a rapid decline in stock valuation (Davidson, 2008). The Fed, believing that the collapse of AIG would affect more than the sole firm and would trigger global economic collapse, distributed fiscal relief to secure AIG’s losses, reinforcing the precedent of bailing out TBTF firms (“Not too big to fail”, 2018).

Within the same week of backing AIG, the Fed refused to back Lehman Brothers – who found themselves in similar positions as the other large investment groups. By the end of that weekend, on September 15, 2008, the subprime mortgage crises came to a peak as Lehman Brothers filed for Chapter 11 bankruptcy (Elliott & Treanor, 2009). Unlike US law, which allows a firm to remain in business while courts restructure the debt, UK law does not grant special privileges to foreign firms in the case of insolvency (Frauman, 2003). Lehman Brothers was forced to close business in the UK, triggering global economic contractions.

Impacts of the Recession on Global Trade

Through the rise in global trade liberalization, few countries – if any – were spared the economic contractions of 2008. As leaders of global trade and foreign direct investments (FDI), the US, UK, and China faced rapidly decreased trade while debts and unemployment soared.

The US faced an interruption to global trade, increasing debt and reducing foreign inflow, thereby leading to high unemployment and continuing the subprime downward spiral. Loan sizes, both domestic and foreign, increased during the 2008 Recession, leading to increased national debt (Rai et al., 2021). Meanwhile, US imports and exports collapsed at the onset of the Recession, interrupting trade forecasts and further weakening confidence in US capital markets (Silva & Hassani, 2015). Through this debt and trade collapse, labor rates decreased, and unemployment increased as firms lost investors; this in turn led to an increase in mortgage defaults, further continuing the economic recession (Borbely, 2009).

Driven by poor returns from US markets, UK investments collapsed, leading to increases in unemployment, inflation, and commodity prices; decreases in household purchasing power, demand, and investment rates; and devaluations of currency. Declining returns from investments in the US capital markets led to a recession in UK financial services, increasing unemployment among ‘high-skilled’ specialized workers (Lee, 2014). In turn, the collapse of banking firms cut domestic investment rates, further driving increases in unemployment and debt throughout the UK (Kitsos & Bishop, 2018; Lee, 2014). To try and stop the loss of jobs, the UK labor market reduced rates of outsourcing, substituting with domestic, in-house labor; this lowered product rates while increasing commodity costs (Liang, 2022). While commodity pricing increased, inflation and currency depreciation rose sharply, reducing household purchasing power (Dixon et al., 2021).

Contrary to speculation, China was not immune to the effects of a global recession: export demand and wages decreased alongside domestic currency amidst large selloffs by domestic and foreign investors. Of the 199 billion USD in US sovereign debt owned by China, only 6% was invested in subprime mortgage securities, which should have

isolated damages to the Chinese economy (Sharma, 2010). However, to offset losses in foreign investments as international capital markets recessed, Chinese investors sold billions of renminbi (RMB) in domestic investments, leading to a sharp decline in demand for and a sharp rise in appreciation of the RMB (Sharma, 2010). The costs of exports increased, decreasing global demand (Fall, 2019); as global demand for exports declined, Chinese economic growth slowed (Garcia-Barragan & Liu, 2021). GDP growth decreased from 13% in 2007 to 7,5% in 2009 (Sharma, 2010).

Addressing Economic Recovery

Individual nations took steps to slow investment sell-off and restore confidence in capital markets to encourage borrowing and spending. In the US, the Obama administration championed a government bail-out of large banks and investment firms through TARP to hedge investment losses and interrupt the decline in mortgage securities and unemployment, dramatically increasing the national deficit from an average of 1,8% before the recession to an average of 6,8% after (Meyerson & Roberto, 2009; Moody, 2012; "The Great Recession's effect", 2016). US Congress passed the Sarbanes-Oxley and Dodd-Frank Acts to address interest rate concerns at the Fed and tighten restrictions on mortgage lending. Notably, neither act restricted OTC trading of CDOs or CDSs; nor did they reinstate regulations present in the Glass-Steagall act which had prevented the acquisition of commercial banks by investment banks.

Internationally, the UK issued a bank buyout to ensure liquidity of domestic banks and mortgage securities, also increasing national debt from 20 billion Pound sterling (GBP) in 2005 to 50 billion GBP by 2009 and 103 billion GBP in 2010 (UK Public Spending, 2022). Meanwhile, Chinese investment firms changed investment strategies to highlight diversified portfolios with varying degrees of risk, focusing on US sovereign debt through Treasury bonds (Wu et al., 2012). The World Bank and IMF acted to intervene on recession and drive recovery of emerging and developing markets: the World Bank issued the largest disbursements in the organization's history, nearly 219 billion USD between 2009 and 2010, to mitigate economic losses among developing economies (World Bank, 2011), while the IMF increased lending and interest payments relief among developing economies ("The IMF Response", 2009).

Lessons Learned

Following the catastrophe of the 2008 Recession Back Swan event, the Fed established a forward guidance plan to manage interest rates during economic recessions and recovery (Milstein & Wessel, 2021). Internationally, investors increased diversification through the international capital markets to mitigate risk of loss due to economic contractions in any one industry or region. In parts of the developing world, political figures learned the importance of democratization to address and, in cases, break up 'crony capitalism', resulting in increased regulations to improve the lives of the "least advantaged" (Murphy, 2010). The passing of the Dodd-Frank Act improved conditions for consumers and borrowers by establishing the Consumer and Financial Protection Bureau (CFPB) (Coakley & Daniel, 2019). However, given the precedent set by the CFMA, derivatives such as CMOs, CDOs, and CDSs remain unregulated in OTC trades. By 2018, with little provisions in the way to prevent acquisitions of commercial and investment banks, the TBTF crisis only worsened: four US banking firms owned over 1,9 trillion USD (Omarova, 2019). To further complicate the crisis, in 2018 President Trump rolled back key provisions of Dodd-Frank via the Economic Growth, Regulatory Relief, and Consumer Protection Act ("Crapo Bill"). Most notably, the Crapo Bill raised the threshold of Dodd-Frank's TBTF oversight threshold from 50 billion USD to 250 billion, easing oversight and regulations for medium-sized banks.

Understanding the COVID-19 Recession

In December 2019, the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2, hereafter "COVID-19") emerged in Wuhan, China (Nanda et al., 2021), giving rise to what would be another catastrophe of the twenty-first century: the COVID-19 Recession. In January 2020, the World Health Organization (WHO) declared COVID-19 an international public health emergency; by mid-February 2020, over 2 million deaths and 108 million cases were reported across 223 countries and territories (Nanda et al., 2021; "Weekly epidemiological update", 2021). In response, nations initiated a 'global lockdown.' In some cases, countries prevented any international and local travel; schools, public spaces, and non-essential businesses were closed; and citizens were encouraged – or mandated – to quarantine or isolate and reduce social engagements (Nanda et al., 2021). The global lockdown led to an economic recession as China's manufacturing industry and related exports crashed; globally, unemployment soared as employees were either laid off or furloughed during temporary store closures; and stock markets declined as much as 35% (Băhnăreanu, 2020).

Global Repercussions

Like the 2008 Recession, the COVID-19 Recession impacted international trade and investments. The decline in production in China increased uncertainty among investors, who then delayed their investments, further restricting production and limiting income circulation. Chinese lockdowns significantly restricted manufacturing and production; Jin et al. (2021) estimate the cost of productivity losses was nearly 383 billion USD in the first quarter of 2020, nearly 3% of Chinese GDP. Natural resources commodity pricing, such as in gas, coal, and oil, was highly volatile at the onset of the pandemic and fractured economic stability (Deng, 2022).

Shutdown measures across the globe had a similar effect in each nation, leading to shrinking economic activity, particularly in nations heavy in service and trade industries. Forecasts by the World Bank projected the global economy would shrink by around 5%; advanced economies would see up to a 7% decrease in economic activity, while emerging markets would shrink by around 2,5% ("COVID-19 to plunge global", 2020). The COVID-19 Recession was prominent among countries with "heavy reliance on global trade, tourism, commodity exports, and external financing" (*COVID-19 to Plunge Global Economy*, 2020, para. 3); the US hotel industry faced a drop in daily occupancy of nearly 74%, leading to a revenue loss of over 30 billion USD between March and May 2020 (Ozdemir et al., 2021). Shutdowns in education and primary healthcare are also forecasted to have long-tail impact on the workforce (Chaney, 2020; Trollman et al., 2021; Watermeyer et al., 2021). The lack of access to financial support and healthcare may lead to reduced birth rates, decreasing the rate of population growth (Gromski et al., 2021).

In the wake of these shutdowns, investors grew increasingly concerned with market conditions and selloffs began to occur in mass globally, in similar fashion as the 2008 Recession. The Consumer Confidence Index (CCI) of the US dropped from nearly 100 – indicating stable consumer growth – to 70 through 2020, a much steeper drop in consumer growth than in China (He et al., 2021). With the mass accumulation of international holdings of US debt, led by decades of trade deficit within the US, the risk of bulk sell-off could collapse the US dollar and global currency exchange rates, as was seen in the 2008 Recession.

Addressing Economic Recovery

The high rates of unemployment and loss of income, alongside contraction of domestic GDPs and capital market valuations, required drastic intervention by governments. In the US, the Fed followed its 'forward guidance' plan from the 2008 Recession and lowered the federal funds rate to nearly 0%. As inflation and employment rates increased through 2021, the Fed indicated it would begin to increase the funds rate in alignment with the plan (Milstein & Wessel, 2021). In addition to

adjusting interest rates, the Fed also resumed buying mortgage-backed securities (MBSs), which were central to the 2008 Recession and behaved in similar dysfunction at the onset of the COVID-19 Recession. By June 2020, the Fed set goals to buy 80 billion USD in Treasury securities and 40 billion USD in residential and commercial MBSs monthly. By December 2021, these numbers were reduced by 20 billion USD and 10 billion USD monthly, respectively, to allow the market a tailed recovery (Milstein & Wessel, 2021).

The US Congress, for its part, passed the Coronavirus Aid, Relief, and Economic Security Act (the "CARES" Act) to provide economic relief through direct distribution of funds and loans to households and businesses. Part of this act provided fiscal relief for several TBTF industry titans, ranging from domestic airlines to insurance companies.

Like US efforts, Chinese policymakers released stimulus packages through tax cuts and lower interest rates to encourage borrowing and spending (Kuo, 2020). China also switched its economic strategy to reduce dependency on international trade by reinvesting in domestic economic advancement, particularly by fostering advances in technology (Kuo, 2020). Internationally, The World Bank invested 160 billion USD to over 100 countries to promote healthcare and stimulate private businesses through the recession, including 50 billion USD as grants and concessional loans ("COVID-19 to plunge global", 2020).

The State of Recovery Today

As of writing, COVID-19 continues to threaten global activities and trade. Through internationally coordinated efforts, economic recovery following the COVID-19 Recession has been markedly swifter than that of the 2008 Recession. US gross domestic product (GDP) grew by 7,4% year over year (YOY) by the end of 2021 ("Gross Domestic Product", 2022).

However, the IMF notes slowing global growth and rising inflation as concerns for economic recovery in the ongoing COVID-19 crisis (*World Economic Outlook Update*, 2022). US inflation is reaching 40-year record highs ("Consumer price index", 2022), and purchasing power is decreasing while wages among the US middle class are stagnant (Kharas & Seidel, 2018). In the UK, inflation is reaching 10-year record highs and purchasing power is decreasing, despite modest wage growth among the UK middle class ("Consumer price inflation", 2021).

Preparing for the Next Recession

Arguably, the most popular lessons learned from the 2008 Recession and the COVID-19 Recession center on how governments might more quickly and readily intervene on economic contraction by providing fiscal relief to TBTF firms, as evidenced in the rapid turnaround and consistent responses in the US CARES Act. Having learned the lesson from denying Lehman Brothers their fiscal bailout, the Fed was prepared to expend any cost to contain the more recent recession. Yet, the question remains on the scalability of these bailout efforts as TBTF firms inevitably rise with global growth.

The Problem with Bailouts

At its core, the 2008 Recession was a result of poorly managed CDOs and CDSs in OTC trades at the hands of US-based financial titans; firms which only emerged from a series of mergers, acquisitions and investment activities that had been explicitly forbidden under Glass-Steagall, implemented to address factors of the Great Depression. Yet, no regulations have emerged to prevent the continued growth of existing TBTF firms or the emergence of giants-to-be. Under some theories, regulation limits capitalist opportunities which arguably drive innovation; in others, regulation protects society from experimentation at the hands of the mad scientist.

The complete absence of regulation – and even explicit ban on regulation, in the case of the CMFA – will continue to subject society to the financial risks of investors who might begin

seeing bailouts as taxpayer-backed security.

CONCLUSIONS

Hume (1993) concludes the necessity of observation and the limits of experience in forecasting matters of fact: "A man must be very sagacious, who could discover by reasoning, that crystal is the effect of heat, and ice of cold, without being previously acquainted with the operation of these qualities". Innovation must be allowed to flourish, and society to bear witness to its effects, if human progress is to continue; this may, to a degree, require tolerance for failure and economic contractions. Derivatives have unarguably created vast wealth for developed markets. Yet, to extend Hume's claims, knowledge of heat is insufficient to be practical; refraining from touching flames is the applied lesson. Similarly, knowing that derivatives carry high risk, for not just the investor but the government-supported firm deemed too big to fail as well, is merely knowledge of the problem. Governments must perform services greater than securing investors' losses and must, to protect the citizens and residents within the nation, find ways to resolve the TBTF crisis – through regulation of conglomerates, regulation of over-the-counter derivative trades, and regulation of fiscal relief policies, among others – before industry titans build debt greater than the sum of currency in government coffers.

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