BETTER MARKETS

BANKING REPORT

The Increasing Dangers of the Unregulated "Shadow Banking" Financial Sector

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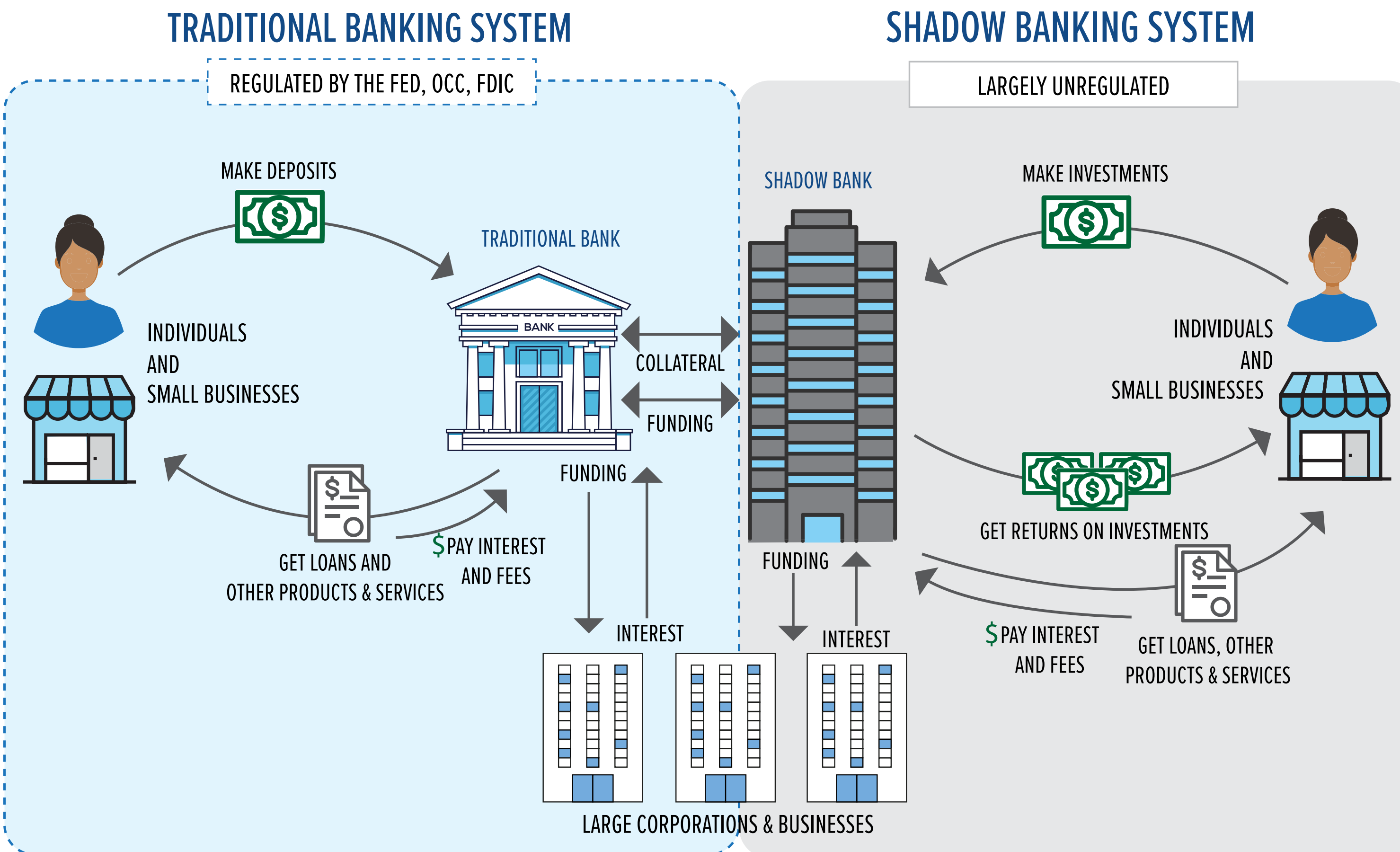
INTRODUCTION

The U.S. financial sector is comprised of two distinct but related parts. One includes the nation's banks that are regulated by the Federal Reserve, the Office of the Comptroller of the Currency, and the Federal Deposit Insurance Corporation. The other part includes a diverse range of different types of financial institutions that are not structured or regulated as banks, including investment management companies, pension funds, hedge funds, money market funds, mutual funds, payday lenders and others. These nonbank financial institutions collectively can be thought of as the "shadow banking sector" because across these institutions many of the same fundamental functions as banks are performed, including lending, deposit taking, check writing and similar bank-like activities. However, despite performing the same functions as banks that have the same risks, shadow banks are not subject to the same regulatory requirements that apply to banks, and in some cases face almost none at all.



That is in part why the shadow banking sector has been growing in size, scope, and interconnectedness. Since the 2008 Crash, the share of global financial assets held at shadow banking institutions increased from 42% in 2008 to close to 50% at the end of 2019. Additionally, shadow banking institutions originated more than two-thirds of all U.S. mortgages in 2020, and the share of loans to businesses they hold is nearly equal to the share that banks hold. Their involvement in activities that impact funding markets have also grown, as evidenced by the Fed's expansion of its supporting activities to a broader range of markets in response to the market stress of the 2020 pandemic as compared to its activities during the 2008 Crash.

It may seem natural to think that the risks stemming from the shadow banking sector are not a major concern because they are outside the banking sector and so are less likely to cause or exacerbate the type of financial crises most often associated with the banking sector. But the risks stemming from the shadow banking sector have significant consequences for the entire financial system, including the banking sector, as well as the economy. The experiences of the 2008 financial crash and the 2020 pandemic-caused market stress have demonstrated that the risks in the nonbank financial sector significantly exacerbate the pace and depth of market stress, spillover directly into the banking sector, and threaten to virtually shut down key financial markets and the economy. In both 2008 and 2020, severe weaknesses at nonbank financial firms led to the need for massive support from the Fed.

Stronger capital and liquidity requirements as well as deposit insurance in the banking sector have all but stopped the occurrence of retail depositor panic and bank runs when large numbers of depositors want to pull out their deposits simultaneously. Without similarly strong capital, liquidity, and other requirements for shadow banking institutions, which would allow them to absorb losses and fulfill financial obligations even in times of severe stress, there is significantly less investor confidence, making them more susceptible to panic and, given their increasing importance to the system, more likely to require taxpayer-funded government support. For example, money market funds (MMFs), which effectively take deposits and invest them in financial securities, experienced massive withdrawals during the market stress of both the 2008 Crash and the 2020 pandemic. MMFs received substantial bailouts via Federal Reserve support programs both times.

> *It is abundantly clear that the shadow banking sector can no longer continue to be as unregulated as it has been and that, until changes are made, the banking sector must protect itself through increased capital requirements to account for these specific risks.*

Whether at a bank or a shadow bank, when depositor or investor cash is invested in assets that carry a risk of default or loss in value, it creates uncertainty. It is that uncertainty that can turn into panic in times of stress and lead to runs in the financial markets, especially when that uncertainty is magnified by insufficient regulation or transparency. These runs result in rapidly and significantly deteriorating asset prices as well as increased funding costs in financial markets or a lack of funding availability altogether, all greatly hurting economic activity.

It is abundantly clear that the shadow banking sector should no longer continue to be as unregulated as it has been, and until regulations are implemented to make those institutions more resilient, the banking sector must be protected through increased capital requirements to account for the increased risks and spillover from the shadow banking sector. Not only have the issues in the nonbank financial sector proved to cause or exacerbate financial market turmoil in times of stress, but they have also made the too-big-to-fail issue in the financial sector harder to solve. To better protect the financial system and economy, regulators must put in place requirements that promote a more stable and secure shadow banking sector, which importantly includes the heightened standards and oversight that comes with a designation by the Financial Stability Oversight Council that a shadow banking institution is systemically important.

This report provides an overview of the shadow banking sector and the risks it poses to banks and the broader financial system. It will be followed by a series of reports that will take a deeper look into specific pieces of the nonbank financial sector, the risks within them, and the most sensible solutions.

The Activities of the Bank Sector, Its Risks, and Its Supervision and Regulation by Regulatory Agencies Highlight the Risks of Shadow Banks and Why They Also Must be Regulated

In order to understand shadow banking and its risks, it is helpful to understand what banks do and what their risks are. Banks serve a special purpose in the financial system and economy, which is recognized through unique privileges that also require heightened regulation and scrutiny. The basic, more traditional functions they serve to both individuals and businesses are essential to a well-functioning economy—safeguarding deposits, facilitating the movement of funds and payments, and providing lending. They also serve a key role in financial markets, including in markets used by companies and the government to obtain short and long-term funding.

Traditional Banking and Its Risks

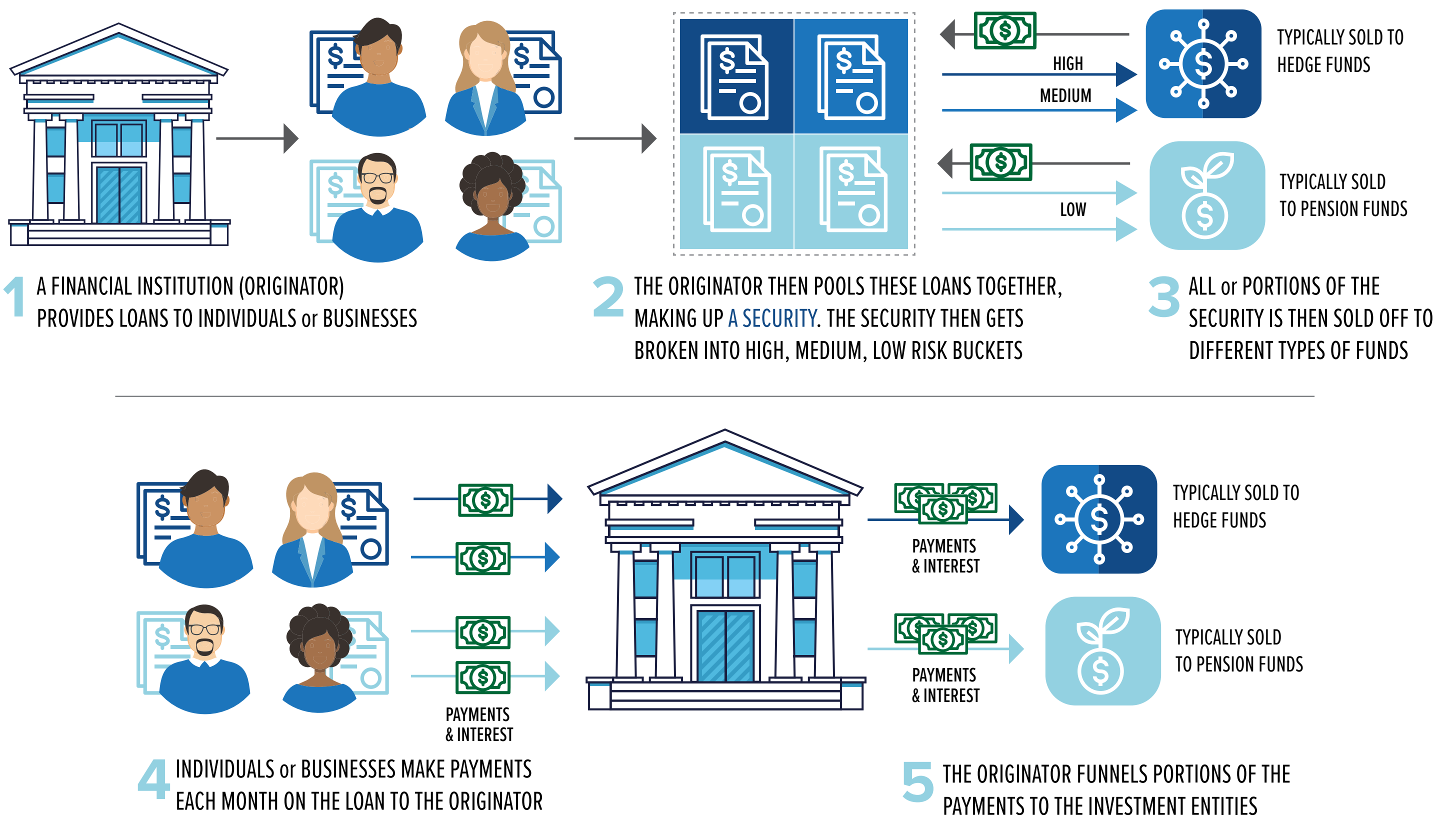
In a sense, banks can be thought of as the original version of crowdfunding. They pool the financial resources of many individuals that are deposited in banks and lend them to those that want funding. In other words, they facilitate a *transfer of funds from savers to borrowers*. This is the basic form of what is known as *intermediation*, with the bank as the *intermediary* between those who have excess funds and those who want excess funds, i.e., savers and borrowers.

Yet the fundamental structure of banks is inherently vulnerable and therefore carries risk. For example, banks make loans by using deposits to fund those loans; but every loan has a risk of not being repaid, in which case the bank may not be able to return those funds to its depositors. That is the reason borrowers pay a higher rate of interest on loans than the rate that is considered “risk-free”—the bank and the depositor must be compensated for the risk. This dynamic is known as *credit transformation* or using a more stable and creditworthy source of funding (e.g., deposits) to engage in an activity that has higher risk and, therefore, higher return (e.g., loans).

Further complicating the dynamic between deposits and lending is the fact that deposits are typically short-term, whereas loans are typically longer-term. For example, most deposits made by individuals are “demand” deposits—i.e., the depositor can retrieve their funds at any time—whereas the average life of a mortgage loan is typically around 10 years. This dynamic is known as *maturity transformation* or using a source of short-term funding to make a longer-term loan or investment and is one of the principal roles banks play in the economy.

Additionally, banks—especially larger banks—may manage the risks of the loans they make by using a process known as *securitization*. In banking, securitization is a process by which a set of loans is essentially converted into a bond that is sold to investors, who then own the risk of non-repayment on those loans. In part because of their bond-like attributes and that they spread the risk of a pool of many loans, there is an active market to invest in or trade these securities. This creates a kind of *liquidity transformation*, converting assets such as individual retail loans that are not actively bought and sold into securities that are more liquid assets that can be easily bought and sold in financial markets. This means that their realized market value will change as frequently as they are exchanged in the financial markets, which introduces the risk of a more rapid loss in value. This transformation could also be in the form of converting cash, which has a set value, into securities, which can lose market value.

How Securitization Works



As with other corporations, banks are often borrowers too, relying on short-term borrowing to fund their day-to-day operations and activities. This can include, for example, funding for loans that they make, securities they purchase, or payroll they make to their employees.

Each of these processes introduces risk to the depositor or investor.

- Credit transformation introduces the risk that the borrower will not repay the loan.
- Maturity transformation introduces the risk that the funds will not be available when the depositor or investor wants to retrieve their funds.
- Liquidity transformation introduces the risk of loss in market value of assets held.

The uncertainty created by these risks is even higher during times of stress when they can turn into panic, affecting both investor and creditor behavior. In such cases, investors move rapidly to get their money back, and lenders don't want to make any further loans.

Banks Also Play a Key Role in Markets for Large-Scale Funding Which Carries Its Own Risks

Larger banks also participate in activities that are beyond the basic functions of a bank and serve as intermediaries in the financial markets by buying and selling assets in the markets and facilitating and directly providing large-scale funding.

This even includes facilitating financial market transactions for the U.S. Government. The broker-dealer subsidiaries of large banks that have been given special approval by the Fed serve as intermediaries between the U.S. Government and the private markets. They (as well as some other broker-dealers not owned by banks) are known as *primary dealers* and are required to be the sole participants in auctions of newly-issued U.S. Treasury securities—i.e., they serve as the buyer to the seller, in this case the U.S. Treasury. Primary dealers can then either hold onto the securities or sell them into financial markets.

Because the very purpose of banks is to engage in its three basic functions—safeguarding deposits, facilitating payments, and providing lending—and because those functions are seen as essential and beneficial to the economy and society, banks are afforded special privileges that other companies are not afforded.

Similarly, these primary dealers serve as the intermediary between the Fed and private markets when the Fed is buying or selling assets such as U.S. Treasury securities or mortgage-backed securities, as it did in large quantities during the 2008 Crash and in response to the 2020 pandemic market stress. That is, if the Fed wants to buy U.S. Treasury securities, they will do so directly from primary dealers and in exchange, will add cash to the primary dealer accounts that are held with the Fed.

This also puts large banks as key intermediaries in the markets for *repurchase agreements* or *repo*. Repos are short-term exchanges of cash for securities, most often U.S. Treasuries or mortgage-backed securities, and are effectively a loan with the securities as the collateral. These loans are generally very short-term, mostly for just a day. In order to protect the lender against credit risk, the collateral required is more than the amount of the loan. The rate charged for the loan in this transaction is known as the *repo rate*. This market is a significant source of short-term funding for all sorts of financial and nonfinancial companies, including banks and shadow banks. It is also used by the Fed to provide emergency funding and manage the level of the federal funds rate. Trillions of dollars are lent and repaid through repo transactions ***each day.***

A sudden and rapid increase in the sale of those securities can cause their price to fall dramatically, and a rapid increase in the demand for repo funding can cause the repo rate to spike. This is what occurred during the 2020 pandemic market stress, which simultaneously increased the need for short-term funding and made that funding more expensive, a potentially catastrophic mix. In response, the Fed purchased trillions of dollars in U.S. Treasury and mortgage-backed securities in the open market through primary dealers and also stepped in as a huge repo market participant to re-balance the markets. This is discussed more below.

In addition to repo, large banks provide significant short-term funding through securities lending, so-called prime brokerage loans to hedge funds, and lines of credit. Many shadow banking institutions rely on these funding activities to a great extent.

- Securities lending is similar to repo, but can also include securities other than U.S. Treasuries and mortgage-backed securities. The securities are given to the bank as collateral in exchange for cash, and securities can be exchanged for other securities.
- Prime brokerage loans are typically provided to hedge funds who obtain a loan to make investments by holding a trading portfolio with a large bank's broker-dealer that serves as collateral to the loan.
- Lines of credit are a standing amount of possible credit that can be utilized in any proportion, or a sort of corporate credit card. These are utilized by a wide range of financial and nonfinancial corporations.

Large banks also facilitate the issuance of debt securities for other companies as well as raise funds for themselves through their own issuance of debt securities. All sorts of companies, including banks, rely on short- and long-term debt securities for their funding needs. Commercial paper securities are utilized for short-term funding, mostly just one to four days, but as long as over 80 days. Corporate bonds are utilized for longer-term funding of at least one year, but as long as 30 years. Last year companies issued nearly $100 billion of commercial paper each day on average, two-thirds of which was for one to four days, and the total amount of corporate bonds outstanding was around $10 trillion. Shadow banking institutions are material owners of these debt instruments—for example, MMFs are the largest holder of commercial paper with over 20% of the market share.

Just as with repo, each of these types of funding can be significantly and negatively affected by market stress and turmoil at nonbank financial institutions.

Special Treatment of Banks for Their Unique Role in Our Economy and Financial Markets

Because the very purpose of banks is to engage in their three basic functions—safeguarding deposits, facilitating payments, and providing lending or funding through repo and other markets—and, because those functions are seen as essential and beneficial to the economy and society, banks are afforded special privileges that other companies are not afforded. Most importantly, banks can deposit funds in special accounts with the Fed, use the Fed's national payment system to transfer funds, access the Fed's emergency lending programs in times of stress when they need emergency funding, and make substantial profits from the transactions conducted through their unique roles with the Treasury and the Fed.

The Fed also sets the so-called reserve requirement for banks, another aspect that is fundamental to a bank's ability to engage in lending to support the economy. This allows banks to keep only a small portion of deposits on hand at any time while being able to lend out the rest, although still recognizing the existence of and customers' ability to use their deposits. This concept—that not all deposits will be available at a given time if customers demand them back—is, as noted above, in part what can lead to panic by depositors and result in bank runs. This is why banks are provided with a backstop of insurance for their depositors through the Federal Deposit Insurance Corporation. Currently, banks are also paid interest on the reserve balances they hold in accounts with the Fed.

Heightened Supervision and Regulation of Banks for Their Special Treatment and Unique Role

Because the U.S. taxpayer is ultimately at risk in backstopping banks, the special privileges they enjoy appropriately come with increased expectations and scrutiny. Not only are banks subject to a host of consumer protection laws, but they must also comply with various regulatory requirements and engage in regular supervisory examinations, both of which are designed to promote their safety and soundness.

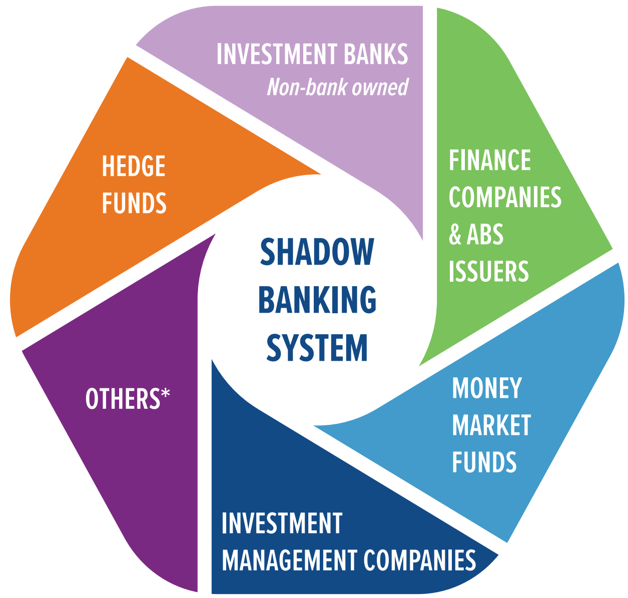
The most important regulatory requirements in this regard are those around capital and liquidity. Sufficient capital is necessary to allow a bank to absorb losses in times of stress and materially reduce the probability of a bank failure. Related to this concept is liquidity, an appropriately substantial level of which will allow a bank to continue to fulfill its financial obligations and prevent an acceleration towards failure under stress conditions. Capital and liquidity requirements instill more confidence in investors and customers that a bank will not fail but will continue its operations when under stress. Importantly, this confidence helps to reduce overall funding costs for banks because it reduces their credit riskiness. It also reduces the likelihood that a financial or economic downturn will turn into a full-blown crisis.

In addition to heightened regulations, banks are unique in having to undergo regular supervisory examinations. These examinations assess whether banks are complying with regulations and laws and whether they have adequate risk management and governance processes to ensure the bank is being run safely. Serious weaknesses in these processes can lead to consequences such as restrictions on banks' business activities or monetary penalties.

Shadow Banks Have the Same Risks as Traditional Banks and Their Risks Have Serious Consequences for Funding Markets and Banks

There are many shadow banking institutions that engage in the same fundamental practices of banking—transfer of funds from savers to borrowers as well as credit, maturity, and liquidity transformations. They also heavily participate in financial market activities that affect markets for short and long-term funding. While each of these practices typically is performed by different institutions, as opposed to within the same institution as with a bank, the same or similar risks that are associated with each of the activities are still present.

Here we will not discuss each type of shadow banking institution (see diagram); rather, we will focus on those institutions and activities that significantly exacerbated stress in the markets during both the 2008 Crash and the 2020 pandemic.



* Not all shadow banking institutions are represented in this graphic.

Importantly, although these institutions engage in similar fundamental activities as banks and therefore have similar risks, they do not face the same level of regulatory requirements or supervisory scrutiny—indeed, many face none. Without the type of supervision and regulation that exists for banks, there is less confidence in these institutions, and so panic around these institutions and their acceleration towards failure is more likely in times of severe market stress.

Just as banks invest depositor savings into loans, shadow banking institutions invest excess savings into various assets, especially those that provide short- and longer-term funding essential to financial stability. Whether it is the U.S. Government borrowing money through its Treasury securities, a company meeting its financial needs with commercial paper, corporate bonds, repo, or simply a loan, or an individual in need of a loan, shadow banks are involved.

For example, an MMF might gather funds from savers and invest those funds into commercial paper or bonds issued by companies in need of funding or into U.S. Treasury securities. In the case of commercial paper and bonds, as discussed above, there is credit transformation from cash to credit-risk debt securities, which carry the risk of borrower default. Additionally, for all debt securities, there is liquidity transformation from cash that holds its value to securities whose market value can decline rapidly in times of stress.

As highlighted in the banking section, these risks can ultimately lead to run risk. That means that, in times of market stress, investors/creditors may panic that they will not get their money back if either companies default on their debt or market values declines significantly. That will incentivize many investors to "convert" their assets into cash as quickly as possible by selling them, depressing asset prices, and incentivizing creditors to significantly increase the cost and reduce the availability of credit, reducing household and business access to lending as well as funding in the financial markets.

The presence of market risk compounds the issue of run risk. Continuing the example of MMFs, when customers panic and withdraw their cash from an MMF, that MMF is required to sell assets to raise cash to pay the customer. When withdrawals occur in large quantities, it requires the sale of large quantities of assets, which pushes down their market price by suddenly and greatly increases the market supply. Decreased market prices create even more investor panic, and the cycle exacerbates.

This dynamic can be described as *one-sided markets*, in which the actions of most market participants move in the same direction—i.e., everyone selling, causing asset prices to fall, causing more customer withdrawals, causing more selling, and so on. One-sided markets can make it difficult for banks to fulfill their role as financial market intermediaries. If markets become overly one-sided, banks, which are primary market intermediaries to shadow banks, may begin to approach their perceived limits on their ability to absorb assets. This can result in rapid and severely increased funding needs and costs, an overall reduction in the availability of funding, and further depressed market prices for assets. This is exactly what happened in both the 2008 Crash and the 2020 pandemic.

Quickly falling asset prices also affect the ability of companies to gain access to both short and longer-term funding. When there are many more sellers than buyers, companies will be much less likely to find buyers for newly issued debt, which results in either increased funding costs (i.e., having to offer a higher rate of interest to investors in order to attract them) or having to rely on other sources of funding. In March 2020, when prices for nearly all fixed income securities were falling, companies had to rely on lines of credit with their banks instead of getting their funding directly from financial markets.

Because debt securities are also used as collateral in all sorts of financial transactions, falling asset prices increase the need for additional collateral to maintain minimum collateral requirements. For example, U.S. Treasury securities serve as collateral in trillions of dollars of financial transactions. If the prices of U.S. Treasury securities decline, then investors will need to post more collateral, which is typically financed through borrowing in funding markets. This increases the demand for funding and drives up funding costs.

Additionally, trillions of dollars of derivative positions require the parties involved—mostly banks and shadow banks—to exchange cash (or cash-like securities such as Treasury bonds) with each other as the value of the positions changes. As market values change, each party in the transaction could end any given day as a winner or loser, where one party's loss is the other party's gain. Those that are in a loss position must pay cash (or Treasuries) to the other party, typically on a daily basis, to prevent any exposure from growing too large and minimize exposure in case of default. This cash is also largely obtained in the funding markets, often through repo transactions. So when market factors change significantly and rapidly, this drives up demand for, and therefore cost of funding.

The Exacerbation of Market Stress in 2008 and 2020 from Shadow Banks Has Shown These Institutions Must Have Strong Regulations

MMFs, large investment management companies, and hedge funds each engage in activities that affect funding markets and financial markets more broadly. Runs and one-sided markets at these shadow banking institutions in times of stress can have widespread and deep impacts. This was made apparent in the 2008 Crash and again in the 2020 pandemic when funding markets all but shut down, and the Fed stepped in with trillions of dollars in support as a backstop for virtually every asset class. Such large-scale and broad-based financial market support creates potentially damaging market distortions, can exacerbate the wealth gap, and increases moral hazard in financial markets.

Moral hazard in the financial system is a dangerous issue. If market participants and financial institutions believe that the Fed will always be there to support financial markets and provide essentially unlimited emergency funding when there is severe market stress, they have less incentive to consider the consequences of bad or risky behavior. This incentivizes increased risk-taking by financial institutions and their employees based on the belief that there will always be a bailout—e.g., the so-called "Fed put." That is, negative consequences for engaging in dangerous activities are not borne by individuals or institutions. Rather, the costs of addressing risky behavior are borne by the Fed and taxpayers instead of the financial institutions and their employees engaging in that risky behavior. As increasing support is provided to more and more markets, moral hazard will increase in those markets.

To understand which institutions were at the center of the market turmoil in 2008 and 2020, it is instructive to look at the emergency facilities put in place by the Fed during the two market collapses. These facilities make two points very clear:

1. The issues in the shadow banking sector that were made painfully apparent in 2008 were not sufficiently addressed—and in some cases not at all—as was made clear by the Fed having to resurrect the same emergency support facilities in 2020 that it used in 2008.

2. The risks in the shadow banking sector and the broader impact from those risks have grown. In fact, in 2020, the Fed added two more facilities—to support the corporate bond markets—and last year it established a permanent standing facility to act as the backstop in the repo markets, especially in times of stress.

> *If market participants and financial institutions believe that the Fed will always be there to support financial markets and provide essentially unlimited emergency funding when there is severe market stress, they have less incentive to consider the consequences of bad or risky behavior.*

The Term Asset-Backed Securities Loan Facility (TALF)

Part of the nonbank financial sector performs the same basic functions of banks described above—taking short-term investor funds to make longer-term loans and then securitizing those loans to be sold into the financial markets. The resulting securities are known as *asset backed securities* (ABS).

This activity was large and growing leading up to the 2008 Crash, with many securities being backed by the ultra-risky sub-prime mortgages that were central to the 2008 Crash. The ABS market has shrunk since then, largely because the sub-prime mortgage market collapsed so dramatically in the 2008 Crash that investors simply are not as interested in such risky securities in the same way they used to be. Currently, most of the securities in the ABS market now are backed by student loans, auto loans, and credit card loans.

The different parts of the ABS process—raising funds, originating the loans, and the various aspects of the securitization process—are handled by different shadow banking institutions. As with the deposit-taking, lending, and securitization that takes place with banks, the ABS process faces the same risks that result from credit, maturity, and liquidity transformation discussed above.

Most of the funds used to finance the origination or purchasing of loans and the securitization of those loans into ABS are raised through short-term borrowing, primarily through commercial paper and repo. Therefore, when there is turmoil in ABS markets from increased defaults or large price declines, there likely will be knock-on impacts in the short-term funding markets, exacerbating a downward spiral.

Additionally, in the event of one-sided ABS markets when most are selling and few are buying (sometimes even though prices are hugely discounted), lenders would be unable to repackage their loans into a security that is easily sold to investors. That will result in their inability to offload their risk through the securitization process. If shadow banking loan originators have to hold the risk, it reduces their desire to originate loans in the first place and increases their need for stable funding, at precisely the time when funding has become most difficult. Ultimately, fewer student, auto, and credit card loans will be originated, and those that are originated will face higher, if not exorbitantly higher rates, to be compensated for the risk.

The FSOC has the authority to designate financial institutions as systemically important, which would result in those institutions being subject to supervision and regulation by the Fed.

In both 2008 and 2020, there was massive, panicked selling by investors of ABS, which threatened to stop the flow of credit to individuals and businesses and cause the default of the institutions involved in this process. In response, the Fed created what it called the Term Asset-Backed Securities Loan Facility, which effectively made the Fed a buyer in the ABS market. The Fed provided loans to holders of ABS in exchange for the ABS as collateral at only a slightly discounted rate as compared to the dramatically lower prices that were then available in the market, providing ABS investors with cash and allowing them to not have to sell their ABS positions at huge losses.

Given the repeated history of ABS market turmoil, it is clear that some shadow banks that are significant holders of ABS or significant market participants and lenders are systemically important. The FSOC has the authority to designate financial institutions as systemically important, which would result in those institutions being subject to supervision and regulation by the Fed. The FSOC should use this authority to designate such institutions as systemically important. At a minimum, once designated and under the supervision and regulation of the Fed, these institutions should be subject to stringent capital and liquidity requirements.

Money Market Funds and the Money Market Mutual Fund Liquidity Facility (MMLF)

MMFs have repeatedly been a major problem in times of market stress. In fact, they are the only type of shadow banking institution to have a specific emergency facility from the Fed created just for them (the Money Market Mutual Fund Liquidity Facility). The Fed created and funneled billions of dollars of support through this facility to bail out the MMF sector during both the 2008 Crash and the 2020 pandemic.

MMFs are structured basically to be a type of deposit account that provides depositors/ investors with a higher return than a standard bank account. Investors put their money into MMFs, which then invest that cash in ostensibly stable securities with the promise that the funds can be withdrawn on a one-for-one basis. However, unlike banks, MMF deposits are not insured, and they don't face capital requirements, which is in large part why they are able to offer higher returns. Banks are charged a fee for having deposit insurance, which is mandatory for all federally chartered banks and is held by nearly all banks. And there is a cost to raising and holding capital. MMFs don't face these costs.

Many MMFs invest in U.S. Treasury securities, which support funding in the repo market, as well as commercial paper and corporate bonds, which provide corporations with short- and longer-term funding. Because these assets support funding markets, the instability at MMFs in the 2008 and 2020 stressed market conditions had significant impacts on the availability and cost of funding for all types of companies.

When there is severe market stress, investors panic that there will be asset price declines and they will not be able to withdraw the money that they originally invested. This results in runs on the MMFs in which investors try to be the first in line to withdraw their cash. To fulfill the substantial and simultaneous withdrawal requests, the MMFs have to sell large quantities of assets into the markets, depressing asset prices. These depressed prices create further panic among investors, leading to even more withdrawals and further depressed asset prices. Without Fed intervention in 2008 and 2020, this cycle would have continued, and many MMFs likely would have collapsed into bankruptcy, causing huge investor losses as well as potentially major disruptions to funding markets.

Similar to the regulations put in place to help prevent depositor runs on banks, there must be regulations for MMFs that improve their resiliency in times of stress and decrease investor panic. At the least, the amount investors can expect to withdraw at any time should change with the net asset value of the fund itself, rather than maintaining the promise of being able to withdraw what was originally invested. Combined with other sensible reforms—to be discussed in a future report—the safety and stability of these funds can be increased materially and limit the need for any future Fed support.

Commercial Paper Funding Facility and the Primary and Secondary Market Corporate Credit Facilities

Falling prices for corporate bonds and commercial paper that result from large-scale selling and one-sided markets deter the issuance of these debt instruments. In such a market, corporations will have trouble finding buyers of their debt securities. This limits both short-term and longer-term funding availability for corporations. Even if corporations were able to issue and sell debt securities into a falling market, they would have to offer much higher rates of return on the debt to compensate investors for the increased risk, potentially significantly increasing the cost of funding.

This is what happened in both the 2008 crash and the 2020 pandemic market stress. So-called *spreads*—or basically the price an investor is charging to be compensated for risk on debt securities—increased dramatically for commercial paper and corporate bonds. Unsurprisingly, issuance of both declined substantially in the face of few buyers and the dramatically increased costs. In fact, in the 2020 pandemic, corporations were effectively unable to obtain funding at all from the markets, which caused them to draw down their pre-existing lines of credit with their banks to keep fulfilling their financial obligations. However, if they had reached the limits of their lines of credit, numerous corporate defaults could have inevitably followed.

To prevent such mass corporate defaults, the Fed supported the commercial paper markets in 2008 and 2020 via a dedicated facility and added two facilities in 2020 to also support the corporate bond markets. These facilities effectively made the Fed a buyer in these markets to provide balance to the one-sided markets and reduce investor panic.

While the Fed facilities succeeded in restoring market confidence and reducing funding costs, the increased moral hazard in the markets has led to unprecedentedly low spreads even for debt with the highest risk, so-called *high-yield debt* which was formerly known as "junk bonds." Remarkably, the Fed didn't even need to actually participate in the markets to have this effect. The mere announcement of the Fed creating facilities to purchase these bonds (and, thereby, restore a two-sided market by being a huge buyer when there were few, if any other buyers) brought spreads on corporate bonds down by two-thirds even before the Fed purchased any bonds, referred to as the "announcement effect."

There is little transparency around the transactions and positions of these firms, and, therefore, increased disclosure would greatly help the Fed and FSOC in maintaining financial stability as well as inform the public of the risks these institutions carry.

As discussed above, much of the selling of corporate debt securities in March 2020 was done by MMFs when their investors rushed to pull out their money in massive quantities. However, there are other types of shadow banking institutions whose activities can affect corporate bond markets that invest in, or manage investments in, corporate bonds, such as large investment management companies and hedge funds. These other funds also can face large redemptions in periods of stress, which requires the sale of securities, although some have so-called lock-up periods during which investors are not allowed to redeem their money.

There are other factors as well at these institutions that could lead to significant problems in both corporate bond markets and funding markets. For example, hedge funds make speculative bets that amplify the risks associated with credit, maturity, or liquidity transformation, requiring them to rapidly exit as many of their positions as possible during severe market stress, which includes selling assets quickly and massively.

Additionally, many funds seek to multiply financial returns through leverage, essentially investing money that has been borrowed, which amplifies risk even more. For example, hedge funds obtain substantial amounts of funding from banks by posting some of their investments as collateral. In turn, the bank will provide funding to hedge funds that is many multiple times the collateral posted that the hedge funds use to purchase many multiples more of assets. When the value of the collateral declines, more must be added to meet the required collateral amount. The additional collateral must also be funded, increasing demand and driving up costs in the funding markets.

Thus, the problems in the corporate debt markets caused by large funds would also benefit from capital and liquidity requirements as well as other regulatory requirements. For example, there is little transparency around the transactions and positions of these firms, and, therefore, increased disclosure would greatly help the Fed and FSOC in maintaining financial stability as well as inform the public of the risks these institutions carry. The largest and most interconnected of these firms have proved to be systemically significant and, therefore, must be designated as such by the FSOC and be subject to supervision and regulation by the Fed.

U.S. Treasury Securities in Repo and Other Collateral

During the 2020 pandemic-induced market stress, hundreds of billions of dollars of U.S. Treasury securities were sold during the so-called "dash for cash." Many institutions, from shadow banks to governments, needed cash to fulfill payment obligations in the face of market stress and economic shutdown. These massive sales over a short period threatened to disrupt funding markets.

First, the sales decreased the market value and therefore increased the yields of U.S. Treasuries since bond yields move inversely to price. Yields on U.S. Treasuries are considered the "risk-free" rates that serve as the basis for virtually all other funding costs, such as for debt securities and loans. Second, the one-sided markets for U.S. Treasuries flooded the balance sheets of primary dealers, putting pressure on their ability to intermediate in the markets. Third, their decreased market value increased the amount of additional collateral over a short period that needed to be funded for repo and other financial transactions.

MMFs and hedge funds were the largest sellers of U.S. Treasury securities during the 2020 market stress for the reasons discussed above. A widespread, speculative type of trade among many hedge funds fell apart as the market turmoil unfolded. The trade essentially was a bet on the difference between the prices of U.S. Treasury securities today and prices in the future, a so-called "basis trade." When the markets moved against this bet, hedge funds were forced to sell Treasury securities in significant quantities.

Banks had difficulty absorbing the sales from the one-sided market for U.S. Treasury securities. Once banks were less willing to absorb additional Treasury securities that were being sold, prices for these securities became further depressed, causing yields to increase even more. The Fed supported the markets by engaging in massive purchases of Treasury securities. In fact, in the first 90 days after the onset of stress in March 2020, the Fed purchased $1.6 trillion in Treasury securities.

In addition to the market for Treasuries themselves, the combined needs for funding during the stress in March 2020 resulted in a rapid and sizable increase in the demand for short-term funding in the repo market (which, as noted above, is a significant source of short-term funding backed by Treasuries). Banks, the primary intermediaries in the repo market, also had difficulty keeping up with the demand for repo, causing a spike in the so-called repo rate. In response, the Fed established a repo facility, making the Fed a participant in the private repo markets, directly providing funding to qualified institutions. More recently, the Fed established permanent repo facilities, making the Fed a permanent standing member in the private repo markets for times of market stress. This undoubtedly will increase moral hazard in the repo markets and provide the largest banks with a backstop that they can rely on in the event they do not fulfill the demand as market intermediaries in the repo markets.

Clearly, reform is needed in the U.S. Treasury markets and the funding markets that depend on them given the multiple ways and times that the Fed has had to intervene in those markets to keep them functioning and serving the economy, including with permanent facilities. One important step could be to promote the central clearing of Treasury securities as well as repo transactions. Central clearing would free up liquidity at banks by easing capital requirements because centrally cleared financial transactions have very low capital requirements. It would also promote an "all-to-all" trading environment in which numerous institutions could interact directly without the necessity of primary dealers, especially in times of stress, as well as provide much-needed data and transparency in these markets. Of course, those clearing houses would have to be carefully regulated and supervised to ensure that the risks of failure and panic are not merely shifted from the current markets to the new firms. Whether or not there is a central clearing of Treasuries, the amount of data shared and collected for these markets must be increased for the benefit of investor transparency as well as regulatory agencies.

Conclusion

There is no dispute—indeed, it has now been objectively proven twice—that the shadow banking sector can be both a cause and amplifier of market stress. Undoubtedly, the market stresses of both the 2008 Crash and the 2020 pandemic would not have been as severe if the shadow banking sector had been more appropriately regulated. However, it is not the occurrence of market stress that is the real problem—events of market stress will inevitably occur. Rather, it is the depth and scale of the market stress which is directly related to the degree that financial market participants—banks and shadow banks alike—are sufficiently regulated to allow them to withstand stress, which would reduce the likelihood of panic-induced asset fire sales and collapse of related funding markets will occur in the first place.

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Minimizing the depth and scale of such panics matters a great deal to hard-working Americans. Those at the lower end of the income scale are the first to lose their jobs in financial and economic downturns and tend to be unemployed the longest. Moreover, they are also the ones who suffer a disproportionate number of foreclosures, lost savings, and a general decline in prosperity. Additionally, the actions the Fed takes to restore financial stability and support the financial markets tend to greatly boost the wealth of those who hold the most financial assets. That, among other things, substantially increases the wealth gap between the wealthiest Americans and everyone else, especially economically marginalized communities of color. The worse the downturns are, the worse all these problems become. Doing everything reasonable that can be done to avoid that must be a national imperative.

Market downturns can be minimized if many types of shadow banking institutions are at least subject to minimum capital and liquidity requirements. Just as with the banking sector, such requirements would strengthen the firms, increase investor confidence and reduce the level of investor panic in times of stress. Without these requirements, risks in the nonbank financial sector will continue to increase, as will their threat to the banking sector and overall financial stability. Moreover, the disparate regulation between banks and shadow banks incentivizes regulatory arbitrage, which virtually guarantees the continued growth of the shadow banking sector, making all these problems worse over time.

Without sufficient regulation of the shadow banking sector, minimum regulatory requirements for banks must be stronger to compensate for the demonstrated risks of shadow banks and their spillover into the banking sector. Ideally, the regulatory agencies, with the FSOC in the lead, must act in the wake of the 2020 pandemic stress to reduce the risk in the shadow banking system, including by designating any systemically important nonbank financial institutions for increased regulation and oversight by the Fed. Considering taxpayers and the government have had to provide massive support to some shadow banks now twice in just over a decade, and that shadow banks are doing many of the same things and creating the same risks as banks, it is past time for those nonbanks to be forced out of the shadows and be regulated like banks.

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