Remarks by John Court at the Virginia Law and Business Review 2021 Symposium

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Thanks for having me. It's an honor to be invited to speak. We're in our 12th month of a virtual environment, so please understand that I'm joined today by three dogs who will hopefully, but unlikely, keep their opinions to themselves.

My remarks are based on a lot of work done by my colleagues at BPI, including our CEO and several of my research colleagues. Any mistakes I make are my own. A more complete recitation of many of the issues I'll address is contained in various research notes and blog posts on our BPI website.

In my remarks, I hope to accomplish a few things:

- One, I'll describe how the U.S. banking system fared in the last 12 months as our country has endured the economic and financial hardships caused by the COVID health crisis.
- Two, I'll describe how the effects of the COVID crisis caused calamity in our U.S. financial markets, and talk about some of the conditions and causes of that calamity, as well as the crisis response, largely orchestrated by the Fed but also through fiscal stimulus and other government support.
- Three, because this a conference about banking regulation in the Biden Administration, I will also offer views about how our system of banking regulation and supervision did, or did not, serve us well in the recent crisis with respect to the strength of our banks (spoiler alert: the news here is mostly good).
- Finally, I'll talk about fragilities in our financial system exposed by COVID but for which there was also ample evidence of their existence pre-COVID. These fragilities mostly revolve around a lack of market liquidity in fixed income markets in times of stress. Developing reforms to address these fragilities will likely require substantial and meaningful attention by the Biden Administration.

Before I jump into those topics, I'm going to ask for your indulgence to talk first, and briefly, about the critical role of banks in the economy and why it is ever-so-important to craft good and sensible regulation to ensure (1) we get the balance right on the relative costs and benefits and (2) that our system provides the right incentives to promote a socially useful and resilient system that serves all Americans.

SO, TO BEGIN, IT MIGHT BE HELPFUL TO ASK A SIMPLE QUESTION: WHAT ARE THE GOALS OF BANKING REGULATION AND SUPERVISION?

It's an important question because we have a robust and costly framework built to achieve certain policy outcomes and so understanding what the goals are can help us decide if our framework is working in the most efficient, intelligent manner it can. We spend a lot of time at BPI studying this very question.

In my view, the goal of banking regulation and supervision is largely to ensure we have a resilient and reliably safe, sound and stable banking system that serves customers' needs and provides the financing needed to support economic growth.

Historically, and even today, banks play a special and important role in society and in the economy.
At the most basic level -- and I know you know this but it is worth repeating at the outset -- banks engage in financial intermediation, meaning they channel funds from lenders to borrowers.

They also engage in maturity transformation (basically accepting cash deposits which can be withdrawn virtually anytime and pooling them with other deposits and lending them out to borrowers for some presumably useful purpose – like buy a house or a car, send a kid to college, build a factory or a bridge, etc.).

Bank deposit products help consumers save for their futures.

Importantly, banks process payments for consumers and businesses – in the old days this happened via paper checks, but today payments are largely (though not entirely of course) done electronically, whether via ACH (like direct deposit of paychecks or tax returns) or even through a new bank-owned and -operated real-time payments network.

The Fed is building a real-time system too, which should be ready to launch in a couple of years.

…Sidebar on tech and innovation

A minor side note here, but a worthy one given its importance: technology and innovation have for some time and continue today to drive massive changes in how banking is done, and we see this both at the retail and commercial level.

FinTech and Big Tech firms are increasingly getting more and more involved in banking. FinTech examples are PayPal and Venmo, which are really payments companies but sometimes look like banks because in addition to payments services they also offer e-wallets that can store USD and other currencies, including cryptocurrencies, and these e-wallets look a lot like a bank account. Online lenders are also growing, though with less durable business models than the payments entrants. Crypto firms are also nudging into banking. Google and Facebook are looking to get into banking, mostly for access to customer transaction data. So too do Amazon and Walmart have banking aspirations.

If we have time, I can talk more later about these so-called "unbundled" or nontraditional banks when we talk about what's going to get attention in the coming years in the Biden Administration. How the bank regulatory and supervisory framework will apply to these new entrants is a very open and hotly debated question, and an area where we spend a lot of our time at BPI.

Back to the point…

It is early and I've already digressed, so let me get back to my earlier point: Banks play a critical role in the economy through their provision of financial intermediation, maturity transformation and payments services. As the saying goes, "banks are special." And because of that, they get special attention from the government. From the perspective of a banker, this is probably both good and bad.

On the good side, banks enjoy access to the federal safety net, notably federal deposit insurance and access to the Fed's lender of last resort.

As you all know, these are government-sponsored tools designed in the early part of the 20th century and largely in response to episodic banking crises.

In fact, leading up to the creation of the Federal Reserve System in 1913 and 1914, this country saw destabilizing bank runs leading to all-out banking crises, if only regional and not necessarily national, almost every seven to 10 years.

It was a drag on economic growth and painful for American business and consumers.

Federal deposit insurance and the ability of banks to pledge assets and borrow cash from the Fed's discount window work in tandem to help ensure banks remain resilient to economic panic or stress. In effect, they mitigate bank runs, limit contagion, and thereby promote stability in the system.

Largely in return for access to this safety net, banks are subject to what has grown to be an extensive statutory regime that subjects them to a relatively vast range of prudential and safety and soundness requirements, and examination by the government.

The idea is pretty simple: if the government is going to play the role of a backstop with the safety net, then the banks need to adhere to high standards of business practice and a robust rulebook to minimize unnecessary risk and promote the greatest social value.

For nearly all banks, but large banks in particular, this means ensuring that the balance sheet is resilient, and that largely translates to minimum requirements around capital and liquidity.

For the largest banks, this also means periodically undertaking exercises to test the resiliency and elasticity of the balance sheet by subjecting it to both moderate and severe stress – these are called bank stress tests and they were developed by the Fed immediately after the Great Financial Crisis (GFC) of 2008/2009. The supervisors conduct stress tests annually using bank data but their own models, which are kept secret. The banks also conduct their own tests using bank models.

Stress tests are probably the single most important supervisory tool today, hands down. They are used by supervisors to determine the overall health of large banks, and the results are used to determine whether banks are strong enough to distribute profits to shareholders through capital distributions.

The most recent innovation in the stress testing framework is the development of the "stress capital buffer," or SCB, which applies a dynamic and bespoke, rather than a static and uniform, capital buffer requirement to each large bank. The SCB sits on top of a bank's basic minimum capital requirement, and it reflects the particular bank's risk profile as determined by the stress test. Currently, the SCB for large banks ranges from 2.5 to 8 percentage points. The SCB framework is pretty elegant, actually, and I'll revisit it later in my remarks.

Banks are also subject to strict requirements and expectations around risk management (including credit risk of course, but also operational risk, including cyber, market risk, etc.); banks are subject to requirements on governance & controls; activity limitations; limits on shareholder distributions; limits on transactions between the insured bank subsidiary and its nonbank affiliates; etc. I could go on.

Suffice to say it's a rigorous, well-developed framework that was enhanced significantly in the wake of the GFC, mostly through the Basel 3 set of internationally-agreed capital and liquidity reforms, but also a set of reforms developed by the Financial Stability Board to strengthen the resiliency of the global derivatives markets by requiring more transparency and also central clearing.

The FSB also undertook a massive effort to ensure the largest, most systemically important banks have well-developed recovery and resolution plans to ensure that they are safe to fail – meaning that if they become troubled, they can be allowed to fail in an orderly way without unmanageable knock-on effects and also where any losses are apportioned to shareholders and creditors and, importantly, not to the taxpayer.

In the U.S. in particular, the GFC crisis also yielded the 2010 Dodd-Frank Act which was intended as a comprehensive response to address vulnerabilities in the system.

Dodd-Frank contained provisions designed to address financial stability risk posed by large banks but also large nonbank financial companies through the application of enhanced prudential standards.

It also required large banks to submit orderly resolution plans to the Fed and FDIC, which then review the plans and assess their credibility. Currently, all plans are deemed credible. If a bank's plan is deemed not credible, that's a problem and the bank must either fix the plan or face serious consequences.

Dodd-Frank also created the FSOC to coordinate government financial regulatory policy and identify and take steps to mitigate systemic risk. It created the CFPB to more vigilantly enforce the existing U.S. consumer protection framework.

It modernized the framework governing the U.S. swaps and derivatives markets, and many, many other things. The banking reforms initiated as a result of GFC were vast and comprehensive, but recall the policymakers who developed them were motivated by a hard lesson: which is that to allow banks and other financial companies to privatize profits but essentially socialize losses was a nonstarter with taxpayers. As it should be.

Were the reforms perfect? I suppose nothing is. But they were pretty good.

DOES OUR SYSTEM OF BANKING REGULATION AND SUPERVISION, BOLSTERED BY THE DODD-FRANK AND OTHER POST-GFC REFORMS, ACHIEVE ITS GOALS? LET US NOW TURN TO LOOK AT THE RECENT COVID CRISIS, WHICH PROVIDES A PRETTY GOOD TEST CASE.

As a refresher, let us take a look at where we were just prior to COVID.

The banking system was largely in very good shape, with robust levels of capital and liquidity.

However, there were signs that our fixed income markets were susceptible under stress because of a lack of reliable market liquidity, and notably, that large dealer banks who historically would provide that market liquidity were pulling back precisely when their involvement was needed most.

An example is what happened to the Treasury markets in the fall of 2019. In particular, on Sept. 16, 2019 (3 months before anyone knew what COVID was), two events occurred simultaneously that created a sort of perfect storm for the U.S. Treasury markets.

In retrospect, it was a bit an ominous sign.

The two events were:

One, it was corporate tax day (in which lots of corporate cash drained out of banks and MMFs and transferred into Treasury's general account); and two, a $54 billion sale of Treasury securities settled and left dealers holding a huge inventory that needed to be financed with cash borrowed through the repo markets, a standard industry practice.

This resulted in a massive shortfall of the supply of financing for Treasury securities relative to the demand for that financing – that is, a lot more people wanted to lend out Treasuries to get cash than were willing to lend out cash and get Treasuries as collateral.

By the end of that day in September 2019, Treasury repo rates, which had been running a bit over 2 percent, jumped to as high as 9 percent, and money markets remained unsettled for a week. In other words, a company wishing to borrow cash overnight with Treasury securities offered as collateral had to pay a 9 percent interest rate. That's the safest loan in the world – short-term with near-perfect collateral. It should not have been at a 9 percent rate. Something was wrong.

This September 2019 volatility in the Treasury repo markets took many by surprise and few obvious or immediate explanations surfaced. It is admittedly a complex area with many variables at play.

But one key question did emerge: why didn't banks, who were at the time sitting in huge piles of cash held as reserves at the Fed – why didn't these banks lend the cash in return for Treasuries through repo transactions? The banks certainly had an incentive to do so: they were earning about 2 percent on the reserves at the time and could have easily commanded 3, 4 or even 5 percent (or more) lending overnight against Treasury collateral – thereby earning a riskless return.

Banks at the time had $1.4 trillion in reserve balances – far higher than required by regulatory minimums. Part of the answer is that even though banks were holding huge amounts of cash above publicly disclosed regulatory minimums, they were subject to additional informal and non-transparent regulatory requirements, notably via (1) non-public, supervisory liquidity stress tests; (2) non-public liquidity requirements associated with their resolution plans; and (3) non-public ad hoc examiner mandates to prefer holding cash reserves over Treasuries. These other requirements were acting as constraints on the banks, preventing them from intermediating.

The banks indicated this reason in so many words (analyst calls, etc.) and the Fed acknowledged it in an assessment published later.

And how did the volatility get resolved; where did the market liquidity come from to help bring rates back into line?

The Fed immediately jumped in by providing $75 billion of daily cash loans to the market, against Treasury collateral; in other words, they stepped in as lender of last resort, but to the market that is supposed to be the most liquid in the world. It was odd.

I raise this to you because it is an important example of an instance where banks refused, or were unable, to perform their critical financial intermediation roles, in this case as liquidity providers to the U.S. Treasury markets. It's an indication that regulation, here in the form of a supervisory mandate for large banks to hold a bunch of cash, can have unintended consequences.

This is important because a similar thing happened with the onset of the knock-on effects of the fast-developing COVID health crisis in February and March 2020.

Before we get to COVID, let me also take a second to note the condition of other fixed income markets at the end of 2019, notably the corporate bond market.

Corporate bond issuance post-2010 rose massively while the market making inventories held by dealers of the same corporate debt dropped.

We think the reduction in dealer inventories happened for a combination of reasons, including:

- the leverage ratio, which by design disproportionately taxes big inventories of safe, low-yielding assets like Treasuries and highly rated corporate bonds.
- Higher cost of capital from GSIB surcharge, which punishes holding inventory and hedging risk with other dealers; it also punishes size, akin to a leverage ratio, so holding even riskless assets (like Treasuries) can result in a higher GSIB surcharge.
- Higher cost of capital from Fed stress tests, which can increase capital for large dealer inventories.

So, as dealer inventories are decreasing in the years leading up to COVID, fixed income mutual funds begin to significantly increase their share of bonds.

Although their assets are potentially illiquid securities, these bond funds offer their investors daily liquidity (i.e., the ability for investors to sell their interests in the bond fund and receive cash at close of business).

This is important – it is this structural feature of both money market funds and corporate bond funds that makes them vulnerable. They essentially offer investors the opportunity to cash out at any time, but they run into serious problems if they get a lot of redemption requests at a time when there is no market liquidity – in other words, if no one is buying the assets they need to sell in order to raise the cash to meet the redemptions, things can implode quickly – fire sales, knock-on effects, etc.

Of course, reduced dealer inventories and reduced market making, which I just described, means market liquidity is scarcer.

So, this is where we were at the end of 2019:

- Banks were very well capitalized with robust amounts of liquidity. They were healthy and strong and serving their customers.
- But the fixed income markets, in which dealer banks play an important role as provides of market liquidity – these fixed income markets were vulnerable due to a lack of reliable market liquidity.

LET US TURN NOW TO MARCH 2020, AS COVID HITS AND ITS IMPACTS BECOME BETTER UNDERSTOOD.

By this time, early March 2020, the ramifications of the COVID health crisis were becoming clear: stay-at-home orders were going to shutter the U.S. economy for the foreseeable future.

This led to heightened uncertainty about the economic outlook.

In response, corporations and investors in the U.S., but also all around the world, expressed an unprecedented desire to hold cash – and nothing but cash.

Corporates drew down lines of credit at banks, borrowing $800 billion in March and April alone. They then left the proceeds on deposit at banks. (Note here, this was a run *to* banks, and not a run *on* banks.)

Investors globally began to sell assets to generate the cash they desired on a massive and unprecedented scale – even though there was no reason to doubt the underlying quality of the assets they were selling.

Investors simply wanted to hold cash to fund operations and probably also to be ready to purchase cheap assets. To raise that cash, many investors sold longer-term, off-the-run Treasury securities and Fannie Mae/Freddie Mac GSE debt. (They preferred to hold short-term Treasury bills or cash.)

At the same time, many hedge funds dumped Treasuries as they unwound related futures positions that had moved against them.

The resulting flood of Treasuries onto the market overwhelmed the capacity of broker-dealers, and market liquidity dried up.

The U.S. Treasury market, the most liquid market in the world, could have seized up entirely if the Federal Reserve had not purchased $1 trillion in securities over three weeks.

THIS FLIGHT TO CASH CREATED PROBLEMS WITH PRIME MONEY MARKET FUNDS AND CORPORATE BOND FUNDS TOO. I'LL START WITH MONEY FUNDS.

$200 billion, or 20% of AUM, transferred from prime money market mutual funds (MMMFs) to bank deposits in March alone; prime MMMFs are funds that hold non-Treasury securities.

More customers at prime money funds then ran because of concern that the funds might break the buck. The first-mover advantage is like a regular bank run. This was a repeat of exactly what we saw in 2008.

MMMFs could have blocked redemptions but were afraid to do so, lest that further accelerate the run. MMMFs had to stop rolling over commercial paper and bank CDs (mainly issued by the U.S. branches of foreign banks). Meanwhile, government MMMFs saw record inflows -- $800 billion, or 30 percent of AUM, in March alone.

IN THE CORPORATE BOND MARKET, WE SAW SIMILAR PROBLEMS.

Investors in corporate bond funds began redeeming their shares, originally simply because they wanted to get more liquid – that is, hold cash rather than fund shares. As redemptions increased, funds were required to sell bonds, and found difficulty doing so.

At that point, investors began redeeming shares out of concern that the value of the underlying assets was going to drop, as a result of a fire sale by the fund.

Here, I'll again note: all mutual fund shares sold on the same day receive the same payment based on the value of the fund at the end of the day. Intra-day, a sale by a large number of investors incentivizes others to follow suit quickly rather than wait a day, when resulting sales would drive down the next day's net asset value.

Like banks, funds have liquidity requirements, but they are set at low levels – e.g. 2.5-5.0 percent. And these funds, unlike banks, have no deposit insurance or access to a LOLR. Funds also have "gates" where investors can't redeem in certain circumstances. They are supposed to be for protection, but they tend to act like "concrete airbags," as any fund approaching the gate would see a run by investors seeking to get out before the gate shuts.

These are just of few of the calamitous things that were occurring in March 2020. There were significant other oddities, too, that I don't have time to get into. In sum, the markets were showing signs that they were entering a period of severe dislocation.

WHERE WERE THE DEALER BANKS?

They didn't have capacity given balance sheet constraints. Let's see what important observers said.

> "The breakdown in the Treasury market occurred because broker-dealers did not have the balance sheet capacity to absorb the massive sales. On March 16, when Vikram Rao, the head bond trader of Capital Group, asked executives that he knew at many of the big banks why they weren't trading, they had the same refrain: There was no room to buy bonds and other assets and still remain in compliance with tougher guidelines imposed by regulators after the previous financial crisis. In other words, capital rules intended to make the financial system safer were, at least in this instance, draining liquidity from the markets. One senior bank executive leveled with him: 'We can't bid on anything that adds to the balance sheet right now.'" - Justin Baer, "The Day Coronavirus Nearly Broke the Financial Markets," Wall Street Journal, May 20, 2020.
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> "…[I] n March, constraints on dealers' intermediation capacity, including internal risk-management practices and regulatory constraints on the bank holding companies under which many dealers operate, were cited as possible reasons for deteriorating liquidity in even usually liquid markets." - Federal Reserve Monetary Policy Report to Congress June 2020
>
> "…facing balance sheet constraints and internal risk limits amid the elevated volatility, dealers had to cut back on intermediation." - Lorie Logan, Executive Vice President at the New York Fed April 2020.
>
> "The widespread, heightened investor demand for cash resulted in acute demand for dealer balance sheet capacity, contributing to wider bid-ask spreads, on-the-run/off-the-run spreads, and declining market depth." - Treasury Borrowing Advisory Committee Presentation to Treasury (1Q2020)

SO, WHAT WAS THE FED'S AND THE GOVERNMENT'S POLICY RESPONSE?

It was full bore.

On March 15, the Fed announced it would purchase Treasury and other government agency securities, such that between March 15 and March 31, the Fed purchased $775 billion in Treasury securities and $291 billion in agency MBS. To date, those purchases total almost $3 trillion.

These purchases did little to halt the widening of spreads in corporate debt markets. So, on March 17, the Fed also revived the primary dealer credit facility (PDCF) to provide liquidity to primary dealers. The PDCF can be thought of as analogous to a discount window for primary dealers. Acceptable collateral includes U.S. Treasuries; government agency debt; investment-grade corporate, mortgage-backed, asset-backed, and municipal securities; and certain classes of equities.

Unfortunately, this facility did not correct the widening of spreads in the corporate bond market, so the Fed created two new facilities to backstop the corporate bond market.

The primary market corporate credit facility or PMCCF to purchase newly issued corporate debt from issuers – that is, direct purchases from the issuing company; and the secondary market corporate credit facility or SMCCF to purchase existing corporate debt or corporate debt exchange-traded funds on secondary markets.

Both facilities purchase debt through a special purpose vehicle SPV (basically, a company set up for the sole purpose of holding the asset and paying out interest). Using CARES Act funds, the Treasury subsequently seeded the PMCCF with $50BN and the SMCCF with $25BN in a first loss position, meaning the two facilities could purchase up to $750BN in corporate bonds.

These facilities, which were truly unprecedented, were immediately and significantly effective. Spreads narrowed as the market knew the Fed would buy any corporate security. These corporate bond facilities were shut down at the end of 2020.

The Fed also created the money market lending facility or MMLF to make loans to financial institutions which would use the funds to purchase assets that money market funds were selling to meet investor redemptions, thereby backstopping the MM mutual fund industry. Again, instead of buying assets from the funds directly, the Fed lends to a bank to fund its purchase. The goal was to reduce the probability of runs on money market funds caused by a fund's inability to liquidate assets. On March 19, 2020, the banking regulators issued an interim final rule so that these MMLF loans would not affect the borrowing bank's compliance with regulatory capital requirements. The MMLF was successful in halting the run on prime MMMFs.

The Fed also launched a number of other facilities, all of which were quite effective at restoring market functioning.

To address volatility in the securitization markets, the Fed launched the Term Asset-Backed Securities Loan Facility to make three-year loans to private investors to purchase securitized loans

It launched the Commercial Paper Funding Facility or CPFF to support the commercial paper market. The CPFF purchases newly issued commercial paper from all types of U.S. issuers who could not find private-sector buyers. Issuers must pay a fee to the Fed, as well as interest on the commercial paper. Treasury committed $10BN to this effort to be in a first loss position.

The Fed also established the Municipal Liquidity Facility on April 9 because state and local governments were having trouble funding operations because they were having difficulty selling bonds. This was the Fed's first foray into this political minefield: Think about what happens when the Fed declines to purchase debt from a municipality because of credit concerns. I can think of at least one House Representative and two Senators who might be calling.

TEMPORARY LEVERAGE RATIO CHANGES.

The Fed also made temporary regulatory adjustments to large bank leverage capital requirements to account for the extraordinary circumstances.

At the time, the Fed acknowledged that banks were receiving significant inflows of customer deposits along with increased reserve levels, and the LR if not recalibrated would constrain the banks' ability to continue to serve as financial intermediaries and provide credit to households and businesses.

Thus, the Fed temporarily excluded reserve balances and U.S. Treasury securities from the denominator of the supplementary leverage ratio or SLR. The exclusion encouraged banks to make markets in Treasuries and provide repo financing to others to support trading in Treasuries.

Indeed, banks' holdings of Treasuries and agency MBS increased nearly $670 billion or about 41 percent over the course of 2020. During the same period, reserve balances held by those banks increased from $530 billion to $1.1 trillion. These are huge increases.

The temporary relief expired yesterday [March 31, 2021], though the Fed has said it needs to undertake a more permanent recalibration of the SLR and will propose something soon. I'll talk about this more in a bit when we talk about regulatory reform in the Biden Administration.

THE GOVERNMENT'S RESPONSE OF COURSE ALSO INCLUDED THE CARES ACT.

This was a big deal: a $2.2 trillion stimulus package to help the country deal with the economic fall-out from COVID.

There was a lot in the CARES Act both for individuals and for industries, including notably the airline industry. There were two programs targeting financial support to small and midsize businesses, and the programs were designed to use the banking industry to distribute the support, so I'll touch on each here.

The first is the Paycheck Protection Program or PPP which was intended for small businesses only and intended to cover up to two to three months of operating costs.

Generally speaking, it was a loan program where the government-backed loans would be totally forgivable provided the loan proceeds were used for certain purposes (mostly, keeping your employees on payroll, but also paying rent and utilities); proceeds used for other purposes had to be repaid, but on generally favorable terms. Lending was done not directly by the government, but rather through banks and other lenders. The SBA set the application requirements and the forgiveness process. The PPP was politically popular, and as COVID's impact on the economy lingered, the program was extended and reauthorized twice. So far, the total amount appropriated for the PPP is over $900 billion.

The second program was the Main Street Lending Program which was intended for midsize businesses. These loans looked a lot like ordinary business loans, and they could not be forgiven, even if used to keep employees on payroll.

For reasons that I will not get into now for lack of time, but can address in Q&A if interested, there was not a lot of uptick on Main Street, partly due to the design of the program and partly due to fact that creditworthy borrowers could get loans from their banks and didn't need this special government program. This loan program had $4.5 trillion of capacity, so it was huge, and the mere existence of that kind of firepower may have gone a long way towards settling economic anxiety in mid-2020 as the country looked at a lot of future uncertainty. So, Main Street's lack of use does not necessarily provide accurate commentary on its overall usefulness.

The CARES Act contained a number of other key provisions, which I do not have time to discuss, but they included measures intended to help American consumers and businesses, like various forbearance and foreclosures provisions that allowed borrowers impacted by COVID to forgo payments with no penalty. There were also provisions designed to help banks offer accommodations to customers, like suspending accounting requirements that force banks to record credits as bad if payments are not made, etc.

The CARES Act stimulus unquestionably helped prop up the economy and inspire confidence in a very uncertain time.

THAT IS A QUICK SUMMARY OF THE GOVERNMENT'S RESPONSE. I'LL TURN NOW TO HOW BANKS FARED DURING COVID AND THEIR ROLE IN SUPPORTING THE ECONOMY.

We talked earlier about how dealer banks were not able to provide market liquidity to the fixed income markets in times of stress due to constraints on their balance sheets.

Setting that very real and substantive concern aside, it is important to note that banks otherwise remained resilient in the COVID period, owing largely to robust levels of capital and liquidity. The amount of common equity tier 1 capital – the highest quality capital – held by banks rose more than $1 trillion since the GFC (from $665 billion at the end of 2007 to $1.7 trillion at the end of 2019). This meant banks were in a position of strength in March 2020.

I'll highlight a few key areas[1] that I think showcase what banks were able to do:

1. First, banks deployed almost $540 billion in loans to businesses during March 2020, increasing their lending by 12 percent during that period, or 125 percent on an annualized basis. Mostly, this was businesses drawing down fully their credit lines to enhance their cash position in the face of uncertainty. It's important to note that banks were extending this credit during a time when fiscal and central bank support for the economy was still nascent at the onset of the pandemic. Had banks not had the capital necessary to support the unprecedented spike in lending, the draws would have put strains on the banking system and could have led to broader financial distress.
2. Second, banks disbursed more than $500 billion in PPP funds, primarily to areas that experienced the highest economic disruption because of the pandemic, and they increased the amount of small business loans on their books by more than 50 percent. And that $500 billion figure does not include more recent PPP loan data, so the total amount lent is likely to grow by $100s of billions more.
3. Third, large banks modified about $330 billion in loans (or about 6 percent of all loan balances) in the early stages of the pandemic. The relief was targeted to U.S. consumers and businesses most impacted by COVID. Banks did this through payment deferrals, interest-only payment periods, fee waivers, forbearance and temporary suspensions from credit reporting.
4. Fourth, the proportion of U.S. households that were unbanked reached the lowest level since the FDIC started tracking the unbanked in 2009. A bank account with IRS direct deposit is a useful way for consumers to get government COVID relief payments quickly.
5. Fifth, the dollar amount of community development lending by banks reached a record level during COVID. Community development loans play an important role to promote economic growth in the most underserved and distressed communities.
6. Sixth, during COVID small business lending by banks has continued to grow apace both inside and outside of low- and moderate-income areas. Lending by banks to small businesses is crucial for sustaining and growing the U.S. economy.

[1] Each of these areas is discussed in greater detail in a note authored by BPI's Francisco Covas, Gonzalo Dionis and Paul Calem available here.

I highlight these six areas because they help demonstrate that U.S. banks had a pretty good record of performance through a very challenging economic time. Which leads back to an earlier question:

DID THE POST-GFC POLICIES WORK? AND, MORE SPECIFICALLY, IS OUR FRAMEWORK FOR BANKING SUPERVISION AND REGULATION ACHIEVING ITS GOALS?

At a high level, yes. The banking system unquestionably remained resilient in a period of great stress. Bank profitability fell quite a bit as banks set aside large loan loss reserves as COVID hit, but earnings and capital improved as the economy did.

Banks maintained higher capital ratios even with significant loan loss reserves. This put them in a strong position to support the economy which they did throughout COVID. Loan demand has not been strong, but is expected to pick up as the economy improves.

Net-net – the banking sector was a source of strength during the recent crisis was able to support the real economy, both businesses and consumers.

We're not out of woods yet, but there is ample reason for optimism.

Another point worth noting: There is a narrative, with which I disagree, that the prior Administration rolled back a lot of Dodd-Frank and other post-GFC reforms. So, you might wonder, how did these reforms work so well if they had just recently been dismantled?

To paraphrase Mark Twain, rumors of Dodd Frank's dismantling during the prior Administration are greatly exaggerated.

It is true that changes were made, but they were modest recalibrations at best that proved to be utterly benign. I'll address a few here[2], because as we think about whether we have regulation about right, it's important to level set about what that regulation is.

Tailoring - The biggest change in the Dodd-Frank rulebook was to provide for "regulatory tailoring," which was the product of bipartisan legislation in 2018. The idea was the most stringent forms of prudential regulation should apply to the largest and most complex firms, and that comparatively smaller and less complex firms should have more rationally tailored degrees of stringency applied to them. In other words, regulation should be more appropriately tailored to risk. The agencies spent a great deal of time writing regulations to reflect this congressional mandate, and it seems to have worked out just fine. The firms that benefit from the new tailoring regime have supported the economy this year without any questioning of their resilience. So, regulatory tailoring was a non-event.

Risk management - Banks proved during COVID that they are not only financially resilient but operationally resilient as well. They managed to continue serving their customers (with critical forbearance and accommodation programs for COVID-impacted consumers) and administer the PPP program seamlessly, even as they moved their millions of employees to working-from-home. That's a strong sign banks are managing their risks, including operational risks, quite well. And those who contend that supervisors took their foot off the gas and that the banks have been slacking for the past four years seem to have it exactly wrong.

Capital and liquidity - Some also contend that capital and liquidity requirements were weakened. Let's look at where capital and liquidity levels on Jan. 1, 2017 and compare it to where the levels were in the middle of the COVID pandemic: the largest banks in Jan. 2017 held $1.25 trillion in common equity tier 1 capital and $3 trillion in high-quality liquid assets (HQLA). As of June 30, 2020, capital had increased to $1.3 trillion and HQLA jumped 50 percent to $4.5 trillion. So, overall: capital up, not down.

[2] A fuller discussion of the alleged deregulatory wave during the prior Administration is provided by BPI's Greg Baer here.

Admittedly, at the beginning of 2020, the Federal Reserve simplified the capital framework by reducing the number of capital requirements from 13 to eight. That simplification involved combining stress test results with static, Basel III requirements. While the change dropped a leverage hurdle from the stress test, it also had the effect of adding GSIB surcharges to the risk-based hurdle – this hurdle is the stress capital buffer, or SCB, that I mentioned earlier. Fed analysis showed that the net changes of moving to the SCB framework resulted in an increase, not a decrease, in capital requirements.

Furthermore, even for banks in full compliance with all applicable capital standards during the pandemic, the Fed still decided mid-COVID last year to bar share repurchases and dividend increases, and restricted existing dividends. It did so even after running a special COVID stress test that demonstrated that even with a second onset of COVID-19 and a second economic downturn, the great majority of large banks still had ample capital.

The Fed subsequently sort of conceded these steps, which it took in the name of "capital conservation" during a period of extreme uncertainty, were ultimately not necessary as the banks would have weathered the COVID crisis just fine without these additional ad hoc restrictions on capital distributions.

In any event, the result was that, since March 2020, every major bank increased its risk-based capital ratios. While the post-crisis capital regime was designed to be countercyclical (having banks build up capital in good times in order to draw down on it in bad times to support economic activity), that simply did not happen last year.

One lesson from this crisis is that the Fed should be able to more confidently trust its capital regime to work as planned in the next downturn.

The story on liquidity is much the same. There was no regulatory relief during the prior Administration – before or during the current crisis. In fact, in October 2020 the regulators imposed yet another liquidity requirement on the largest U.S. banks, the Net Stable Funding Ratio, which requires banks to hold more stable funding to support longer-term assets. This was not a deregulatory action.

WHAT CAN WE LEARN OR OBSERVE ABOUT THE COVID CRISIS?

The first lesson is an old lesson: it is hard to eliminate risk. If it gets pushed out of one space, it typically just finds somewhere else to go. Usually to a warehouse where the rent is the cheapest. A lot of risk that used to reside in banks has traveled to the shadow bank sector, where it can hide from efforts to force those holding it to fully internalize its costs. Shadow banks are now referred to more officially as nonbank financial institutions, or NBFIs. We're going to hear a lot about NBFIs going forward.

A second point is more of an observation, which is to think about how the COVID crisis is different from the GFC.

- In COVID, a non-financial shock was the root cause (a health crisis that created palpable economic uncertainty that led to massive financial instability). In other words, macroeconomic problems disrupted the financial system rather than the reverse, as we saw in the GFC.
- In COVID, uncertainty drove a *run for cash* versus, in the GFC, a *run away from risky assets*; in the COVID crisis, we saw balance sheet expansion for both corporates and banks, not contraction.
- In COVID the run for cash was as a liquidity matter, not because of concern about the quality of other assets – so the disruption wasn't caused because people were worried about the quality of corporate bonds the way they were concerned about MBS in the GFC.
- In COVID, investment banking (including trading) at banks was a profit center and provided good revenue streams that helped banks remain healthy and resilient.
- The facilities the Fed stood up to support the corporate bond markets, the PMCCF and the SMCCF, are unlike any 2008 facilities – and was a major extension of Fed power into private corporate debt markets.

- Fed entry into municipal debt markets is unprecedented and exposes the Fed to political risk factors.
- The economic dislocation in COVID focused heavily on those in the lower end of the income spectrum.

A third point is also an observation, which is to look at how the COVID crisis is similar to the GFC:

- Money market funds proved again to be a major systemic risk, requiring a bailout.
- Each crisis required massive intervention in markets by the Federal Reserve and the government.
- In both, it was evident that regulations have unintended consequences.
- In both, the Fed's role in the economy and its power grows.

WHERE DO WE GO FROM HERE?

Let me start with a broad overarching concern, which has been noted by my BPI colleagues.[3] A new moral hazard has emerged.

Namely, since March 2020, the Federal Reserve has intervened to backstop most of the fixed-income markets in the United States – Treasuries, investment-grade corporate debt (and some and some high-yield too), municipal debt, and asset-backed securities of every type.

In addition to purchasing a total of $2.2 trillion in Treasuries and $650 billion in agency MBS, the Fed established several market support programs, many of which I discussed earlier.

And the March 2020 COVID-related interventions followed a pre-COVID incident in September 2019, which I also mentioned earlier, when the Federal Reserve was required to backstop the Treasury repo market.

There is a concern that going forward, financial market participants are likely to operate on the assumption that the Fed will be a buyer in the event of significant upset in any fixed-income market. In other words, fixed income investors will think they have a "free" put option with the Fed.

That creates a moral hazard problem. If the Fed is expected to buy a given asset whenever illiquidity combined with heavy sales results in a rapid decline in price, then investors will anticipate lower price volatility and demand lower compensation for risk, thereby increasing demand for the asset. Investors also might finance their asset purchases with greater leverage.

If the Fed ever made it clear that it would not backstop the asset, the result could be a dramatic price decline with knock-on effects as levered institutions were forced to unwind all at once – which would lead to financial instability.

So, what can be done to address this potential concern?

One idea is to somehow convince investors that there is sufficient liquidity in all the relevant markets and therefore that the Fed will no longer be required or inclined to intervene when demand shocks occur. Investors would thereby revert to assessing each issuer on its own merits, and not assume that the investor has an underlying put option to the Fed if things get bad.

Ensuring there is sufficient future liquidity in the markets could be achieved in different ways.

One way would be to reduce the private sector demand for market liquidity. This could be accomplished principally through money market and mutual fund reforms, as these types of entities present obvious problems given their

[3] My remarks in this section are based on commentary previously offered by BPI's Greg Baer here.

structure and features, as I discussed earlier.

The FSB and the Fed have talked about reforms on the horizon, so this seems to be in the cards.

Another idea involves setting more system-wide margin requirements, which could help reduce the impacts of highly leveraged players like hedge funds.

All reforms would have costs and that would need to be balanced with any benefits of course.

Another way to ensure there is ample market liquidity is to look at the constraints on bank-affiliated dealers. As I briefly mentioned before, the primary taxes on activities that support market liquidity are:

- One, the current leverage ratio requirements, which require uneconomic levels of capital to be held against Treasury securities and low-risk corporate debt. The Fed has said it will take a look at recalibrating these requirements, and for good reason.
- Two, a stress testing regime that continues to assume massive losses in Treasury securities and low-risk corporate debt securities under stress, and therefore inflates the capital cost of holding those securities in dealer inventory.
- And three, a GSIB surcharge that requires still higher levels of capital based largely on the level of a firm's capital markets and dealer activity.

These are just a few ideas. Many smart people in government, academia and inside market participants are likely considering a number of options. My colleague Pat Parkinson, for example, recently co-authored a paper with Nellie Liang proposing various enhancements to make the Treasury markets more resilient. All of these issues will no doubt be on the agenda of the FSOC.

WRAP UP

To sum up, the overall assessment is that the banks are in pretty good shape and that the existing set of prudential requirements are calibrated about right. The fixed income markets have some problems, which could be addressed probably through reforming the product features and structure of MMMFs and open-end investment companies. The "Fed put" is a real moral hazard concern that needs to be addressed by assessing the overall cost and benefits of different incentives created by various regulations.

BECAUSE I WAS SPECIFICALLY ASKED TO DO SO…

Let me close by offering what I think will be the major areas of focus in banking regulation by the Biden Administration, beyond what I've already mentioned, and I'll do this very quickly because I know the next speakers will spend even more time on this:

- The number one issue in banking regulation, for large banks, at least, will be how the U.S. implements the Basel 3 'end game' reforms. These reforms risk driving up capital requirements on U.S. firms. Fed officials have stressed the need to implement the reforms in a way that is capital neutral, meaning the overall amount of capital in the banking system should remain about the same. Most economists think it would be a huge mistake to increase bank capital requirements at a time when policymakers are trying to orchestrate an economic recovery. I suspect Yellen and Powell see this clearly, but do not underestimate the politicization of bank capital requirements, so this will be an area to watch.

- Climate will get a lot of attention. Policymakers will be focused on ensuring the private sector can help to finance the transition to a more carbon-neutral economy. Certain folks will talk about the need to impose climate stress tests on banks, but if they're honest, they'll concede this is an area that requires a tremendous amount of extra thought (and a heck of a lot more data). Others will suggest that bank lending to "green" companies should get artificially lower (and "brown" credits artificially higher) risk weights for capital purposes, but hopefully more rational heads will prevail when it becomes evident that trying to achieve climate goals through weakening the strength and stability of banking system is unwise. Rationalizing and harmonizing climate disclosures will also be a focus.

- FinTech/Big Tech entry into banking will remain top of mind for policymakers, with little actual planned action. Market developments are likely to continue to get ahead of policymakers, at least until some unfortunate and consumer unfriendly thing happens, forcing Washington to act.

- Addressing the un/underbanked and income inequality issues, particularly in a post-COVID world, will undoubtedly be a big focus. Fed-accounts-for-all, postal banking, central bank digital currencies and Bank On accounts will all be surfaced as ways to help address social ills.

- On the rule writing front, several Dodd-Frank items remain on the to-do list, including rules for banks on executive compensation, earlier remediation requirements under Section 166, and a rule to define a source of strength doctrine. Finally, politicians will continue to debate what it means for banks to provide "fair access" to financial services, with currently unpredictable outcomes.

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That's all I have. Happy to answer any questions. And again, I'm grateful for the opportunity to speak to you today and, for the law students in the audience, I wish you all the best in your future legal careers.