

**EMERGING THREATS TO STABILITY:
CONSIDERING THE SYSTEMIC RISK
OF LEVERAGED LENDING**

HEARING
BEFORE THE
SUBCOMMITTEE ON CONSUMER PROTECTION
AND FINANCIAL INSTITUTIONS
OF THE
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EMERGING THREATS TO STABILITY: CONSIDERING THE SYSTEMIC RISK OF LEVERAGED LENDING

Tuesday, June 4, 2019

U.S. HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON CONSUMER PROTECTION
AND FINANCIAL INSTITUTIONS,
COMMITTEE ON FINANCIAL SERVICES,
Washington, D.C.

The subcommittee met, pursuant to notice, at 2:48 p.m., in room 2128, Rayburn House Office Building, Hon. Gregory W. Meeks [chairman of the subcommittee] presiding.

Members present: Representatives Meeks, Scott, Foster, Lawson, Porter, Ocasio-Cortez; Luetkemeyer, Lucas, Posey, Barr, Tipton, Williams, Loudermilk, Budd, Kustoff, and Riggleman.

Also present: Representatives Himes and Garcia of Illinois.

Chairman MEEKS. The Subcommittee on Consumer Protection and Financial Institutions will come to order.

Without objection, the Chair is authorized to declare a recess of the subcommittee at any time.

Also, without objection, members of the full Financial Services Committee who are not members of this subcommittee are authorized to participate in today's hearing.

Today's hearing is entitled, "Emerging Threats to Stability: Considering the Systemic Risk of Leveraged Lending."

I now recognize myself for 4 minutes to give an opening statement.

Ranking Member Luetkemeyer and members of the subcommittee, welcome to this hearing on, "Emerging Threats to Stability: Considering the Systemic Risk of Leveraged Lending." This important hearing offers us an opportunity to consider the central role that FSOC and the Office of Financial Research must play to allow us to monitor, quantify, and map emerging systemic risks and designate systemically risky institutions.

I have been very concerned about the rapid rise of leveraged loans and covenant-lite loans in recent years. The Fed, the IMF, and many others have referred to these loans as recession amplifiers, and I believe we must consider the possibility that they may prove systemic.

When the Federal crisis hit in 2008, one of the central drivers of panic was that the public lost faith in the regulators' ability to anticipate the next financial institution to fail and to contain the spreading crisis. Among the many important reforms enacted into

law in the Dodd-Frank Wall Street Reform Act was the establishment of the Financial Stability Oversight Council (FSOC) and the Office of Financial Research (OFR).

FSOC got to the root of one of the obvious problems with our pre-crisis regulatory framework—namely, that regulators operating in silos cannot effectively monitor for system-wide risks or easily implement coordinated response strategies to contain the spread of risks.

Similarly, the capacity to designate non-bank financial institutions that pose systemic risks to the system and regulate them accordingly is essential.

Also central to managing risk was the establishment of the OFR, which is tasked with monitoring risk in the system wherever the risk might originate or lie, quantify the risk, map the interconnect-edness of the risk, and inform FSOC in its monitoring of systemic risk. OFR is not bound solely to the banking system and can gather data on financial institutions regardless of their regulator or structure. This is essential as markets evolve.

For these reasons, I frankly do not understand the Administration's efforts to dilute the role of FSOC and the OFR and to gut budgets and staff. We should all aspire to a regulatory framework that protects the stability of the system as a whole, that is fully informed on existing and emerging systemic risk, and is ready to contain any new risk so that we protect taxpayers and Main Street. Failing institutions must be allowed to fail without threatening the system as a whole or bringing down Main Street.

I look forward to the testimony of our witnesses today and to constructive discussion about emerging systemic risk. It is important that we discuss the risk that leveraged lending poses to the system and whether the regulatory framework we put in place following the last financial crisis is adequate or should be further updated to ensure that we never again live through a crisis that threatens our financial system and capital markets as a whole and inflicts the level of financial hardship that we witnessed in 2008.

I will add, in closing, that I am encouraged to see that our work, and this hearing specifically, are already having an impact, as Treasury Secretary Mnuchin called an emergency FSOC meeting over the weekend to discuss leveraged loans and exploding corporate credit.

Specifically, according to this article by Bradley—which I will enter into the record—a secret meeting of FSOC was held over the weekend as regulators became increasingly concerned about the threat that overly leveraged companies will pose to the financial system and to the economy in what looks increasingly like an accelerated slowdown of the American economy.

I call on FSOC to make public the minutes of the meeting and any presentation by staff, including on the risk they see to the system and their analysis of comments to their proposal to make it harder for FSOC to designate non-bank financial institutions as systemically significant.

I now turn to the ranking member of the subcommittee, Mr. Luetkemeyer, for his opening statement.

Mr. LUETKEMEYER. Thank you, Mr. Chairman. And thank you for holding a hearing on this important topic.

Today's hearing is entitled, "Emerging Threats to Stability: Considering the Systemic Risk of Leveraged Lending."

The keyword for today's discussion should be "systemic." While it is no secret that leveraged lending contains a certain amount of risk, all lending products do. These hearings should focus on whether leveraged lending risk poses a systemic threat to our financial system.

Recently, I have taken note of industry stakeholders and regulators who raise concerns regarding the amount of risk in the leveraged lending sector. Many of my colleagues echoed those concerns at a hearing with prudential regulators last month.

As we assess potential concerns about leveraged lending, it is important to take a look at the numbers. The growth rate of leveraged lending in 2018 was 20 percent. On its own, that number may sound high. However, while comparing it to historical growth of leveraged lending since 1997, which is 15 percent, the rise can be an association with a strong economy. As we have heard from Fed Vice Chairman of Supervision Randy Quarles, the recent growth in leveraged lending is largely on par with the economic growth of this country.

The total amount of outstanding leveraged loans is estimated between \$1 trillion and \$1.5 trillion. While this is another large number, the total amount of outstanding business credit is currently \$15.2 trillion, making leveraged lending a small portion of risk in business lending.

Furthermore, leveraged lending's 4 percent of the total fixed-income markets pales in comparison to mortgage-related loans at 22 percent. Not only does leveraged lending encompass a small portion of overall fixed-income markets, but the systemic significance of leveraged lending is lessened when you consider that banks hold less than 8 percent of outstanding leveraged loans, according to the Federal Financial Stability Report from May of this year.

So, in other words, you take \$1.1 trillion to \$1.5 trillion worth of exposure, 8 percent of which the banks coming up with roughly \$100 billion—these are all back-of-the-envelope figures here, but roughly \$100 billion worth of exposure. The Fed's Financial Stability Report recently said that a 2-percent loss ratio is an approximate loss ratio in normal economic times as we have now, which is \$2 billion. I'm not sure that the expected loss ratio of \$2 billion is systemic to our economy. Even at 10 percent, which was what happened in 2008, you are looking at \$10 billion. So, again, I am not sure \$10 billion is a systemic risk to our economy, but, obviously, we are here today to discuss a lot of that as well.

This evidence suggests little systemic risk to our financial markets. However, bank regulators should and are still closely monitoring the marketplace and assessing the risk associated with leveraged lending. The OCC recently stated they remain attentive to heightened risks in the leveraged lending market. And FDIC Chairwoman McWilliams stated in written testimony before this committee that the FDIC is monitoring the market because a significant rise in leveraged loan defaults could have broader economic impacts.

I support the regulators' commitment to oversight of the risk associated with leveraged lending. In addition to close attention to all

financial markets, regulators should continue their oversight and supervision of banks to ensure proper risk management and capital reserves are in place to appropriately protect against leveraged lending risk as well as all loan risk on their books.

I look forward to the discussion on the risk associated with leveraged lending and how it affects our financial system.

With that, Mr. Chairman, I yield back the balance of my time. Chairman MEEKS. Thank you.

I now yield 45 seconds to the gentleman from Georgia, Mr. Scott. Mr. SCOTT. Thank you very much, Chairman Meeks.

This is a very important hearing. I am very concerned about the size of the leveraged loan market and the quality of the loans, particularly with regard to the recent increase in what we refer to as covenant loans.

The participation of banks, in contrast to non-bank entities, is very important. And the potential challenge that highly indebted corporations would face in the event of a slowing down of the economy.

All of this boils down to a discussion of risk, who holds it, and who can withstand it.

Thank you, Mr. Chairman, and I look forward to this hearing.

Chairman MEEKS. Today, we welcome the testimony, first, of Mr. Gerding, who is a professor of law and Wolf-Nichol fellow at the University of Colorado Law School. Mr. Gerding joined the University of Colorado Law School in 2011. He teaches banking law, contracts, securities regulations, corporations, deals, and corporate finance.

His research interests include: securities; banking law; the regulation of financial markets, products, and institutions; payment systems; and corporate governance. He is the author of a book entitled, "Law Bubbles and Financial Regulation," which was published in 2014.

His research also focuses on the application of technology to financial regulation, including analyzing the use of technologies such as risk models in governing financial markets.

Second, Mr. Vasisht joined The Volcker Alliance in April 2014 and serves as the director of financial regulation initiatives. In this role, he oversees all aspects of the Alliance's work on financial regulatory matters.

Prior to joining the Alliance, he served as executive deputy superintendent of the New York State Department of Financial Services, heading the agency's banking division. He has also served as the senior deputy superintendent of insurance, first assistant counsel, and assistant counsel to three Governors of New York, and assistant attorney general in the Investment Protection Bureau of the New York State Attorney General's Office.

Third, Ms. Ivashina is the Lovett-Learned Chaired Professor of Finance at Harvard Business School, and she is also the faculty chair of the Global Initiative for the Middle East and North Africa region.

She is a research associate at the National Bureau of Economic Research, a research fellow at the Center for Economic Policy Research, and a visiting scholar at the Federal Reserve Bank of Boston and the European Central Bank.

Her research spans multiple areas of financial intermediation, including corporate credit markets, leveraged loan markets, global banking operations, asset allocation by pension funds and insurance companies, and value creation by private equity. She is the author of, "Patient Capital: The Challenges and Promises of Long-Term Investing", and "Private Equity: A Casebook."

And last but not least, we have Mr. Nini. He is the assistant professor of finance at the LeBow College of Business at Drexel University. He teaches classes on financial institutions and markets and conducts research in a variety of areas related to corporate finance and capital markets. His research has been supported by various grants and published in the top finance journals.

In addition to his position at Drexel, he is also a fellow at the Wharton Financial Institutions Center, and a visiting scholar at the Federal Reserve Bank of Philadelphia. Before joining Drexel, he was an economist at the Federal Reserve Board in Washington, D.C.

Witnesses are reminded that your oral testimony will be limited to 5 minutes. And, without objection, your written statements will be made a part of the record.

Mr. Gerding, you are now recognized for 5 minutes to give your oral presentation.

**STATEMENT OF ERIK F. GERDING, PROFESSOR OF LAW AND
WOLF-NICHOL FELLOW, UNIVERSITY OF COLORADO LAW
SCHOOL**

Mr. GERDING. Thank you, Chairman Meeks, Ranking Member Luetkemeyer, and members of the subcommittee, for the opportunity to testify about emerging risks to financial stability from leveraged loans and CLO markets.

Financial stability is not merely a technical topic. Promoting financial stability is essential to ending the squeeze on working families and escaping America's cycle of debt. The cycle begins with excessive borrowing. Excessive borrowing, even by corporations as in the leveraged loan market, impacts working families because it is fed into the financial machine.

Excessive debt makes our financial system unstable. Financial market disruptions accelerate economic disruptions, from recessions to full-blown financial crises. Economic disruptions have a huge and disparate impact on working families. Further behind in the wake of a crisis, working families must borrow more, and the cycle continues to spin. To end this cycle, promoting financial stability is crucial.

A huge portion of leveraged loans are securitized or used to create complex financial products called collateralized loan obligations, or CLOs. CLOs are close cousins of the mortgage-related collateralized debt obligations, CDOs, that were central to the global financial crisis a decade ago. Leveraged loans and CLOs form a pipeline or system. Disruptions at either end of the pipeline can cascade and affect the other market, like a spring or crisis accordion.

The pressing question then becomes: How different is the CLO market from the earlier CDO market? There are important dif-

ferences. Pre-crisis CDOs were backed by residential mortgages, while CLOs are backed by corporate debt.

But there are also troubling similarities between the two markets. First, underwriting standards in the leveraged loan market appear to be deteriorating as covenant-lite loans have become prevalent. This mirrors the decline in underwriting standards in residential mortgage markets 14 years ago.

Second, many CLO securities created from leveraged loans trade on opaque markets or do not appear to trade at all. In my current research, I am surveying the CLO market, spending hours on intensive interviews with market participants to learn who buys these securities, for what purpose, and whether these investors worry about market disruptions.

Several of my preliminary findings ought to trouble you. The most senior investment-grade classes of CLO securities are typically purchased by regulated banks, insurance companies, and pension funds. This creates a transmission line between potential disruptions in the CLO market that could damage the broader economy.

Banking and shadow banking markets are not separate but are highly connected. Many senior investment-grade CLO securities appear not to actively trade. Those that do trade typically trade on primitive, opaque markets with little transparent pricing. Why does this matter? Asset-backed securities are supposed to be liquid and tradable. Liquidity would allow regulated institutions to easily exit the market. Theoretical liquidity underpins favorable regulatory treatment of these products, including the ability of banks and other firms to purchase these investments in the first place, as well as favorable capital rules. If liquidity evaporates or was never there in the first place, the assumptions that these products are safe for banks and insurance companies are questionable.

A lack of transparent pricing means that investors and regulators cannot rely on market prices to police risk adequately. Regulators must therefore work much harder to police the risk of CLO and leveraged lending markets for threats to financial institutions and financial stability.

I am not confident that regulators have or share among themselves the high-quality information that they need, which is why I support the three bills that the subcommittee is considering today. We cannot wait until we need to man the lifeboats to fully fund the iceberg control. We also need to ensure that regulators are sharing data with the OFR and with each other.

Thank you very much.

[The prepared statement of Mr. Gerding can be found on page 34 of the appendix.]

Chairman MEEKS. Thank you.

Mr. Vasisht?

**STATEMENT OF GAURAV VASISHT, SENIOR VICE PRESIDENT
AND DIRECTOR OF FINANCIAL REGULATION INITIATIVES,
THE VOLCKER ALLIANCE**

Mr. VASISHT. Chairman Meeks, Ranking Member Luetkemeyer, members of the subcommittee, it is an honor and a privilege to tes-

tify at this hearing to consider the systemic implications of leveraged lending.

Leveraged loans are a key component of business debt. They provide credit to companies with high levels of debt or speculative credit ratings. In recent years, because of their explosive growth and rapidly eroding underwriting standards, leveraged loans have increased vulnerability in the financial system. In an economic downturn, this vulnerability has the potential to disrupt the availability of credit and reduce economic output. To address this weakness, regulators should take the necessary steps to better understand and mitigate the risks of this complex market.

Usually arranged by a syndicate or group of banks, leveraged loans are made to private equity firms or corporations mostly to fund a merger or acquisition, pay dividends, or effectuate share buy-backs.

Once made, the loans are sold to investors. The largest buyers are collateralized loan obligations, which pool the loans and sell the securities based on their cash flow to investors globally. Although data is limited, CLO investors include foreign and domestic banks as well as non-bank financial institutions such as insurance companies, asset managers, and hedge funds.

In recent years, as overall business debt in the United States has skyrocketed, so too has the size of the leveraged lending market. Fueled by a combination of low interest rates, high investor risk tolerance, and low financing costs, leveraged loans have grown to a total of approximately \$1.2 trillion, roughly equivalent to the size of the subprime mortgage market at its peak.

As the leveraged lending market has swelled in size, its underwriting standards have rapidly deteriorated. So-called covenant-lite loans, which lack basic protections for lenders and investors, now account for nearly 80 percent of new issuances. Moreover, most of the recent growth in lending has been concentrated in the riskiest borrowers.

Late in the credit cycle, as investor risk tolerance and asset prices peak, the leveraged lending market could amplify losses. In an inevitable economic downturn, as investors pull back and the price of speculative debt declines, highly leveraged firms will have difficulty obtaining financing and repaying their loans. As default rates spike and prices fall, firms will shrink their economic output and cut jobs.

In such a scenario, the stability of the financial system would depend on the ability of banks and investors to absorb losses. Fortunately, large banks have more capital and liquidity than they did before the financial crisis, but deregulatory efforts underway since 2017, including regulators' retreat from the 2013 leveraged lending guidelines, undermine confidence.

What's more, significant data gaps on CLO investors and the lack of a comprehensive analysis of CLO funding structures renders a full assessment of potential losses challenging and highly speculative.

What is clear, however, is that in the event of a downturn or of sharp asset price declines, the impact on the real economy will be consequential even if it doesn't lead to a collapse of the financial system and a repeat of 2008.

For this reason, it is important for policymakers to act now.

First, regulators must better understand the leveraged lending market. Put simply, regulators cannot effectively regulate something they do not understand. But given the number of market participants and regulators involved, it is challenging to gather and analyze all the data. I recommend that the Office of Financial Research fill any data gaps and produce a comprehensive analysis on the risks of the leveraged lending market.

Second, regulators must safeguard the banking system. Since banks operate at the core of the leveraged lending market, it is important that they remain resilient. I propose that regulators restate the substance of the 2013 leveraged lending guidance and require the Nation's systemic banks to build their capital by raising countercyclical capital buffers and strengthening the stress-testing process.

Third, regulators should address risks outside the regulatory perimeter. This means that the Financial Stability Oversight Council, which was created by Dodd-Frank, should withdraw its guidance, which would tie it up in knots and will end its ability to designate non-banks.

Thank you, and I look forward to answering your questions.

[The prepared statement of Mr. Vasisht can be found on page 81 of the appendix.]

Chairman MEEKS. Thank you.

Ms. Ivashina?

**STATEMENT OF VICTORIA IVASHINA, LOVETT-LEARNED
CHAired PROFESSOR OF FINANCE, HARVARD BUSINESS
SCHOOL**

Ms. IVASHINA. Thank you, Chairman Meeks.

To talk about the systemic risk in the leveraged loan market, we need to talk about two things: first, whether there is risk in the first place; and second, will this risk be propagated through the institutions that are holding it.

Let me start with whether we have signs of concentration of hidden risk in the system. There is an important parallel to the weakness that characterized the subprime mortgage crisis, and that is lack of visibility into the quality of collateral backing securitized products. The source of opacity today is different than it was in 2008, but it is key to understand that the quality of the loans is dictated not solely by the fundamentals of the company but also by the credit agreement that defines the terms of the loan. These agreements are long and complex, and there are substantial variations in contracting terms that we observe.

In a study with my colleague, we see that loans typically are characterized by a wide net of negative covenants that span six different categories. However, we also find that each individual of these negative covenants provisions are commonly eroded by what is known in the industry as baskets and carve-outs. Moreover, we find the prevalence of these baskets and carve-outs is much larger for the highly leveraged loans and those loans that are backing leveraged buyouts.

Note that what I am talking about here is very different from the covenant-liteness. This is another element of erosion of credit agreements.

With this in mind, the question becomes whether institutional investors and CLO managers, in particular, have the resources and have the right incentives to do proper due diligence on the loans that sit in their portfolios.

Tension surrounding some of the recent restructurings—that includes the restructuring of J.Crew in 2017—indicates that at least some of these elements, contractual elements that I mentioned are misunderstood by the creditors.

Beyond increasing contractual complexity, we see other elements that would be consistent with an increase in hidden risk. The recent rise in corporate leverage was driven by growth in the first lien senior secure debt. This is what leveraged loans are. In 2007, this layer of debt was capping at 3.7 times EBITDA. Today, that number is 4.5. Evidently, the recovery rate on the 4.5 leverage is much lower than the 3.7.

What I am saying is that the use of historical recovery rates for purposes of volume risk today in the segment would be misleading. And, again, the question becomes whether creditors that dominate this market are understanding that risk.

The second parallel to the subprime mortgage crisis is the central role of securitization. To be clear, securitization is a useful tool that ultimately helps to bring the borrowing cost down. However, in any securitized structure, creditors holding investment-grade—and for CLOs, that would be close to 90 percent—do not conduct due diligence, and are not expected to conduct due diligence on the underlying portfolio.

Instead, these investors rely on accuracy of credit rating, contractual alignment of incentive between junior and senior tranches, and other market mechanisms. Unfortunately, we have seen this mechanism fail before. To have confidence in this market, we need to understand who is holding equity in CLO structures and whether this agent has the right incentives to screen and monitor the underlying risk.

Another point that is relevant for systemic risk is, who are the investment-grade investors in CLOs? Do they have stable funding? Are they leveraged?

We are not completely in the dark on this question. We know that U.S. banks do not have major direct exposure to CLOs. Other large institutions that typically buy investment-grade fixed-income are foreign banks and pension life insurers. All of these institutions have been known to reach for yield. So an educated guess is that these are the institutions behind the rise in CLOs.

We also know that pensions and life insurers are not leveraged, they have stable funding, and are generally able to withstand temporary market fluctuations. And at least pension funds are not financially interconnected institutions.

It is these elements that lead market observers and myself to conclude that, currently, leveraged loans do not present elevated risk to the stability of the financial system.

That is not to say that the prospect that U.S. pension funds are exposed to hundreds of billions of tranches in CLO structures is not

something that should merit a concern on its own, especially since the U.S. State pension fund system has been known to be in a very vulnerable financial position.

There is an alternative scenario with several hundreds of billions of dollars of CLO tranches sitting in foreign banks. That, of course, would have consequences of its own that should not be easily dismissed.

Finally, what I would like to comment is what is likely to happen if the CLO market would freeze. And, in my view, there are several ingredients that indicate that if the market would go through an adjustment, that market would freeze.

The first point is that the corporate sector is likely to face a lot of pressure. And the point that is often misunderstood is that most of the contracts actually have financial covenants. The covenant liteness merely makes the enforcement of the covenants conditional on a set of events, which includes acquisitions and raising new financing. But, in an economic downturn, a company with a covenant-lite loan might avoid the default. Yet, it cannot do much more than that. It will be frozen.

Second, if the leveraged loan market shuts down, there is a danger of refinancing. And there has already been an incident of this nature in 2008. However, in 2008, the shutdown of the CLO market was caused by market dislocation—

Chairman MEEKS. We are out of time.

Ms. IVASHINA. —and it is unlikely that it would be this time.

Chairman MEEKS. Thank you.

Ms. IVASHINA. Thank you.

[The prepared statement of Ms. Ivashina can be found on page 57 of the appendix.]

Chairman MEEKS. Mr. Nini?

STATEMENT OF GREGORY NINI, ASSISTANT PROFESSOR OF FINANCE, LEBOW COLLEGE OF BUSINESS, DREXEL UNIVERSITY

Mr. NINI. Chairman Meeks, Ranking Member Luetkemeyer, members of the subcommittee, thanks so much for the invitation to participate in today's hearing.

Let me start by saying how heartened I am that the subcommittee is having a hearing on the relatively arcane topic of leveraged loans. Even among business school lunchrooms, leveraged loans have only recently become a topic of discussion.

It is my hope today to provide some educational background on the topic and to offer some thoughts on whether I think leveraged loans creates some unique risks to financial stability.

Interest in leveraged lending has increased in recent years because the market has grown so rapidly. Having roughly doubled in size over the last decade, the total amount of outstanding leveraged loans is now comparable to the amount of outstanding high-yield bonds, which is a different product that also provides credit to lots of large firms in the United States.

I think it is important to consider growth in leveraged lending in the context of growth of overall corporate credit. For example, over the last decade, net new corporate credit has risen by about \$4 trillion, but the leveraged loan market has contributed at most

one-fifth of that increase. Moreover, some of my research suggests that a lot of the growth in leveraged loans reflects from switching away from one type of credit and into leveraged loans.

Of course, it is quite natural that corporate borrowing has been so strong in recent years. A healthy economy creates demand for borrowing, and low interest rates support the supply of credit. Despite this, many measures of corporate credit risk—for example, the ability of firms to repay their outstanding debt—currently appear quite benign.

Nevertheless, risk is inherent to all financial markets, and if a slowdown in the economy were to happen, the amount of corporate defaults would increase, these defaults would be concentrated in borrowers with leverage, and investors in leveraged loans would certainly suffer financial losses.

Whether leveraged loans create systemic risk is a different question. In the remainder of my time, I wanted to discuss two possible sources of systemic risk that I think are unique to the leveraged loan market. In each case, I find little evidence to be worried.

First, there is concern that the terms of leveraged loans seem particularly advantageous for borrowers and that this may reflect aggressive risk-taking by some lenders.

One particular concern is the creation and surge of so-called covenant-lite loans. In research I have conducted with two colleagues, we find that nearly every firm that has a covenant-lite loan has another loan that still has traditional financial covenants.

Leveraged loans come in two parts: one part is a covenant-lite term loan funded by institutional investors; and one part is a line of credit funded by banks that still has traditional financial covenants. The second part is often overlooked in popular discussions of the leveraged loan market.

Other measures of conditions in the leveraged loan market also do not currently suggest excessive risk-taking. During 2018, the average interest rate spread on leveraged loans was only slightly below its historical average. And spreads have risen this year so that the pricing of leveraged loans currently does not suggest that loans are particularly cheap.

A second unique feature of the leveraged loan market is the emergence of CLOs as important investors. Economic research has highlighted that the financial structure of lenders is a potential source of systemic risk, and I do believe it is important that we understand how CLOs work.

In my opinion, CLOs have none of the hallmarks of financial intermediaries that could create systemic risk. Although CLOs do borrow money to invest in loans, the amount of leverage appears small relative to the underlying risk. Indeed, the most senior investors in CLOs were spared losses even during the height of the financial crisis.

Moreover, CLOs borrow using long-term debt, so there is virtually no risk of a bank run on a CLO. In my opinion, it is difficult to envision a scenario in which many CLOs would be forced to liquidate large portions of their portfolios in a short period of time.

One realistic concern is that the creation of new CLOs could come to a halt during a period of economic stress. This, in fact, happened during the financial crisis, which meant that many bor-

rowers were unable to issue new leveraged loans. However, since the borrowers in this market tend to be large firms with broad access to capital markets, they largely substituted to alternative sources of credit. I have studied this period and find no evidence that borrowers that had an institutional leveraged loan suffered any additional adverse consequences.

To sum up, I think developments in the leveraged loan market should be monitored in the context of overall growth of corporate credit. Although I don't find the level of credit alarming at the moment, I am happy to see regulators and policymakers actively discussing the topic.

Second, I view some of the specific changes in the leveraged loan market, particularly growth in covenant-lite loans and CLOs, as primarily reflecting secular changes in the institutional segment of the market rather than a cyclical loosening of credit terms or a significant buildup of systemic risk.

Thank you again for the invitation to share my thoughts with you, and thanks for proactively monitoring concerns over financial stability. I am happy to answer any questions you may have.

[The prepared statement of Mr. Nini can be found on page 71 of the appendix.]

Chairman MEEKS. Thank you very much.

And I thank all of the panelists for your excellent testimony.

I now recognize myself for 5 minutes for questions.

And I will start with you, Mr. Gerding. For me, I don't ever want to be put back into a position as I was in 2008 when Secretary Paulson came and talked about systemic risk and the whole world was falling down. And part of what we wanted to do when we did the Dodd-Frank Wall Street Reform Act was to try to put in place with reference to the regulators so that they could look not only at mortgages but also non-financial institutions.

My question to you is—what we had in mind with FSOC and OFR is that they would be a regulatory agency to try to get it together. Do you believe that FSOC and OFR have the adequate authority to quantify and map the risk that leveraged loans may pose to the financial system as a whole?

Mr. GERDING. I think that they have a number of important tools. I am worried that there are a couple of factors that are undermining their power.

One is the subject of one of the bills which your subcommittee is considering, which is giving OFR independent funding, giving the Director of the OFR the power to have independent funding for its agency to set a minimum level. And I understand that the bill would also ensure that the funding of OFR does not go below that particular level.

That is critical because OFR is in danger of being hollowed out, either by decisions by the Secretary of the Treasury to reduce its funding or by staffing losses. I think that is important, to ensure that there is a minimum level of funding for the OFR.

The OFR, for me, is one of the most underappreciated accomplishments of the Dodd-Frank Act. It essentially created an early-warning system for systemic risk and for financial crises. So I think making sure that that early-warning system functions is crucial.

One thing that I think is a huge weakness in our regulatory regime is not necessarily OFR or FSOC but the incentives and the actual data-sharing among Federal financial regulators. I hope that this subcommittee pays close attention to whether other Federal financial regulators are giving OFR and FSOC the critical data that they need to monitor not just banks but non-bank sources of systemic risk.

Chairman MEEKS. Thank you very much.

Ms. Ivashina, could you briefly speak to the importance of quality data to quantify the risk imposed by the system, by leveraged loans, and the limitations in the data currently available?

Ms. IVASHINA. Absolutely.

So, as already mentioned, the window into the leveraged loan market that we have is through banking. However, we know that banking is not holding much of those CLO tranches. And most of the institutions that we can think of that would be holding the CLO tranches actually would focus on what is known as shadow banking.

So, first, this data is not collected by regulators. Second is that—this is something I have been trying to pursue for several months with my colleagues. We have been trying to find the private data sets that would address these issues, that would give us insight into what is the role of hedge funds, what is the role of U.S. State pension funds in this segment, and this is something that simply does not exist.

Chairman MEEKS. Thank you.

And, Mr. Vasisht, can we dismiss outright the systemic risks that leveraged loans may pose to the system? Or would you say that we could go from merely a recession amplified to a systemically disruptive system? What are your thoughts?

Mr. VASISHT. No, I don't think that we can dismiss that, in large measure because of how opaque leveraged lending is and how opaque CLOs are.

We don't fully understand or, actually, fully appreciate the role that banks play in this market. They underwrite the loans. They sell the loans to CLOs. They then invest in the CLOs. And they hedge their risk in terms of holding the loans as well as being investors in those CLOs.

One common narrative that I have heard is that banks don't really have much risk and they are not exposed to it. Banks are exposed to it. And the reason I bring it up is because recessions caused by instability in the banking system last longer and are deeper than other recessions.

One thing that really does need to be explored is how exposed the banks are. It may be that they are not too exposed and we don't have anything to worry about. But, at this stage, given the opacity of the market, I am not comfortable making that statement.

Chairman MEEKS. Thank you.

I now yield to the distinguished gentleman from Missouri, the ranking member, Mr. Luetkemeyer, for 5 minutes.

Mr. LUETKEMEYER. Thank you, Mr. Chairman.

I don't know really where to start here. Let me talk with Mr. Nini, I think, from the standpoint that I am concerned—we have a situation where we are talking about loans that are being made.

And with every loan, there is risk. And that is what banks do. They make loans and assess risk and whether they want to do it or not. That is the nature of their business. That is their business model.

And they make their loans and—you made a comment a minute ago that was really intriguing from the standpoint—you said, even if there is a downturn and we no longer are able to do this, to make leveraged loans, that those entities would probably go to another market. They would probably go to the equities market to get the cash they need to be able to continue to—it would be a different source of funding, but these loans probably would not be necessarily as risky because they probably wouldn't go under quite as quickly as, say, a mortgage loan, which people really don't have anyplace else to go. If you have a home mortgage and suddenly you lose a job, you wind up with something upside-down in your loan portfolio.

Could you elaborate on that just a little bit? I am trying to get a grasp on how the—and the systemic part of that, then. If there is really not much risk from the standpoint that they really probably don't have as much risk in a leveraged loan because there is ability to continue to shore up the business entity, there is not as much risk there, in my thought process. Am I wrong on that, or is that about right?

Mr. NINI. Your sentiment is very much right.

The borrowers in the leveraged loan market are some of the largest in the United States. Many are publicly traded firms. Many have access to the corporate bond market. And all will have a line of credit, an existing line of credit, with a bank.

In the financial crisis, 2009–2010, there were virtually no new CLOs created. They are the biggest buyers of leveraged loans. And so that put a pretty big damper on at least the institutional part of the leveraged loan market. These firms that had existing leveraged loans had trouble refinancing them or getting a new one.

I examine them and compare them to other firms that did not have institutional leveraged loans, and I find no adverse consequences in terms of investment, stock prices, employment. And the reason is because they were able to use these other sources of credit, either borrowing in the corporate bond market, borrowing from a bank. These are big firms, again, and so they are able to substitute across fairly easily.

I think it is a risk to consider about, a freeze-up of markets. But this one in particular, because of the nature of the borrowers, at least during the financial crisis, it didn't seem to prove too problematic.

Mr. LUETKEMEYER. The loss ratios, those seem to bear out a systemic risk. There is obviously a risk there, and our economy would take a hit. But, systemically, to throw it into a downturn or a tail-spin even further, it doesn't seem like there is enough there to actually cause that to happen.

Mr. NINI. It is important to remember that loans are one of the safest investments that exist in capital markets. They do carry risk, of course, and banks are good at assessing that. But as Professor Ivashina said, they are often the most senior part of a firm's capital structure. Default rates, historically, on leveraged loans

have been only about 3 percent. And in the event of a default, the losses happen to be quite small.

Mr. LUETKEMEYER. Okay.

Mr. Vasisht, you have talked a couple of different times and said that the regulators don't understand how to look at leveraged loans and you need OFR to do that. And you were talking about the markets, and you didn't really feel the regulators could do their job.

I am kind of concerned about that comment, number one. And, number two, if that is true, that the regulators don't have enough background to understand what they are actually looking at, should we regulate to solve the problem or should we legislate to solve the problem?

Ms. IVASHINA. So—

Mr. LUETKEMEYER. No, I am talking to Mr. Vasisht.

Ms. IVASHINA. Oh, sorry.

Mr. VASISHT. I think—

Mr. LUETKEMEYER. Maybe I misunderstood you.

Mr. VASISHT. Yes, I think a little bit. What I was saying was, you can't regulate something that you don't fully understand. And that is a comment not on the regulators but more on the lack of data in this market.

If you don't fully have a picture of what is going on in the market—so, for instance, we don't know fully who the investors in CLOs are. We know that. There are some things we know, and one of the things that we know is that we don't fully know who the investors are in the CLOs—

Mr. LUETKEMEYER. I apologize. My time is about up here, but I want to get to—the heart of the question is, okay, to solve the problem you are talking about here, do we legislate to solve this problem, or do the regulators go in and regulate and propose rules on how they can better analyze and regulate those loans?

Mr. VASISHT. In this instance, I think the issue can be resolved with the Office of Financial Research and the powers that it was given under Dodd-Frank. The only issue is, does it have the desire, the incentive, and the funding to actually do that?

Mr. LUETKEMEYER. Okay. Thank you.

Chairman MEEKS. The gentleman's time has expired.

I now recognize the gentleman from Georgia, Mr. Scott, for 5 minutes.

Mr. SCOTT. Thank you very much, Mr. Chairman.

I think we are putting our hands right on the issue here, because I think the most important thing in this hearing is understanding that this is about risk.

And, Mr. Vasisht, as you pointed out, it is not just about risk but understanding who is taking this risk and making sure we have the data available to be able to understand it.

And with that in mind, Fed Chair Powell, to give us some understanding of this, he said that right now there is \$90 million of this CLO business. But he also said that only—\$700 billion, I am sorry, in a total market of the CLOs. But only \$90 billion of that roughly \$700 billion are held by the largest banks. So that comes out to being about 13 percent of all of the CLOs.

The question, it seems to me, is, does this mean that our major domestic financial institutions are being protected from the

harshest impacts in the event of a financial shutdown? But it also follows that these other non-bank participants in this market, be it mutual funds, pension funds, or insurance companies, may feel the pinch in the downturn.

So the question is, to each of you, what do we know about the portion of the CLO market that is taken up by these non-bank entities? What do we know about them? We know that 13 percent are handled by our banks, our largest banks. What about this remaining 87 percent? What do we know about these non-bank entities?

Can we start with you on that, Ms. Ivashina?

Ms. IVASHINA. This is precisely the question. So we have inside of the banks, we take them out, and the bulk of CLO tranches is still left out. I would make that point that you are raising a little bit more complex one, because part of this is investment-grade, which is the bulk, but the layer of the equity, which is definitely not sitting in banks, will be also very important to gain insight.

We don't know much. This is why the system is known as—why this is generally described as shadow banking. And, in particular, one question to put out there: How much of that is sitting in U.S. State pension funds? That would be an important question.

Mr. SCOTT. Yes. And my issue is, how can we make sure that these people who rely on their pensions, on their retirement funds, are adequately protected? Not just the banks, but these are people there who are suffering.

Let me give you an example. We have many union members right now who are pensioners. Do we know if they are in this position because the money is not there? Particularly, the Teamsters. The Teamsters pension is basically gone. We are having to adjust to that. To what degree were they in this leveraged loan market? How can we make sure that Main Street, the people who are depending upon this, are protected?

Mr. VASISHT, you made an interesting point, because I think you are driving home what I am after here. Do you think we have enough information on these participants who are non-banks, who are in real deep in this market? Are they adequate to be able to handle the risk?

Mr. VASISHT. Yes, I think that there is not sufficient information at this stage to fully understand the non-banks. I can tell you that the non-banks that invest in CLOs include insurance companies, pension funds, mutual funds, hedge funds, and others. But it would be good to better understand what the exposures are and whether the investors themselves, those investors, have runnable funding structures. So not the—

Mr. SCOTT. Let me just end—

Chairman MEEKS. The gentleman's time has expired.

Mr. SCOTT. Mr. Chairman, is it possible that I could get just one little question? I just wanted to know if the panelists were aware of the information that Fed Chair Powell said, that only 13 percent are covered by the major banks.

Chairman MEEKS. Just answer yes or no, if you are aware.

Mr. NINI. Yes.

Ms. IVASHINA. Yes.

Mr. VASISHT. Yes.

Mr. GERDING. I think banks own 45 percent of leveraged loans—

Chairman MEEKS. The gentleman's time has expired.

Mr. SCOTT. Thank you very much, Mr. Chairman, for your generosity.

Chairman MEEKS. I now recognize the gentleman from Kentucky, Mr. Barr, for 5 minutes.

Mr. BARR. Thank you, Mr. Chairman.

Professor Gerding, in your testimony, you identify CLOs as "close cousins" of mortgage-related CDOs that were at the heart of the global financial crisis.

From 1993 to 2018, do you know how many principal impairments were recorded for the 9,181 tranches issued by U.S. CLOs over those 26 years?

Mr. GERDING. I don't have that data.

Mr. BARR. I can tell you what the answer is. It is 53—53 impairments out of 9,181, or .58 percent. And that includes defaults during the period of the worst financial crisis since the Great Depression.

Mr. Vasisht, you have attempted to conflate CLOs with other very different asset classes that were actually at the heart of the 2008 financial crisis, namely, subprime residential mortgage-backed securities, credit default swaps, and other squared structures like collateralized debt obligations (CDOs).

Do you know how many triple-A- or double-A-rated CLO tranches have defaulted over the last 26 years?

Mr. VASISHT. I don't have that data.

Mr. BARR. The answer is zero, not a single default, including during the worst financial crisis since the Great Depression.

And the reason why CLO debt securities had performed so well—and, by the way, your concern about bank investment in CLOs, they only invest in triple-A and double-A tranches. The reason why CLO debt securities have performed so well historically, even in times of economic distress, is very simple: CLOs bear absolutely no resemblance to the toxic CDOs that preceded the financial crisis. In fact, CLOs performed very well during the crisis.

And this is because CLOs are straightforward, long-term-only investment funds, professionally managed by SEC-registered investment advisors that typically hold 90 percent of their assets in senior secured commercial industrial loans. These are not residential mortgage-backed securities, subprime, no-doc loans. These are first-lien, senior secured industrial and commercial loans in well-known American companies with high levels of collateral.

Mr. Nini, can you discuss the diversification of CLOs and the alignment of interest between CLO managers and CLO investors that differentiate CLOs from CDOs?

Mr. NINI. Sure. The leveraged loan market spans a wide set of firms across many, many different industries and locations. This provides lots of ability for CLOs to invest in a very broadly diversified set of loans. And they all do. They all have rules that require them to do so, and they hold very well-diversified portfolios.

The managers of the CLOs, who are charged with selecting those loans, have compensation which looks very much like an equity exposure in the CLO. This puts them on the hook for risk if things go bad; their compensation falls.

Mr. BARR. Right.

Mr. NINI. The obvious intention of this is to give them incentives to do a good job.

Mr. BARR. Right. In fact, CLOs are actively managed, and there is a perfect alignment of interest between the CLO manager and the CLO investors, because the CLO manager is paid only after the note holders are paid.

Finally, let me just make this point. And, by the way, there is diversification. Typically, no more than 3 percent of their portfolios in the loans are in any single borrower and no more than 15 percent in any single industry sector. That is fundamentally different than mortgage-backed securities, where there was no visibility, number one, but, number two, they were all concentrated in a single residential real estate market.

Finally—this is an important point—because CLOs are long-run, non-mark-to-market investors, they are term structures. And that means they represent locked-up money that can withstand and, in fact, provide liquidity in stressed market environments. So, in a downturn, CLOs actually stabilize the market by acting as a buyer when the rest of the market is looking to sell.

It is problematic that nobody understands this, it seems, in this room, except for Mr. Nini. CLOs are long-term capital. They are not subject to short-term redemptions or outflows. And, in this regard, CLOs provide a vital source of liquidity in a downturn. This is exactly the kind of structure that policymakers should want.

So, I don't get it. These are high-performing. They are liquidity providers in a downturn. They represent the long-term, non-mark-to-market investors. And why does this matter? Because 72 percent of all American companies are non-investment-grade. Leveraged loans provide \$1.7 trillion in financing to American companies, and most of the commercial credit in the market comes from non-banks.

Because Dodd-Frank regulation is limiting the amount of leveraged loans a bank can take on, the capacity of non-banks to fill the liquidity gap becomes that much more important. If non-bank lenders become constrained, then guess what? Funding costs will go up. If funding costs go up, bankruptcies happen. If bankruptcies happen, there are less jobs, there are lower wages. That is not good for financial stability. Over-regulation of CLOs would be an impediment to financial stability.

And my time has expired. I have more questions, but my time has expired, and I yield back.

Chairman MEEKS. The gentleman from Illinois, Mr. Foster, is now recognized for 5 minutes.

Mr. FOSTER. Thank you, Mr. Chairman.

And thank you to our witnesses. I think you are probably seeing pretty clearly the difference between Members who were actually here in this committee during the financial crisis and those who heard a rather different, after-the-fact rewrite of it.

Many previously safe financial products became unsafe during that crisis, and very few people had a clear idea. It remains one of the unsolved problems of the financial crisis. For example, how will we rate these things? How will we avoid the "issuer pays" conflict that is intrinsic and is on the relatively short list of problems that we didn't solve?

Now, in the last few years, Treasury has downsized the Office of Financial Research, which should remain one of the key ways that we keep our eye on emerging risks. This obviously limits the Office's ability to gather and analyze financial market data, like the leveraged lending market and others.

Specifically, President Obama's Fiscal Year 2017 budget provided for an OFR with a staff of 255. President Trump's Fiscal Year 2020 budget estimates 145 employees. This represents a staff budget reduction of more than 43 percent.

Professor Vasisht has commented on the fact that we just don't have the data we need in many of the markets, like CLOs and direct leveraged loans.

And so my first, I think, simple question is: Do you agree that the Office of Financial Research needs to be well-funded to fulfill its purpose to collect and analyze information about opaque markets such as leveraged lending or CLOs?

Mr. VASISHT. It is absolutely critical that that happen.

Mr. FOSTER. And so should Congress consider legislation, such as the discussion draft that I am cosponsoring and intend to introduce, to ensure that the OFR has independent and sufficient funding to gather data on leveraged lending and CLO markets and other emerging threats?

Mr. VASISHT. Funding and desire are key components, and I think that legislation would address both.

Mr. FOSTER. Thank you.

How about the idea that the OFR or the various Federal financial regulators periodically stress-test certain non-bank markets, such as those for CLOs or complex asset-backed securities? Do you think this would be helpful for policymakers to have a better assessment of potential systemic risks?

Mr. VASISHT. Absolutely, it would be very helpful. One of the problems with stress-testing is that second-order effects, indirect effects, are not fully appreciated in stress-testing, so—

Mr. FOSTER. Correlations between assets.

Mr. VASISHT. Yes.

Mr. FOSTER. That was one of the biggest things that almost everyone missed, is the correlation of different tranches.

And so, if I could go back a little bit more, who currently gives ratings to the CLOs?

And is there any proposed cure for the "issuer pays" conflict that bedeviled us during the Dodd-Frank time, trying to find a way around that intrinsic problem? Are any of you familiar with a plausible fix to this? Anyone who wants to—

Mr. GERDING. I think we should be exploring other alternatives to credit-rating agencies. There are a lot of proposals out there. It is a very complicated issue, but one potential way of looking at this is looking at market prices, credit spreads, spreads on credit default swaps.

One of the—

Mr. FOSTER. One of the lessons we learned is, using the spread, the credit spread, as any measure of the real risk, there are times when the market gets things badly wrong.

Mr. GERDING. That is absolutely right.

Mr. FOSTER. And not to mention, using LIBOR as a reference, which was—you know, during the crisis, every one of us woke up every day and looked at the LIBOR TED spread and then discovered later that the LIBOR thing was just completely fictitious and literally made up over lunchtime.

This is why you need sophisticated entities like the Office of Financial Research, looking in detail at things that, frankly, the average Member of Congress and perhaps even some of the regulators don't have time to look into.

Any other comments on the "issuer pays" problem with the rating agencies? Do any of you have a favorite solution to that that you could name?

Ms. IVASHINA. It doesn't have to be one thing. There are several mechanisms. Of course, credit-rating agencies are very important, but so are the market forces, so is visibility into the incentives of the junior tranches we try in charge of collecting the information.

Mr. FOSTER. Okay. Thank you.

Mr. Gerding?

Mr. GERDING. I don't think we should rely on just one source. I think that is a mistake, to rely just on "issuer pay" credit-rating agencies. I would prefer that financial regulators rely on multiple sources.

Mr. FOSTER. Yes. So, if you have time, if you could answer for the record, just point our staff at a few papers that describe what you think are plausible solutions to this. Because I know I have been thinking about it without success for the last decade.

Chairman MEEKS. The gentleman's time has expired.

The gentleman from Colorado, Mr. Tipton, is now recognized for 5 minutes.

Mr. TIPTON. Thank you, Mr. Chairman.

Mr. Nini, in your testimony, you commented that in a downturn, there will be losses. So, to the point of the hearing today, wouldn't an economic downturn pose significant risk to investigators and institutions with leveraged loans on their balance sheets?

Mr. NINI. Likely, yes. During economic downturns, corporate defaults do increase. In the last 2 recessions, corporate defaults reached about 8 percent, and investors in those loans suffered losses. And I expect that would happen in the future.

Mr. TIPTON. And would that pose a significant risk to those investors and institutions? Is it going to be systemic?

Mr. NINI. A systemic risk? They would lose money, which they probably wouldn't like. Whether that creates a systemic risk, I believe, is a different question.

The CLOs, which hold a fair amount of the risk, I do not believe are a source of systemic risk. Mutual funds hold some of this risk. I don't believe they are a huge source of systemic risk. And then banks and other investigators hold some of the risk, and I think our regulators are monitoring them to see if there is any source of risk there.

Mr. TIPTON. I appreciate that, because that is actually at the crux of what we are having the hearing on today, on the CLOs, are they going to be actually becoming a systemic risk to the economy. And your answer, effectively, is that you would have losses but it is not going to be systemic?

Mr. NINI. That is right.

Mr. TIPTON. Okay.

Is it your understanding that the prudential regulators that we currently have are monitoring the leveraged loan lending market and having the tools necessary to be able to identify and mitigate the risk to the financial markets?

Mr. NINI. I believe it—let me stress one thing, is that most leveraged loans are arranged by commercial banks, large Wall Street banks, which are under regulatory surveillance. So this means that it is very unlikely that the origination of leveraged loans would escape oversight from regulators at the origination point. The Shared National Credit Program allows exiting bank regulators a very large amount of oversight at the origination of many leveraged loans.

I find it quite telling that the large regulators, including the systemic risk regulators, FSOC and OFR, in their recent reports, all look at leveraged lending and are clearly thinking about the risks that leveraged lending might play in a crisis.

Mr. TIPTON. Okay. Thank you.

And, further, are you concerned that calling leveraged lending “systemic” could implicate the countercyclical capital buffer?

Mr. NINI. I am not sure just labeling it “systemic” might trigger that. I think regulators are thinking carefully about whether leveraged loans might warrant the countercyclical capital buffer independently of exactly how they are labeled.

Mr. TIPTON. Thanks.

And, ultimately—and this is something that always concerns me, coming from a rural area—if we were to label that as “countercyclical,” the requirements on the banks to be able to put more capital in, that would ultimately result in higher costs for consumers if there is a downturn, wouldn’t it?

Mr. NINI. That, for sure, is the concern. In my personal opinion, countercyclical capital requirements are a fairly blunt tool to deal with what is a somewhat modest risk of leveraged lending. Capital requirements would affect all the products the banks offer, including lots unrelated to corporate lending, and the potential for increase in costs would be very widespread.

Mr. TIPTON. Okay. Thank you.

And I yield the balance of my time to Mr. Barr.

Mr. BARR. I thank my friend from Colorado.

Mr. Nini, let me follow up on the point that I was making towards the end of my questions, and that is the unique characteristic of CLOs in that they are long-term, non-mark-to-market investors. They represent non-mark-to-market investors.

Can you comment on how that structure could provide liquidity in a downturn and, in that sense, provide a stabilizing impact on the market?

Mr. NINI. Yes. It is very important to note that collateralized loan obligations, they borrow money at maturities longer than the maturities of the loans that they hold. This means they are rarely going to be forced to repay some outstanding debt.

During the end of 2018, when there was some volatility in markets, CLOs were buyers of loans at low prices, playing the exact role that you point to. The fact that they can’t experience a run

does have the potential that they can be a stabilizing force during—

Mr. BARR. And does this explain why CLOs performed so well during the financial crisis?

Mr. NINI. I believe it is one of the factors. There were some mark-to-market CLOs that existed pre-crisis. Those have gone away and don't exist anymore—

Mr. BARR. They don't exist anymore.

Mr. NINI. —because they don't make sense.

Mr. BARR. I yield back.

Chairman MEEKS. The gentleman's time has expired.

The gentleman from Florida, Mr. Lawson, is now recognized for 5 minutes.

Mr. LAWSON. Okay. Thank you very much.

And welcome to the committee.

My concern will be for the whole panel. When you go back to 2007, when the financial crisis pretty much hit, what is the difference in subprime lending now compared to back in 2007 that would lead you to, in some of your testimony, say today that we might be headed towards another crisis? Which I really don't understand.

And I will start with you, Mr. Gerding, and we will go down the line. If you could explain it to me, so I have a clearer picture?

Mr. GERDING. We have discussed quite a bit at this hearing that the leveraged lending market is different than the mortgage lending market. There might be some benefits, some reasons that the leveraged lending market is less systemically important, but just because the financial crisis impacted mortgages and not leveraged loans and CLOs doesn't mean that this time is necessarily different.

A shock that affects corporate borrowing rather than real estate mortgages could affect this market in ways that the CLO market and leveraged loan markets were not affected 10 years ago. So it is important to look at similarities and differences and ways in which this market might be less risky but also, in some ways, more risky than the mortgage lending market.

One thing that Dodd-Frank did is it regulated the quality of consumer mortgages. Leveraged loans were not similarly regulated or addressed in post-crisis reforms.

Mr. LAWSON. Okay.

Would anyone else like to respond?

Mr. VASISHT. I will respond.

There are clearly differences. There are similarities, and those similarities are striking, but there are also significant differences.

Those differences might make dealing with leveraged loans easier than sub-prime mortgage-backed securities in the pre-crisis era, but you still have to deal with it. Just because there are differences and they might be mitigating factors doesn't mean that you can be complacent about it and ignore it until it balloons into a problem.

I think one of the key reasons why it is important to have a hearing like this is to discuss what is missing, what information is missing. How do we get our hands around that information, analyze it, so that we can make statements like CLOs are not runnable, that their investors are not going to pull back and have

their own funding problems; how exposed banks actually are to this market, including the lines of credit they provide to non-banks that invest in CLOs?

What happens when a non-bank entity that invests in a CLO has stress? What impact would that have on the bank and on the banking sector? These are key questions that still need to be answered. We need information to do that.

Mr. LAWSON. So, from your standpoint, I can't say it solved it, but Dodd-Frank brought all of this out.

And, from the consumer standpoint, the ones that suffer so much from mortgage foreclosures and losing houses and, most of all, the investment, are we on the right track?

Ms. IVASHINA. I can take this question.

From the consumer's standpoint—and this is important to emphasize. The consumer here—again, for me, it comes through the investment into investment-grade alternatives. The point that was raised earlier is that the losses on the investment-grade tranches will not be large. That is true. But if these losses fall into already vulnerable entities—now, we know they are not leveraged entities. They are entities with stable funding. But the U.S. retirement system is vulnerable from a financing standpoint. And so, if these losses fall into entities that are already weak, that could trigger an effect on the broader population and on the consumers.

Mr. LAWSON. Okay.

Did you want to comment, Mr. Nini?

Mr. NINI. No. I agree with my colleagues.

Mr. LAWSON. Okay.

Okay. With that, Mr. Chairman, I yield back.

Chairman MEEKS. The gentleman yields back.

The gentleman from Texas, Mr. Williams, is now recognized for 5 minutes.

Mr. WILLIAMS. Thank you, Mr. Chairman.

The economy is booming. Businesses are able to access credit. There are more job openings than workers. And our economy grew at the fastest pace in almost a decade last year. To me, as a small-business owner on Main Street for 50 years, it would seem logical that, as the economy grows, so does the use of leveraged lending.

Mr. Nini, how do you think we should be correlating the prevalence of leveraged loans to risks that they pose to the financial system? And are there any specific indicators you think we should be paying attention to?

Mr. NINI. I agree with your assessment that the pace of growth of corporate borrowing has largely tracked what is happening with the economy. A strong economy creates demand for borrowing, and the level of borrowing that we see is not dissimilar from what we have seen at other points of economic expansions in the past.

In my opinion, we should be and regulators should be monitoring overall growth in corporate credit. There is some academic research suggesting that large increases in credit growth can proceed and exacerbate downturns. Leveraged loans are just one fairly small part of that that should be considered in the broad context of overall credit.

Mr. WILLIAMS. Thank you.

There have been significant changes in financial regulation since the 2008 crisis. Our banks are now better capitalized and more aware of risk than ever before. In the Federal Reserve's "Financial Stability Report" that was released in May, it states the following: "With regard to leveraged lending, banks have improved their management of the associated risks."

So, Ms. Ivashina, can you explain the difference between corporate loan scrutinization and the securitization of mortgages and how the risk profiles of each are different?

Ms. IVASHINA. I generally find a comparison between mortgages and corporate loans to be something to be done super-carefully. But there are two elements on each way to compare. And in mortgages, in particular, there was lack of visibility on what lies inside the securitized mortgage obligations. The reason for that was, amongst several other things, corrupt origination practices. What happens in the loan market, of course, is very different. You deal with public companies, our secondary markets. These are sophisticated agents.

However, what underpins the risk, not only from the members of a public company but also the credit agreement—and this is where the contractual weakness comes in and the complexity of the contracts goes beyond the covenant-liteness that we have been emphasizing. This was part of my statement.

This is one parallel between mortgages and loans, and that is lack of visibility, potential lack of visibility, in what goes into the pool.

And the second element here is that, as in any securitized mortgages or in loans, its equity piece, the most junior piece, is that one of the key elements for assuring that the system is functioning.

Mr. WILLIAMS. Okay.

Many of you on this panel have noted the increase in covenant-lite loans in this market.

Mr. Nini, in your testimony, you mentioned that the growth in leveraged loans has been a result of investors substituting away from other forms of debt. So what do you see as the main cause of this phenomenon? And do you believe our financial regulators are properly equipped to deal with this trend?

Mr. NINI. In my opinion, the emergence of covenant-lite loans reflects a convergence with the high-yield bond market. High-yield bonds, which firms have used forever, would be considered a covenant-lite product. They do not have financial covenants the same way that bank loans do.

A similar phenomenon is happening for leveraged term loans, which are being sold to institutional investors—the very same investors that participate in the high-yield bond market who understand these products very well. I recently visited some of our regulators and talked about my research. I think they are very much on top of it.

Mr. WILLIAMS. Okay.

Mr. Chairman, I yield my time to my colleague, Mr. Barr.

Mr. BARR. Thank you. I appreciate my friend from Texas yielding.

Ms. Ivashina, I wanted to explore this issue, which I think is a very important one, that you raise about lack of visibility. Because,

of course, that was a major problem during the financial crisis, the lack of visibility with respect to RMBS and the originate-to-distribute model.

That is not what we have here. This is not originate-to-distribute. These are professionally managed, and there is a high level of visibility, unless I am missing something, in terms of these being a senior secured commercial industrial loans into companies that provide financial audited reports to these professional managers. And they are not squared structures. There are no CDOs; there are no credit default swaps on the other end. They are just long-term.

Why do you say there is a lack of visibility? Or, relatively speaking, wouldn't you concede there is greater visibility into these products than those subprime RMBS?

Ms. IVASHINA. On the one hand, the fundamentals are more observable as a company. But, on the other hand, for each loan, we have to understand 200 pages of very complicated legal language. This is not only covenant-liteness, which concerns a very small fraction of the contract, but basket carve-outs and other forms of erosion on each one of the negative covenants that you would need to do for 100 loans that sit in a CLO and for each of the investors and investment-grade to understand that. That is the similarity with the mortgage market.

Chairman MEEKS. The gentleman's time has expired.

I now recognize the gentleman from Georgia, Mr. Loudermilk, for 5 minutes.

Mr. LOUDERMILK. Thank you, Mr. Chairman.

And thank you all for being here today.

And, yes, this is a topic that I think we need to address, but we need to make sure that our businesses have sufficient access to credit, especially in a time when we are seeing the economy go in the direction it is going. One of the ways that you can bring a halt to a growing economy is to make sure that the small businesses don't have access to the credit they need to continue to grow their businesses.

To Mr. Nini, when you compare this to other credit classes like auto loans, student loans, and mortgages, how much outstanding debt is present in leveraged loans as compared to those other types?

Mr. NINI. The outstanding amount of leveraged loans, I estimate at about \$1.8 trillion, which includes a portion that is funded by banks and a portion that is funded by non-banks.

I am not exactly sure about the size of those other consumer credit markets that you reference. I believe they are a bit smaller in their order of magnitude.

Mr. LOUDERMILK. Okay. This is something I would like to investigate to see where that continues. I think that would be worthwhile of us looking into that.

Also, while the vast majority of leveraged loans are now made by non-banks, are non-banks still thoroughly regulated by the SEC/FSOC in the States?

Yes, Mr. Nini?

Mr. NINI. The large non-bank institutions in the leveraged loan market are CLOs that we have talked a bunch about and mutual

funds, each of which will have some regulatory coverage by the SEC.

Mr. LOUDERMILK. Okay.

Again, Dr. Nini, what is the typical rate of losses on leveraged loans during good economic times?

Mr. NINI. During good economic times, it will be less than 2 percent. In recent years, it has been on the order of 1 percent, 1.5 percent.

Mr. LOUDERMILK. What about comparative to a recession?

Mr. NINI. In a recession? In the last 2 recessions, the default rate has increased to about 8 percent. Again, in a default, senior loan investors typically don't lose all of their money. They are senior; they have collateral. They typically recover 70, 80 cents on the dollar. So the losses they have are going to be much smaller even than that 8 percent.

Mr. LOUDERMILK. Okay. Thank you.

Are leveraged loans made to a wide variety of businesses?

Mr. NINI. A very wide variety. They span a lot of industries, a lot of different firm sizes, public and private firms, lots of different geographies, a very wide range.

Mr. LOUDERMILK. Does that help reduce the risk of leveraged loans, when you have a large diversity?

Mr. NINI. Yes, of course. It is the first thing we teach students of finance, the benefits of diversification.

Mr. LOUDERMILK. Okay.

Approximately what percentage of American businesses are considered to have a credit rating below investment-grade?

Mr. NINI. I believe the number of firms that would qualify as leveraged borrowers is in the neighborhood of 70 percent to three-quarters. Most firms do not have a credit rating, so that is what makes it a little difficult to identify what exactly is a leveraged borrower. But I think the number, ballpark, is about 70, 75 percent would be considered a leveraged borrower.

Mr. LOUDERMILK. Okay.

I yield back.

Chairman MEEKS. The gentleman yields back.

I now recognize the gentleman from North Carolina, Mr. Budd, for 5 minutes.

Mr. BUDD. Thank you, Mr. Chairman.

And I want to thank our witnesses for joining us this afternoon.

I appreciate the intent of the hearing, and I believe my colleagues are actually very sincere in wanting to spot the next potential crisis in our financial markets and that they want to prevent it as much as I do. However, I would urge caution that leveraged lending will be the initiation and the beginning of the next financial crisis.

With my colleagues, I also appreciate all the questions that they raised, especially Mr. Tipton's, when it came to the countercyclical capital buffer. I think he actually covered most of my questions, Mr. Tipton from Colorado did. But I would like to yield some additional time to Mr. Barr, my friend and colleague from Kentucky.

Mr. BARR. Thank you, Mr. Budd.

My friend from Georgia asked, I think, an important question to Mr. Nini about the relative size of the U.S. leveraged loan market

compared to the investment-grade bond market, the mortgage debt market, the overall fixed-income market.

And the numbers, just to share for the record, according to the securities industry, is that, as you said, \$1.7 trillion, \$1.8 trillion is the leveraged loans outstanding today. My understanding is that the entire U.S. fixed-income market is around \$42 trillion.

So, in terms of the relative size compared to the overall fixed-income market, I think that is an important contextual fact that we need to keep in mind.

Another point is that, in the last quarter of 2018, the FAANG stocks, five stocks—Facebook, Apple, Amazon, Netflix, and Google—during the volatility of December lost over \$630 billion in market cap, which obviously led to short-term losses and significant losses for their investors, but it did not spread across the entire financial system. And I think it is important to note that the losses in these 5 stocks in that one quarter amounts to more than 60 percent of the entire leveraged loan market.

So, look, I don't think anybody is going to deny that there is risk in leveraged lending. Of course, there is risk in leveraged lending. That is the whole point. And I don't think many people are going to deny that credit risk is actually increasing either. I think the issue here, for the purposes of this hearing, is whether or not that increased risk presents a systemic issue.

And the point is, it is just not that significant of a—it is an important part of the financing of great American job-producing companies. It creates dynamism in our economy. It creates wages and jobs. It forestalls bankruptcies. It helps create efficiencies. But it is a relatively small slice of the entire U.S. economy from a systemic risk standpoint. I think that is the important point.

Final point/question to anyone who wants to answer this, I have to note and observe that many of our colleagues who are expressing skepticism of leveraged lending here today are the very same Members of Congress who are calling for a rollback of tax reform, corporate tax reform. They are the same colleagues who are calling for a rollback of the limitations on corporate interest deductibility. They are the same Members of Congress who are calling for an increase in corporate income tax rates, which for leveraged-but-profitable companies doesn't seem to be like a very good idea for financial stability.

I do not understand why we would be—if we are concerned about leveraged companies, why we would want to go back to the old Tax Code that incentivized less profit and more leverage. And I would be happy to invite anyone to comment on that.

Professor Gerding, I think you want to speak to that?

Mr. GERDING. The interest deduction for debt actually incentivizes more leverage by companies, both financial institutions and non-financial institutions. So I don't see that position as inconsistent at all.

Mr. BARR. Here is my question. Why would we want to make it harder on leveraged companies by increasing their taxes, to the extent they have taxable liability? And I get it; some highly leveraged companies may not have profits. But most of these companies have taxable profit, corporate profit. They may be leveraged, but they have—why would we want to increase taxes—if we are concerned

about leverage in the system, why would we want to make it harder on leveraged companies?

Mr. GERDING. Because, long term, I think we should be reducing our dependence on debt. There are other capital markets, like equity markets, that companies can access to fund themselves. Long-term, excessive reliance on debt, particularly debt like financial institutions, is destabilizing.

Mr. BARR. Well, making it harder—

Chairman MEEKS. The gentleman's time has expired.

Mr. BARR. I yield back.

Chairman MEEKS. The gentlewoman from New York, Ms. Ocasio-Cortez, is now recognized for 5 minutes.

Ms. OCASIO-CORTEZ. Thank you, Mr. Chairman.

In 2005, Bain Capital, Kohlberg Kravis Roberts, and Vornado Realty Trust acquired Toys "R" Us in a leveraged buyout and saddled it with billions of dollars in debt before liquidating the chain in June 2018.

They liquidated it, owing more than 30,000 workers, many of them my own constituents, a total of \$75 million in severance pay while executives walked away with millions of dollars in the business. This was part of a leveraged buyout, or, rather, a leveraged lending scheme.

Mr. Gerding, while there is no standard definition of "leveraged lending," would you say that it is thought to be the practice of investors or banks giving loans to companies that have a lot of debt on their books or companies with poor credit ratings?

Mr. GERDING. Yes. The borrowers tend to be highly indebted and higher-risk.

Ms. OCASIO-CORTEZ. So it is kind of like subprime lending but for corporations.

Mr. GERDING. It is extremely—it is high credit risk.

Ms. OCASIO-CORTEZ. Let's break this down. I am going to bust out my "bad guy" example. So let's say I am a bad guy, but this time, instead of trying to hack our political system, I am trying to hack our system of lending and our economic system of debt, you know, give me a monocle and a top hat and a cigar and that whole thing.

So I am a bank, I am a bank lender. And Company "X" walks through the door. Let's call it "Schmeears." And they are asking for a loan. They have very high levels of debt and a poor credit rating, and by every safety and soundness example and measure used to assess creditworthiness, they should not receive this loan.

In a leveraged lending situation, do I turn them away?

Mr. GERDING. If you are the person that you describe, I think you are probably less interested in social considerations and more interested in just earning a profit.

Ms. OCASIO-CORTEZ. Right, I just want to shoot up profit margin. I don't care how many people I fire. It could be 250,000 people, which is how many were fired in the Sears leveraged lending situation alone.

So, considering this Company "X", this company's poor creditworthiness, do I do my due diligence as a bank and impose protections for the loan that I give to them?

Mr. GERDING. You would do your due diligence, unless you are offloading a lot of that risk to someone else, in which case you don't care as much about the risk that you are taking on.

Ms. OCASIO-CORTEZ. And even if I do try to be a good person and deny them a loan, they can go down the street and get a loan from another bank or non-bank due to their poor credit rating, correct?

Mr. GERDING. That is correct in that second part of the explanation for why we see so many covenant-lite loans now. And the chances to remain competitive as a bank, I can look the other way, dismiss their poor credit rating, dismiss all of these things, but I also don't want to take on their risk, right? I am lending to this terrible company that, by all means, could go into the ground, but if they go under, I don't want to be on the hook.

Ms. OCASIO-CORTEZ. I can essentially pool together some loans in the form of collateralized loan obligations, CLOs, and sell it to other banks and non-banks for them to take care of, right?

Mr. GERDING. That is correct. And you could even invest in those CLO securities yourself later on.

Ms. OCASIO-CORTEZ. And when people pull those CLOs together, it is possible that a pension fund could buy that package, correct?

Mr. GERDING. They actually do.

Ms. OCASIO-CORTEZ. So teachers, police officers, firefighters, nurses, anyone who has a pension fund, they are now exposed to the risk of someone else's fat-cat gambling in the economy, correct?

Mr. GERDING. Right. And they can actually purchase riskier—they can and do purchase riskier securities than banks do. So, they may be actually more exposed.

Ms. OCASIO-CORTEZ. Now we are talking about, for example, in the case of Sears, they take on this leveraged lending, a CEO gets put in, runs it into the ground, fires a quarter-million people. They sell the debt to somebody else. A teachers' pension fund is on the hook more than the initial bank that gambled it.

Now you have fired a quarter-million people, and now it is teachers and their pension funds that are on the hook for paying for that even though they had nothing to do with it?

Mr. GERDING. That is a valid concern.

Ms. OCASIO-CORTEZ. How is this not extremely similar to the 2008 financial crisis and the mortgage crisis?

Mr. GERDING. I think there are important similarities.

One similarity that hasn't been discussed is that the CLO securities, the pool of securities that you are describing, there is not an active pricing system for those. So if we are talking about having information about how much risk is in the system, market prices are, most economists would say, the best measure of measuring risk.

If these giant pools do not trade on deep and liquid markets, we don't have the price to know exactly how much risk is in each of those tranches of CLO securities, including the tranches that you are talking about that are invested in by pension funds.

Ms. OCASIO-CORTEZ. Thank you so much, Mr. Gerding.

I yield my time to the Chair.

Chairman MEEKS. Thank you.

The gentlelady's time has expired.

And seeing no further witnesses, I now yield 2 minutes to the ranking member for purposes of a closing statement.

Mr. Luetkemeyer?

Mr. LUETKEMEYER. Thank you, Mr. Chairman. I appreciate the opportunity to wrap up here.

Just some closing thoughts. Today, we needed to, and we did, I think, find out a lot of information with regards to understanding leveraged loans. It is a tool that is used by corporations to be able to find different ways of accessing funds other than going to the equity markets. But, as we heard today, the equity market is a fall-back position in case of a downturn. The ability to refinance is there.

I think what we have seen is that there is not a concentration of credit in these, so that we have considerable differences between this and 2008, when we had a huge concentration of credit in the real estate market and the development market, which is considerably larger and much more concentrated. And it was in banks in a way that was way more impactful to their capital than what this would be, from the standpoint of the amount of that.

And, to me, that goes back to your regulators. I asked the question a number of times of whether we need to have more regulation or more legislation. I never got an answer to the more legislation.

I think, to me, we in Congress need to provide more oversight and not necessarily legislation. I think the regulators need to do a better job. To my mind, they didn't do a very good job in the last crisis. They need to be watching this like a hawk.

But I don't know that there is a whole lot of extra risk here compared to what it was in 2008 based on what we have heard today. Interest rates, to me, are always a telltale of what is happening in the market, and, actually, mortgage rates went down last week. So I think we are probably in a better spot that we actually were.

Interesting, the last conversation was somebody who actually, instead of worrying about jobs, that she is worried about a leveraged buyout or leveraged loan default, and actually ran off a 25,000-job business from her own district.

But I think, to go back to this hearing, it was about leveraged loans. Are they systemic? Can they cause our economy to go over a cliff? And I don't think we have found today that that was the case. I think we have found that, yes, there is risk, but I don't know that there is a risk significant enough—and, as Mr. Vasisht said, there is not enough data to show that it is—that I think we need to be concerned about it from the standpoint of systemic.

That being said, the regulators need to be doing their job. And if they do it, I think we will be protected.

With that, I yield back. Thank you, Mr. Chairman.

Chairman MEEKS. Thank you.

First, without objection, I would like to submit for the record an article by Mr. Bradley Keoun; a statement from Americans for Financial Reform; and a statement from Public Citizen.

I now recognize myself for 2 minutes for purposes of a closing statement.

I first would like to thank our witnesses for their contribution to this important conversation. I believe that what we heard today was genuine interest in understanding the nature and drivers of

systemic risk and having some level of comfort that the regulators tasked with monitoring risks to the system as a whole are staying ahead of the potential emerging risk in leveraged lending.

I, too, was worried when I saw what took place with reference to Toys “R” Us and Sears, and it just rang a bell in my ear and a ping in my stomach.

Current and past regulators and Treasury Secretaries have been vocal that the integrity of the updated regulatory framework implemented under Dodd-Frank is key to ensuring the stability of our financial system and capital markets.

We cannot forget the depth of the 2008 crisis. It is the worst time, or one of the worst times, I have had as a Member of Congress. And we must not be limited to fighting the last battle. Markets change and risk evolves, and regulators must remain vigilant as it is related to systemic risks.

The regulators, and the Administration more generally, owe it to the American people and to the taxpayers to ensure that all available tools and resources are used to monitor, quantify, qualify, and map risk to the system.

All we want, ultimately, is that when we ask regulators whether leveraged loans or any other risk is a systemic risk that they not answer, “We don’t think so,” but they say, “We are certain it is not, because we have all the data that we need to understand the risks, where they lie, how they flow across institutions, and we know how to contain it if a crisis were to emerge in this or another important asset class.”

We look forward to continuing this conversation here in this committee and with the administration and with FSOC.

With that, I want to thank Ranking Member Luetkemeyer and the other members of this subcommittee for a constructive discussion today. I also want to thank our witnesses for their testimony today.

The Chair notes that some Members may have additional questions for this panel, which they may wish to submit in writing. Without objection, the hearing record will remain open for 5 legislative days for Members to submit written questions to these witnesses and to place their responses in the record. Also, without objection, Members will have 5 legislative days to submit extraneous materials to the Chair for inclusion in the record.

This hearing is now adjourned.

[Whereupon, at 4:28 p.m., the hearing was adjourned.]

A P P E N D I X

June 4, 2019

Hearing on “Emerging Threats to Stability: Considering the Systemic Risk of Leveraged Lending”
Before the U.S. House of Representatives Committee on Financial Services,
Subcommittee on Consumer Protection and Financial Institutions

Tuesday, June 4, 2 p.m.
Rayburn House Office Building Room 2128

Prepared Statement of
Erik F. Gerding
Professor of Law and Wolf-Nichol Fellow
University of Colorado Law School

Executive Summary

- ¶ Risk is building in the leveraged loan and collateralized loan obligation (“CLO”) markets.
- ¶ These two markets are connected: leveraged loans are being repackaged into CLOs just as mortgages and mortgage-backed securities were used to create collateralized debt obligations (“CDOs”), the financial products at the heart of the financial crisis 11 years ago.
- ¶ There are important differences but also troubling parallels between the leveraged loan/CLO markets and the earlier mortgage/CDO markets.
 - One alarming similarity is the decline in leveraged loan underwriting standards: the market is now dominated by “covenant-lite loans.” Covenant-lite loans permit greater leverage by borrowers and remove an early warning system for lenders.
 - Purchases of CLOs by banks and other regulated financial institutions made in order to game crucial regulatory capital requirements remain a significant concern.
- ¶ Like mortgages and CDOs, leveraged loans and CLOs form a pipeline or system. Disruptions at either end of the system can cause financial havoc on the other end and then ricochet back. This is akin to a coiled spring or “crisis accordion.”
- ¶ Losses or disruptions in the leveraged loan/CLO markets, even if they do not approach the levels of mortgages/CDOs in the global financial crisis could still be significant.
 - They could amplify a recession.
 - We should be humble about our ability to predict the upper bound of financial market disruptions or crises.
- ¶ In my research surveying the CLO market, I have spent hours interviewing market participants. I have found that:
 - Some tranches of CLO securities appear not to trade actively; and
 - Many CLO securities trade on opaque markets lacking transparent prices.
- ¶ A lack of trading of CLO securities undermines the economic rationale of these securities, as well as their safety and favorable regulatory treatment.
- ¶ A lack of transparent prices means that neither the marketplace nor regulators can rely on prices to police risk-taking in the CLO market.
- ¶ Regulators must monitor and analyze data on leveraged loans and CLO markets.
 - I therefore support the three bills being considered today.
 - The OFR needs cooperation from other financial regulators in assessing risk in these markets. Lack of data sharing among financial regulators remains a crucial weakness.
 - The OFR needs an independent source of funding. We cannot wait until it is time to man the lifeboats to fully fund the iceberg patrol.
 - Regulators need minimum standards in assessing bank exposure to leveraged loans.
- ¶ I would also recommend:
 - Stress testing of financial markets, not just individual institutions;
 - Requiring financial regulators to conduct war games to prepare for market disruptions;
 - Underscoring that the burden is on financial institutions to prove that leveraged loans and CLOs are safe rather than on regulators to prove that they are unsafe.
- ¶ If data gathering reveals significant systemic risk in leveraged lending/CLO markets, regulators should use a mix of tools, including limiting bank investments in CLOs, enhanced and countercyclical capital requirements, and the Volcker Rule “covered funds” provisions.

Mr. Chairman Meeks, Ranking Member Luetkemeyer, and Members of the Committee:

Thank you for inviting me to testify at today's hearing on "Emerging Threats to Stability: Considering the Systemic Risk of Leveraged Lending."

My testimony today will focus on the connection between leveraged lending and financial products called collateralized loan obligations (or "CLOs"), which are a kind of asset-backed security. I will explain these terms in a moment. My testimony will also detail the preliminary results of two years of in-depth interviews of participants in CLO markets on the nature of investments and trading in these markets.

I am a law professor at the University of Colorado Law School. My teaching and research focus on securities regulations, financial institutions, financial markets, and financial crisis. I have authored numerous articles on asset-backed securities, financial institutions, and financial crises. My 2014 book, *Law, Bubbles, and Financial Regulation* examined the ways in which regulatory changes, including deregulation, declining enforcement levels, and deteriorating legal compliance, can contribute to, and be reinforced by, asset price bubbles. These regulatory dynamics have contributed to the most severe financial crises in history.

Before joining the faculty at the University of Colorado, I was on the faculty at the University of New Mexico School of Law and served as a visiting professor at the University of Georgia School of Law. Before becoming an academic, I practiced for eight years at Cleary, Gottlieb, Steen, and Hamilton, where my practice included securitization transactions.

I have not received any Federal grants or any compensation in connection with this testimony, and I am not testifying on behalf of any organization. The views expressed in my testimony are solely my own.

1. CLOs: Their Purpose and Connection to Leveraged Loans

The Financial Stability Oversight Council has identified leveraged loans as one of the most significant threats to financial stability.¹ This threat exists even though the size of the leveraged loan market represents a small but significant portion of the overall \$42 trillion in fixed income instruments outstanding. According to a March 2019 report of the Securities Industry and Financial Markets Association, there are \$1.7 trillion in leveraged loans outstanding.² The significance of this market owes to several factors beyond just size, including the following:

These loans are made to high risk corporate borrowers: Leveraged loans are made to risky companies whose credit quality is below investment grade.³ More than half the new leveraged loans in 2018 were borrowed by companies to finance mergers and acquisitions and leveraged buyouts, pay dividends, and buy back shares from investors.⁴ One group of economists characterized these purposes as follows: "in other words, for financial risk-taking rather than plain-vanilla productive investment."⁵

The size of the market has mushroomed: New leveraged loans issued in the United States increased from approximately \$200 billion in 2011 to over \$500 billion in each of 2017 and 2018.⁶

Underwriting standards have deteriorated: The share of leveraged loans that are “covenant-lite” has increased dramatically from under 30% in 2011 to approximately 80% in 2018.⁷ As an additional reference point, the percentage of U.S. leveraged loans that were covenant-lite in 2007 was approximately 30%.⁸ Covenant-lite means the loans lack many standard agreements that the borrower maintain certain defined levels of financial health. Without these covenants, lenders lack both important early warning alarms that a borrower’s financial position is deteriorating and the ability to call a default if those triggers are met. Lenders face enormous competitive pressure to negotiate away these covenants. If they insist on these provisions, they may lose business. Relaxing covenants and underwriting standards has led to a dramatic spike in corporations making adjustments to earnings and borrowing more for mergers and acquisitions and leveraged buyouts.⁹ This deterioration in credit underwriting standards has troubling parallels to the decline in mortgage underwriting standards in the years leading up to the global financial crisis. Indeed, according to a 2018 report, average recovery rates for defaulted loans have fallen to 69 percent from the pre-crisis average of 82 percent.¹⁰

Banks hold a sizeable portion of leveraged loans: According to federal financial regulators, banks hold approximately 45% of the total loans reviewed by the regulators.¹¹ This means losses on those loans would impact the regulated financial sector.

The regulated financial sector is further exposed to the risk of leveraged loans, because many of those loans are purchased by securitization vehicles and repackaged to create complex financial products called collateralized loan obligations (“CLOs”). As explained below, CLOs are close cousins of the mortgage-related collateralized *debt* obligations (“CDOs”) that were at the heart of the global financial crisis 11 years ago. According to financial industry estimates, CLOs now hold \$615 billion in leveraged loans (roughly 1/3 of the leveraged loans outstanding).¹² Banks, insurance companies, and registered investment funds hold a significant portion of senior CLO securities. Globally, banks own approximately 50% of senior CLO securities, and the majority of CLO securities are held by U.S. entities.¹³ Insurance companies and pension funds also hold significant stakes in CLOs, including in more junior, riskier securities.¹⁴ Banks and other regulated entities are also exposed to risk in CLO markets via lending and derivatives transactions with other CLO investors.¹⁵

Industry studies estimate that the CLO market increased 119% between January 2013 and March 2019, when its size topped \$600 billion.¹⁶ Despite financial industry fears of a slowdown in the market, new U.S. CLO issuances sold to investors from January 1 through April 19 of 2019 totaled \$39.4 billion, slightly above the amount sold over the same period in 2018.¹⁷ 2018 saw a record amount of \$128.1 billion in new CLOs arranged.¹⁸

I focus my testimony on how securitization transmits risks in the leveraged loan market to CLO investors, including regulated entities. Securitization creates a complex and troubling transmission line between risky credit markets and markets in complex financial products purchased by regulated financial institutions and others. Even if the potential magnitude of impacts on financial institutions, markets, and the broader economy is not as large as the devastation wrought by the collapse of the mortgage-related securitization markets, warning signs for financial instability now flash.

A. *Explaining CLOs and Securitization*

CLOs are a complex version of securitization. Securitization is the process by which financial firms arrange for the collection (or “pooling”) of large numbers of loans, which are then used to create securities that are sold to investors in capital markets. The cash flow on the original loans funds the payment of interest and principal on those securities. Securitization proceeds in a number of steps. These steps can be simplified and described as follows:

- ¶ *Loan origination:* Lenders make loans to individual or commercial borrowers. These lenders are called “originating lenders.”
- ¶ *Sale to a securitization vehicle:* The originating lenders then sell groups of their loans to an investment vehicle.¹⁹ This investment vehicle typically purchases groups of loans from multiple originating lenders. It may also purchase other assets.
- ¶ *Issuance of asset-backed securities to investors:* The securitization vehicle then creates bond-like securities that an underwriter sells to investors in capital markets. The cash flows from the loans and other assets that the vehicle purchased fund the interest and principal payments on the securities.

A financial institution, often an investment bank, “arranges” the overall transaction; it does the following:

- ¶ helps create the overall structure of the transaction;
- ¶ identifies (or selects a money manager that will identify) the pools of loans that will be securitized;
- ¶ coordinates the logistics of the transaction; and
- ¶ underwrites or places the resultant asset-backed securities with investors.

The party arranging a securitization receives a fee for these services.

Securitization can involve a wide array of types of loans, including mortgages, student loans, consumer credit card debt, and automobile loans. CLOs involve the securitization of corporate debt, including leveraged loans. CLOs are one version of collateralized debt obligations (CDOs), which involve the securitization of fixed-income assets, such as high-yield debt (often called “junk bonds”) or asset-backed securities. CDO markets fueled the residential real estate boom in the early 2000s and then exacerbated the global financial crisis that followed. The CDOs at the heart of the crisis involved the re-securitization of mortgage-backed securities, which, in turn, were the product of securitizing residential mortgages. One of the most pressing questions involving the CLO market is whether its risk is markedly different than that of CDOs based on mortgage-backed securities. I turn to this later in my testimony.

B. *The Benefits of Securitization to Participants*

Securitization transactions offer benefits to both originating lenders and investors. These transactions offer a way for originating lenders to offload risky loans and to convert illiquid assets (*e.g.*, mortgages or leveraged loans) into liquid assets (cash). Originating lenders can then use this

cash to make fresh loans. Purchasers of asset-backed securities can invest in lucrative lending markets without having to make or collect on loans themselves. Securitization, including CLOs, offers investors several ways to mitigate the risk associated with the underlying assets, including the following:

- ¶ *Diversification through pooling:* Securitization vehicles purchase pools of loans and other assets from multiple parties. This reduces the exposure of investors to the risk of default on any particular loan. This assumes, however, that losses on loans are not highly correlated.
- ¶ *Portfolio diversification:* Asset-backed securities investors purchase only a small slice of the total securities. This allows them to balance the risk associated with the underlying pool of assets with other investments in their portfolio.
- ¶ *Tranching:* Most securities issue more than one class of securities. Instead, they issue multiple classes of securities (or “tranches”), with senior classes of securities having priority rights to the cash flows on the underlying assets. This means that investors in these senior classes or tranches face a much lower risk of default on their securities than investors in more junior tranches. The risk of default on the underlying assets is thus concentrated in the junior tranches.

Asset-backed securities also mitigate risk in that they are designed to be tradeable. Investors who do not like the riskiness of their securities or who need cash can *theoretically* sell their assets for cash and exit the market.²⁰ I will return in a moment to the question of how and how much CLO securities actually trade.

Credit rating agencies play a crucial role in CLO and securitization markets. In theory, they help investors assess the credit risk of asset-backed securities. In practice, when credit rating agencies give an investment grade rating to senior tranches of a CLO or other securitization, they allow banks, insurance companies, and other regulated financial institutions to purchase those securities. Without those ratings, banking, insurance, or other regulations would preclude these institutions from making these investments.

C. *Securitization as Shadow Banking*

Securitization’s conversion of illiquid underlying assets into theoretically tradeable securities underscores how asset-backed securities markets represent a core part of the “shadow banking system.” Many economists use this term to describe particular capital markets that provide the same core economic functions as depository banks, albeit without being subject to banking regulations. These functions include:

- ¶ *Credit intermediation:* Just as banks borrow from depositors and other lenders and lend to households and businesses, CLOs and other securitization transactions “borrow” by issuing fixed-income bond-like securities to investors and providing cash to originating lenders to make new loans.

- ¶ *Credit transformation:* Just as banks make risky loans to borrowers and offer low risk deposits and other investments to their customers, CLOs and other securitization structures can use leveraged loans or other risky assets to create senior investment grade securities (as well as more junior securities that are riskier).
- ¶ *Maturity/liquidity transformation:* Just as banks have long-term assets (loans to borrowers) and issue short-term liabilities (deposits that are withdrawable upon demand), CLOs and other securitization vehicles convert illiquid assets (like leveraged loans) into theoretically liquid asset-backed securities that could be traded for cash.

By performing these three functions, particularly the final one, banks become fragile and susceptible to runs. In 2007 and 2008, the global financial crisis revealed that asset-backed securities markets can also suffer from run-like behavior; when investors sought to exit these markets and liquidate their investments *en masse*, fire sale behavior caused markets to freeze.²¹ Scholars have described runs on other shadow banking markets, such as repos and money market mutual funds.²² These markets performed these same three economic functions and proved vulnerable to the same kind of liquidity crisis. Unlike banks, however, securitization and other shadow banking markets were not subject to the same intensive regulatory regime that governs banks.

Note that the benefits and economic functions described above do not imply that securitization always provides a net social benefit. Securitization may provide more capital to credit markets, but it is important to ask how that credit is being used and how sustainable any credit boom is. Securitization may theoretically provide liquid investments to capital markets investors, but it is important to ask how much liquidity exists in actuality. Securitization can become incredibly complex and thus more fragile, as investors become more distant from the risks in the underlying credit markets to which they are exposed. The global financial crisis revealed that instead of transferring risk to parties that could understand and optimally bear it, securitization has the potential to transfer risk to investors with inadequate information and poor risk-bearing capacity.

D. Regulatory Treatment

CLO and securitization markets exist in large part because of statutory and regulatory changes that permit banks, insurance companies, and other regulated financial institutions to invest in asset-backed securities. Starting in the 1980s, changes in these “permissible investment” rules fueled the growth of securitization markets. They also created potential transmission lines between banking and capital market crises.²³ Moreover, regulators wrote regulatory capital rules that gave favorable treatment to asset-backed securities, particularly when compared to more direct financial institution investments in the underlying asset markets.²⁴ This set the stage for financial institutions to engage in regulatory capital arbitrage, a gaming of these important capital rules that are supposed to provide a cushion against financial institution failure and systemic risk. I will return to regulatory capital arbitrage in a moment.

i. Exception to Dodd-Frank Securitization Rules

The Dodd-Frank Act²⁵ mandated that federal financial regulators pass a number of rules to fix significant flaws and sources of risk in securitization. However, a federal appeals court and regulators have carved a number of important exceptions to these rules for CLOs. For example:

Skin in the Game Exceptions: The Dodd-Frank Act mandated that federal financial regulators pass rules to require that originating lenders retain a portion of the risk of assets they sell into securitizations.²⁶ This was intended to address the skewed incentives of lenders to sell poor credit quality assets and leave asset-backed securities investors exposed to “lemons.” However, in 2018, a panel of the U.S. Court of Appeals for the D.C. Circuit ruled that the risk retention rules did not apply to CLOs because the judges found the agencies’ interpretation of the Dodd-Frank Act to be unreasonable.²⁷

Volcker Rule Exceptions: The Volcker Rule provisions of the Dodd-Frank Act mandated that federal financial regulators write rules prohibiting not only proprietary trading by banks, but also bank investments in certain “covered funds” deemed to be too risky. When federal financial regulators wrote the final rules implementing this statutory provision,²⁸ they included a number of exceptions and exemptions to permit bank investments in CLOs that met certain criteria. The most important exception was incorporated into SEC Rule 3a-7, which allowed bank investments if the CLO invested only in certain pools of loans as opposed to high yield bonds or other assets.²⁹ This exception permitted the securitization structure and interconnected markets we see today: CLOs backed by leveraged loans. (Late last year, the Loan Syndications and Trading Association, the trade group for CLOs and similar products, asked regulators to widen this exception to allow CLOs to hold “non-loan assets,” including “bond buckets.”)³⁰

It is not a coincidence that CLOs backed by leveraged loans later mushroomed in the gaps in the legal regime for securitization created by court opinion and rulemaking.

ii. 2013 Leveraged Loan Guidance and Withdrawal

Regulators have not been blind to the risks that the leveraged loan markets pose for banks and other regulated financial institutions. In 2013, the Office of the Comptroller of the Currency (“OCC”), the Federal Reserve Board, and the Federal Deposit Insurance Corporation (“FDIC”) issued interagency guidance on leveraged loans (the “2013 Interagency Guidance on Leveraged Lending”).³¹ This guidance set minimum standards for regulator review of leveraged lending activities of financial institutions supervised by the three agencies. These standards included criteria for reviewing the following with respect to leveraged loans:

- ¶ underwriting considerations;
- ¶ assessing and documenting enterprise value;
- ¶ risk management expectations for credits awaiting distribution;
- ¶ stress-testing expectations;
- ¶ pipeline portfolio management; and
- ¶ risk management expectations for exposures held by the institution.³²

However, in 2017, the General Accountability Office determined that this interagency guidance constituted a “rule” that must be reviewed by Congress under the Congressional Review

Act.³³ Then, in 2018, the Comptroller of the Currency announced that national banks, the largest lenders in the leveraged loan markets, would no longer be subject to the 2013 Interagency Guidance on Leveraged Lending.³⁴ The Comptroller's decision degraded the ability of federal regulators to monitor the buildup of risk in the leveraged loan market – and, by extension, the CLO market which securitizes those loans – and banks' exposure to that risk.

2. The Buildup of Risk In the CLO Market

A. *How are CLOs Similar to Pre-Crisis CDOs? What is the Risk of a Crash?*

CLOs bear numerous similarities to CDO securities in the years leading up to the financial crisis. Both markets involve the securitization of debt and the same basic features of a complex securitization: tranching, a reliance on credit rating agencies, and (as explained later in this statement) thin trading and opaque pricing of at least some tranches and some issues. The leveraged loans being sold into CLO structures result from much looser underwriting standards. As mentioned above, “covenant-lite” loans now represent a sizeable share of both the leveraged loan market and the loans being sold into CLOs. Without these covenants, lenders or CLO investors – whose securities depend on the cash flow from these loans – have fewer early warning alarms that a corporate borrower's financial health is deteriorating and default is looming. The covenant-lite trend has clear parallels to the decline in underwriting standards in both residential mortgages and mortgage-backed securities in pre-crisis years.

These similarities between contemporary CLOs and pre-crisis CDOs presents an urgent question: what is the risk that CLO markets will suffer disruptions or even a crash similar to CDO markets in 2007-2008? The CLO market participants I have interviewed thus far in my research have presented strong arguments that there are sufficient differences in the CLO market that make a repeat of the global financial crisis unlikely. Nevertheless, almost all interviewees admitted that the risk of a more localized market disruption that would lead to a crash in CLO prices was a concern.

Interviewees pointed to differences between contemporary CLO markets and pre-crisis CDO markets. One interviewee said that contemporary CLOs had more conservative structures (*e.g.*, overcollateralization tests) than pre-crisis CDOs, and that these mechanisms provided greater protection to senior CLO securities. Other interviewees disputed that CLOs had markedly more conservative structures. However, many interviewees pointed to other significant differences, most notably the much larger size of the pre-crisis CDO market and the fact that those CDOs were backed by real estate and not corporate debt. Those factors, according to interviewees and many economic analyses, mean that potential economic shocks would have a smaller impact on the CLO market compared to the unraveling of the CDO market in the global financial crisis. Interviewees did *not* note a countervailing factor that may make securitization of leveraged loans relatively *more* risky than securitizing mortgages: numerous Dodd-Frank provisions and rulemakings under that statute have regulated the risk of mortgage lending and mortgage securitization. Leveraged lending was not similarly addressed.

In addition, commentators have argued that the sophistication of leveraged loan borrowers compared to pre-crisis residential mortgage borrowers means that leveraged loan terms are less onerous and should lead to less defaults. It is hard to evaluate this particular claim, as other factors

may push towards greater leveraged loan defaults, such as “agency costs,” *i.e.*, the fact that corporate managers are managing the corporation’s money not their own.

Even though many interviewees perceived the risk and potential severity of a crash in the CLO market to be much lower compared to risks in the pre-crisis CDO market, most interviewees were nonetheless very concerned about a market downturn that could cause losses. Some described it as “what keeps me up at night.” Several buy-side interviewees (those working at firms investing in CLO securities) described planning for ways to mitigate losses, and, in one case, to make a profit, from a severe downturn in the CLO market. Most buy-side interviewees expressed a view that they had superior information compared to other investors in the market, and that this would allow them to exit the market before a downturn accelerated or to otherwise mitigate their risk of losses.

These responses track many behavioral finance models of asset price bubbles, which bifurcate financial markets into “smart money” (informed and sophisticated investors who analyze information on a security’s fundamental value) and “noise traders” (less sophisticated investors who do not analyze fundamentals but chase trends). Of course, every investor in CLO markets cannot be smarter than average, and economic research has documented that even financially sophisticated investors can be overconfident in their abilities and overoptimistic about market events.³⁵

B. *Crisis Accordion*

A crisis could propagate in leveraged loan markets in multiple ways. It is important to remember that leveraged loan and CLO markets are tightly connected in a system. This means that the initial shock could hit at either end of the pipeline – leveraged lending or CLO investing – and quickly cascade to the other side of the market. The most common concern among the individuals I interviewed, as well as among scholars and market analysts, is that an economic shock will cause a wave of defaults on leveraged loans. Again, looser underwriting standards (covenant-lite loans) mean that lenders and investors will have less warning of any deterioration in the financial health of borrowers. Covenant-lite loans also enable higher leverage of borrowers, which makes them more vulnerable to losses.

A surge in leveraged loan defaults would reduce the cash flows to CLO securities, and impact junior CLO securities first. A larger wave of defaults could affect more senior CLO securities, such as the middle or “mezzanine” tranches. In the wake of the global financial crisis, economists noted how even small errors in calculating the risks affecting underlying assets can be magnified each time the cash flows from those assets are securitized and re-securitized.³⁶ It is not just losses, but correlated losses that threatens securitization. When losses are unexpectedly correlate, the diversification upon which securitization depends offers less protection to investors.³⁷ The spread of covenant-lite loans has troubling parallels to the spread of exotic mortgages pre-crisis; not only are borrowers more likely to default, they might default at the same time with the same economic shock.

It is not only actual loan defaults and cash flow shortages that can affect asset-backed securities, however. Indeed, the global financial crisis demonstrated that uncertainty about defaults on underlying collateral would affect asset-backed securities can trigger fire sales, crashes and freezes in securitization markets. The unraveling of CDO markets in 2007-2008 stemmed not only from actual defaults on mortgages and mortgage-backed securities, but also from investor uncertainty

about how defaults on those assets would affect their CDO securities through multiple layers of securitization.³⁸

A crisis in CDO markets could also begin at the other end of the pipeline. If CLO investors decide to cut back on new CLO investments, less cash will flow back to originating lenders. This would tighten lending markets, prevent borrowers from refinancing existing loans, and potentially trigger a spike in defaults. Originating lenders may then be left with risky leveraged loans on their balance sheets that they expected to be able to sell into a CLO securitization. This represents “warehousing risk.”³⁹ Risk can suddenly appear on an originating lender’s balance sheet. This problem can be magnified because of the timing of many sales. Research into pre-crisis securitizations revealed that many originating lenders carry loans on their balance sheet for a significant portion of a financial quarter. They sell the loans into a securitization shortly before the end of the quarter when the balance sheet “snapshot” of the lender’s assets, liabilities, and shareholders’ equity is taken. This means that balance sheets do not capture the full risk that the lender bore over the entire quarter.⁴⁰ This risk can suddenly manifest if demand by CLOs for leveraged loans were to dry up.

Whether a securitization crisis starts from the originating lender or investor end, a shock can ricochet back and forth through the pipeline. The 2007-2008 crisis in mortgage-related CDOs illustrated the power of feedback effects. As CDO markets unraveled, the credit crunch intensified, driving up interest rates. Many borrowers became unable to make payments on mortgages that reset to higher market rates and were unable to refinance. A fresh wave of defaults then further damaged securitization markets and the financial institutions that invested in them.⁴¹ The leveraged loan/CLO pipeline has the potential to act like a spring or “crisis accordion,” with losses and risk moving in waves back and forth between the two markets.

In describing how crises propagate between lending and securitization markets, one subtle but important point merits underscoring: use of the term “economic shock” can sometimes be misleading. It suggests that the threats to the financial system come from external forces (what economists call “exogenous factors”). However, the financial system often creates the very economic conditions that later threaten its stability. In the leveraged loan and CLO market, risky lending and investment can create an unstable credit boom.

C. *The Potential Economic Impact of Disruptions to the Leveraged loan and CLO Markets*

If the risk build up in leveraged loan and CLO markets results in severe market losses, disruptions, or crashes, the pressing question becomes what would be the impact on the broader economy. The leveraged loan and CLO markets are smaller than their pre-crisis mortgage and CDO counterparts. Moreover, the collapse of the residential mortgage and CDO markets had an outsized economic impact because of the vital importance of housing markets to households and the macroeconomy. The most likely outcome of disruptions or even a crash in the leveraged loan and CLO markets would be amplification of a recession. Financial institutions suffering losses because of leveraged loans or CLO investments would likely curtail lending, which would throttle back economic growth. Of course, disruptions in these financial markets might combine with other macroeconomic factors to increase the severity of a recession.

We should be humble about our ability to predict financial market disruptions, particularly about our capacity to place an upper bound on the expected severity of any crisis in a particular financial market. The timing and impacts of market disruptions on the financial system and the broader economy are often non-linear. Panics, fire sales, and market freezes result from herd dynamics that are in part psychological and thus difficult to model. Connections among different financial markets and between the financial system and the broader economy change constantly and are often poorly mapped. In short, we should remain wary of underestimating the likelihood and severity of financial disruptions.

3. Why Do Investors Purchase CLOs? How Liquid Are the Secondary Markets for CLOs?

A. Preliminary Data

Beyond seeking to identify whether the current CLO market poses different systemic risk concerns than the CDO market thirteen years ago, my current research focuses on CLO investors and the secondary market for these assets. I am currently surveying the market to answer several questions, including: who is investing in the various tranches of CLOs, what are their investment objectives, how often do various tranches of CLOs trade and why, and how is trading conducted.

My research indicates that the identity of investors varies greatly by tranche. Senior tranches are generally purchased by regulated financial institutions, such as banks, insurance companies, and registered investment funds. Multiple interviewees noted the prevalence of Japanese banks as investors in the most senior tranches. However, statistics indicate that U.S. banks purchase 50% of senior CLO securities, and other regulated U.S. financial institutions purchase a sizeable share of senior and mezzanine securities.⁴² Several interviewees noted a tendency of banks, particularly Japanese banks, to pursue “buy and hold” strategies in which they would buy an entire tranche and not seek to sell any of the securities. Some interviewees noted that European financial institutions also purchased senior tranches.

B. Regulatory Capital Arbitrage and Rating Agencies

Several interviewees believed that many investors in senior tranches were engaging in investment strategies to obtain “capital relief” or to engage in “regulatory capital arbitrage.” Understanding regulatory capital arbitrage requires understanding how bank capital requirements function. U.S. and foreign regulations generally limit banks and other regulated financial institutions to investing only in investment-grade debt instruments. Regulations also subject these institutions to regulatory capital requirements. Regulations that follow the Basel II international accord among financial regulators place assets into different risk “buckets.” Riskier assets require that a financial institutions have more capital (*i.e.*, fund themselves with a higher degree of equity). Higher capital requirements translate into lower degrees of leverage for the financial institutions. Lower leverage, in turn, can reduce the magnitude of returns for a firm’s equity holders (as well as lowering the magnitude of investment losses).⁴³

In order to achieve a higher return for shareholders, banks and other regulated financial institutions have strong incentives to lower the impact of, or game, capital requirements. Regulatory capital arbitrage involves investment strategies that seek more returns for a specified level of required capital. Of course, if markets have even rudimentary levels of efficiency, investors cannot

obtain higher returns without taking on more risk. In regulatory capital arbitrage, financial institutions, often with the assistance of investment banks, lawyers, and accountants, select and structure investments that have higher returns and risks for a given level of regulatory capital. If successful, the true economic risk of an asset may be much greater than that assumed by the regulatory capital requirement.⁴⁴

As other scholars and I have described, asset-backed securities and various derivatives provide ideal instruments for regulatory capital arbitrage as they slice and dice the risk of underlying assets into various tranches. Parties can structure CLOs and other securitizations to stuff as much risk into senior tranches as possible while still achieving an investment grade rating. This requires, in turn, the acquiescence of credit rating agencies.⁴⁵

Some interviewees noted that credit rating agencies face intense pressure from the investment banks structuring CLO transactions and from investors to provide investment grade ratings. Given that credit rating agencies are paid by the issuer and only if CLO transaction closes, “ratings shopping” remains a concern. Some interviewees also noted that the investment bankers and other parties structuring a deal have strong incentives and capacities to “reverse engineer” a credit rating agency’s methodology in assessing the risk of different CLO tranches. There is evidence that, similar to practices before the global financial crisis,⁴⁶ this reverse engineering can lead to transactions structured to stuff more risk into the investment grade tranches purchased by regulated financial institutions.

Some prominent economists believe that pre-crisis securitization became more about evading capital requirements than actual productive credit risk transfer. Professors Acharya and Richardson explain that this evasion of capital regulations was the driving force behind securitization in the years leading up to the crisis. They write:

[E]specially from 2003 to 2007, the main purpose of securitization was not to share risk with investors, but to make an end run around capital adequacy regulations. The net result was to keep the risk concentrated in the financial institutions—and, indeed, to keep the risk at a greatly magnified level, because of the over-leveraging it allowed.⁴⁷

Regulatory capital arbitrage can have severe consequences. Regulatory capital requirements aim to provide a greater buffer that protects financial institutions from failure. They represent one of the most important tools in mitigating systemic risk. Regulatory capital arbitrage reduces the effectiveness of these important defenses. Moreover, it camouflages a financial institution’s true economic risk from the marketplace and policymakers. Investors, counterparties, and regulators can thus be caught unaware about the fragility of financial institutions.⁴⁸

C. *Thin Trading and Opaque Prices*

Many, but not all, interviewees viewed secondary trading of many CLO tranches as thin or, in some cases such as Japanese banks buying and holding an entire tranches, non-existent. Some interviewees expressed a contrary view that some, but not all, tranches were actively traded and provided industry studies to support their view. Most interviewees noted that trading is much more primitive than in corporate bond markets and prices of CLO securities are opaque. Many interviewees provided a similar account of how investors obtained prices and conducted trades.

Prices are obtained and most trading occurs via dealers, not on exchanges or trading platforms. Instead of consulting an electronic terminal for a market price, investors call a dealer and obtain a “price indication.” A price indication is evidently different than a price quote, a “bid,” or an “ask.” It is often more of a theoretical price than a price on which a trade could be quickly executed. If an investor want to buy or sell a particular CLO security, she typically does so through the dealer, who might be selling from the dealer’s own inventory or matching a trade with another customer. In short, pricing of CLOs appears to be very opaque.

When asked why investors accept this primitive pricing and trading structure, interviewees provided a range of answers. Some interviewees explained this as a function of bespoke transactions and the small sizes of CLO issuances. These responses, however, raise a number of questions, including how bespoke are CLO transactions and why CLOs could not purchase larger pools of collateral to generate larger issuances. Indeed, other interviewees dismissed the bespoke and small size explanation for opaque pricing.

Some interviewees offered “supply side” explanations, namely that the investment banks that structure CLO transactions and act as dealers do not want to create more liquid and transparent markets, as this would undermine their ability to charge a spread on buying and selling securities. One interviewee offered a detailed historical explanation that focused on investment banks moving over the decades from one fixed-income product to another; as regulations required greater price transparency in the markets for different bonds (such as the TRACE system)⁴⁹, profits from dealing in those markets eroded. According to this interviewee’s account, investment banks gravitated towards more opaque markets that would preserve their ability to enjoy larger spreads, with CLO markets being the latest stage in this evolution.

The supply side explanation, however, appears incomplete. Several electronic trading platforms advertise their capacity to handle trading of complex asset-backed securities. If CLO investors wanted more liquid markets with more transparent prices, they could move their securities to these platforms and bypass dealers. Several interviewees offered “demand side” explanations of why many CLO investors have little appetite for more transparent pricing. The incentives vary by type of investor. Some interviewees explained that some banks and other regulated financial institutions that purchase senior CLO tranches may not want either active trading or transparent prices. Transparent prices would force these investors to mark their investments to market, which could cause them to realize losses on investments, take away their flexibility in financial accounting, and require higher levels of regulatory capital. Other interviewees focused on hedge fund investors who purchase more junior tranches. According to these explanations, hedge fund investment strategies exploit information inefficiencies in these markets. Opaque pricing can then help these investors earn trading profits. Some interviewees expressed a view that hedge funds could adapt and earn profits even if markets were more transparent, but did not want to push for these changes as it might cause dealers to limit their access to existing markets.

D. The Implications of Thin Trading and Opaque Pricing

To the extent that trading in various CLO tranches is thin or even non-existent, the implications for financial regulation are significant. As explained above, the economic rationale of CLOs and securitization is based in large measure on liquidity transformation, that is, the conversion

of illiquid assets (leveraged loans) into liquid ones (tradeable asset-backed securities). When the resultant securities do not trade, this rationale appears hollow. Moreover, thin trading undermines the “safety” of these investments, as investors cannot easily exit a market. This is compounded by the danger that liquidity can evaporate quickly in securitization markets.⁵⁰ A lack of active trading in CLO markets calls into question the favorable regulatory treatment that is premised in large measure on the ability of investors to exit their investments easily.

Opaque pricing also has financial stability implications. A lack of transparent pricing means that investors, their own shareholders, creditors, and counterparties, and policymakers cannot adequately rely on a market price discovery mechanism to assess the risks of CLO investments. This frustrates risk management by regulated financial institutions investing in these markets, it erodes market discipline, and it places enormous burdens on regulators overseeing these institutions.

4. Policy Responses to Mitigate Risks to Financial Stability

Information is the first order of business for any policy response to the financial stability risks posed by leveraged loans and CLOs. Both market participants and policy makers need a better understanding of the risks posed by these financial products and their potential impacts on other financial markets and the broader economy.

As noted above, credit rating agencies play a pivotal role in assessing the credit risk of CLO securities. By determining whether senior CLO securities merit an investment grade rating, credit rating agencies serve as gatekeepers for whether banks, insurance companies, and many investment funds may invest in these markets. However, fixing the incentive structure of credit rating agencies remains perhaps the biggest unfinished business of financial reform.⁵¹ It has been almost two decades since the Enron era highlighted the flaws in the “issuer pays” business model of credit rating agencies. These flaws again became apparent with the failures of credit rating agencies in detecting risk in the mortgage-backed securities and CDO markets in the lead-up to the global financial crisis. Regulators have yet to develop comprehensive, sustained, and effective responses to Congress’s commands in the Dodd-Frank Act for the Securities and Exchange Commission to develop alternatives to the issuer pays model⁵² and for financial regulators to develop alternatives to rating agencies determinations for use in financial regulation.⁵³ Fundamental reform of credit rating agencies deserves its own hearings and testimony, followed by sustained action by Congress and regulators.

Neither Congress nor financial regulators can rely on credit rating agencies alone to police financial institution risk-taking in CLO or other securitization and shadow banking markets. Congress needs to be assured that federal financial regulators are gathering, sharing, and analyzing crucial data about systemic risk in both CLO markets and other shadow banking markets.

A. Support for Bills Under Consideration by the Committee

In my opinion, the three bills under consideration by the Subcommittee at today’s hearing represent crucial steps towards these objectives. Therefore, I support each of them. I offer additional thoughts on each bill below:

The Leveraged Lending Data and Analysis Act: This bill directs the Office of Financial Research (“OFR”) to study and report to Congress on risks in the leverage lending and CLO markets. Only armed with this information can Congress decide whether additional laws or regulations are needed to mitigate systemic risk emanating from these markets. I hope that some of the information that the OFR would need would already be collected by federal financial regulators in their supervision and examination of banks, broker-dealers, and other regulated entities. (The Leveraged Lending Examination Enhancement Act, discussed below, would push at least bank regulators to collect this data).

The pressing need, then, is to force federal financial regulators to gather and share information with the OFR. A lack of data sharing among federal financial regulators remains one of the biggest weaknesses in the government’s monitoring and response to emerging sources of systemic risk. This problem has become particularly acute with financial products, like asset-backed securities, that involve banks and generate banking like risks, but are bought and sold on securities/capital markets. These products thus straddle or fall in the cracks between oversight by bank regulators and capital market regulators, such as the Securities and Exchange Commission, and the Commodity Futures Trading Commission.

I recommend that, among the data that OFR and financial regulators collect and analyze, are information on the following:

- ¶ *The identity of investors, particularly regulated financial institutions:* this will help map potential transmission lines between disruptions in CLO markets and the regulated financial sector;
- ¶ *How CLOs were structured to lower the effectiveness of capital requirements:* this will help regulators assess the extent to which the effectiveness of regulatory capital requirements has been undermined; and
- ¶ *The depth of trading in different CLO tranches:* This will help regulators assess the liquidity and safety of CLO securities, particularly whether they are meeting expectations built into regulatory capital rules and other prudential regulations.

I also believe this bill’s approach should ultimately be extended to other shadow banking markets. I therefore would recommend the following:

- ¶ *Requiring that federal financial regulators share data* on leverage lending and CLO markets that they have collected when requested by the OFR; and
- ¶ *Ultimately requiring OFR to analyze data on other large shadow banking markets:* These would include other large securitization markets, repo markets, money market mutual funds, and other investment funds that engage in maturity/liquidity transformation.

On this second point, I understand that incremental steps can be necessary, but would support future bills in this regard. This current bill is a crucial first step and is urgent because of the mushrooming size of the leveraged loan and CLO markets and the decline in underwriting

standards. The current bill also serves as a template for future legislation requiring analysis of other segments of the shadow banking system.

The Protecting the Independent Funding of the Office of Financial Research Act: Tasking the OFR with data collection, analysis, and reporting is of little avail if the OFR is hollowed out. This bill would ensure that it is not and that the OFR can achieve its original promise. The creation of the OFR was one of the most important yet underappreciated accomplishments of the Dodd-Frank Act. The OFR promised to serve as an government research organization devoted to studying systemic risk and an “early warning” system for emerging threats to financial stability. Its research is critical to ensuring that the Financial Stability Oversight Council can adequately perform its missions, including identifying non-bank firms that should be considered for designation as “systemically important financial institutions” and recommending prudential regulations to other federal financial regulators. The crucial mission of the OFR can and is being compromised when the Treasury Secretary decides to cut its budget or slash staffing levels. Giving the OFR Director the power to set the organization’s budget and setting a floor for that budget are essential steps to assure that the OFR’s vital role is not compromised by the Secretary of the Treasury’s political calculus or neglect.

I would support further steps to make the OFR completely independent from the Department of the Treasury. This would support an independent mission and organizational culture. Watchdog agencies within the legislative branch, such as the Government Accounting Office and Congressional Budget Office, serve as examples. The independence of funding and staffing levels in this bill, however, represent the most important pieces of agency independence. Detecting and mitigating systemic risk and collecting vital information should be a nonpartisan mission.

The Leveraged Lending Examination Enhancement Act: This bill would require the Financial Institutions Examination Council to establish uniform procedures for examining the leveraged lending activities of regulated financial institutions. The bill sets minimum standards for these procedures. The criteria that the bill sets forth in the minimum standards section would reverse the mistake the Comptroller of the Currency made in lifting the 2013 Interagency Guidance on Leveraged Lending, which degraded the ability of regulators to monitor the buildup of systemic risk in the leveraged lending and CLO markets.

Although I believe these factors are covered by the broad criteria listed in the “Minimum Expectations” subsection of the bill, I would recommend adding the following:

- ¶ *Warehousing risk:* As I note above, lenders that sell leveraged loans into a securitization run the risk of being unable to offload that risk if demand from securitization markets drops. Financial regulators need to track changes in this risk.
- ¶ *Secondary markets:* In order to gauge warehousing risks, financial institutions and their regulators need to track potential disruptions to secondary markets, including securitization markets like CLOs.
- ¶ *Timing of sales:* As I note above, research into securitization practices indicates that many originating lenders sell loans into securitizations shortly before the end of a financial

quarter. Their balance sheets thus do not reflect the risk that these firms bore for much of the quarter. This risk can suddenly materialize if lenders are unable to sell these loans. Examiners should thus gather data on the timing of sales of leveraged loans, whether into a securitization or otherwise.

This bill ensures that federal financial regulators have minimum standards for examining the risks of leveraged lending to regulated financial institutions. Writing these standards into statute rather than relying on agency guidance or rulemaking ensures that these minimum standards will not be diluted or deleted because of political whims. The required reports ensure that Congress can ably oversee federal financial regulators in the performance of their duties to examine financial institutions and regulate their safe and sound leveraged lending activities.

B. *Stress Testing Markets*

I urge Congress to consider other steps to ensure that federal financial regulators understand the risks in CLO and other shadow banking markets. In particular, I recommend that Congress require that the Federal Reserve, with the required cooperation of the OFR and other federal financial regulators, conduct stress tests of key shadow banking markets.⁵⁴ This would extend the approach of stress testing individual financial institutions to entire markets.⁵⁵ Stress testing should start with markets for CLOs and other complex asset-backed securities, as well as other important shadow banking markets (*e.g.*, repos) which engage in credit intermediation, credit transformation, and liquidity/maturity transformation. Other financial regulators must be required to collect and share data with the Federal Reserve for these tests to be effective.

Rationale: Stress testing markets is crucial, as it is the interactions and herd behavior of the many financial institutions creating, purchasing, and trading these financial products that generates bubbles, fire sales, and market freezes. Relying *only* on stress testing financial institutions one-by-one runs the risk of missing:

- ¶ dynamic interactions among firms;
- ¶ correlated risk-taking by and herd behavior of firms, large and small; and
- ¶ contagion effects.⁵⁶

Additional Benefits: These stress tests would not only increase Congress's and regulators' understanding of systemic risk across financial markets, it would also force federal financial regulators to cooperate in sharing and analyzing data. As I note above, the evolution of shadow banking markets has exposed the gaps between regulatory silos. Financial institutions have structured activities to fit within these gaps, and this is where systemic risk has festered. Shadow banking has also exposed the weakness of banking, securities, and derivatives regulators in cooperating in sharing and analyzing data and coordinating a response. Stress testing markets would help remedy this vulnerability.

Stress testing might also inform the design of new legislation and rules that would give regulators the tools to address systemic risks in markets and not just systemic risks in individual institutions. The Administration has recently moved to change the FSOC's mission to deemphasize

designating and regulating systemically important institutions and towards “activity-based” regulation. This seems cynical, as scholars have pointed out that the FSOC does not have the power to regulate activities, and the overall architecture of much of federal financial regulation is designed to address risks in individual financial institutions, not market-wide risks.⁵⁷ However, activities-based regulation might ultimately serve as a valuable complement to institution-based regulation. It might address the risks of herd behavior in shadow banking and other financial markets that institution-based regulation alone cannot adequately address. Stress testing markets would provide Congress and regulators valuable information for the design of these new tools.

C. War Games: Preparing Regulators for Crises in Financial Markets

Congress should also consider mandating that federal financial regulators conduct “war games” to plan their collective responses to potential crises in CLO and other financial markets.⁵⁸ This would help regulators be much more prepared and coordinated than they were when financial crisis began erupting in 2007 and accelerated in 2008. War games would allow regulators to identify systemic risks and potential weaknesses in the legal regime. As with stress testing markets, war games would force siloed financial regulators to cooperate. Regulators should report to Congress on the results of and lessons learned in these exercises.

D. Restricting Purchases of CLO Securities

Should the three bills being considered by the Committee as well as stress testing and war games provide Congress with evidence of excessive risk building in CLO or other asset-backed securities markets, then Congress has several avenues for action. Congress could then mandate that financial regulators adapt existing rules to limit the exposure of regulated financial institutions to CLO markets. These tools would include the following:

The Volcker Rule: Congress could mandate that federal financial regulators reverse their earlier decision to include a carveout to the “covered funds” part of the Volcker Rule that exempted CLOs backed by bank loans. As discussed above, banks and investment banks then structured CLOs to be backed by leveraged loans instead of bonds. Congress could reverse this regulatory decision, which would restrict the ability of banks to invest in CLOs backed by leveraged loans.

Capital Requirements: Congress could also mandate that regulators set higher capital requirements for bank investments in CLOs. These capital requirements would ensure banks have a larger cushion should these investments suffer losses. Congress could consider two different kinds of triggers for enhanced capital requirements:

- ¶ *Lack of Trading:* Capital requirements should be higher for any given CLO tranche if there no evidence of recent active trading in that tranche; or
- ¶ *Countercyclical Requirements:* Congress could mandate that federal financial regulators implement countercyclical rules that require higher capital if there is evidence that underwriting standards for the underlying assets have declines (e.g., the percentage of covenant-lite loans increases).

Capital requirements may have to be set higher to account for the corrosive effect of regulatory capital arbitrage or the gaming of these rules.

Quantitative Requirements: Congress could also mandate that federal financial regulators impose quantitative restrictions on bank investments in CLO.

E. *Resetting the Burden of Proof*

Given the disastrous unravelling of the CDO market in the global financial crisis, policymakers should not be afraid to ask tough questions about the social value of CLOs and other complex financial instruments. It is worth asking whether the complexity and risk of these instruments is justified by the additional credit provision and liquidity these markets provide. Furthermore, policymakers should ask what this credit is used for and whether the liquidity in investments actually exists. Finally, the global financial crisis should force policymakers to rethink the unspoken presumption that the burden constantly rests on critics to prove that financial instruments are unsafe rather than on regulated financial institutions to prove that these products are safe.⁹

¹ FINANCIAL STABILITY OVERSIGHT COUNCIL, 2018 ANNUAL REPORT 11-12 (2018) *available at* <https://home.treasury.gov/system/files/261/FSOC2018AnnualReport.pdf> (last visited June 1, 2019). *See also* OFFICE OF FINANCIAL RESEARCH, ANNUAL REPORT TO CONGRESS 18-20 (2018) *available at* <https://www.financialresearch.gov/annual-reports/files/office-of-financial-research-annual-report-2018.pdf> (last visited June 1, 2019).

² Securities Industry and Financial Markets Association, Leveraged Lending FAQ & Fact Sheet (Mar. 1, 2019) *available at* <https://www.sifma.org/resources/research/leveraged-lending-faq-fact-sheet/> (last visited June 1, 2019).

³ *Id.*

⁴ Tobias Adrian et al., Sounding the Alarm on Leveraged Lending, Int'l Monetary Fund Blog (Nov. 15, 2018) *available at* <https://blogs.imf.org/2018/11/15/sounding-the-alarm-on-leveraged-lending/> (last visited June 1, 2019).

⁵ *Id.*

⁶ *Id.*

⁷ *Id.*

⁸ *Id.*

⁹ *Id.*

¹⁰ *Id.*

¹¹ SIFMA, *supra* note 2.

¹² SIFMA, *supra* note 2.

¹³ Mayra Rodriguez Valladares, *Big Banks Are Very Exposed To Leveraged Lending And CLO Markets*, Forbes.com (Apr. 15, 2019) *available at* <https://www.forbes.com/sites/mayrarodriguezvalladares/2019/04/15/big-banks-are-very-exposed-to-leveraged-lending-and-clo-markets/#6e4e407c7309> (last visited June 1, 2019).

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ Kristen Haunss, *US CLO Market Crosses US\$600bn Outstanding as Spreads Remain Challenged*, REUTERS (Apr. 22, 2019) *available at* <https://www.reuters.com/article/clos-600bn/us-clo-market-crosses-us600bn-outstanding-as-spreads-remain-challenged-idUSL1N22410A> (last visited June 1, 2019).

¹⁷ *Id.*

¹⁸ *Id.*

¹⁹ This description simplifies most securitization transactions, in which there are usually a series of transfers involving at least two investment vehicles between the originating lender and the securities issued to investors. The use of multiple vehicles decreases the probability that the loans sold into the securitization would be clawed back in the event of the bankruptcy of an originating lender. For an early primer on securitization, see Steven L. Schwarcz, *The Alchemy of Asset Securitization*, 1 STAN. J. L. BUS. & FIN. 133 (1994).

²⁰ See Leon T. Kendall, *Securitization: a New Era in American Finance*, in A PRIMER ON SECURITIZATION 13, 13-5 (Leon T. Kendall & Michael J. Fishman eds., 1997).

²¹ See Markus K. Brunnermeier, *Deciphering the Liquidity and Credit Crunch 2007–2008*, 23 J. ECON. PERSP. 77 (2009).

²² E.g., Gary Gorton, *Slapped in the Face by the Invisible Hand: Banking and the Panic of 2007*, Nat'l Bur. Econ. Res. Working Paper (May 9, 2009) available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1401882; Gary Gorton & Andrew Metrick, *Securitized Banking and the Run on Repo*, 104 J. FIN. ECON. 425 (2012).

²³ Erik F. Gerding, *Bank Regulation and Securitization: How the Law Improved Transmission Lines Between Real Estate and Banking Crises*, 50 GA. L. REV. 89 (2015).

²⁴ *Id.* at 106-8.

²⁵ Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat 1376, 1774-1802 (2010).

²⁶ Dodd-Frank Act § 941 (codified at 15 U.S.C. § 78o-11).

²⁷ *Loan Syndications & Trading Assoc. v. SEC*, 882 F.3d 220 (D.C. Cir. 2018). See also Kristen Haunss, *CLO Market Cheers End of Risk-retention Rules*, REUTERS (Feb. 18, 2018) available at <https://www.reuters.com/article/us-marketreaction-clodecision/clo-market-cheers-end-of-risk-retention-rules-idUSKCN1FX29C> (last visited June 1, 2019).

²⁸ Prohibitions and Restrictions on Proprietary Trading and Certain Interests in, and Relationships with, Hedge Funds and Private Equity Funds, 79 Fed. Reg. 5536 and 79 Fed. Reg. 5807 (Jan. 31, 2014). 12 C.F.R. Parts 44 (OCC), 248 (Federal Reserve) and 351 (FDIC); 17 C.F.R. Parts 75 (SEC) and 255 (CFTC).

²⁹ 17 C.F.R. § 270.3a-7.

³⁰ Kristen Haunss, *Loan Market Asks Regulators to Allow CLOs to Hold Bonds*, REUTERS (Oct. 18, 2018) available at <https://www.reuters.com/article/regs-closbonds/loan-market-asks-regulators-to-allow-clos-to-hold-bonds-idUSL2N1WY1GR> (last visited June 1, 2019).

³¹ Office of the Comptroller of the Currency, Federal Reserve System, Federal Deposit Insurance Corporate, "Interagency Guidance on Leveraged Lending," 78 Fed. Reg. 17,766 (Mar. 22, 2013).

³² The three agencies wrote that the focus of agency review of a financial institution's leveraged lending activities would be to ensure that the institution developed and maintained the following:

- ¶ "Transactions structured to reflect a sound business premise, an appropriate capital structure, and reasonable cash flow and balance sheet leverage. Combined with supportable performance projections, these elements of a safe-and-sound loan structure should clearly support a borrower's capacity to repay and to de-lever to a sustainable level over a reasonable period, whether underwritten to hold or distribute;
- ¶ A definition of leveraged lending that facilitates consistent application across all business lines;
- ¶ Well-defined underwriting standards that, among other things, define acceptable leverage levels and describe amortization expectations for senior and subordinate debt;
- ¶ A credit limit and concentration framework consistent with the institution's risk appetite;
- ¶ Sound MIS that enable management to identify, aggregate, and monitor leveraged exposures and comply with policy across all business lines; Strong pipeline management policies and procedures that, among other things, provide for real-time information on exposures and limits, and exceptions to the timing of expected distributions and approved hold levels; and
- ¶ Guidelines for conducting periodic portfolio and pipeline stress tests to quantify the potential impact of economic and market conditions on the institution's asset quality, earnings, liquidity, and capital."

78 Fed. Reg. at 17771.

³³ General Accountability Office, Letter to Senator Pat Toomey B-329272 ("Office of the Comptroller of the Currency, Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation—

Applicability of the Congressional Review Act to Interagency Guidance on Leveraged Lending”) (Oct. 19, 2017) available at <https://www.gao.gov/assets/690/687879.pdf> (last visited June 1, 2019).

³⁴ OCC Head Says Banks Need Not Comply with Leveraged Lending Guidance, ROPES & GRAY (March 1, 2018), available at <https://www.ropesgray.com/en/newsroom/alerts/2018/03/OCC-Head-Says-Banks-Need-Not-Comply-with-Leveraged-Lending-Guidance> (last visited June 1, 2019).

³⁵ For overviews of how behavioral biases and cognitive limitations afflict financial investors, see Nicholas Barberis & Richard Thaler, *A Survey of Behavioral Finance*, in 1B HANDBOOK OF THE ECONOMICS OF FINANCE 1054 (George M. Constantinides, Milton Harris, and René M. Stulz, eds. 2003). For scholarship discussing cognitive limitations of even sophisticated investors, see e.g., Troy A. Paredes, *Blinded by the Light: Information Overload and Its Consequences for Securities Regulation*, 81 WASH. U. L.Q. 417 (2003); Steven L. Schwarcz, *Rethinking the Disclosure Paradigm in a World of Complexity*, 2004 U. ILL. L. REV. 1.

³⁶ Joshua Coval et al., *The Economics of Structured Finance*, 23 J. ECON. PERSP. 3 (2009).

³⁷ *Id.*

³⁸ See Brunnermeier, *supra* note 21; Erik F. Gerding, *Code, Crash, and Open Source: The Outsourcing of Financial Regulation to Risk Models and the Global Financial Crisis*, 84 WASH. L. REV. 127, 165 (2009).

³⁹ John D. Martin, *A Primer on the Role of Securitization in the Credit Market Crisis of 2007*, in LESSONS FROM THE FINANCIAL CRISIS: CAUSES, CONSEQUENCES, AND OUR ECONOMIC FUTURE 199, 203 (Robert W. Kolb ed. 2010).

⁴⁰ E.g., Patricia M. Dechow & Catherine Shakespeare, *Do Managers Time Securitization Transactions To Obtain Accounting Benefits?*, 84 ACCT. REV. 99 (2009).

⁴¹ For an accessible account of these crisis dynamics, see Brunnermeier, *supra* note 21.

⁴² Rodriguez Valladares, *supra* note 13.

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⁴³ For detailed explanations of how and why financial firms engage in regulatory capital arbitrage, see David Jones, *Emerging Problems with the Basel Capital Accord: Regulatory Capital Arbitrage and Related Issues*, 24 J. BANKING & FIN. 35 (2000); Erik F. Gerding, *The Dialectics of Bank Capital: Regulation and Regulatory Capital Arbitrage*, 55 WASHBURN L.J. 357 (2016).

⁴⁴ Sources *supra* note 44.

⁴⁵ Sources *supra* note 44.

⁴⁶ Gretchen Morgenson & Louise Story, *Rating Agency Data Aided Wall Street in Deals*, N.Y. TIMES, Apr. 23, 2010 at A1.

⁴⁷ Viral V. Acharya & Matthew Richardson, *Causes of the Financial Crisis*, 21 CRIT. REV. 195, 201 (2009). For research that produces evidence of widespread regulatory capital arbitrage, see, e.g., Viral V. Acharya et al., *Securitization Without Risk Transfer*, (Nat’l Bureau of Econ. Research Working Paper No. 15730, 2010); Viral V. Acharya et al., *Capital, Contingent Capital, and Liquidity Requirements*, in REGULATING WALL STREET: THE DODD-FRANK ACT AND THE NEW ARCHITECTURE OF GLOBAL FINANCE 143, (Viral V. Acharya et al. eds., 2011).

⁴⁸ Sources *supra* note 44.

⁴⁹ The TRACE system is governed by FINRA Rules 6710 *et seq.*

⁵⁰ Brunnermeier, *supra* note 21.

⁵¹ See Alice M. Rivlin & John B. Soroushian, *Credit Rating Agency Reform is Incomplete*, Brookings Report (Mar. 2017) available at <https://www.brookings.edu/research/credit-rating-agency-reform-is-incomplete/> (last visited June 1, 2019). There has been little regulatory progress in rating agency reform since this report was issued.

⁵² Dodd-Frank Act § 939F (codified at 15 U.S.C. § 78o-9).

⁵³ Dodd-Frank Act § 939A.

⁵⁴ Anna Gelpern & Erik F. Gerding, *Inside Safe Assets*, 33 YALE J. ON REG. 363, 415-6 (2016).

⁵⁵ Some economists have begun work in this vein. For example, one group has explored stress testing financial networks by focusing on central counterparties. Richard Berner et al., *Stress Testing Networks: The Case of Central Counterparties*, Nat’l Bur. Econ. Res. Working Paper No. w25686 (Mar. 2019) available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3359486 (last visited June 1, 2019).

⁵⁶ See e.g., Kieran Dent, Ben Westwood, & Miguel Segoviano, *Stress Testing of Banks: An Introduction*, BANK OF ENGLAND Q. BULL. 2016 Q3 130 (Sep. 5, 2016) available at <https://www.bankofengland.co.uk/quarterly-bulletin/2016/q3/stress-testing-of-banks-an-introduction> (last visited June 1, 2019) (highlighting the narrow institutional focus of the prevailing supervisory stress tests, and arguing for the need to expand their scope beyond banks, and to incorporate amplification and feedback mechanisms in future stress tests); MORRIS GOLDSTEIN, *BANKING'S FINAL EXAM: LESSONS FROM U.S. AND E.U.-WIDE BANK STRESS TESTS*, Ch. 3 (2017) (reviewing academic and policy critiques of bank stress tests as inadequate to identify potential contagion dynamics).

⁵⁷ Jeremy C. Kress, Patricia A. McCoy, & Daniel Schwarcz, *Regulating Entities and Activities: Complementary Approaches to Nonbank Systemic Risk*, __ S. CAL. L. REV. __ (forthcoming) available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3238059 (last visited June 1, 2019).

⁵⁸ Mehra Baradaran, *Regulation by Hypothetical*, 67 VAND. L. REV. 1247 (2014) (discussing “war games” as a means to improve prudential regulation of financial institutions); John Crawford, *Wargaming Financial Crises: the Problem of (In)experience and Regulator Expertise*, 34 REV. BANKING & FIN. L. 111 (2014-15) (proposing war games as a means to improve policymaker preparedness for financial crises).

⁵⁹ A number of prominent legal scholars across the political spectrum have advocated licensing regimes that put the burden on the financial industry to demonstrate that financial products do not pose excessive systemic risk concerns. Compare Saule T. Omarova, *License to Deal: Mandatory Approval of Complex Financial Products*, 90 WASH. U. L. REV. 63 (2012) with Eric A. Posner & E. Glen Weyl, *An FDA for Financial Innovation: Applying the Insurable Interest Doctrine to Twenty-First-Century Financial Markets*, 107 NW. U. L. REV. 1307 (2015).

Testimony of
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on
EMERGING THREATS TO STABILITY: CONSIDERING THE SYSTEMATIC RISK OF
LEVERAGED LENDING

Before the
SUBCOMMITTEE ON CONSUMER PROTECTION AND FINANCIAL INSTITUTIONS
COMMITTEE ON FINANCIAL SERVICES
UNITED STATES HOUSE OF REPRESENTATIVES

2:00 pm, June 4, 2019
Room 2128, Rayburn House Office Building

Good afternoon, Chairwoman Waters, Ranking Member McHenry, and Members of the Subcommittee. Thank you for inviting me to speak today. I am Victoria Ivashina, Professor of Finance at Harvard Business School, Research Associate of the National Bureau of Economic Research and Research Fellow at the Center for Financial Economic Policy Research. I speak only for myself today.

To understand if the leveraged loan market could be a source of systemic risk, we have to ask whether there are credible signs of accumulation of hidden risk in this segment, whether that risk could be amplified through the entities investing in this market, and how quickly it could be propagated to a broader economy. These are the points that I would like to discuss today.

To preview my conclusions, there are signs of continuous buildup of risk through erosion of creditors' rights and elevated levels of leverage. The strong amplifying forces that brought down the financial system in 2008 are not present today; as such, the risk to financial stability is not severe. However, other important mechanisms that could impact economic stability at longer horizons could be at work.

I. Is there risk in the leveraged segment that is not currently recognized by investors?

There are several indicators that this is the case.

First, there is an important parallel to a key weakness that characterized the mortgage boom that led to the Global Financial crisis: that is lack of visibility into the quality of collateral backing of securitized products, which was at the heart of the loss of market confidence and the 2007 shut down of securitization across all asset classes—not just mortgages.¹ The opacity surrounding the value of mortgages was driven by lack of public information, the highly illiquid nature of mortgages, and corrupted origination standards. These factors are less relevant in the market for corporate loans. Many issuers of leveraged loans are public firms with regularly disclosed financing statements. There is a reasonably vibrant secondary market for loans. Plus, these are transactions among sophisticated investors and professional management. However, it is key to understand that the quality of the loans in CLO portfolios is dictated not solely by the firms'

¹See Efraim Benmelech, Jennifer Dlugosz, and Victoria Ivashina, 2012, "Securitization without Adverse Selection: The Case of CLOs," *Journal of Financial Economics* 106: 91-113.

fundamentals, but also by the credit agreements that define the terms of the loans. These agreements are long, complex, and display substantial variation in contracting terms.

Together with my colleague Boris Vallée we examine over a thousand leveraged loan contracts signed between 2011 and 2016.² We show that inclusion of restrictions covenants on six sets of borrower actions is the norm, including (i) restrictions on liens (or restrictions on the use of collateral), (ii) restrictions on indebtedness, (iii) restrictions on payments to investors, (iv) restrictions on asset sales, (v) restrictions on affiliate transaction, and (vi) restrictions on capital expenditure. We find, however, that the use of “fine print” types of clauses known in the industry as “baskets” and “carve-outs” is equally prevalent. As an illustration, Figures 1.a through 1.c, reproduced from our work, show that 92% of loans have a restriction on further indebtedness of the borrower; however, 86% of these contracts with seemingly strong restrictions on further indebtedness have “baskets” (i.e., deductibles) that loosen the negative covenants. The economic magnitudes are large, averaging more than a 2.3x EBITDA multiple, nearly half of the 5x EBITDA debt level, which is common for leveraged loans. On average, half of the six core negative covenants have deductibles, with only 10% of the credit agreements examined not having any deductible. This illustration does not even account for carve-outs, of which an average contract has 72. Moreover, higher contractual loosening appears in cases where leverage is highest, and when a loan backs a leveraged buyout.

It is important to highlight that erosion of creditors’ rights through contractual complexity has little to do with financial covenants, or whether the financial covenants are enforced only on the incurrence basis (the so-called “cov-lite” loans).³ Identifying cov-lite loans is largely objective and easy—it is likely that this is precisely why this is not the right proxy for contractual weakness. In fact, I see pervasive use of “cov-lite” as a comprehensive metric of contractual weakness as a sign of concern; to me, this practice reflects misunderstanding of contractual design and scope for erosion of lending standards.⁴

² See Victoria Ivashina and Boris Vallée, 2019, “Weak Covenants,” Working Paper, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3218631.

³ Not by definition, but in the data.

⁴ More details on this point can be found in Becker and Ivashina (2016), “Covenant-Light Contracts and Creditor Coordination,” Working Paper, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2871887.

With this in mind, the question becomes whether institutional investors—and CLO managers in particular—have the resources and the right incentives to do proper due diligence and monitor different loans in their portfolios. Tensions surrounding recent debt restructurings of some companies indicate that at least some of these terms are misunderstood by creditors. Notably, in 2017, J.Crew Group, which was battling several years of declining operating income, was able to issue new senior debt using a sizable fraction of its pledged collateral by using a deductible on liens.⁵ This was unprecedented, yet similar transactions by other companies followed. In our study we show that, consistent with the presence of mispriced credit risk, there was a general market reaction for contracts characterized by weak contractual provisions.

Beyond increasing contractual complexity, we see other elements that would be consistent with increase in risk that is potentially misunderstood. Figure 2 shows that average indebtedness for borrowers that issue leveraged loans was 5.2x EBITDA at the end of 2018 (5.4x EBITDA in 2019:Q1), as compared to 4.9x in 2007, its previous peak, and substantially higher than its historic average. The lower panel of Figure 2 shows that the rise was driven by increase in the first lien senior secure debt, i.e., increase in the most senior claim on the firm or “loans” (leveraged loans, in this case). In 2007, indebtedness through loans was 3.7x EBITDA, in the last quarter it was 4.5x. Of course, the recovery rate on a loan that cuts at 4.5x EBITDA is much lower than the recovery rate on the claim that cuts at 3.7x EBITDA,⁶ yet both “enjoy the senior-most claim on all the related company’s assets in the event of a bankruptcy and represent the least risky investment in these companies.”⁷ Put simply, use of historical recovery rates for loans to price risk would be

⁵ JCrew was followed by a lawsuit, and several of the documents filed by the creditors in this case indicate that they were caught by surprise. For example, the first point in the preliminary statement the lawsuit filed by a group of creditors on September 7, 2017 in State of New York reads: “Defendants in this case supposedly found a secret “trapdoor” in their senior secured debt facility. Assisted by teams of lawyers and consultants, Defendants claim to have opened this trapdoor and dropped out substantially all of the value of J. Crew Group, Inc., the parent company of the well-known apparel retailer (the “Company”). This value was then pledged to other creditors in exchange for financial accommodations. As a result, the Company’s senior secured creditors, whose loans were meticulously secured by liens on a comprehensive collateral package, are now left holding what looks like an empty sack.”

⁶ That is assuming that the liquidation value stays more or less constant.

⁷ This language is representative of a typical way this market segment is described in the industry. This particular quote is taken from Guggenheim Investments, “Understanding Collateralized Loan Obligations,” May 2019 (<https://www.guggenheiminvestments.com/cmspages/getfile.aspx?guid=4510f36e-7ed3-4af3->

misleading. Again, understanding the expected recovery rates becomes not impossible, but difficult and nuanced. And again, the question is whether creditors that dominate this market are properly measuring the risk.

II. What do we know about who holds the risk?

The second parallel to the subprime mortgage crisis is the central role of securitization. As mentioned earlier, securitization is paramount to the existence of the leveraged loan market, with roughly half of the outstanding leveraged loans held by CLOs. To be clear, securitization, broadly speaking, is an important financial structure that brings together different pools of capital and ultimately helps to lower the cost of borrowing. It is also the case that the fundamentals of a corporate loan securitization are different than securitization of mortgages. However, as any securitized structure, creditors holding investment grade tranches—about 88% of the CLO capital—do not conduct, and are not expected to conduct thorough due diligence and monitoring of the pool of underlying collateral. Instead, these investors rely on accuracy of credit ratings, structural alignment of incentives between junior and senior tranches of the securitized structure, and other market disciplining mechanisms. Unfortunately, we have seen these mechanisms fail in the past.

One mitigating element to note about the leveraged loan market is that, unlike securitization of other assets, securitization of corporate loans is only partial. Due to its size, at origination, a large leveraged loan has a group of about 65 lenders, on average. This includes banks (about 14 on average), CLOs, mutual funds, insurance companies, and hedge funds. Overall, only about half of any given loan is held by CLOs. So, it takes many players of different sophistication and with different economic incentives to make the same mistake for things to go wrong at the loan inception.⁸

Yet, we should not overlook the erosion in incentives of pursuing careful risk assessment given the pressure from CLOs and mutual funds. Especially because for the same loan, the part of the

98c5-6b667d7464e9). The same primer emphasized historical recovery rates (p.2): “As you can see in the charts below, leveraged loans’ senior secured status has consistently led to lower default rates and higher recoveries compared to unsecured high-yield bonds.”

⁸ In Benmelech, Ivashina and Dlugosz (2012, *Id.*) we argue loan syndication before securitization reduces the potential for adverse selection in the CLO collateral.

loan that is retained by banks—arguably, the agents with the best grasp of fundamentals, contracting terms, and the general economic environment— and the part that is acquired by CLOs is regularly priced differently,⁹ and it is increasingly contracted differently.¹⁰ In addition, in the current context, banks' holding of leveraged loans are substantially lower than they had been historically. In 2007, banks' share represented 15%, and 25% just two years earlier. Today, this number is about 8%.

So, in the current environment, CLOs should not count on the scrutiny of the primary loan origination to protect their interest. Overall, to have confidence in this market, we need to understand who is holding equity in CLO structures, and whether these agents are incentivized to screen and monitor the underlying risk (on which the rest of the CLO structure heavily depends). Specifically, how big is the share of business development companies (BDCs)?¹¹ How big is the role of hedge funds? And, relatedly, who is providing their leverage?

So far, I have been focusing on elements that could help us avoid an accumulation of neglected risk among creditors in the leveraged loan market. But another point that is relevant for systemic risk is: who are the investment grade investors in CLOs? Do they have stable funding? How levered are they?

We are not completely in the dark on these questions. We know that U.S. banks do not have major direct exposure to CLOs.¹² Other large institutions that typically invest in investment grade fixed income and might be acquiring CLO tranches are foreign banks, and pensions and life insurers (domestic or foreign). All of these institutions had been known to “reach-for-yield.” An educated guess, therefore, is that these are the institutions behind the CLO boom. We also know that

⁹ See Victoria Ivashina and Zheng Sun, 2011, “Institutional Demand Pressure and the Cost of Corporate Loans,” *Journal of Financial Economics*, 99: 500–522.

¹⁰ See Mitchell Berlin, Greg Nini, and Edison Yu, 2017, “Concentration of Control Rights in Leveraged Loan Syndicates,” Working Paper, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2960757. Banks' exposure through the revolving part of the loan. Contracts that restrict covenant structure to revolving lines (“quasi cov-lite” loans) effectively allow for different contracting terms between revolving line component and the term loan tranches.

¹¹ BDCs bring yet another layer of pooled capital which further diffuse incentives to scrutinize the underlying loans.

¹² See “Business Debt and Our Dynamic Financial System,” remarks by Jerome H. Powell at “Mapping the Financial Frontier: What Does the Next Decade Hold?” 24th Annual Financial Markets Conference, sponsored by the Federal Reserve Bank of Atlanta, May 20, 2019.

pensions and life insurers are not levered, have stable funding, and are generally able to withstand temporary market fluctuations.¹³ And at least pension funds had not been shown to contribute to the systemic risk of the financial system. It is these elements that lead market observers and myself to conclude that, currently, leveraged loans do not present elevated risk to the stability of the financial system.

This is not to say that the prospect that U.S. pensions and/or insurers are holding over \$500 billion of CLO tranches is not something that merits attention on its own.¹⁴ Pension funds and insurance companies host savings and form a safety net of a broad segment of the population, and, therefore, the soundness of their investment is relevant to understand economic stability. This is especially so given that the U.S. state retirement system has been known to be in a vulnerable funding position.¹⁵

An alternative scenario where \$500 billion of CLO tranches instead sits on the balance sheet of foreign banks should not be easily dismissed either. Foreign banks have a significant presence in the U.S. large corporate loans market. European banks originate about 25%, and Japanese banks originate about 5% of syndicated loans in the U.S.. This means that there is potential for some direct spillovers to U.S. firms. Naturally, there are other, indirect effects that the U.S. would experience if the financial system of another major economy is destabilized.

In sum, it is important and reassuring to know that the U.S. banking system is not directly exposed to potential risk in the leverage loan segment, that it is carefully watched, and that it is sufficiently capitalized to withstand negative shocks. This guarantees that if leveraged loan market experiences a negative adjustment, this shock will not be amplified and quickly propagated through the U.S. economy, as it happened in 2007 and 2008. But we can do even better than avoiding the worst case scenario. To do so it is important to move beyond educated guesses,

¹³ For example, see Gabriel Chodorow-Reich, Andra C. Ghent, and Valentin Haddad, 2016, "Asset Insulators," Working Paper, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2810553.

¹⁴ According to Guggenheim Investments, currently, the CLO market is about \$590 billion, and investment grade tranches represent about 88% of the capital.

¹⁵ For example see Robert Novy-Marx and Joshua D. Rauh, 2011, "Public Pension Promises: How Big Are They and What Are They Worth?" *Journal of Finance* 66: 1207-1245.

and clearly understand what the significance of other key financial institutions in the CLO market is.

III. What happens if the leveraged market freezes?

As mentioned earlier, through securitization, the leveraged loan market is fueled by capital that is searching for yield and is relying on third parties to accurately assess the complex and evolving risks of the underlying loans. These are the ingredients for a market freeze, which is what likely would happen if the market undergoes a correction. So, it is worth reflecting on what kind of pressures would play out in such scenarios. There are two things to consider that are relevant for general economic stability.

First, borrowers gain from mispriced weak contracting terms: a weak credit agreement depletes lenders of governance rights and gives the borrower restructuring flexibility (at the expense of the lenders).¹⁶ In other words, it is much harder to trigger a borrower's default.¹⁷ As a result, we will not see a wave of defaults, should the leverage market contract or the economy enter into a recession. This is also what would likely happen if leverage does not freeze, but the U.S. economy enters a recession. And we saw something similar play out during the Great Recession. However, this is not to say that high leverage would not put pressure on the corporate sector. And this is a good point to be clear about what "cov-lite" actually means.

Most of the contracts still have financial covenants. According to the S&P Global Market Intelligence Quarterly Leveraged Lending Review, incidence of total indebtedness restrictions is roughly at the same level that it was in 2006 and 2007. However, enforcement of financial covenants for about 70% of outstanding leveraged loans is no longer done continuously, but instead is conditional on the borrower's incurrence of a set of actions. This includes acquisition and raising of additional financing. (This is what cov-lite means.) So, in an economic downturn, a company with a cov-lite loan is in a better position to avoid a default, but not to do much more than that, as most of the pro-active moves by the company (other than cutting costs) would make the financial covenants binding.

¹⁶ Whether the borrowers should be taking on high levels of leverage is a separate question, but conditional on this decision, borrowers gain from weak contractual features.

¹⁷ The risk for creditors is higher because the losses in default would be deeper, but the defaults would be relatively rare.

Second, if the leveraged loan market shuts down, there is a danger of refinancing risk. We saw something similar during the last financial crisis with multiple market observers including the Loan Syndications and Trading Association (LSTA) sounding alarms on “refinancing cliff” — large corporate maturity concentration in three to five years out — in the leveraged loan market.¹⁸ Refinancing pressures are not imminent: Figure 3 shows that, in 2007, no more than 15% of loans were due by the end of 2009. However, in 2008, the shut down in CLO issuance was largely a result of market dislocation and the capital aggressively returned to the leveraged loans starting in 2010. This helped avoid the “refinancing cliff” turning into a systemic risk. If instead the leveraged loan market shuts down because of lack of confidence triggered by deterioration of lending standards, the solution for the new refinancing cliff might not arrive in a timely manner. As Figure 3 illustrates, the pressure in the short term also appears to be higher than what we observed during the Financial Crisis, with about a quarter of loans due within two years and 40% of loans due within three years as of 2019:Q1.

IV. Final remarks

What can we do today to avoid a build-up of risk in the leveraged segment becoming a systemic problem? A thorough public discussion like the one we are having today is certainly helpful, but there is only so much we can do without knowing the data. And, unfortunately, most of the financial entities driving the leveraged loan market fall within so-called “shadow banking.” Data collected through the Shared National Creditor Program provides insight into creditors investing in the primary market; however, it does not have the ability to gather information on holdings of CLO tranches. Investors in CLOs are not required to disclose their holdings, and to the best of my knowledge, to date, there is no private data provider that holds information that would even partially help us gain insight into holdings of CLO tranches. Together with two of my colleagues, we have been searching for any comprehensive data about participants in the CLO market for several months now, but so far without much progress.

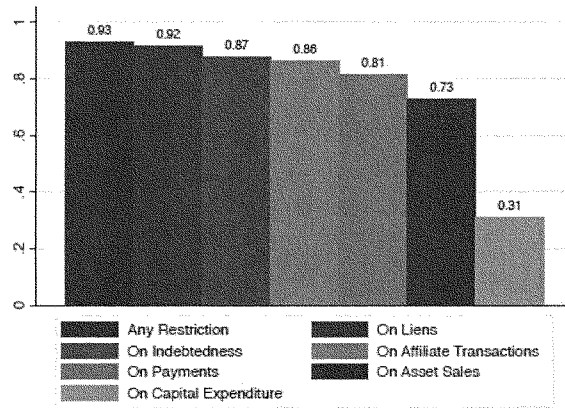
¹⁸ For example, see presentation by Meredith Coffey, LSTA’s EVP, “Breaking Down the Wall of Debt: The Leveraged Loan Market,” July 14, 2010 available at <https://www.chicagofed.org/~media/others/events/2010/private-equity-conference/07-21-coffey-presentation-pdf.pdf>.

The proposed “Leveraged Lending Data and Analysis Act” fills this important data gap, and for reasons discussed in my statement, the semi-annual report to the Financial Stability and Oversight Council should give a unique insight into the developments in this market. Similarly, the proposed “Leveraged Lending Examination Enhancement Act” should facilitate integration and comparison of information on the leveraged loan market collected through different federal financial institutions’ regulatory agencies.

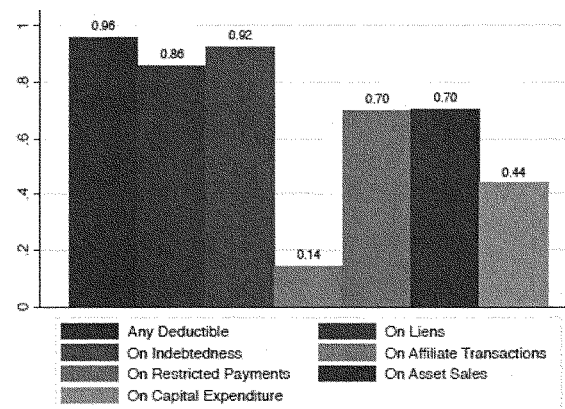
I appreciate your timely efforts in this important area, and I am delighted to answer any questions.

Figure 1: Negative Covenants and Use of Deductibles ("Baskets")

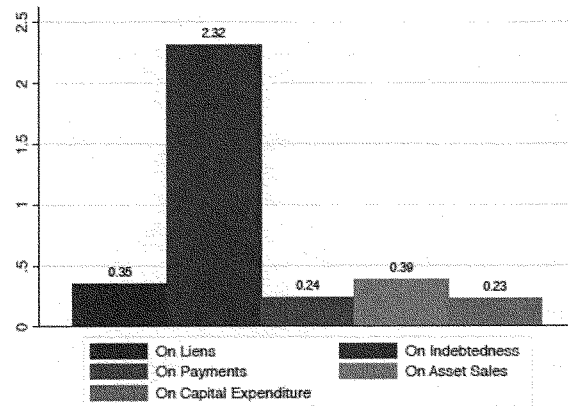
1.a) Incidence of Negative Covenants



1.b) Incidence of Deductibles

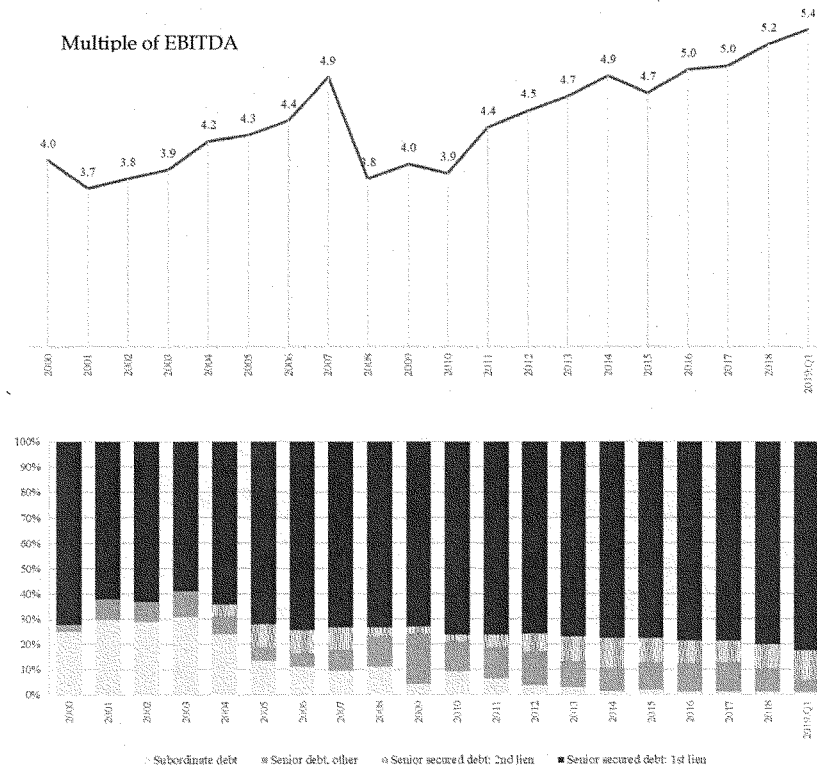


1.c) Aggregate Size of Deductibles



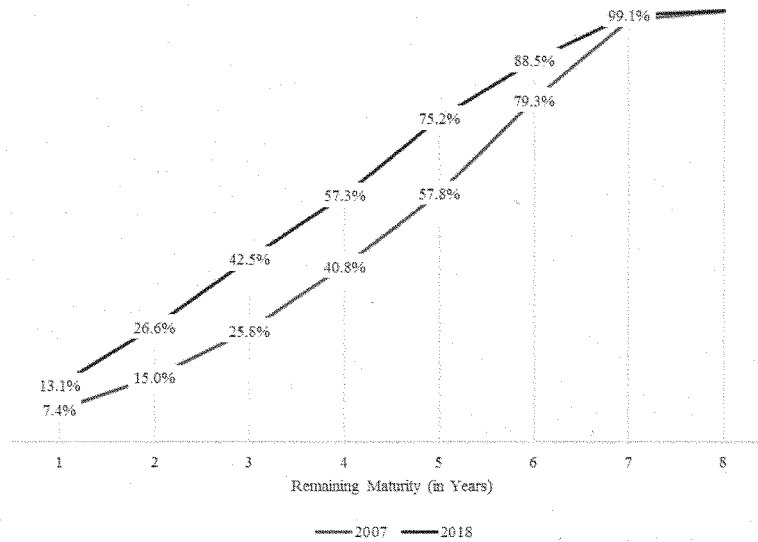
Source: Victoria Ivashina and Boris Valleé (2019), "Weak Covenants," Working paper.

Figure 2: Evolution of Overall Leverage in the U.S. "Leveraged" Segments and Its Composition



Compiled from S&P Global Market Intelligence.

Figure 3: Distribution of Leveraged Loan Maturities as of 2007 and 2018



Compiled using DealScan data. The figure plots cumulative distribution of remaining maturities for loans outstanding as of 2007 and loans outstanding as of 2018. This figure does not adjust for re-financings of loans issued before 2007, doing so would further amplify the difference between maturity distribution for 2007 and 2018 in the initial years.

Testimony of Dr. Greg Nini

Assistant Professor, Drexel University
LeBow College of Business
Department of Finance

before the

U.S. House Committee on Financial Services
Subcommittee on Consumer Protection and Financial Institutions

Emerging Threats to Stability: Considering the Systemic Risk of Leveraged Lending

June 4, 2019

Biography

Dr. Greg Nini is an assistant professor of finance at the LeBow College of Business of Drexel University.

At Drexel, Dr. Nini teaches classes on financial institutions and markets and conducts research in a variety of areas related to corporate finance and capital markets. His research has been supported by various grants and published in top finance journals. Dr. Nini is also a fellow of the Wharton Financial Institutions Center and a visiting scholar at the Federal Reserve Bank of Philadelphia. Before joining Drexel, Dr. Nini was on the faculty at the Wharton School of the University of Pennsylvania and an economist at the Federal Reserve Board in Washington D.C.

Dr. Nini has served on the editorial boards of the Journal of Financial Services Research and the Journal of Risk and Insurance.

Dr. Nini holds a Ph.D. in applied economics from the Wharton School at the University of Pennsylvania and a B.A. in mathematics and economics from Swarthmore College.

Chair Meeks, Ranking Member Luetkemeyer, and Members of the Subcommittee, thank you for the opportunity to submit this testimony.

I am a university professor and researcher hoping to provide educational background on the leveraged loan market. The leveraged loan market has grown quickly in recent years and has been accompanied by noteworthy changes in the way credit is provided to many of the largest firms in the United States. These changes have certainly reduced the cost of capital for firms, but they also warrant policymakers and regulators to assess whether they might lead to a less stable financial system. I hope to increase your understanding of the market and offer my thoughts on whether the market creates any unique risks to financial stability.

What is a Leveraged Loan?

The “leveraged loan” market refers to the segment of corporate loans comprised of borrowers with relatively high amounts of debt. The additional debt increases the likelihood of default and raises the interest rate that a borrower pays. Nevertheless, borrowers in the leveraged loan market are some of the largest firms in the United States, and actual default rates have historically been quite low.

- If the borrower has a credit rating, leveraged loans are for borrowers with a rating below investment-grade (BBB- for S&P and Fitch; Baa3 for Moody’s).
- More than \$1.2 trillion of leveraged loans were issued in 2018 (Refinitiv, 2019).
- Leveraged loan borrowers tend to be larger firms, and they are from a wide range of industries and locations.
- The default rate on leveraged loans has averaged less than 3% per year.¹

Growth in Leveraged Loans

The leveraged loan market has grown quite rapidly in recent years, roughly doubling in the decade since the financial crisis.² The institutional segment of the market now stands at roughly \$1.2 trillion, putting it on par with the high-yield bond market, which is the segment of the corporate bond market comprised of riskier borrowers.

Despite the growth in recent years, the leveraged loan market has existed in its current form for more than two decades. This relatively long history is useful, because it provides borrowers and lenders with experience that has been used to improve the functioning of the market. Indeed, some of the growth in the market reflects borrowers substituting away from other forms of debt and into leveraged loans, which has been facilitated by investors shifting their investments into leveraged loans (Nini, 2017).

¹ Based on firms in the S&P/LSTA loan index.

² The S&P/LSTA Leveraged Loan Index covered \$600 billion of loans in 2008 and \$1.2 trillion now.

- The following table reports outstanding non-financial business credit from U.S. financial accounts, leveraged loans based on the S&P/LSTA leveraged loan index, and high-yield bonds based on the Barclays high-yield bond index. The leveraged loans include only the institutional segment of the market.

Year-end	High-yield Bonds	Leveraged Loans	Other Business Credit	Total Business Credit
2009	747	529	8,845	10,121
2010	930	497	8,607	10,035
2011	928	517	8,901	10,345
2012	1,145	550	9,159	10,855
2013	1,270	682	9,472	11,424
2014	1,326	831	10,043	12,200
2015	1,322	872	10,851	13,045
2016	1,316	881	11,519	13,715
2017	1,307	955	12,129	14,391
2018	1,243	1,147	12,001	14,391

Note: All figures in billions of dollars.

- From 2016 through 2018, a period when issuance of institutional leveraged loans has been quite strong, net issuance of high-yield bonds has been negative.

Developments in Corporate Credit Risk

Coincident with the rise in leveraged lending has been strong growth in total credit to the nonfinancial business sector, resulting in some measures of corporate credit risk appearing elevated, including the ratio of corporate debt to GDP. These developments certainly deserve monitoring, but the focus on corporate credit should extend beyond the leveraged loan market.

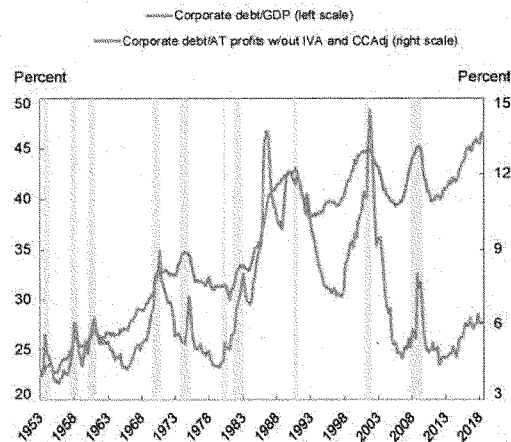
- Over the last decade, for example, net new corporate credit has risen by more than \$4 trillion, but leveraged loans have contributed, at most, one-fifth of that increase.
- The rise in the number of firms at the lower end of the investment-grade credit rating spectrum is unrelated to the leveraged loan market, as these firms are not issuing leveraged loans.³

It is quite natural that corporate borrowing has been strong in recent years. A healthy economy creates demand for borrowing, and low interest rates have supported the supply of credit. Strong corporate profits have made it quite easy for firms to service their debt payments, and many

³ See Kaplan, "Corporate Debt as a Potential Amplifier in a Slowdown," Federal Reserve Bank of Dallas (March 5, 2019) for evidence on the growing number of firms rated BBB.

firms currently have large holdings of liquid assets that provide flexibility in the event that profits recede. Realized incidents of corporate distress have been quite rare, and by most accounts, are expected to remain low in the near future.⁴

- The following chart, taken from Kovner and Zborowski (2019), shows the ratio of nonfinancial corporate debt to GDP and to aggregate corporate profits. The ratio of corporate debt to profits is well within the historical range.



Source: Kovner and Zborowski (2019)

- Kovner and Zborowski (2019) also report that about one-in-eight firms have debt loads that exceed six times the firm's earnings, which is similar to the fraction of highly leveraged firms that existed in 1988 and 1998.

The Risks of Leveraged Loans

Risk is inherent to all financial markets, and participants in the leveraged loan market are exposed default risk, which arises when borrowers are unable to repay their debts. Undoubtedly, if a slowdown in the economy were to happen, the amount of corporate defaults would increase from the recent lows. These defaults would be concentrated in borrowers with leveraged loans, and investors in leveraged loans would experience financial losses.

- During the last two recessions, the default rate on leveraged loans reached 8%, more than 2.5 times the long-run average.⁵

⁴ See S&P Global Market Intelligence, "US leveraged loan default rate ends April at thin 1.01%," May 1, 2019.

⁵ Statistics based on firms in the S&P/LSTA loan index.

Systemic Risks in Leveraged Lending

One lesson from the financial crisis is that some risks create a threat to the broader financial system, often termed “systemic” or “financial stability” risks. These risks are pernicious because individual market participants may not fully internalize their costs, and because negative shocks can inhibit financial markets from performing their function of allocating credit to businesses and households.⁶

In recent years, economists have made progress in understanding the sources of such risks and developing means to identify emerging threats. Financial regulators, in particular, have been at the forefront in developing tools to monitor and mitigate risks to financial stability.

- The Federal Reserve, Financial Stability Oversight Council, and Office of Financial Research have all produced reports related to financial stability.
- With respect to leveraged lending, changes in the price and terms of credit and changes in the nature of lenders deserve consideration as sources of systemic risk.⁷

Price and Terms of Credit

Overly generous credit can encourage borrowers to undertake marginal investments that carry more risk, which has the potential to magnify an economic downturn.⁸ At this point, there is no evidence that leveraged loans are fostering excessively speculative investment.

- Interest rate spreads on leveraged loans are not particularly low. In 2007, for example, the average interest rate spread on a B-rated institutional leveraged loan was roughly 3%. During 2018, the average spread was about 3.75% and has further increased in 2019. For bank-provided leveraged loans, the increase from 2007 has been similar; the average spread was about 2.50% in 2007 and about 3.40% during 2018.⁹
- The most common stated purpose for leveraged loans is to refinance existing debt.¹⁰
- Outside of refinancing, Kovner and Zborowski (2019) show that the predominate use of debt since 2010 has been to fund corporate acquisitions and change the borrower’s capital

⁶ Adrian, Covitz, and Liang (2015) provide a review of the academic research related to financial stability.

⁷ The Financial Stability Report produced by the Federal Reserve identifies four categories of potential vulnerabilities to financial stability: (1) high asset prices, (2) excessive leverage by businesses or households, (3) excessive financial sector leverage, and (4) funding risk that creates the possibility of a run on financial intermediaries. I group (1) and (2) into changes in the price and terms of credit and (3) and (4) into changes in the nature of lenders.

⁸ See Schularick and Taylor (2012) for a discussion and evidence related to the relationship between credit growth and the macroeconomy.

⁹ Statistics based on my calculations based on data from LCD (2019).

¹⁰ LCD (2019) reports that, in 2018, 34% of leveraged loans were for refinancing, 31% were for mergers or acquisitions, and 28% were to repay equity (leveraged buyouts and dividend recapitalizations).

structure, rather than invest in tangible or intangible assets. Although such loans may contribute less to economic growth, they are less likely to create financial instability.

The terms of leveraged loans have also changed in recent years. Most notable has been the rapid growth of covenant-lite loans, which some have pointed to as a sign of a significant deterioration in underwriting standards.

- Many institutional leveraged loans are now deemed “covenant-lite,” meaning the loan imposes fewer restrictions on the borrower after the loan is made.
- Borrowers with a covenant-lite institutional loan nearly always have a line of credit with standard financial covenants. This means that only the term loan is covenant-lite, and the borrower is bound by covenants in the line of credit (Berlin, Nini, and Yu, 2019).

Financial Structure of Lenders

A growing body of academic literature has emphasized that the funding structure of financial intermediaries can pose a threat to financial stability. Highly leveraged intermediaries and intermediaries with short-term liabilities can experience shocks that can force fire sales of assets and hinder their ability to continue funding their customers.

- Lines of credit, which serve as a credit card for firms, are typically funded by commercial banks, and term loans, which are installment loans with a fixed repayment schedule, are often funded by nonbank institutional investors, such as mutual funds and collateralized loan obligations (CLOs).¹¹
- Among institutional investors, Refinitiv (2019) estimates that CLOs provide roughly 50% of leveraged loans, and mutual funds provide about 12%. The remainder is provided by bank, insurance companies, and other investors.

CLOs are largely immune to the risk of a fire sale. CLOs do use leverage to invest in loans, but the amount of leverage is small relative to the risk of leveraged loans, and many CLOs have structural features that facilitate deleveraging in the event of a rise in credit risk. CLOs also borrow with long-term debt, so there is no risk of a run on a CLO.

- It is difficult to envision a scenario in which many CLOs would be forced to liquidate a large portion of their portfolios in a short period of time.

It is possible, however, that the CLO market could experience a rapid slowdown in new issuance, which could limit firms’ ability to issue new leveraged loans to institutional investors. This can create a problem if a firm has outstanding debt that matures in the near-term. Firms typically manage this risk by refinancing their debt well prior to maturity.

¹¹ The LSTA estimates that the institutional segment of the market is about two times the size of the bank-funded segment.

- Currently, less than 10% of outstanding leveraged loans in the S&P/LSTA leveraged loan index mature before 2022 (LSTA, 2019).
- Leveraged loan borrowers are large firms with broad access to capital markets (Nini, 2017).
- Issuance of new CLOs nearly halted for much of 2009 and 2010, and very few firms issued new institutional leveraged loans. Leveraged loan borrowers, however, substituted to alternative types of credit and suffered no additional negative consequences during this period (Nini, 2017).

Unlike CLOs, mutual fund shares can be redeemed by investors on any given day, meaning large outflows from mutual funds could force many funds to sell loans at the same time. The concern over a fire sale is, of course, broader than leveraged loans, since it arises whenever a mutual funds invests in relatively illiquid assets.

- Loan mutual funds are governed by the Security and Exchange Commission's (SEC) Liquidity Risk Management rule that measures the liquidity of a portfolio, places restrictions on the amount of illiquid investments in a portfolio, requires investment in very liquid investments, and requires board oversight of liquidity risk.
- Most leveraged loans are considered "less liquid investments," which reflects a reasonable expectation that the investment can be converted to cash within seven calendar days.

Leveraged Loans Resemble Corporate Bonds

The developments in the leveraged loan market are best understood as convergence between the institutional segment of the leveraged loan market and the corporate bond market. The underlying borrowers, investors, and credit products are very similar.

- For example, a typical corporate bond would be considered covenant-lite. This has always been the case, so investors fully understand this and are able to incorporate this information into their investment decisions.

Leveraged loans are typically syndicated, meaning that many investors jointly provide the funding for a single loan. This creates valuable benefits from diversification, since most leveraged loans are too large for a single lender to fund individually.

- Like institutional leveraged loans, corporate bonds are underwritten and sold to a broad set of institutional investors.
- A single or small set of lenders will arrange a leveraged loan and often will retain a portion of the loan. This makes the financing of leveraged loans different from the

financing of mortgages, in which the originating lender may sell the entire mortgage to an unrelated third party.

Existing Regulation of Leveraged Loans

Existing federal regulators have responsibility for various parts of the leveraged loan market.

- Since leveraged loans are arranged primarily by regulated banks, the Federal Reserve, Office of Comptroller of the Currency, and Federal Deposit Insurance Corporation have monitoring and regulatory authority over much of the leveraged loan market. The Shared National Credits (SNC) program permits the banking regulators to review many individual leveraged loans, and the SNC report has a specific focus on leveraged lending.
- The SEC has oversight responsibility over many of the mutual funds and CLOs that invest in leveraged loans.
- The regulatory bodies charged with monitoring risks to financial stability seem to be closely watching the leveraged loan market. The Federal Reserve's May 2019 Financial Stability Report and the FSOCs 2018 Annual Report each contained significant discussion of leveraged lending.

Conclusion

The growth in corporate debt deserves monitoring but does not currently seem out of line with the pace of economic growth and corporate profits. The leveraged loan market has contributed only a small portion of the growth.

Leveraged loans have experienced changes in the investor base and contract features that make them more like corporate bonds than traditional bank loans. These changes reflect a secular convergence of the markets rather than a cyclical loosening of underwriting standards. Interest rate spreads do not suggest excessive risk taking in the leveraged loan market.

The leveraged loan market does not seem to generate unique sources of systemic risk. CLOs have stable sources of funding, and leveraged loan borrowers have widespread access to capital markets.

The existing regulatory regime seems well suited to monitor and mitigate risks arising from the leveraged loan market.

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Testimony of Gaurav Vasisht
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House Financial Services Committee
Subcommittee on Consumer Protection and Financial Institutions
Hearing, “Emerging Threats to Stability: Considering the Systemic Risk of
Leveraged Lending”
June 4, 2019

Chairman Meeks, ranking member Luetkemeyer, members of the subcommittee, it is an honor and a privilege to testify at this hearing to consider the systemic implications of leveraged lending.¹ Leveraged loans are a key component of business debt in the United States. They provide credit to companies with high levels of debt or speculative credit ratings.

In recent years, because of their explosive growth and rapidly eroding underwriting standards, leveraged loans have increased vulnerability in the financial system. In an economic downturn, this vulnerability has the potential to disrupt the availability of credit and reduce economic output.² To address this weakness, regulators should take the necessary steps to better understand and mitigate the risks of this complex market.

Background on the Basic Structure of Leveraged Lending

Before I offer any specific approaches, let me spend a moment on the basic mechanics of leveraged lending, which in many ways are reminiscent of the funding structures of pre-crisis subprime mortgages. Usually arranged by a syndicate or group of banks, leveraged loans are made to private equity firms or corporations mostly to fund a merger or acquisition, pay dividends or effectuate share buy backs.³

Once made, loans are sold to investors. The largest buyers are collateralized loan obligations (“CLOs”), which pool the loans and sell securities based on their cash flow to investors globally. Although data are limited, CLO investors include foreign and domestic banks, as well as nonbank financial institutions such as insurance companies, asset managers and hedge funds.⁴

¹ All views expressed are my own and not necessarily of the board members, advisors, or affiliates of the Volcker Alliance.

² Board of Governors of the Federal Reserve System, “Financial Stability Report,” (May, 2019), <https://www.federalreserve.gov/publications/files/financial-stability-report-201905.pdf>

³ Tobias Adrian, Fabio Natalucci, and Thomas Piontek, “Sounding the Alarm on Leveraged Lending,” IMF Blog (Nov. 15, 2018), <https://blogs.imf.org/2018/11/15/sounding-the-alarm-on-leveraged-lending/>

⁴ *Supra* note 2.



Explosive Growth and Deteriorating Underwriting Standards

In recent years, as overall business debt in the United States has skyrocketed, so too has the size of the leveraged lending market.⁵ Fueled by a combination of low interest rates, high investor risk tolerance and low financing costs, leveraged loans have grown to a total of nearly \$1.2 trillion—roughly equivalent to the size of the subprime mortgage market at its peak.⁶ As the leveraged lending market has swelled in size, its underwriting standards have rapidly deteriorated. So-called covenant lite loans, which lack basic protections for lenders and investors, now account for nearly 80 percent of new issuances.⁷ Moreover, most of the recent growth in lending has been concentrated in the riskiest borrowers, those with debt of more than six times earnings.⁸

The Need for Action

Late in the credit cycle, as investor risk tolerance and asset prices peak, the leveraged lending market could amplify losses. In an inevitable economic downturn, as investors pull back and the price of speculative debt declines, highly leveraged firms will have difficulty obtaining financing and repaying their loans. This could precipitate downgrades and a selloff in the broader corporate bond market where a record 50 percent of investment grade bonds are now rated at the lowest level of BBB. As default rates spike and prices fall, firms will shrink their economic activity and cut jobs.⁹

In such a scenario, the stability of the financial system would depend on the ability of banks and investors to absorb losses. Fortunately, large banks have more capital and liquidity than they did before the financial crisis. But deregulatory efforts underway since 2017—including regulators’ step back from the 2013 leveraged lending guidance¹⁰ and the recent weakening of capital requirements and stress testing standards—undermine confidence.¹¹

⁵ *Id*

⁶ Sheila C. Bair, “How regulators can stop leveraged lending from becoming the new subprime,” Yahoo Finance, (May 20, 2019), <https://finance.yahoo.com/news/leveraged-lending-subprime-125426980.html>

⁷ Governor Lael Brainard, “Assessing Financial Stability over the Cycle,” Peterson Institute for International Economics, Washington, D.C. (Dec. 7, 2018), <https://www.federalreserve.gov/newsevents/speech/brainard20181207a.htm>

⁸ *Supra* note 2.

⁹ See e.g., Joy Wiltermuth and Kristen Haunss, “Yellen warns of corporate distress, economic fallout,” Reuters (Feb. 27, 2019), <https://www.reuters.com/article/us-yellen-distressed/yellen-warns-of-corporate-distress-economic-fallout-idUSKCN1QG2CZ>

¹⁰ Eleanor Duncan, Banks can ‘do what they want’ in leveraged lending: Otting,” Reuters (Feb. 27, 2018), <https://www.reuters.com/article/us-usa-banks-lending-otting/banks-can-do-what-they-want-in-leveraged-lending-otting-idUSKCN1GC0B5>

¹¹ Governor Daniel K. Tarullo, “Taking the Stress out of Stress Testing,” Americans for Financial Reform Conference on Big Bank Regulation Under the Trump Administration, Washington, D.C. (May 21, 2019), <https://ourfinancialsecurity.org/wp-content/uploads/2019/05/Tarullo-AFR-Talk.pdf>; see also, Sheila C. Bair and Gaurav Vasish, “The Shutdown Isn’t the Only Threat to the Economy,” The New York Times (Jan. 10, 2019), <https://www.nytimes.com/2019/01/10/opinion/shutdown-economy-recession.html>



What's more, significant data gaps on CLO investors and the lack of a comprehensive analysis of CLO funding structures render a full assessment of potential losses challenging and highly speculative. What is clear, however, is that in the event of a downturn or of sharp declines in asset prices, the impact on the real economy will be consequential, even if it doesn't lead to a collapse of the financial system in a repeat of 2008.

For this reason, it is important for policymakers to act now.

Suggested Measures

First, regulators must better understand the leveraged lending market. Put simply, you cannot effectively regulate something you do not understand. But given the number of market participants and regulators involved, it can be challenging to gather and analyze all the data. It was precisely for this reason that Congress established the Office of Financial Research ("OFR") as part of the Dodd-Frank Act. But the OFR's budget is being cut and its independence compromised.¹² I recommend that, as proposed in the "Leveraged Lending Data and Analysis Act," the OFR fill any data gaps and produce a comprehensive analysis on the risks of the leveraged lending market. I also recommend that the OFR's budget be restored and kept off congressional appropriations.

Second, regulators must safeguard the banking system. Recessions caused by instability in the banking system last longer and run deeper than other recessions. Since banks operate at the core of the leveraged lending market, it is important that they remain resilient.¹³ I propose that regulators reinstate the substance of their 2013 leveraged lending guidance, which helped improve banks' risk management and curtailed the dollar volume of such loans.¹⁴ Regulators should also refrain from further weakening capital requirements and diluting stress tests. Instead, they should require the nation's systemic banks to build their capital by raising the countercyclical capital buffer and strengthening the stress testing process.

Third, regulators should address risks outside the regulatory perimeter. Tighter bank regulation can cause risks to migrate outside the prudentially regulated sector, as it reportedly did after the 2013 leverage lending guidance was issued. It can be important, therefore, for regulators to enlarge the perimeter of regulation for financial stability purposes. It was for this reason that Congress established the Financial Stability Oversight Council ("FSOC") as part of Dodd-Frank. But FSOC's recently proposed interpretive guidance would tie the FSOC up in knots, effectively ending its ability to designate nonbanks as systemically important. I recommend that the FSOC's

¹² Treasury, "Office of Financial Research: Congressional Budget Justification and Annual Performance Report and Plan, FY 2020," <https://home.treasury.gov/system/files/266/16.-OFR-FY-2020-CJ.pdf>

¹³ Mayra Rodriguez Valladares, "Big Banks Are Very Exposed to Leveraged Lending and CLO Markets," *Forbes* (April 15, 2019), <https://www.forbes.com/sites/mayrarodriguezvalladares/2019/04/15/big-banks-are-very-exposed-to-leveraged-lending-and-clo-markets/#4f9475867309>

¹⁴ Ryan Tracy, "Feds Win Fight Over Risky-Looking Loans," *Wall Street Journal* (Dec. 2, 2015), <https://www.wsj.com/articles/feds-win-fight-over-risky-looking-loans-1449110383>



proposed interpretive guidance be withdrawn. Absent action from the FSOC, banking regulators should explore how they could mitigate risks in the nonbank sector—for instance, by tightening supervisory standards that apply to the credit lines and warehouse financing that regulated banking organizations provide to nonbank lenders.

Thank you, and I look forward to answering your questions.



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Testimony
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For
The U.S. House Financial Services Committee's Subcommittee on Consumer Protection
and Financial Institutions

Hearing:
Emerging Threats to Stability: Considering the Systemic Risk of Leveraged Lending

June 4, 2019

Chair Meeks, Ranking Member Luetkemeyer and members of the Subcommittee: On behalf of more than 500,000 members and supporters of Public Citizen, we offer the following comments regarding the legislative proposals advanced at this hearing that would address the risks associated with increased leverage lending.

Broadly, Public Citizen is concerned with the growth of leveraged lending, and we therefore support proposed legislation designed to scrutinize this arena.

Rising Leverage Lending. Declining Underwriting?

As economic growth continues, many of the lending-related problems that led to the financial crisis of 2008 have abated. This includes a relative decline in household debt, which dropped from 97 percent of gross domestic product (GDP) in 2008, to 70 percent today.¹ Improved mortgage lending rules also means greater safety in this large market. One of the glaring problems, however, involves leveraged lending. Just as history shows nations misguidedly preparing for the last war while ignoring emerging threats, it appears that a similar situation may be developing in the financial reform space. Whereas the safeguards adopted following the 2008

¹ Robert Kaplan, *Corporate Debt as a Potential Amplifier in a Slowdown*, FEDERAL RESERVE BANK OF DALLAS (March 5, 2019) <https://www.dallasfed.org/research/economics/2019/0305.aspx#n3>

crash may stifle the reemergence of those identical problems, we may be ill prepared to deal with emerging threats and the “war of the future” -- the repercussions of the new frenzy with leveraged loans.

Leveraged lending refers to credit extended to corporations that are already heavily indebted. Generally, banks extend these loans and then group these loans as a bundle and sell them in various forms. Some of these are bundled as collateralized loan obligations (CLOs), while others are sold to mutual funds. In the United States, banks had originated \$564 billion in such loans by 2017, surpassing the previous record.² Most of this has been repackaged and sold to investors. For CLOs, banks themselves constitute major investors.³

Immediately, the rise of leveraged lending exposes the economy to more intense suffering in the event of a downturn, a so-called recession amplifier. Companies less dependent on debt, with less of their revenue owed to creditors, can better weather periods when those revenues decline. These companies simply owe less to creditors than do more indebted companies. Companies with more debt, on the other hand, may find that during a downturn, the reduced revenue from sales may be insufficient to cover their debt obligations. Short of declaring bankruptcy, they may be forced to cut other expenses, such as wages, which would mean layoffs. Declared former Federal Reserve Chair Janet Yellen, “What I would worry about is if the economy encounters a downturn, we could see a good deal of corporate distress. If corporations are in distress, they fire workers.”⁴

By nature, leveraged loans are those made to already heavily indebted companies. That means that the integrity of the borrower becomes crucial. Firms with unreliable business prospects pose a great danger to the economic woes that Chair Yellen references. The question then turns on the quality of underwriting of such leveraged loans. (Underwriting is the discipline of ensuring that the borrower is credit-worthy.) Are these heavily indebted enterprises sustainable? Or is this sector running on a sugar rush of credit?

Decoupling loan-making from risk-taking proved disastrous in the mortgage crisis. Mortgage makers before 2008 disregarded underwriting standards, often crossing the line into fraud.⁵ That’s because the revenue from fees generated from packaging and selling securitized

² Tobias Adrian, Fabio Natalucci, and Thomas Piontek, *Sounding the Alarm on Leveraged Lending*, IMFBLOG (Nov. 15, 2018), <https://blogs.imf.org/2018/11/15/sounding-the-alarm-on-leveraged-lending/>.

³ Mayra Rodriguez Valladares, *Congressman Gregory Meeks Wants To Make Sure Leveraged Loans Do Not Lead To A Financial Crisis*, FORBES (MAY 31, 2019), <https://www.forbes.com/sites/mayrarodriguezvalladares/2019/05/31/congressman-gregory-meeks-wants-to-make-sure-leveraged-loans-do-not-lead-to-a-financial-crisis/#2b2b9ab5360a>

⁴ Joy Wiltermuth and Kristen Haunss, *Yellen Warns Of Corporate Distress, Economic Fallout*, REUTERS (Feb. 27, 2019), <https://www.reuters.com/article/us-yellen-distressed/yellen-warns-of-corporate-distress-economic-fallout-idUSKCN1QG2CZ>

⁵ *Manhattan U.S. Attorney Sues and Settles With JPMorgan Chase For \$614 Million For Fraudulent Mortgage Lending Practices*, US ATTORNEY’S OFFICE, SOUTHERN DISTRICT OF NEW YORK, (Feb. 4, 2014), <https://www.justice.gov/usao-sdny/pr/manhattan-us-attorney-sues-and-settles-jpmorgan-chase-614-million-fraudulent-mortgage>

mortgages overcame any sense of obligation for honest underwriting. If the banks made money from selling the mortgages, and it was seen as the investor's problem if the mortgage loans soured, then sound underwriting was simply counterproductive.⁶ Whether banks now subordinate underwriting to fee generation for leveraged loans becomes one of the key issues facing regulators and policy makers.

On the one hand, this problem is somewhat mitigated as banks tend to retain at least some of the exposure to the loans. On the other hand, the quality of the loans remains concerning given these are very indebted companies. Fed Governor Lael Brainard noted that the number of safeguards has also declined.⁷

It is especially worrying that the volume of leveraged lending has varied with the intensity of regulatory supervision. After Obama administration bank regulatory appointees adopted guidance in 2013 meant to strengthen bank underwriting of leveraged lending, the volume of such activity declined by 20 percent in the next year.⁸ After Republican lawmakers threatened this guidance, and Trump administration appointees rescinded the guidance, leverage lending rebounded to its current record pace.

In short, it appears that it is not companies hungry to expand that are buying this new credit so much as it is bankers selling it. And they may be selling it with inadequate underwriting.

Another concerning unknown is the identity of those who have purchased the balance of these collateralized loan obligations. As Federal Reserve Board Chair Jerome Powell noted, regulators know about the \$90 billion in leveraged loans held by banks; what's not known is who owns the other hundreds of billions.⁹

The Cassandras are many with leveraged loans. Beyond Powell and Yellen, warnings come from other regulators,¹⁰ analysts,¹¹ and policymakers, as evidenced by this welcome hearing.

Legislative solutions

The Subcommittee invites comment on three draft legislative proposals to address threats posed by leveraged lending. Public Citizen supports all three.

⁶ See Federal Crisis Inquiry Commission, (website visited June 3, 2019) <https://fcic.law.stanford.edu/>

⁷ Governor Lael Brainard, *Assessing Financial Stability over the Cycle*, FEDERAL RESERVE (Dec. 7, 2018), <https://www.federalreserve.gov/newsevents/speech/brainard20181207a.htm>.

⁸ Ryan Tracy, *Feds Win Fight Over Risky-Looking Loans*, WALL STREET JOURNAL (Dec. 2, 2015), <https://www.wsj.com/articles/feds-win-fight-over-risky-looking-loans-1449110383>.

⁹ Chairman Jerome Powell, *Business Debt and Our Dynamic Financial System*, at FEDERAL RESERVE BANK OF ATLANTA (May 20, 2019), <https://www.federalreserve.gov/newsevents/speech/powell20190520a.htm>.

¹⁰ Governor Lael Brainard, *Assessing Financial Stability over the Cycle*, FEDERAL RESERVE (Dec. 7, 2018), <https://www.federalreserve.gov/newsevents/speech/brainard20181207a.htm>.

¹¹ Mayra Rodriguez Valladares, *Mnuchin Should Require More Transparency About Leveraged Lending and CLO Markets*, FORBES (May 2, 2019), <https://www.forbes.com/sites/mayrarodriguezvalladares/2019/05/02/mnuchin-should-require-more-transparency-about-leveraged-lending-and-clo-markets/#3e71c6394d50>.

Rep. Bill Foster (D-Ill.) proposes a bill to protect the independent funding of the Office of Financial Research (OFR). This bill empowers the director of the OFR to determine the budget, which is set at a minimum at Fiscal Year 2017 levels. Congress established OFR as part of the 2010 Dodd-Frank Wall Street Reform and Consumer Protection Act to serve as an independent research arm to investigate and report publicly on looming financial dangers. Under the Trump administration, it has been defunded with a loss of a significant number of researchers. This effectively reduces the eyesight of what should be an important watchdog. We support better funding for the OFR so that it can effectively do its job.

A second measure would strengthen the powers of the OFR, including subpoena power, to increase information on leveraged lending. This would help reveal the ownership of the CLOs. The measure would also require OFR to publish reports on its investigations.

A third measure would require that bank regulators, through the Federal Financial Institutions Examination Council's (FFIEC), establish strong, uniform examination procedures so that leveraged lending is conducted safely. We believe this measure holds the most promise to ensure that leveraged lending does not subordinate underwriting to maximization of securitization fee-generation. As written, the bill identifies several parameters that would guide agency rule-making. However, we also urge the Subcommittee to consider more direct prudential safeguards. We believe that a best-practices leveraged lending agreement should be used as a model, and that this model should be the basis for the rule. We are concerned that a principles-based rule, as currently envisioned with this measure, can be gamed by regulators intent on promoting financial industry profits over prudence.

Conclusion

In the last Congress, Washington approved S. 2155 to deregulate large banks and remove a number of consumer financial safeguards.¹² Trump-appointed regulators have also steadily eroded key safeguards: they have reduced capital requirements; they have removed large insurance companies from supervision; they have removed safeguards for derivatives trading; they have debased the Consumer Financial Protection Bureau. These misguided efforts have left America more exposed to the very problems that led to devastation following the 2008 financial crisis. Now, it appears, regulators ignore the emerging problem of leveraged lending. It is time for Congress to adopt needed reforms to make sure that this sector does not become the reason that the inevitable downturn in the economy becomes a severe recession.

Public Citizen appreciates the opportunity to comment on this important area. For questions, please contact me at bnaylor@citizen.org.

¹² Chris Martenson, *The Banks are Becoming Untouchable Again*, SEEKING ALPHA (June 5, 2018) <https://seekingalpha.com/article/4179408-bartlett-naylor-banks-becoming-untouchable>

