

MACROECONOMIC EFFECTS OF RISK RETENTION REQUIREMENTS

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I. EXECUTIVE SUMMARY

Section 941¹ of the Dodd-Frank Wall Street Reform and Consumer Protection Act (the “Dodd-Frank Act” or the “Act”)² imposes credit risk retention (“risk retention”) requirements, under which securitizers, and, in certain circumstances, originators³ of asset-backed securities (“ABS”) must retain not less than 5 percent of the credit risk for any asset unless the asset is a Qualified Residential Mortgage or the originator of the asset meets underwriting standards that the Agencies⁴ will jointly prescribe.

Under Section 946 of the Dodd-Frank Act, the Chairman of the Financial Stability Oversight Council (the “Council”) is required to conduct a study on the macroeconomic effects of the risk retention requirements under Subtitle D of Title IX of the Dodd-Frank Act, with emphasis placed on potential beneficial effects with respect to stabilizing the real estate market, and issue a report to Congress no later than 180 days after the date of enactment of the Dodd-Frank Act.⁵

This study makes the following conclusions:

- Securitization is an important source of credit formation to the economy, but certain risks of securitization contributed to the financial crisis and macroeconomic instability;
- Risk retention, if properly structured, can address some of these inherent risks by requiring an originator or securitizer to have ongoing exposure to the credit risk of the underlying assets; and
- There are macroeconomic implications of securitization and risk retention; to the extent that risk retention can incent better lending decisions, it may help to mitigate some of the pro-cyclical effects securitization may have on the economy.

This study also offers several principles and recommendations that should inform the design of a risk retention framework so as to strengthen the securitization process and facilitate economic

¹ Section 941 of the Dodd-Frank Act adds a new section 15G to the Securities Exchange Act of 1934, as amended (the “Exchange Act”), which is codified at 15 U.S.C. § 78o-11.

² Pub. L. No. 111-203, 124 Stat. 1376 (2010).

³ Section 941 of the Dodd-Frank Act defines (i) a securitizer as “(A) an issuer of an asset-backed security; or (B) a person who organizes and initiates an asset-backed securities transaction by selling or transferring assets, either directly or indirectly, including through an affiliate, to the issuer,” 15 U.S.C. § 78o-11(a)(3), and (ii) an originator as a person who “(A) through the extension of credit or otherwise, creates a financial asset that collateralizes an asset-backed security; and (B) sells that asset directly or indirectly to a securitizer,” 15 U.S.C. § 78o-11(a)(4).

⁴ The Federal Deposit Insurance Corporation (“FDIC”), the Office of the Comptroller of the Currency (“OCC”), the Board of Governors of the Federal Reserve System (the “Board”), and the Securities and Exchange Commission (“SEC”), must jointly prescribe rules on risk retention under Section 941 no later than 270 days following the date of enactment. Exchange Act, Section 15G(b). The statute also requires the Federal Housing Finance Agency (“FHFA”) and the Department of Housing and Urban Development (“HUD”), along with the foregoing Agencies to jointly prescribe rules on risk retention with respect residential mortgages and defining the Qualified Residential Mortgage. This study refers to the FDIC, the OCC, the Board, the SEC, the FHFA, and HUD collectively as the “Agencies.”

⁵ The Chairman of the Council is responsible for the content of this report. In preparing this report, the Chairman consulted with the Agencies.

growth by allowing market participants to price credit risk more accurately and allocate capital more efficiently.

* * * * *

Over the past forty years, asset-backed securitization has become an increasingly important source of credit formation for the economy. Securitization offers many benefits, including increased liquidity, expanded credit availability, and reduced cost of credit. Without proper safeguards, however, securitization can introduce significant risks to financial markets and to the economy. The securitization process involves multiple parties with varying incentives and information, thereby breaking down the traditional direct relationship between borrower and lender. The party setting underwriting standards and making lending decisions (the originator) and the party making structuring decisions (the securitizer) are often exposed to minimal or no credit risk. By contrast, the party that is most exposed to credit risk (the investor) often has less influence over underwriting standards and may have less information about the borrower. As a result, originators and securitizers that do not retain risk can, at least in the short run, maximize their own returns by lowering loan underwriting standards in ways that investors may have difficulty detecting. The originate-to-distribute model, as it was conducted, exacerbated this weakness by compensating originators and securitizers based on volume, rather than on quality.

The academic literature provides evidence that mortgage-backed securitization contributed to a decline in underwriting standards during the mid-2000s, facilitating an over-supply of excessively risky mortgages. There is also evidence that the expansion of mortgage supply through securitization helped accelerate price increases in the housing market to unsustainable levels and, therefore, contributed to the ensuing decline in housing prices and the economy.

To address the problems in the financial system that contributed to the financial crisis, Congress enacted the Dodd-Frank Act in July 2010. The Dodd-Frank Act's reforms to the securitization market include greater transparency for investors, measures to mitigate conflicts of interest at credit ratings agencies, and the credit risk retention requirements in Section 941.

This study discusses the potential design of a risk retention framework. Such a framework should seek to meet the following objectives: (i) align incentives without changing the basic structure and objectives of securitization transactions; (ii) provide for greater certainty and confidence among market participants; (iii) promote efficiency of capital allocation; (iv) preserve flexibility as markets and circumstances evolve; and (v) allow a broad range of participants to continue to engage in lending activities, while doing so in a safe and sound manner. A risk retention framework can be structured in a number of ways to meet these objectives. The form of risk retention, allocation of risk retention to various participants in the securitization chain, amount of risk retention, allowances for risk management, and exemptions from risk retention are all important variables in the design of any such framework.

Although a risk retention framework can help align incentives and improve underwriting standards, the macroeconomic implications of risk retention are complex. A risk retention

framework can incent better lending decisions and consequently help strengthen the quality of assets underlying a securitization. It may also help mitigate some of the pro-cyclical effects that asset-backed securitization can have on the economy. However, if overly restrictive, risk retention could constrain the formation of credit, which could adversely impact economic growth. The challenge is to design a risk retention framework that maximizes benefits while minimizing its costs.

As the recent financial crisis demonstrates, securitization, without appropriate reforms, can cause significant harm to the economy. Risk retention can help align the interests of the participants in the securitization chain, reduce the risks inherent in securitization, and promote the stable formation of credit and efficient allocation of capital in the United States.

II. THE STATUTORY MANDATE

In addition to the general mandate to study the macroeconomic effects of risk retention, Section 946 calls for the study to include an analysis of the macroeconomic effects of risk retention on real estate asset price bubbles. The statute also calls for consideration of the feasibility of minimizing bubbles by proactively adjusting risk retention requirements and minimum underwriting standards; whether such adjustments should be formulaic or discretionary; and, how such adjustments should be coordinated with monetary policy. Specifically, Section 946 requires:

(1) an analysis of the effects of risk retention on real estate asset price bubbles, including a retrospective estimate of what fraction of real estate losses may have been averted had such requirements been in force in recent years;

(2) an analysis of the feasibility of minimizing real estate price bubbles by proactively adjusting the percentage of risk retention that must be borne by creditors and securitizers of real estate debt, as a function of regional or national market conditions;

(3) a comparable analysis for proactively adjusting mortgage origination requirements;

(4) an assessment of whether such proactive adjustments should be made by an independent regulator, or in a formulaic and transparent manner;

(5) an assessment of whether such adjustments should take place independently or in concert with monetary policy; and

(6) recommendations for implementation and enabling legislation.

Several points should be noted about the scope of this study.

First, the study discusses the pro-cyclicality of credit with respect to asset-backed securitizations and the potential for risk retention requirements to minimize this pro-cyclicality. The study does not provide a specific quantitative assessment of the fraction of real estate losses that might have been averted, because the risk retention rules under Section 941 have not yet been issued, and thus cannot be retrospectively considered. Moreover, sufficient data are not available to make such an estimate possible. Instead, the study provides a broad assessment of the macroeconomic impact of risk retention on real estate bubbles and economic cyclicality.

Second, the academic literature on risk retention with respect to asset-backed securitization is limited. Moreover, available information is insufficiently robust to allow for a quantitative comparable analysis for proactively adjusting mortgage origination requirements, an assessment of formulaic adjustments to such requirements, or a quantitative evaluation as to whether any adjustments should be made independently or in concert with monetary policy. However, the study reviews benefits and drawbacks to adjusting risk retention regulation over time.

Third, the study's evaluation of the macroeconomic implications of risk retention is confined to the existing literature and available data. Future studies could include more original research and make more specific quantitative assessments with respect to the aforementioned questions.

The analysis presented in this study should serve to inform the rule writing process currently underway by the Agencies. It may also help to create a risk retention framework that will allow markets to allocate capital efficiently to American businesses, consumers and homeowners in a sustainable fashion, facilitate economic growth and promote financial stability.

III. SECURITIZATION AND ITS MACROECONOMIC EFFECTS

DEVELOPMENT OF THE SECURITIZATION MARKET

Securitization is the process through which a security is created that gives investors a right to the cash flows generated by (and frequently, a security interest in) a pool of loans or other financial assets. Typically, securitizations are created with the intent to sell part or all of the securities to third-party investors.

Since the first securitization of residential mortgages in 1970,⁶ the asset-backed securitization market has become an important mechanism for credit formation. Prior to the advent of securitization, funding through the capital markets for many borrowers was more limited. By providing access to the capital markets, securitization has improved the availability and affordability of credit to a diverse group of businesses, consumers, and homeowners in the United States.

Much of the initial securitization issuance was backed by residential mortgages, which had guarantees from the Government National Mortgage Association (“Ginnie Mae”) or the Government Sponsored Enterprises (“GSEs”).⁷ Early securitizations typically employed a “pass-through” structure, whereby principal and interest collected on the assets are “passed through” on a *pro rata* basis to the security holders.⁸

Over time, asset-backed securitization market participants expanded into other asset classes and began to create more complex structures. The sophistication of securitization structures has allowed products to be tailored to meet a variety of demands, such as investor risk and duration appetites as well as differences in asset classes. Tranches of securitizations (e.g., through senior-subordinated structures) can be used to create investments with different cash flow or loss absorption characteristics.

Starting in the mid-1980s, these concepts were applied to the securitization of non-residential mortgage assets, including commercial mortgages, credit cards, auto loans and leases, student loans, business loans, equipment loans and leases, and dealer floorplans.⁹

In addition, securitizers also developed resecuritizations, in which a securitizer uses the cash flows of previously securitized assets as the base for a new securitization. Resecuritizations

⁶ The Government National Mortgage Association (“GNMA” or “Ginnie Mae”) issued the first mortgage-backed security in 1970.

⁷ For purposes of this study, the term Government Sponsored Enterprises (“GSEs”) refers to Federal National Mortgage Association (“FNMA” or “Fannie Mae”) and the Federal Home Loan Mortgage Corporation (“FHLMC” or “Freddie Mac”).

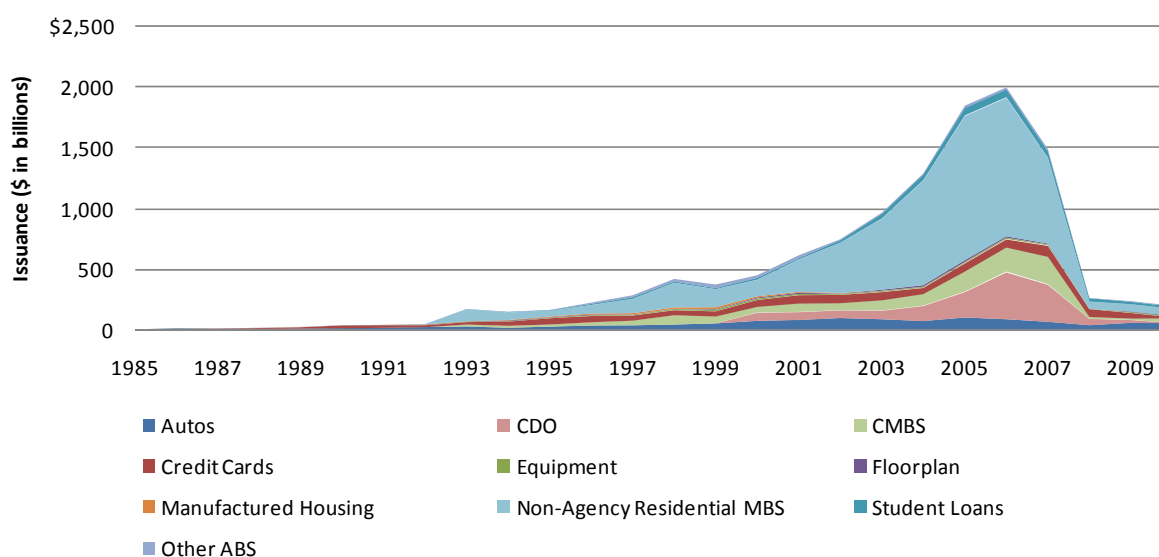
⁸ The original securitization market consisted of “agency” securities of pooled residential mortgages, with the payments of interest and principal guaranteed by Ginnie Mae, Fannie Mae or Freddie Mac.

⁹ Board of Governors of the Federal Reserve System, *Report to the Congress on Risk Retention* (October 2010).

allowed securitizers to finance higher risk assets that might be otherwise difficult to sell, or to benefit from the higher rating attributed to a portion of the structure.¹⁰

As a result of this increase in demand and financial innovations, total securitization issuance increased over time in all asset classes, particularly in those backed by residential assets (*see* Figure 1). This chart shows that although commercial asset-backed securitization issuance (such as autos and credit cards) increased from the mid-1990's through the run-up to the financial crisis, it did not increase to the same extent as residential mortgage asset-backed issuance, particularly for lower credit quality instruments such as subprime and Alt-A residential mortgage securitizations.

Figure 1: Total Asset-Backed Securitization Issuance by Year¹¹



The asset-backed securitization market became an important source for credit intermediation in part because it offers investors a number of benefits that improved efficiency and contributed to a lower cost of credit. Investors in asset-backed securities can efficiently diversify the credit risks to which they are exposed because the securitized loan pools are diverse with respect to a number of characteristics, including by borrower, property, and geography. Asset-backed securities thus provide an additional source of credit for businesses, consumers, and homeowners beyond the traditional banking sector. Further, asset-backed securitization can legally isolate the

¹⁰ Certain structures, commonly referred to as CDOs, or CDO² (Collateralized Debt Obligations Squared) if a securitizer created a structured asset from another CDO, further increased the complexity and elongated the chain between originator and investor.

¹¹ Source: Inside MBS & ABS, "Mortgage and Asset Securitizations Issuance" (January 7, 2011), Copyright Inside Mortgage Finance Publications (for Non-Residential MBS issuance data) and J.P. Morgan Securities LLC (for all other asset class issuance data). Data does not include GSE mortgage issuance. The category "Other ABS" includes stranded asset, RV, boat, consumer, EETC, and small business loans.

underlying financial assets from the originator and securitizer. Legal isolation provides investors with enhanced protections in the event of a bankruptcy of one or more of these parties and also reduces the need to perform due diligence on the credit risk of the originator or securitizer.¹² In addition, the structuring of securitized interests (e.g., through senior-subordinated structures) can create investments with particular credit and interest rate risk profiles that can match investors' risk appetites.

Securitization also allows financial institutions to manage their credit, funding, and liquidity risk more actively, and to increase lending activity because securitization allows them to sell the assets and their risks to third parties. Therefore, their exposure to interest rate and liquidity risks is reduced because securitization allows financial institutions to limit such risks by more appropriately matching the duration of their assets and liabilities (often referred to as "term funding"). Moreover, asset-backed securitization allows non-bank lenders to originate at competitive prices without deposit funding, thereby reducing barriers to entry and increasing lending competition.

Alongside the benefits, the securitization process has certain fundamental weaknesses. By separating the borrower and lender, securitization can create informational and incentive asymmetries. If incentives are not well-aligned, then information asymmetries may lead one party to maximize its return at the expense of other parties, particularly borrowers and investors. For instance, academic literature has identified at least seven important types of frictions in the residential mortgage securitization chain, which can cause agency and adverse selection problems in a securitization transaction.¹³

One important informational friction highlighted during the recent financial crisis has aspects of a "lemons" problem that exists between the issuer and investor.¹⁴ An originator has more information about the ability of a borrower to repay than an investor, because the originator is the party making the loan. Because the investor is several steps removed from the borrower, the investor may receive less robust loan performance information. Additionally, the large number of assets and the disclosures provided to investors may not include sufficient information on the quality of the underlying financial assets for investors to undertake full due diligence on each asset that backs the security.

¹² Typically, the U.S. securitization market relies on separate legal entities – or special purpose vehicles ("SPVs") – which is legally separated from the sponsoring entity. This provides securitization investors protection in circumstances where the sponsoring or originating entity enters insolvency proceedings.

¹³ See A. Ashcraft and T. Schuermann, "Understanding the Securitization of Subprime Mortgage Credit," *Foundations and Trends in Finance*, vol. 2, no. 3 (2008) for a discussion of information asymmetries in the case of subprime mortgages.

¹⁴ M. Jensen and W. Meckling, "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure," *Journal of Financial Economics*, vol. 3, no. 4 (1976); G. Gorton and G. Pennacchi, "Banks and Loan Sales: Marketing Nonmarketable Assets," *Journal of Monetary Economics*, vol. 35, no.3 (1995).

SECURITIZATION'S ROLE IN THE FINANCIAL CRISIS

Although securitization provides many benefits to lenders and borrowers, it also played a significant role in the recent financial crisis. The financial crisis brought to the surface certain inherent problems in the securitization process, including misaligned incentives of participants and informational asymmetries. These problems may have exacerbated the pro-cyclicality of lending, resulting in unsustainable increases in asset prices.

The issuance of asset-backed securities expanded significantly in the lead-up to the financial crisis, particularly for residential and commercial mortgages. This growth accommodated investor demand for highly rated asset-backed securities, which over time became increasingly complex. Additional demand for the junior tranches of the highly rated residential mortgage-backed securities ("RMBS") and commercial mortgage-backed securities ("CMBS") began to grow as such tranches were increasingly distributed as components of other structured products such as collateralized debt obligations ("CDOs").¹⁵

To satisfy the growing investor demand for loans, particularly mortgages, to serve as collateral for structured products, originators and securitizers increasingly relied upon an originate-to-distribute model in which originators sold their loans to securitizers, who then sold securities backed by these loans to investors. This model helped facilitate a rapid increase in origination and securitization of subprime and Alt-A loans beginning in the early 2000s, as a large and increasing portion of such loans were being securitized and sold to investors, rather than held as whole loans on the balance sheets of originators. For example, between 2001 and 2006, the ratio of securitized issuance to origination increased from 46 percent to 81 percent and the market share of subprime and Alt-A originations increased from 11 percent to 40 percent (*See Figure 2 below*).

¹⁵ M. Adelson and D. Jacob, "The Sub-prime Problem: Causes and Lessons," unpublished mimeo (2008) discusses of the role of CDOs in the crisis. Others argue that "ratings arbitrage" was an important motivation for mortgage securitization in this period. J. Coval, Jurek, J. and E. Stafford, "The Economics of Structured Finance," *Journal of Economic Perspectives*, vol. 23, no.1 (2009) and M. Brennan, Hein, J. and S. Poon, "Tranching and Rating," unpublished mimeo (2009).

Figure 2: Origination and Issuance of Agency and Non-Agency Mortgage Loans¹⁶

(\$ in billions)

Year	Subprime / Alt-A			Prime Jumbo			Conforming		
	Origination	Issuance	Ratio	Origination	Issuance	Ratio	Origination	Issuance	Ratio
2001	\$215	\$98	46%	\$445	\$142	32%	\$1,265	\$915	72%
2002	267	176	66%	571	172	30%	1,706	1,270	74%
2003	395	269	68%	650	238	37%	2,460	1,912	78%
2004	715	521	73%	515	233	45%	1,210	892	74%
2005	1,005	797	79%	570	281	49%	1,092	879	81%
2006	1,000	814	81%	480	219	46%	990	817	83%
2007	466	433	93%	347	178	51%	1,162	1,062	91%
2008	64	2	3%	97	7	7%	920	900	98%
2009	10	0	0%	92	0	0%	1,185	1,107	93%

In the originate-to-distribute model, originators receive significant compensation upfront without retaining a material ongoing economic interest in the performance of the loan. This reduces the economic incentive of originators and securitizers to evaluate the credit quality of the underlying loans carefully. Some research indicates that securitization was associated with lower quality loans in the financial crisis. For instance, one study found that subprime borrowers with credit scores just above a threshold commonly used by securitizers to determine which loans to purchase defaulted at significantly higher rates than those with credit scores below the threshold.¹⁷ By lowering underwriting standards, securitization may have increased the amount of credit extended, resulting in riskier and unsustainable loans that otherwise may not have been originated.

As the originate-to-distribute model became more pervasive, underwriting criteria weakened more broadly. This deterioration was particularly prevalent with respect to the verification of the borrower's income, assets, and employment for residential real estate loans, and in the measurement of net operating income for commercial real estate loans. Originators began to use non-traditional loan products (e.g., negative amortization loans, interest-only periods, and teaser rates) that were designed to reduce the initial monthly loan payment. Additionally, predatory lending became a problem as financial products became too complex or inappropriate for certain borrowers.

In theory, aggressive underwriting should have been held in check by market discipline. However, recent experience suggests that there was an over-dependence on credit ratings by investors as well as other weaknesses in risk management practices. There were incentive problems with respect to credit rating agencies ("CRAs") in the issuer-pay model.¹⁸ Further, the

¹⁶ Source: *2010 Mortgage Market Statistical Annual* published by Inside Mortgage Finance Publications, Inc. www.imfpubs.com. Copyright 2010. Conforming data includes conventional conforming mortgages and Fannie/Freddie MBS excluding pools with average loan age over 3 months.

¹⁷ B. Keys, T. Mukherjee, A. Seru, and V. Vig, "Did Securitization Lead to Lax Screening? Evidence from Subprime Loans," *Quarterly Journal of Economics*, vol. 125, no.1 (2010).

¹⁸ P. Bolton, X. Freixas, and J. Shapiro, "The Credit Ratings Game," NBER Working Paper No. 14712 (2008); J. Fons, "White Paper on Rating Competition and Structured Finance," unpublished mimeo (2008); J. Fons, "White Paper on Rating Competition and Structured Finance,"

turmoil has raised questions about the effectiveness of CRAs' assessment of risks in the rating of complex financial products.¹⁹ Among the factors that may have contributed to poor ratings performance of structured finance products are an underestimation of the severity of a housing market downturn and model risk aggravated by limited historical data.²⁰

In conjunction with the many other drivers that led to the bubble in home prices, the increased use of securitization may have contributed to home price appreciation by increasing the supply of mortgage credit. The expansion of subprime mortgage credit was closely correlated with an increase in securitization of subprime mortgages, and there is some evidence that the increased supply in subprime mortgage credit was in part responsible for greater home price appreciation.²¹ Further, subprime mortgage products were often structured under the assumption that home prices would continue to rise. Accordingly, increases in home prices may have reinforced expectations for future appreciation, which may have fueled more lending. Increases in loan volume, in turn, may have precipitated further increases in home prices.²²

To the extent that securitization contributed to a bubble in home prices, it also contributed to a larger drop in home prices once the bubble burst. The decline in home values tightened the supply of credit because the value of collateral declined, thus raising the cost of credit for borrowers who use housing as collateral.²³

In addition to residential lending, securitization may have also contributed to the contraction in credit seen in other asset classes, including non-real estate asset classes. As the market became aware of the risks associated with the subprime market, there were doubts about the value of securities backed by subprime mortgages. Research has indicated that many large financial institutions were using subprime asset-backed securities to collateralize short-term borrowings. As the value of the collateral was called into question, it became harder for the banks to maintain access to their short-term liquidity.²⁴ This in turn may have caused the market to doubt the solvency of these institutions, which resulted in a further contraction in liquidity.

unpublished mimeo (2008); V. Skreta, and L. Veldkamp, "Rating Shopping and Asset Complexity: A Theory of Ratings Inflation," *Journal of Monetary Economics*, vol. 56, no.5 (2008).

¹⁹ While there is limited direct evidence on this point in the academic literature, recent work by Ashcraft, Vickery, and Goldsmith (2010) documents evidence that credit rating agencies reduced risk-adjusted subordination levels for non-agency RMBS deals during the recent MBS boom.

²⁰ The Committee on the Global Financial System ("CGFS"), Publication No. 32, "Role of Ratings in Structured Finance: What went wrong and what can be done to address the shortcomings?"

²¹ A. Mian and A. Sufi, "The Consequences of Mortgage Credit Expansion: Evidence from the U.S. Mortgage Default Crisis," *Quarterly Journal of Economics*, vol. 124, no. 4 (2009).

²² R. Shiller, *Irrational Exuberance* (Princeton, NJ: Princeton University Press, 2000).

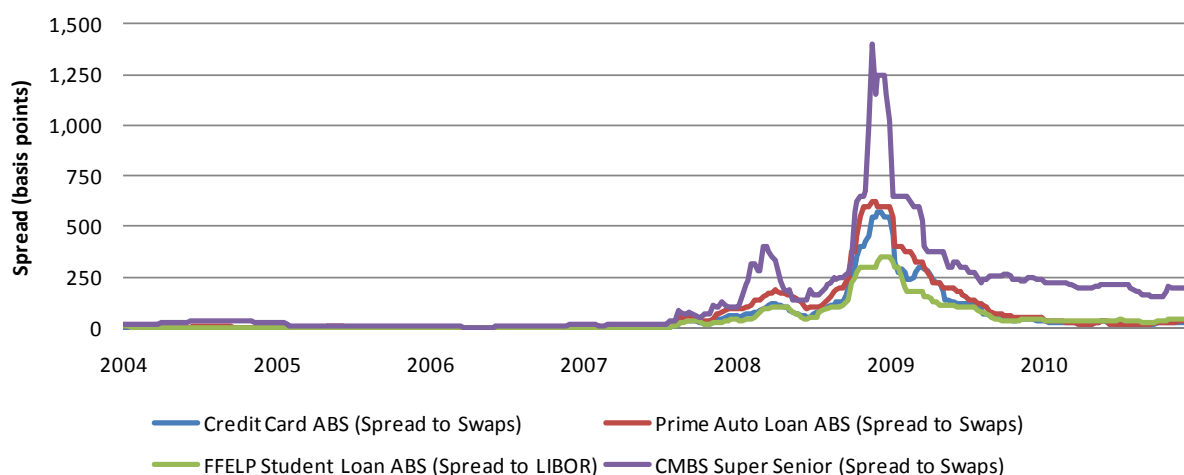
²³ N. Kiyotaki and J. Moore, "Credit Cycles," *Journal of Political Economy*, vol. 105, no. 2 (1997); B. Bernanke and M. Gertler, "Agency Costs, Net Worth, and Business Fluctuations," *American Economic Review*, vol. 79, no. 1 (1989).

²⁴ G. Gorton and A. Metrick, "Securitized Banking and the Run on Repo," working paper (2010).

These disruptions to individual financial institutions had a material impact on financial markets and macroeconomic conditions. Once a financial institution fails, there can be significant spillovers beyond the firm because the failure can spark contagion, in part due to declines in market liquidity.²⁵ For example, some evidence suggests that financial institutions that relied more heavily on short-term funding (such as borrowings collateralized by subprime asset-backed securities) reduced lending to the corporate sector to a greater extent during the crisis.²⁶

During the financial crisis, the prices of asset-backed securities, such as those backed by auto loans, credit cards, student loans, loans to businesses, and loans secured by heavy equipment all fell dramatically and simultaneously.²⁷ For example, credit spreads on credit card, student loan, CMBS, and auto asset-backed securities widened during the financial crisis (*see* Figure 3). Further, the private new origination market slowed significantly or – for certain asset classes – stopped altogether. Credit spreads for some asset classes traded at levels over 300 times higher than their historical average, making new issuance uneconomical and constraining funding for credit in these markets to businesses, consumers and homeowners.

Figure 3: Illustrative ABS and MBS Spreads 2004 – 2010²⁸



Asset-backed securities may have been particularly susceptible to sharp price declines, because the complexity of the securitization structure made these assets difficult for market participants to evaluate quickly. Additionally, perceptions regarding misaligned incentives in the securitization market caused market participants to become increasingly pessimistic about the

²⁵ D. Diamond and R. Rajan, “Liquidity Shortages and Banking Crises,” *Journal of Finance*, vol. 60, no. 2 (2005).

²⁶ V. Ivashina and D. Scharfstein, “Bank Lending During the Financial Crisis of 2008,” *Journal of Financial Economics*, vol. 97, no. 3 (2010).

²⁷ Board of Governors of the Federal Reserve System, *Report to the Congress on Risk Retention* (October 2010).

²⁸ Source: J.P. Morgan Securities LLC.

quality of the underlying collateral. At the outset, market participants did not have clarity about where the risks were greatest and which counterparties were most significantly exposed. The crisis was exacerbated by the fact that many of the investors in these instruments had not anticipated potential losses and had failed to manage their risk exposure appropriately.

The financial crisis was not the first time that markets for securitized products experienced significant disruptions. For example, significant losses in the franchise loan securitization market from 1996 to 1998 and the manufactured housing loan securitization market from 1994 to 1996 demonstrate that complex financial products and unchecked lending practices can lead to unsustainable credit formation.

As the crisis intensified, losses occurred throughout the securitization chain. Where originators held loans that had not yet been securitized and securitizers held loans or securities that had not yet been sold, these entities took losses. However, the primary losses were experienced by investors who held the asset-backed securities. The investor base in such securities was diverse, including pension funds, insurance companies, mutual funds, domestic and foreign banks, and hedge funds.

Taken as a whole, these problems illustrate that markets are unable, in certain circumstances, to align the incentives of parties in the securitization chain adequately. Moreover markets may not fully internalize the risks securitization can pose to financial and economic stability. Such weaknesses demonstrate the need for regulatory reforms.

IV. RISK RETENTION AND THE DODD-FRANK ACT

REGULATORY REFORMS TO SECURITIZATION

To prevent future crises and support greater stability in financial markets, Congress passed comprehensive financial reform legislation in July 2010.

The Dodd-Frank Act provides market participants and regulators with tools to address the underlying problems of securitization witnessed in the recent financial crisis. Many of these reforms rely on investors to enforce market discipline, but also recognize that regulatory oversight is necessary. These reforms include:

- Risk retention requirements;
- Credit rating agency reform and conflicts of interest;
- Improved transparency and issuer due diligence;
- Consumer protection; and
- Improved monitoring of systemic risks throughout the financial system.

For further details, *see* Appendix A.

In addition to the Dodd-Frank Act, there are other reform efforts underway. These reforms include accounting changes under Accounting Standards Codification (“ASC”) Topic 860, *Transfers and Servicing* (commonly called FAS 166) and ASC Topic 810, *Consolidations* (commonly called FAS 167), and modifications to regulatory capital requirements under the Basel Accord. The accounting changes influence whether a securitizer must consolidate a securitization onto its balance sheet, which can affect the decision whether to securitize a pool of loans. The Basel Committee on Banking Supervision (“BCBS”) has put forward a new framework, which seeks to improve the capital and liquidity position of banks. Included in these provisions are a number of measures that seek to ensure that sufficient capital is held against securitization exposures (*see* Appendix B).

The challenges in the asset-backed securitization market are not unique to the United States, and other countries are also implementing regulatory changes to address these challenges. For example, the European Parliament has recently adopted a set of reforms known as Article 122a

of the Capital Requirements Directive.²⁹ These rules require credit risk retention of 5 percent, which is similar to the baseline set forth in Section 941 of the Dodd-Frank Act.

RISK RETENTION AND ITS MACROECONOMIC EFFECTS

Credit risk retention (herein referred to as “risk retention”) refers to the meaningful exposure to the credit risk of a securitization’s underlying assets that cannot be removed, sold, or hedged for a specified period of time. This definition of risk retention does not include representations and warranties (i.e., the risk that the loans were not underwritten pursuant to stated policies and procedures). It also does not include interest rate risk, foreign exchange rate risk, or other types of market and macroeconomic risk that a securitizer might retain.

Risk retention requirements may reduce risks to financial stability arising from incentive and informational asymmetries between the investor and earlier securitization chain participants. They may also improve loan quality because participants might better internalize the costs of poor underwriting, as they must now hold a portion of the underlying risk. By aligning the incentive structure to reflect the incentives of traditional portfolio lending more closely, risk retention may help ensure that securitizers and originators are making prudent loans that are priced appropriately, as securitizers of these assets will want to be compensated for the risks they now must hold.

In principle, traditional bank lending alleviates problems typically associated with asymmetric information, because lenders have the proper incentives to screen and monitor borrowers.³⁰ However, these incentives depend on lenders retaining the risk associated with the loans they make.³¹ By removing the credit risk, securitization may reduce an originator’s incentives to properly underwrite and evaluate borrowers.

Consistent with those arguments, academic literature suggests that securities that have some form of risk retention may provide better incentives than securities without risk retention. A solution to a “lemons” problem is risk-sensitive compensation, often achieved by requiring the originator to have a stake in the outcome. During the run-up to the financial crisis, many investors did not take adequate account of these informational asymmetries, and therefore a “lemons” problem existed. It was only after asset performance began deteriorating that this problem became apparent.

²⁹ Article 122a of the Capital Requirements Directive consists of two directives: (i) Directive 2006/48/EC of the European Parliament and of the Council of 14 June 2006 relating to the taking up and pursuit of the business of credit institutions (recast), known as the Banking Consolidation Directive (“BCD”); and (ii) Directive 2006/49/EC of the European Parliament and of the Council of 14 June 2006 on the capital adequacy of investment firms and credit institutions (recast), known as the Capital Adequacy Directive. Article 122a is part of the BCD.

³⁰ D. Diamond, “Financial Intermediation and Delegated Monitoring,” *Review of Economic Studies*, vol. 51 (1984).

³¹ G. Gorton and G. Pennacchi, “Banks and Loan Sales: Marketing Non-Marketable Assets,” *Journal of Monetary Economics*, vol. 35, no. 3 (1995).

The academic literature on loan syndications has documented that retained share is used to reduce the importance of information asymmetries between lead managers and other syndicate members.³² In particular, it indicates that retained share may have a larger impact on loan price for risky and opaque firms, where these frictions are likely to be important, and the ability to hedge retained share has an adverse impact on the supply of credit to these types of firms.³³ There is evidence that when the originator and the securitizer of Alt-A mortgage-backed securities were affiliated, the resulting securities were less likely to experience losses. This resulted, in part, because the originator was less likely to sell poorly underwritten assets to its own affiliate for securitization.³⁴

To the extent that risk retention helps avoid deterioration in underwriting standards, it may help prevent a recurrence of the sort of credit expansion that led to the home price bubble in the recent financial crisis.

³² A. Sufi, "Information Asymmetry and Financing Arrangements: Evidence from Syndicated Loans," *Journal of Finance*, vol. 62, no. 2 (2007).

³³ In particular, there is evidence that the onset of credit default swap ("CDS") trading, which permits the lead manager to hedge its exposure without knowledge of other members, has had an adverse impact on the supply of credit to opaque and risky corporate borrowers. See A. Ashcraft and J. Santos, "Has the CDS market lowered the cost of corporate debt?" *Journal of Monetary Economics*, no.56, no.4 (2009).

³⁴ C. Demiroglu and C. James, "Works of Friction? Originator-Sponsor Affiliation and Losses on Mortgage-Backed Securities," University of Florida working paper (2009).

V. ESTABLISHING A FRAMEWORK FOR RISK RETENTION

PRINCIPLES

As the Agencies promulgate regulations for risk retention as required by Section 941, they should seek to develop a framework that will balance the benefits of risk retention against its potential costs — incentivizing originators and securitizers to be conscious of the risk in the underlying assets that they are originating or distributing, while not unduly raising the cost of credit. Any framework should serve to mitigate the misalignment of incentives, asymmetric information, and macroeconomic risks associated with securitization, and simultaneously promote a robust securitization market that can continue to provide credit to businesses, consumers and homeowners in the United States. Because such regulations will apply to a variety of assets and securitization structures, there are multiple approaches that the Agencies can consider in executing the statutory requirements. Such a framework should seek to achieve the following:

- ***Align incentives.*** Asset-backed securitization developed because it provides specific risk transfer benefits and lowers the cost of credit, in addition to being a source of term funding. By reducing risk and better aligning incentives, risk retention can improve loan quality and underwriting standards, but preserve the benefits of risk and capital transfer.
- ***Provide greater certainty and confidence among market participants.*** A risk retention framework that provides clear rules can help market participants accurately price risk.
- ***Promote efficiency of capital allocation.*** Risk retention can promote more efficient allocation of capital across the economy because it can help prevent excess credit flows at excessively low interest rates that do not accurately reflect the risks of assets.
- ***Preserve flexibility as markets and circumstances evolve.*** The framework can take into account the changing nature of markets and future innovations.
- ***Allow a broad range of participants to continue to engage in lending activities, while doing so in a safe and sound manner.*** Implementation that takes into account unique aspects of smaller originators and securitizers can preserve a robust and competitive securitization market.

While risk retention offers many potential benefits, it is one of many reforms. It cannot address all problems in the securitization chain, and will work in conjunction with other reforms. Moreover, risk retention may be more suitable in some circumstances than others, depending on the specific nature of the underlying financial assets.

CONSTRUCTING A ROBUST RISK RETENTION FRAMEWORK

There are a number of factors to consider when evaluating how to implement a risk retention framework. The spectrum of options includes the following:

- ***Form of risk retention.*** There are several different forms of risk retention that one could consider in developing a framework. While there are many variations, the general forms include: a vertical slice (a *pro rata* piece of every tranche), a horizontal slice (a first loss interest in the securitization structure), or an equivalent exposure of the securitized pool (retaining a random selection of assets from the pool).
- ***Allocation of risk retention.*** The point along the securitization chain where risk retention is held also affects the outcome of the risk retention requirements. Section 941 places the primary responsibility for retaining risk on the securitizer, but the originator, and in some cases other participants, could be permitted to hold this exposure. Whether the exposure is held or shared among different entities can also drive different incentives.
- ***Amount of risk retention.*** A framework could employ a static amount of risk retention, whereby the amount of exposure does not vary across asset classes, asset quality or economic cycle. Alternatively, the framework could allow for variations. Thus, the amount of risk retention could be a function of time and / or a function of asset characteristics.
- ***Hedging, prevention of arbitrage, and allowance for risk management.*** Specific hedging of the risk retention required by Section 941 is prohibited by the Dodd-Frank Act, and any framework should seek to minimize arbitrage opportunities. However, it is also important for financial institutions to manage their other risks for safety and soundness purposes. Therefore, the framework should seek to prohibit the transfer or hedging of the specific credit risk required to be retained, but allow firms to manage other risks, such as interest rate, foreign exchange, and macroeconomic risks.
- ***Exemptions from risk retention.*** A risk retention framework could include the ability to exempt higher quality assets meeting rigorous underwriting standards. In addition to the required exemptions for the QRM and other asset classes, the framework could exempt securitizers from holding the credit risk of higher quality assets that meet additional product, underwriting, and other standards that tend to decrease credit risk.

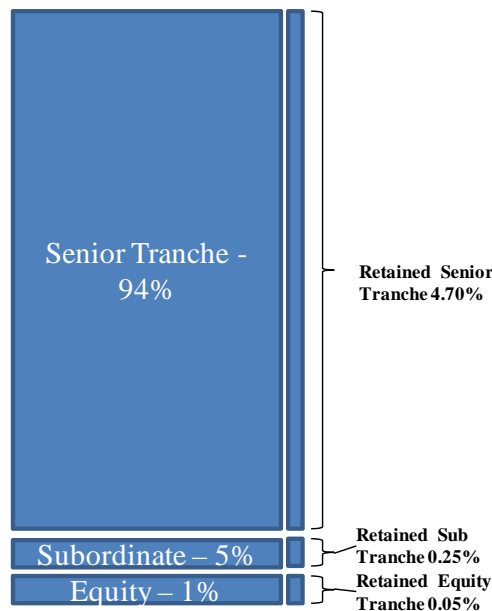
The choices that the Agencies make in establishing and implementing a framework must balance macroeconomic risks with the availability and cost of credit, as discussed later in this study.

FORM

In constructing a framework for risk retention requirements, a securitizer could be required to employ a particular form of risk retention or allowed to choose from a list of permitted choices. The primary choices could include: (i) vertical risk-retention: retention of a *pro rata* economic interest in the credit risk of the securitization; (ii) horizontal risk-retention: retention of a first loss interest in the securitization; and (iii) representative sample: retention of a subset of assets that are selected randomly from the original pool intended to be securitized that has credit risk characteristics similar to those of the securitized assets.

VERTICAL (*PRO RATA*) RISK RETENTION

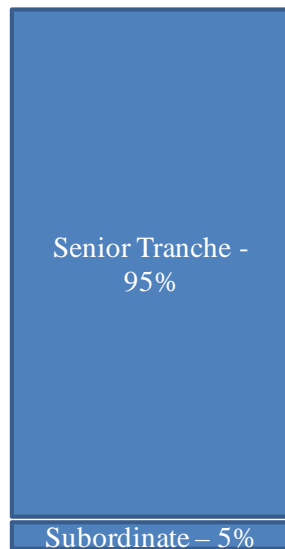
Vertical risk retention requires the retention of a *pro rata* economic interest in the credit risk of the securitization, equivalent to retaining a *pro rata* portion of each tranche. For example, a five percent risk retention for a three-tranche securitization comprised of a 94 percent (or \$94) senior tranche, a 5 percent (or \$5) subordinate tranche and a 1 percent (or \$1) equity tranche would be equal to a total of \$5, comprised of retention of \$4.70 of the senior tranche (5 percent of \$94), \$0.25 of the subordinate tranche (5 percent of \$5), and \$0.05 of the equity tranche (5 percent of \$1). As shown in this example, vertical risk retention allocates the risk of loss through the entire securitization.



HORIZONTAL (FIRST LOSS) RISK RETENTION

Horizontal risk retention involves the retention of the first loss credit risk. This typically involves the allocation of all losses on the securitized assets until the par value of the first

loss position is reduced to zero. Horizontal risk retention is graphically depicted below in simplified form:



In the above example, a securitizer with a 5 percent horizontal risk retention requirement would hold this horizontal piece as a subordinated tranche or tranches. By placing the securitizer in the first loss position, any losses in excess of those projected (and implicitly priced) at origination will first affect the subordinate tranche holder, until the losses exceed the subordination provided by the horizontal risk retention.

EQUIVALENT EXPOSURE

A potential third form of risk retention involves the securitizer retaining on its balance sheet a representative sample of all the assets that are transferred to the issuing entity. To do so, the securitizer would need to select a random sample of assets that comprises a percentage of the unpaid principal balance of entire pool from the pre-defined pool of assets designated for potential securitization.

To ensure that the loans retained have a similar credit risk to those securitized, a number of protections would likely have to be put in place.

ALLOCATION

The point in the securitization chain where risk retention is held can affect incentive alignment differently. In traditional lending, the originator of credit typically holds a loan on its balance sheet, thereby retaining all, or a significant share, of the risks associated with the loan. The risk retention requirements discussed above could be imposed on various

participants in the securitization chain to adjust incentives.³⁵ Understanding the role and incentives of each major participant in the securitization chain can drive different choices in implementation of risk retention.

SECURITIZER

Section 941 defines a securitizer as “(A) an issuer of an asset-backed security; or (B) a person who organizes and initiates an asset-backed securities transaction by selling or transferring assets, either directly or indirectly, including through an affiliate, to the issuer.” The securitizer oversees the creation and sale of the securities backed by loans purchased from originators. This process has several components, which may sometimes be divided among separate firms, although this study generally treats them as if carried out by a single entity.

The securitizer performs the legal and economic functions required for a securitization, including reviewing loan documents and origination standards, handling any required registration of offer and the sale of asset-backed securities with the SEC if a public offering is initiated. The securitizer or underwriter engages one or more credit rating agencies to analyze the transaction and assign ratings to securities that reflect the securities’ likelihood of default and expected loss given default. Finally, the securitizer hires an investment bank as an underwriter to market the securities. For many ABS transactions, the underwriter and the securitizer are affiliated entities.

Because the securitizer is a primary decision point for assets being securitized, application of risk retention requirements to the securitizer can be an effective way of creating an incentive for the monitoring of the credit quality of the assets it securitizes (regardless of the identity of the originator).

ORIGINATOR

Section 941 defines an originator as a person who “(A) through the extension of credit or otherwise, creates a financial asset that collateralizes an asset-backed security; and (B) sells that asset directly or indirectly to a securitizer.” An originator makes the initial decision about whether, and on what terms, to extend credit to a business, consumer or homeowner and often provides initial short-term funding. Originators include banks, thrifts, subsidiaries of bank or thrift holding companies, independent finance companies, and finance companies affiliated with vehicle, equipment, or other types of manufactures.

³⁵ Further, Section 941 requires that the rules shall provide for “the allocation of risk retention obligations between a securitizer and an originator in the case of a securitizer that purchases assets from an originator, as the Federal banking agencies and the Commission jointly determine appropriate.” 15 U.S.C. § 78o-11(c)(1)(G)(iv). In doing so, the percentage of risk retention required to be held by the securitizer must be reduced by the percentage retained by the originator. 15 U.S.C. § 78o-11(d)(1).

The originator may securitize the loans directly or sell them to an aggregator that may buy loans from many different originators. Aggregators are intermediaries between originators and securitizers, and loans may pass through several such parties' hands before being securitized.

Ultimately, having an originator retain an economic interest in the securitization can improve its incentives to originate high quality assets. To the extent the originator has ongoing responsibilities, risk retention can better align incentives with the investor.

THIRD-PARTIES

CMBS TRANSACTIONS

Section 941 prescribes that for securities backed by commercial mortgages, the Agencies may adopt rules regarding the “retention of the first-loss position by a third-party purchaser that specifically negotiates for the purchase of such first loss position, holds adequate financial resources to back losses, provides due diligence on all individual assets in the pool before the issuance of the asset-backed securities, and meets the same standards for risk retention as the Federal banking agencies and the Commission require of the securitizer.”

Section 941 thus explicitly contemplates that the Agencies could determine that a first-loss exposure by a third-party purchaser, under certain conditions, could satisfy the risk retention requirements. In CMBS, the most junior tranche (commonly referred to as the “B piece”) is usually purchased by a commercial real estate specialist that focuses on understanding and managing the credit risk associated with this junior tranche. In many cases, these buyers are the “special servicers,” or servicers tasked to manage loans that become troubled during the life of the transaction. These parties usually conduct due diligence on individual loans and / or properties while the securitization is being assembled, and may have more information than other investors about the quality of the underlying pool of assets.

THIRD-PARTY CREDIT GUARANTORS

A risk retention framework could consider allowing a third party guarantor to satisfy risk retention requirements by taking part or all of the credit risk. The residential mortgage securitization market evolved to allow a number of third parties to provide external credit support, either to the underlying loans or the securities. Of particular note are Fannie Mae, Freddie Mac, the Federal Housing Administration (and other

government agencies), private mortgage insurance (“PMI”) providers, and bond insurers.

AMOUNT

There are several choices in how to structure the amount of risk that should be retained for a particular securitization. This amount could be applied uniformly across all securitizations and across time. Alternatively, the amount could vary based on the quality and characteristics of the particular assets securitized and on the economic environment that exists at the time of securitization. Section 941 provides the Agencies with exemptive authority to make adjustments as they deem appropriate within guidelines provided by the statute.

There may be benefits in adjusting the amount of risk retention for different quality assets, as adjustments can more appropriately align risk retention with expected loss. For example, a 5 percent risk retention requirement may not be necessary for high quality assets. In other cases, 5 percent may not be sufficient to incent better underwriting standards for pools with higher expected loss. Some have suggested adjusting risk retention based on various metrics that reflect the expected performance of the underlying assets. Risk retention might also be adjusted over time in conjunction with economic cycles, a possibility that is addressed in more detail in Section VI.

On the other hand, a standardized rule applied uniformly may allow for greater transparency, measurability, and certainty of implementation. However, some metrics that adjust to reflect expected performance may not apply appropriately to all asset classes, and may be difficult to measure with confidence *ex ante*.

Therefore, when designing a risk retention framework, the benefits of better incenting actions by uniquely tailoring the amount of risk retention to the characteristics of an asset pool should be carefully balanced with the increased complexity and potential for regulators to set levels effectively.

HEDGING, PREVENTION OF ARBITRAGE, AND RISK MANAGEMENT

To improve effectiveness, risk retention should result in meaningful and continued exposure to the credit risk of the securitization. Therefore, without proper restrictions, the use of hedging and other arbitrage practices could ultimately undermine the goals of the Dodd-Frank Act risk retention requirements. On the other hand, the financial system benefits by allowing financial institutions to maintain robust risk management practices. Almost all financial institutions employ a risk department that oversees other risk taking parts of the firm to minimize the probability that external shocks and internal risk positions would cause

large losses due to unexpected market changes. Some of these institutions are also overseen by prudential regulators, who also have an interest in ensuring that financial institutions maintain safe and sound risk management practices.

Therefore, balancing the prohibition of hedging with the goal of allowing firms to manage their overall risk exposure will be important in aligning incentives and maintaining a safe and sound financial system. A risk retention framework, which itself is meant to reduce risks to financial stability, should not unduly prevent other types of risk mitigation.

EXEMPTIONS THROUGH UNDERWRITING STANDARDS

While risk retention is the focus of Section 941, it also requires, for certain asset classes, partial or total exemptions of asset-backed securities where the underlying loans meet strong underwriting policies and standards. In this regard, exemptions could take into account a borrower's history of debt repayment, the borrower's current and anticipated capacity to make debt payments, and the quality and value of the collateral securing repayment. Such exemptions, in combination with risk retention requirements, may further incent strong underwriting practices.

The Qualified Residential Mortgage ("QRM") as defined in Section 941 provides an exemption for residential mortgage loans that have underwriting and product features that historical loan performance data indicate result in a low risk of default.³⁶ Section 941 also requires that the standards for a QRM be no broader than the standards established for "Qualified Mortgages" as defined under Section 129C of the Truth in Lending Act.³⁷ Agencies are also required under Section 941 to prescribe underwriting standards for three non-residential asset classes: auto loans, commercial loans, and commercial mortgages. For loans originated under these standards, risk retention must be less than 5 percent. Implementation of exemptions based on underwriting standards could include:

- ***Explicit quantitative standards whereby clearly defined standards are set.*** Under such a framework specific, standards and values could be established in which no loan could exceed in order to qualify under the exemption. For example, regulators could set a specific total debt-to-income ratio or loan-to-value ratio without exceptions.
- ***An automated underwriting model that allows for compensating factors.*** Under such a framework, a borrower's credit history could be offset with an increased down payment and lower loan-to-value ratio. Therefore, an automated underwriting model would not set

³⁶ 15 U.S.C. § 78o-11(e)(4).

³⁷ 15 U.S.C. § 78o-11(e)(4)(c).

a numerical value for any standard, but instead could provide a range of values with corresponding formulas that allow for different combinations of standards.

Both approaches have benefits and drawbacks. The first framework allows for simplicity, but may result in certain loans of creditworthy borrowers otherwise failing to qualify for an exemption. However, those borrowers may be able to obtain loans subject to the risk retention framework. The second framework, while potentially better able to account for creditworthiness due to offsetting factors, is much more complex and would place a material burden on regulators to create a full set of standards across many asset classes appropriately.

VI. ADJUSTING RISK RETENTION REQUIREMENTS

CALIBRATING RISK RETENTION REQUIREMENTS

Implementing risk retention requirements in the securitization process could potentially mitigate some of the destabilizing effects that securitization has on the credit cycle and, more generally, macroeconomic conditions.

To the extent risk retention can help avoid deterioration in underwriting standards, it may safeguard against a recurrence of the excessive expansion of credit that led to the home price bubble in the recent crisis. In addition to improving the incentive structure in securitization, risk retention could diminish the amount of credit available by tying up cash that would otherwise be used to make additional loans – an effect that could further mitigate some of the pro-cyclicality in credit supply that has been attributed to securitization.

There is limited literature on the macroeconomic effects of risk retention to date, but available academic literature suggests that securitizations that have some form of risk retention may perform better, because risk retention helps to align incentives between originators and investors.³⁸ The relative performance of various types of asset-backed securities during the financial crisis also provides some evidence of the effectiveness of risk retention requirements in this regard.

Risk retention requirements may help mitigate pro-cyclicality in credit formation and real estate values, contributing to the stability of the financial system, the real estate sector, and the economy. Setting the risk retention requirements at a level that maximizes these benefits while minimizing costs is important. Risk retention requirements that are too weak can impose substantial costs, as can requirements that are too stringent. An excessive requirement could unduly limit credit availability and economic output to the point that these costs could outweigh the benefits of improved stability. A weak requirement, however, could reduce long-run growth by increasing risks to financial stability.

An increase in credit costs could constrain credit supply, but this may not be, in and of itself, a negative consequence of risk retention. Interest rates on securitized mortgages in the period leading up to the crisis did not reflect the real risks of unsustainable lending to private parties, the financial system, and the economy. Low private costs for credit were not sustainable because they did not internalize all of the social costs of credit expansion to the entire system. To the extent that risk retention helps the market determine prices that reflect true private and public

³⁸ See D. Diamond, "Financial Intermediation and Delegated Monitoring," *Review of Economic Studies*, vol. 51 (1984). In particular, retaining the risk associated with the loans that banks make provides such incentives. By spreading or removing the risk, securitization may reduce the bank's incentives to screen borrowers. See G. Gorton and G. Pennacchi, "Banks and Loan Sales: Marketing Non-Marketable Assets," *Journal of Monetary Economics*, vol. 35, no. 3 (1995).

costs of securitization, an increase in credit costs to sustainable levels would contribute to growth by promoting more efficient resource allocation.

CONSIDERATIONS REGARDING STATIC AND PROACTIVE ADJUSTMENT OF RISK RETENTION

Section 946 requires consideration of whether risk retention requirements and mortgage origination requirements should be static or dynamic. In practice, a static framework would only be adjusted infrequently in response to structural changes in credit markets. In contrast, a dynamic framework would be adjusted more frequently in a counter-cyclical manner. Each approach has costs and benefits that should be considered.

Static regulations have the benefit of being transparent and providing certainty to market participants, but may not be responsive to changing market conditions. This may allow market participants to make longer-term plans for savings and investment. The existing literature notes that fixed rules may provide for greater predictability.³⁹ Static regulations are less complex for regulators. On the other hand, if regulators set risk retention requirements at an inappropriate level, or design them in an inappropriate manner, the costs in terms of lost long-term output could outweigh the benefits of the regulations. Additionally, fixed rules may not allow for judgment to be applied as economic conditions change.⁴⁰ If regulators are not responsive to innovation and changes in financial conditions, the regulations could become less applicable and the benefits of risk retention may decline.

By contrast, dynamic regulation could either be automatic, utilizing pre-determined formulas, or set by regulators on a discretionary basis. Some academic literature suggests that changing conditions should be monitored by regulators over time, implying that there may be benefits to changing regulation to address emerging risks to the system.⁴¹ In the case of automatic regulation, the required amount of risk retention could be tied to the business cycle or financial market indicators in a formulaic manner. Regulations could be written to contain a counter-cyclical formula linking risk retention or underwriting standards to, for example, home prices. In this example, required risk retention could increase automatically as the economy grows and home prices rise, in order to constrain unsustainable increases in credit supply that could potentially fuel emerging bubbles. Alternatively, as the economy slows and home prices fall, the level of retention could fall automatically to encourage credit flows and to avoid recessions.

³⁹ See Bank of England, “The Role of Macroprudential Policy: A Discussion Paper,” (November 2009). M. Dewatripont and J. Tirole, *The Prudential Regulation of Banks* (Cambridge, MA: MIT Press, 1994).

⁴⁰ See Bank of England, “The Role of Macroprudential Policy: A Discussion Paper,” (November 2009).

⁴¹ See T. Adrian and H. Shin, “The Shadow Banking System: Implications for Financial Regulation,” Banque de France, Financial Stability Review, No. 13 (September 2009).

Such dynamic regulation could address potential cyclicalities in credit formation. However, determining the precise formula by which retention would be tied to the business cycle could pose significant challenges to policymakers, as the understanding of formulaic linkages between risk retention, credit supply and macroeconomic conditions may not be sufficiently robust to do so at high levels of confidence. Additionally, such relationships may change over time, potentially reducing the benefits of dynamic regulation conducted using pre-determined quantitative inputs, absent ongoing regulatory intervention.

Another type of dynamic regulation would allow regulators to adjust the regulations on a more discretionary basis. This would allow regulators to change underwriting standards or risk retention requirements in response to economic and financial developments, including financial innovation. However, requiring regulators to make changes to regulations in response to the business cycle may pose challenges, both in theory and practice, as it requires regulators to make determinations regarding the impact such changes may have on the business cycle, and to make such changes quickly. Additionally, the existing literature also notes that allowance for regulatory discretion can lead to a bias towards forbearance.⁴² Some suggest that regulatory independence may be an important factor in ensuring that unpopular rules can be implemented when necessary.⁴³

Accordingly, the Agencies should act prudently in setting out the rules associated with risk retention requirements and associated exemptions. Following the implementation of the risk retention rules, regulators should take into account the changing nature of markets and future innovations and whether such rules should be adjusted accordingly.

⁴² See Bank of England, “The Role of Macroprudential Policy: A Discussion Paper,” (November 2009). M. Dewatripont and J. Tirole, *The Prudential Regulation of Banks* (Cambridge, MA: MIT Press, 1994).

⁴³ See M. Brunnermeier, A. Crocket, C. Goodhart, A. Persaud, and H. Shin, “The Fundamental Principles of Financial Regulation,” Geneva Report on the World Economy 11 (June 2009).

VII. CONCLUSION

Securitization is an important source of credit formation for the economy, allowing market participants to draw efficiently upon a wide variety of sources of capital and investment, both to lower costs and diversify risk. As discussed above, some of the benefits of securitization include reducing the cost of credit for borrowers and improving mechanisms for financial institutions to manage interest rate risk. However, absent safeguards, there are inherent risks in the securitization process that can detract from these benefits. These risks have historically included misaligned incentives among participants in the securitization process, a lack of disclosure and transparency, and investor overreliance on CRAs. The Dodd-Frank Act mandates many reforms to address these issues, including risk retention requirements.

Risk retention serves as an important tool that, if properly structured, has the potential to address misaligned incentives and the deterioration in underwriting standards — two critical problems that had a significant impact on businesses, consumers, and homeowners in the United States. It is important to note that while risk retention can help mitigate some of these inherent risks, it does not solve all of the problems in the securitization process and may not be appropriate in all cases. Therefore, risk retention must be considered in conjunction with other reforms in the Dodd-Frank Act as well as other reforms occurring both domestically and internationally.

The academic literature indicates that there may be a connection between asset-backed securitization and an exacerbation of pro-cyclical lending. Misaligned incentives and a deterioration in underwriting standards may have implications on the broader economy if they lead to excess lending in periods of growth and a greater contraction of credit during periods of stress. Some academic literature suggests that securitization may have contributed to an expansion of credit in the run-up to the financial crisis, which in turn facilitated increases in housing prices and worsened the ensuing contraction in credit when the housing bubble burst.

Based on the available literature, there is evidence that risk retention could minimize the pro-cyclical macroeconomic effects of securitization by aligning incentives and improving underwriting standards. On the other hand, if risk retention requirements are too stringent, they could constrain lending, and consequently, the formation of credit.

Accordingly, it is important to design a risk retention framework that maximizes the benefits of asset-backed securitization as a source of credit formation and minimizes the inherent risks of an originate-to-distribute model. Such a framework should allow for efficient allocation of capital, where market participants accurately price credit risk. As observed in the most recent crisis, market participants did not always internalize the true cost of the credit extended. To the extent that risk retention and other reforms can help address efficient capital allocation, they can serve to facilitate stable economic growth.

APPENDIX

APPENDIX A: OTHER RELEVANT SECTIONS OF THE DODD-FRANK ACT

RATING AGENCIES - TITLE IX, SUBTITLE C

Subtitle C of the Dodd-Frank Act must be properly regulated and have a strong set of incentives to accurately rate securities in order to perform their role and provide meaningful and reliable ratings. The Dodd-Frank Act contains a number of provisions that are intended to improve the quality and transparency of credit ratings, address conflicts of interest, reduce reliance on credit ratings, and require additional studies on future changes to the structure of credit rating agencies.

Specifically, Subtitle C removes statutory references to credit ratings from certain statutes and requires each Federal agency to review its regulations for references to credit ratings and replace these references with a standard of creditworthiness. The SEC must also conduct a study on (i) the independence of credit rating agencies and how this independence affects the ratings they issue; (ii) the feasibility and desirability of standardizing credit rating terminology; and (iii) the feasibility of establishing a public or private utility or self regulatory agency for assigning credit rating agencies to issuers to determine the ratings of structured finance products. The Comptroller General (“GAO”) must conduct a study on alternative means for compensating credit rating agencies in order to create incentives for more accurate credit ratings. The GAO must also conduct a study on the feasibility and merits of creating an independent professional organization that would establish independent standards for governing the rating analyst profession.

DISCLOSURE - TITLE IX, SUBTITLE D, SECTION 942 AND 945

Section 942 and 945 addresses disclosure and information transparency. Section 942 mandates that the SEC adopt regulations requiring issuers of an ABS to disclose information regarding assets backing each tranche or class of the security and to set standards for the format of the data provided. Section 945 mandates that the SEC issue rules that the registration statement filed by issuers of ABS includes a review by the issuer of the assets underlying the ABS and disclose the nature of the review.

REPRESENTATIONS AND WARRANTIES - TITLE IX, SUBTITLE D, SECTION 943

Section 943 mandates that the SEC prescribe regulations regarding disclosure of representations and warranties in the ABS market, whereby each rating agency must include in their report a description of the representations, warranties, and enforcement mechanisms available to investors and state how these differ from similarly issued securities. The SEC must also require securitizers to disclose fulfilled and unfulfilled repurchase requests across all trusts aggregated by the securitizers.

UNDERWRITING PROCESS AND CONSUMER PROTECTION – TITLE XIV, SECTION 1412

Section 1412 requires the Federal Reserve Board (and the Consumer Finance Protection Bureau once transferred) in consultation with the Department of Housing and Urban Development, Department of Veterans Affairs, Department of Agriculture, and Rural Housing Service, defines standards for a Qualified Mortgage (QM), which reflects a borrower's ability to repay, ensuring that responsible and affordable mortgage credit remains available to homeowners. While the section lists criteria, it leaves ultimate discretion to the rule writer. Suggested criteria include: restrictions on payment structures where the principle balance increases over time, fully amortizing fixed rate loans, taking into account fees, taxes, and assessments, placing limits on fees, and qualification for adjustable rate mortgages based on the maximum rate a borrower might pay during the first five years, among others.

APPENDIX B: OTHER RELEVANT REGULATORY INITIATIVES

BASEL ACCORD REFORMS

Following the financial crisis, on December 16, 2010 the BCBS announced stricter capital regulatory requirements for banks, which are commonly known as Basel III. Previously, in July 2009 the BCBS strengthened supervisory standards and increased regulatory capital requirements for complex securitizations. The BCBS adopted several revisions to the regulatory framework known as Basel II to address some of the main issues that arose during the crisis. Basel III is intended to improve the banking sector's ability to absorb shocks arising from financial and economic stress. Basel III must be individually adopted by the regulators of each participating nation and is to be phased in beginning January 1, 2013. These standards include requirements for banks to have: (i) heightened risk weight for some lower-rated and unrated securitization exposures; (ii) more conservative collateral haircuts for securitization collateral with respect to

counterparty exposure; and (iii) additional specific risk haircuts for securitization exposures when calculating the capital requirement related to market risk.

STATEMENTS OF FINANCIAL ACCOUNTING STANDARDS NOS. 166 AND 167⁴⁴

In June 2009, the Financial Accounting Standards Board (“FASB”) issued Financial Accounting Statements 166 and 167, which change the way entities account for securitizations and special-purpose entities to better align financial accounting disclosure practices with the actual risks of asset-backed securitization. These statements were effective for companies’ first fiscal year that began after November 15, 2009 and January 1, 2010 for companies reporting on a calendar year basis. The statements require banks to consolidate on their balance sheets certain securitized assets as well as other financial assets that were previously disclosed as off-balance sheet assets if certain standards of control are met.⁴⁵ While these consolidation standards primarily respond to the risks associated with off-balance sheet securitization and the need for better disclosure, they also have implications for earnings and regulatory capital of on-balance sheet securitized assets. In some cases, the cost of reserving capital against the consolidated securitization assets may reduce the attractiveness of using securitization structures and incentivize investors to use other means to fund loan origination.

While it is unclear what impact that mandatory risk retention will have on consolidation analysis, it is clear that accounting treatment for securitization structures will differ based on characteristics of that structure and the distribution of economic interest among investors and entities affiliated with the transaction.⁴⁶ While risk retention’s potential impact on the accounting treatment of securitization may vary, the requirements associated with consolidation have material consequences on earnings and capital allocation for affected entities.

INTERNATIONAL COMPARISONS - ARTICLE 122A

Article 122a is an amendment to the European Capital Requirements Directive that was adopted by the European Parliament in May 2009. The amendment, among other things, introduces a new originator retention requirement and significantly strengthens investor due diligence obligations, with capital sanctions in the event of non-compliance. In

⁴⁴ See Accounting Standards Codification (ASC) Topic 860, *Transfers and Servicing* (commonly called FAS 166) and ASC Topic 810, *Consolidations* (commonly called FAS 167).

⁴⁵ See Board of Governors of the Federal Reserve System, *Report to the Congress on Risk Retention* (October 2010) for a fulsome analysis of the consolidation of off-balance sheet assets.

⁴⁶ See the Board of Governors of the Federal Reserve System, *Report to the Congress on Risk Retention* (October 2010) discusses trends that currently exist for accounting for the securitization of different asset types.

December 2010, the Committee of European Bank Supervisors (CEBS) issued final guidelines with respect to the application of Article 122a.

Article 122a's provisions will apply to new securitizations issued after December 31, 2010 and after December 31, 2014 for existing securitizations where underlying exposures are subject to addition or substitution after that date (i.e., master trusts and some CDO structures). Article 122a applies to any EU credit institution that invests in or holds securitization positions in either its banking book or trading book. Additionally, for an issuer to sell tranches of structured finance securities to European credit institutions, it will be necessary for non-European institutions to comply with Article 122a. For example, if an EU or US auto ABS issuer wants to sell auto loan ABS tranches to a European credit institution, it will need to comply with the EU retention requirements and also provide sufficient information for EU investor due diligence.

Article 122a provides a range of options to the market with regards to the form of risk retention, including: (i) vertical retention of risk not less than 5 percent of the nominal value of each of the tranches sold or transferred to the investors; (ii) retention of risk not less than 5 percent of the nominal value of the securitized exposure in case of revolving securitizations; (iii) equivalent exposure though retention of risk of randomly selected exposures equal to not less than 5 percent of the nominal amount of the securitized exposures, where there would otherwise have been securitized in the securitization provided that the number of potentially securitized exposures is not less than 100 at origination; and (iv) horizontal retention of risk of the first loss tranche and if necessary other tranches having the same or more severe risk profile and not maturing any earlier than those transferred or sold to investors, so that the retention equals no less than 5 percent of the nominal value of the securitized exposures.

Article 122a provides an important example of risk retention strategies currently being pursued by regulatory bodies outside of the United States.