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Secured Transactions and Financial Stability: Regulatory Challenges¹

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INTRODUCTION

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Traditionally, secured transactions—by which I mean both traditional transactions directly secured by collateral, such as secured loans, and non-traditional transactions indirectly secured by collateral, such as securitizations³—are regulated to protect parties to the transactions and to make the transactions themselves more efficient.⁴ The global financial crisis of 2008-09 (the “financial crisis”) has starkly revealed the broader need for “macroprudential” regulation to protect the stability of the financial system.⁵ Although that broader need is usually associated with financial institutions, this essay analyzes why, and how, secured transactions should also be regulated to protect financial stability. The analysis raises many issues of first impression, discussed below as future regulatory challenges.

ANALYSIS

A. Regulating Moral Hazard in Secured Loan Origination

The first challenge concerns regulating moral hazard in secured loan origination. Moral hazard is the tendency of persons who are protected from the negative consequences of their risky actions to take more risks.⁶ The origination and subsequent selling of secured loans (often referred to as the originate-to-distribute, or OTD, model of loan origination) has been alleged to be a major source of moral hazard that can jeopardize financial stability.

³ Such non-traditional transactions are discussed *infra* notes 88-103 and accompanying text. They include not only the common securitizations indirectly secured by collateral, such as mortgage-backed securities, but also asset-backed securitizations that do not technically involve collateral, such as trade-receivable securitizations.

⁴ Cf. JAMES A. ROSENTHAL & JUAN M. OCAMPO, *SECURITIZATION OF CREDIT* 12 (1988) (observing that “securitization can lead to a more efficient financial services industry and one that can better [protect consumers] by satisfy[ing] the regulatory objectives of safety and soundness”).

⁵ See, e.g., Luis E. Jácome & Erlend W. Nier, *Macroprudential Policy: Protecting the Whole*, INTERNATIONAL MONETARY FUND, <http://www.imf.org/external/pubs/ft/fandd/basics/macropriu.htm>; Speech of Governor Daniel K. Tarullo, *Macroprudential Regulation*, BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM (Sep. 20, 2013), <https://www.federalreserve.gov/newsevents/speech/tarullo20130920a.htm>; Behzad Gohari & Karen E. Woody, *The New Global Financial Regulatory Order: Can Macroprudential Regulation Prevent Another Global Financial Disaster?*, 40 J. CORP. L. 403, 403–06 (2015).

⁶ BOUVIER LAW DICTIONARY 710 (2011 Compact Edition, Stephen Michael Sheppard, ed.).

According to this allegation, the OTD model enables loan originators to make risky loans with impunity. The loans are packaged into investment securities and sold to institutional investors, which thereby assume the risks. That assumption of risk can cause investor failure, which in turn can cause a financial collapse if systemically important investors fail. It is widely believed, for example, that moral hazard resulting from the OTD model caused lax mortgage-loan “underwriting”⁷ standards, which contributed in this way to the financial crisis when risky mortgage loans were packaged into mortgage-backed securities and sold to institutional investors.⁸ Some argue that the OTD model of auto-loan origination is currently causing lax underwriting standards for those loans too.⁹

To what extent—and to that extent, how—should macroprudential regulation address the OTD model of secured loan origination, in order to reduce this moral hazard? The answer requires a balancing of that model’s costs and benefits. The alleged moral hazard costs, described above, must be weighed against the model’s benefits, which include the ability to multiply loan funding and thus to increase consumer and other credit availability.¹⁰ Increased mortgage-loan funding, for example, makes housing more widely available. Regulation should not therefore ban the OTD model; rather, it should temper its excesses.

⁷ “Underwriting” means, in this context, the standards under which mortgage loans are made or originated. In the context of issuing securities to investors, the term has a different meaning—the process by which securities firms sell those securities to the investors.

⁸ See, e.g., Jeff Holt, *A Summary of the Primary Causes of the Housing Bubble and the Resulting Credit Crisis: A Non-Technical Paper*, 8 J. BUS. INQUIRY 120, 120-129 (2009) (finding that loose lending standards were a primary cause of the housing bubble); Martin Feldstein, *How to Stop the Mortgage Crisis*, WALL ST. J., Mar. 7 2008, at A15 (stating that “[i]rresponsible lending created new mortgages with [loan-to-value] ratios of nearly 100%”).

⁹ Cf. Matt Scully, ‘Deep Subprime’ Auto Loans are Surging, BLOOMBERG NEWS (Mar. 28, 2017) (suggesting that the securitization of auto loans is motivating the making of riskier auto loans), available at <https://www.bloomberg.com/news/articles/2017-03-28/-deep-subprime-becomes-norm-in-car-loan-market-analysts-say>.

¹⁰ To understand how the OTD model works to multiply loan funding, consider a simplified example in which ABC mortgage-loan originator has \$500,000 to lend. If it makes five loans of \$100,000 each, it will be out of funds to make new loans. But if it can sell those five loans, it can then use the sale proceeds to make new mortgage loans. And those new mortgage loans, in turn, can be sold, generating additional funding, and so forth.

The Dodd-Frank Act implicitly attempts to do that. Rather than prohibiting lenders from selling off the loans they originate, the Act tries to control moral hazard by requiring lenders to retain an unhedged portion—ordinarily at least 5%—of the credit risk on the loans they sell.¹¹ By compelling them to continue to have “skin in the game,” Congress believed that lenders would act more prudently when originating loans.

I question, however, whether that regulatory approach is sufficient or even necessary. Moral hazard has the potential to occur when parties exposed to a loss cannot monitor (and thereby control) the conduct of a party taking risks that can cause that loss.¹² As a result, the risk-taking party can externalize (thereby becoming protected against) that loss.¹³ Remedies thus require reducing asymmetries of information or at least ensuring that risk-taking parties share enough of the losses resulting from their actions to incentivize them to behave more responsibly vis-a-vis third parties.

In the context of the OTD model, markets themselves have addressed these issues. In my experience—which is confirmed by market information¹⁴—sophisticated purchasers have generally, even before the financial crisis, required sellers of loans to retain skin in the game, or

¹¹ Dodd-Frank Act § 941 requires that for all but the highest quality loans that originators sell. Originators and other sellers of Qualified Residential Mortgage (QRM) loans—a designation based on a borrower’s ability to repay the mortgage loan at origination, a verification of the borrower’s income, and certain other relevant considerations—are not subject to risk-retention requirement. 2 CFR § 1026 (2015).

¹² In the economic literature, moral hazard is defined as a problem of “hidden actions”; see Bengt Hölmstrom, *Moral Hazard and Observability*, BELL J. ECON. 74, 74 (1979) (noting that moral hazard is “an asymmetry of information among individuals that results because individual actions cannot be observed and hence contracted upon”).

¹³ Cf. *supra* note 6 and accompanying text (describing moral hazard as the tendency of persons who are protected from the negative consequences of their risky actions to take more risks).

¹⁴ See, e.g., BD. OF GOVERNORS OF THE FED. RESERVE SYS., REPORT TO THE CONGRESS ON RISK RETENTION 41 (Oct. 2010) (finding that “Over time, a series of mechanisms has developed to mitigate these incentive and information problems. All mechanisms share to a certain extent two features: They increase overall the odds that an investor is repaid, and they put at least one member of the securitization chain at risk of loss should the assets perform worse than expected. This latter feature is often referred to as ‘skin in the game.’”), available at <https://www.federalreserve.gov/boarddocs/rptcongress/securitization/riskretention.pdf> (examining information on various risk-retention and incentive-alignment practices for asset-backed securities both before and after the financial crisis).

the equivalent. This not only helps to realign incentives between the parties but also provides the fundamental solution to the “lemons” problem of asymmetric information: Why would a party consider purchasing a used car, given that the seller may well know of problems of which the buyer will be unaware?¹⁵ In accord with this solution, investors in third-party originated loans either satisfy themselves that the loans are of acceptable quality or demand guarantees, which can include requiring the seller to retain skin in the game in a market-negotiated amount and manner.¹⁶

These observations cast doubt on the need for regulatory intervention to attempt to correct a market failure that the market has already addressed. Loan originators would be motivated to lower their lending standards only if they could sell the loans to third parties, but sophisticated investors will simply not buy poorly originated loans at face value.¹⁷ In theory, the separation of loan origination and ownership that is inherent in the OTD model should not matter.¹⁸

For these reasons, regulation that merely repeats the market demand that sellers retain skin in the game (or its equivalent) is unnecessary, adding little to reduce moral hazard in secured loan origination or to mitigate problems arising from the OTD model but potentially

¹⁵ Cf. George A. Akerlof, *The Market for “Lemons”: Quality Uncertainty and the Market Mechanism*, 84 Q. J. ECON. 488, 488 (1970) (discussing how parties reduce information asymmetry).

¹⁶ Cf. Ryan Bubb & Prasad Krishnamurthy, *Regulating Against Bubbles: How Mortgage Regulation Can Keep Main Street and Wall Street Safe—From Themselves*, 163 U. PA. L. REV. 1539, 1546 (2015) (observing that if some form of risk retention by a seller is optimal to align incentives, then market participants will contract for it).

¹⁷ Cf. Kathleen C. Engel & Patricia A. McCoy, *Turning a Blind Eye: Wall Street Finance of Predatory Lending*, 75 FORDHAM L. REV. 2039, 2057-62 (2007) (discussing how originators try to solve the lemons problem of persuading securitization sponsors to purchase risky loans). Securities disclosure also requires the investors to be informed of the risks.

¹⁸ Compare Steven L. Schwarcz, *Regulating Complexity in Financial Markets*, 87 WASH. U. L. REV. 211, 257 (2009) (arguing that, in theory, separation of origination and ownership should not matter because ultimate owners should assess and value risk before buying their ownership positions) with *The President’s Working Group on Financial Markets Policy Statement on Financial Market Developments*, 14 LAW & BUS. REV. AM. 447, 451-52 (2008) (indicating that in the financial crisis investors did not make their own informed credit analysis but, instead, overrelied on credit ratings because the securities were so complex).

increasing costs.¹⁹ Designing appropriate regulation requires a deeper understanding of the market failure underlying secured loan origination and the OTD model. I believe that failure is not asymmetric information but mutual misinformation—that neither the originator (i.e., seller) of the loan nor the buyer fully understands the risks associated with the loan.

Prior to the financial crisis, for example, both mortgage-loan originators and investors in mortgage-backed securities generally overvalued the value of the mortgage loans.²⁰ That reflected in part the irrational characteristic of asset-price bubbles: the unfounded belief that downside risk—in that case, the risk of home prices plummeting—will never be realized.²¹ If housing prices are certain to increase, even subprime mortgage loans will become overcollateralized over time.

Sellers became so confident in the value of the mortgage loans that they sometimes retained the lowest priority “residual” interests in the mortgage-backed securities—which incongruously may have fostered false investor confidence, contributing to the financial crisis.²² Investors became so confident in the value of the mortgage-backed securities that they engaged in feeding frenzies for more, creating demand for an increased supply of mortgage loans which itself may have weakened mortgage-loan origination standards.²³

In short, the market itself has addressed concern over moral hazard arising from the OTD model, making regulatory intervention unnecessary and potentially costly. Furthermore, the relevant market failure is not asymmetric information, such as might arise from the OTD model,²⁴ but mutual misinformation. Originators made mortgage-loans with the expectation of

¹⁹ These may include reporting or other regulatory costs.

²⁰ Bubb & Krishnamurthy, *supra* note 16, at 1547.

²¹ *Id.* at 1546 (“[O]veroptimism about future house prices in a bubble leads market participants to underweigh the probability of default and blunts the incentive benefits of risk retention.”). The most infamous example of a bubble may be the 17th century Dutch tulip-bulb bubble.

²² *Regulating Complexity in Financial Markets*, *supra* note 18, at 241-42.

²³ *See, e.g.*, Charles W. Calomiris, *Origins of the Subprime Crisis*, in *THE INTERNATIONAL FINANCIAL CRISIS* 73, 84 (2011).

²⁴ *Cf.* Bubb & Krishnamurthy, *supra* note 16, at 1547 (stating that the “most influential evidence purportedly showing that securitization led to lax screening has now been discredited”).

selling them because they believed the reduced loan-origination quality was sufficient; and investors purchased mortgage-backed securities payable solely from those loans because they too believed the reduced quality was sufficient.²⁵ The future regulatory challenge is to try to solve this problem of mutual misinformation. This essay later explains how market failures such as cognitive bias²⁶ and complexity²⁷ contributed to this problem, suggesting that the focus of future regulation should include trying to correct those failures.

B. Regulating Collateralization Levels

Collateralization refers to the relationship between a loan's collateral value and the amount of the loan. Prudent secured lending requires overcollateralization: that the loan's collateral value exceeds the amount of the loan by some ratio.²⁸ The higher the ratio (other things being equal), the more likely the loan will be repaid. Undercollateralized loans, for which the amount of the loan exceeds its collateral value, are generally imprudent and much less likely to be paid in full.²⁹

When lenders become idiosyncratically undercollateralized (e.g., because of lender-specific collateral valuation errors or declines in value), it is unlikely to affect financial stability. Financial stability is threatened, however, if lenders that are interconnected by their collateral³⁰ generally believe they are, or inevitably will become, overcollateralized, whereas in fact they

²⁵ Cf. BD. OF GOVERNORS OF THE FED. RESERVE SYS., *supra* note 14, at 41 (observing that during “the financial crisis, some of these [skin-in-the-game] mechanisms failed to properly align incentives or to protect investors. Specific mechanisms, while effective in principle, may have failed in practice because they were too weak”) & 43 (stating that the financial crisis “subjected all of these [skin-in-the-game] mechanisms to a severe test”).

²⁶ Cf. *infra* notes 32-35 and accompanying text (discussing cognitive bias as a cause of mutual misinformation).

²⁷ Cf. *infra* notes 94-96 and accompanying text (discussing complexity as a cause of mutual misinformation).

²⁸ See, e.g., Adam J. Levitin & Susan M. Wachter, *Explaining the Housing Bubble*, 100 GEO. L. J. 1177, 1188 (2012).

²⁹ This assumes, of course, that the lender believes that collateral is needed as a source of repayment. Unsecured loans are prudent if the lender concludes that collateral is unnecessary.

³⁰ Cf. Part D, *infra* (discussing collateral as a source of interconnectedness).

become undercollateralized.³¹ The potential for this disconnect between belief and reality is inherent in human behavior.

For example, cognitive biases can combine to create a tendency to define future events by the recent past.³² This tendency can obscure rare events of extreme impact, especially when the biases apply to a commercial activity that is seemingly routine, such as valuing collateral.³³ The resulting disconnect helps to explain both the financial crisis and the Great Depression.³⁴ It also helps to explain the mutual misinformation problem.³⁵

Prior to the Great Depression, many banks engaged in margin lending—lending to enable borrowers to purchase shares of publicly traded stock—to risky (i.e., subprime) borrowers, who secured their loans by pledging the purchased stock as collateral. An extended bull market led many—not only borrowers but also lenders—to believe the stock market would continue to rise, thereby overcollateralizing the loans. In August 1929, however, a decline in stock prices caused some of these margin loans to become undercollateralized. Some banks that were heavily engaged in margin lending lost so much money on the loans that they became unable to pay their obligations to other banks and depositors, creating defaults “down the chain of banks and beyond.”³⁶

Similarly, prior to the financial crisis, banks and other mortgage lenders made loans to risky, or “subprime,” borrowers who used the loan proceeds to purchase homes and then

³¹ Cf. *supra* note 20 and accompanying text (observing that prior to the financial crisis, originators and investors generally overvalued mortgage loans).

³² See generally Steven L. Schwarcz, *Regulating Complacency: Human Limitations and Legal Efficacy*, 93 NOTRE DAME L. REV. (forthcoming issue no. 3, January 2018), available at <http://ssrn.com/abstract=2875030>.

³³ Cf. Susanna Kim Ripken, *Paternalism and Securities Regulation*, 21 STAN. J. L. BUS. & FIN. 1, 17, 25 (2015) (arguing that investors are taken by surprise and unprepared to react effectively to a rare event of extreme impact).

³⁴ The following discussion is based partly on Iman Anabtawi & Steven L. Schwarcz, *Regulating Systemic Risk: Towards an Analytical Framework*, 86 NOTRE DAME L. REV. 1349, 1356-57, 1359-60 (2011).

³⁵ See *supra* notes 20-27 and accompanying text.

³⁶ George G. Kaufman, *Bank Failures, Systemic Risk, and Bank Regulation*, 16 CATO J. 17, 21 (1996).

mortgaged their homes as collateral to the lenders. The lenders expected housing prices to continue rising, as had been the case for decades, thereby overcollateralizing the loans.³⁷ Investors in mortgage-backed securities supported by these loans had the same expectation.³⁸ That expectation again reflects the tendency to define future events by the recent past.³⁹

In the fall of 2007, however, housing prices collapsed by over 35 percent,⁴⁰ a fall greater than even occurred during the Great Depression.⁴¹ The collapse in housing prices caused many subprime mortgage loans to become undercollateralized, contributing to the defaults on—and to the downgrading of—those mortgage-backed securities, which characterize the financial crisis.⁴²

The challenge for macroprudential regulation is that law cannot erase the cognitive biases that disconnect belief and reality. A crude way to try to overcome this disconnect is by requiring a minimum level of overcollateralization, perhaps stressing historical data. Professors Bubb and

³⁷ Anabtawi & Schwarcz, *supra* note 34, at 1359–60. Cf. Barry Ritholtz, *Case Shiller 100 Year Chart (2011 Update)*, BIG PICTURE (Apr. 13, 2011, 7:00 AM) (observing that if housing prices had continued rising, the increasing collateral value would have protected the loans), <http://www.ritholtz.com/blog/2011/04/case-shiller-100-year-chart-2011-update>.

³⁸ Anabtawi & Schwarcz, *supra* note 34, at 1359–60.

³⁹ Cf. Lynne L. Dallas, *Short-Termism, The Financial Crisis, and Corporate Governance*, 37 J. CORP. L. 265, 316 n. 373 (2012) (quoting Alan Greenspan’s observation that “the data inputted into the risk management models generally covered only the past two decades, a period of euphoria,” whereas the data more appropriately should have reflected “historic periods of stress”).

⁴⁰ This 35% figure is based on the S&P Case-Shiller 20-City Composite Home Price Index peak to trough, <http://us.spindices.com/indices/real-estate/sp-case-shiller-20-city-composite-home-price-index> [<https://perma.cc/J29T-4AMK>]; see also Al Yoon, *Home Price Drops Exceed Great Depression: Zillow*, Reuters, Jan. 11, 2011, <http://www.reuters.com/article/2011/01/11/us-usa-housing-prices-idUSTRE70961E20110111> [<https://perma.cc/L9LB-LH5J>].

⁴¹ In rating mortgage-backed securities, rating agencies such as Standard & Poor’s conservatively—so they thought—assumed that housing prices might drop as much as 20%. *Wall Street and the Financial Crisis: The Role of Credit Rating Agencies*, Hearing Before the Subcomm. on Investigations of the S. Comm. On Homeland Sec. and Governmental Affairs, 111th Cong. (2010) (statement of Susan Barnes, Managing Director, Standard & Poor’s Rating Services), <http://www.hsgac.senate.gov/subcommittees/investigations/hearings/wall-street-and-the-financial-crisis-the-role-of-credit-rating-agencies> [<https://perma.cc/EU4U-H8C2>].

⁴² Anabtawi & Schwarcz, *supra* note 34, at 1360 (“When home prices began falling, some of these asset-backed securities began defaulting, requiring financial institutions heavily invested in these securities to write down their value, causing these institutions to appear, if not be, financially risky.” (citation omitted)).

Krishnamurthy, for example, advocate that approach for home-mortgage lending.⁴³ The Federal Reserve also used this approach to respond to the undercollateralization of margin loans that contributed to the Great Depression.⁴⁴

In that response, the Federal Reserve promulgated Regulations G, U, T, and X requiring margin loans to maintain minimum levels of overcollateralization.⁴⁵ Broadly speaking, these regulations govern credit extended by banks, brokers, and dealers. Regulation U, for example, requires that margin lending by banks be secured by collateral worth at least twice as much as the loan amount—effectively 100% overcollateralization⁴⁶—unless the lender independently verifies that the borrower itself is able to repay the loan.⁴⁷ Such overcollateralization would allow the stock market to lose half its value while still providing adequate collateral value to repay the lender. Since the Great Depression, Regulation U has been instrumental in avoiding problems from subprime margin lending.⁴⁸

In practice, however, regulation requiring a minimum level of overcollateralization can undermine consumer-oriented goals. It is doubtful, for example, that anything near 100% overcollateralization could politically, or should socially, be required for home-mortgage lending; the impact on homeownership would be much too regressive.⁴⁹ Unlike borrowing to

⁴³ Bubb & Krishnamurthy, *supra* note 16, at 1610.

⁴⁴ I have separately argued that the QRM designation, which exempts originators and other sellers of loans from risk-retention requirements (*see supra* note 11 and accompanying text), should non-exclusively be satisfied by requiring a minimum level of overcollateralization.

⁴⁵ *See* Robert J. Gareis & Jerome W. Jakubik, *The United States Securities Credit Regulations: How they Affect Foreign Lenders in Acquisitions of US Companies*, 4 J. COMP. & CORP. & SECS. REG. 291 (1982) (describing the purpose and implementation of securities credit regulations).

⁴⁶ 12 C.F.R. § 221 (2015). Subject to a number of regulatory exceptions, a loan falls under Regulation U if it (1) is secured by “margin stock,” (2) is intended to finance the purchase of margin stock, and (3) does not otherwise qualify for an exemption.

⁴⁷ This reflects that unsecured loans are prudent if the lender concludes that collateral is unnecessary. *See supra* note 29.

⁴⁸ *See, e.g.*, Gikas A. Hardouvelis, *Margin Requirements, Volatility, and the Transitory Component of Stock Prices*, 80 AMER. ECON. REV. 736, 745-54 (1990) (finding a statistically significant negative relationship between margin levels and stock market volatility and excess volatility in the post-Depression period).

⁴⁹ Bubb and Krishnamurthy concede that there will be costs associated with requiring higher down payments, especially for borrowers with limited resources. However, they argue that the

purchase shares of stock, borrowing to purchase a home is seen not only as a public good but also, given the high cost of housing, a necessity.⁵⁰

For home-mortgage lending, Bubb and Krishnamurthy suggest what they see as a practical regulatory compromise. They would require merely 10% overcollateralization,⁵¹ arguing that many homeowners can afford to make a small downpayment.⁵² They see that level of overcollateralization as providing both microprudential and macroprudential protection—the former, helping to protect individual homeowners against a decline in housing prices, the latter helping to prevent price bubbles.⁵³ Nevertheless, the more than 35% decline of housing prices during the financial crisis⁵⁴ raises questions whether requiring 10% overcollateralization would be anywhere near sufficient for macroprudential protection. It is also questionable whether the added benefits of reduced foreclosures resulting from a mere 10% overcollateralization requirement would outweigh the costs of reducing the access of low-income borrowers and borrowers of color to mortgage lending.⁵⁵

Regulating collateralization levels would also need to address how collateral should be

costs should be low for three reasons: (1) increased down payments would increase incentives to save, (2) interest rates would decrease due to lower incidence of default, making housing more affordable, and (3) fewer defaults would reduce home price volatility, thereby making housing more affordable throughout housing cycles. Bubb & Krishnamurthy, *supra* note 16, at 1619-22.
⁵⁰ See, e.g., Nick Timiraos, *Report: Half of All Homes Are Being Purchased With Cash*, WALL ST. J. REAL ESTATE DEVELOPMENTS, Aug. 15, 2013, <http://blogs.wsj.com/developments/2013/08/15/report-half-of-all-homes-are-being-purchased-with-cash/> [<https://perma.cc/3K5Q-4STK>] (stating that before the financial crisis, over two-thirds of all home purchases were financed).

⁵¹ Bubb & Krishnamurthy, *supra* note 16, at 1610.

⁵² *Id.*

⁵³ *Id.*

⁵⁴ See *supra* note 40 and accompanying text.

⁵⁵ Roberto G. Quercia, Lei Ding, & Carolina Reid, *Balancing Risk and Access: Underwriting Standards and Qualified Residential Mortgages* (Jan. 2012 Research Report, Center for Responsible Lending), <http://www.responsiblelending.org/sites/default/files/nodes/files/research-publication/Underwriting-Standards-for-Qualified-Residential-Mortgages.pdf> [<https://perma.cc/GT7T-HN6P>] (finding that the added benefits of reduced foreclosures resulting from loan-to-value (LTV) requirements of 80 or 90 percent do not necessarily outweigh the costs of reducing the access of borrowers—especially low-income borrowers and borrowers of color—to mortgage lending).

valued. Valuing collateral is always an art. Where the collateral itself is a traded financial asset—such as mortgage-backed securities that serve as the source of payment in securitization transactions,⁵⁶ valuation faces an additional problem: Should the collateral be valued at a “market” price or at its intrinsic value? Because markets—especially markets in which the assets are privately traded—are imperfect, the market price of collateral may not always equal its intrinsic value.⁵⁷ In those cases, regulators would have to decide which to use.

C. Regulating Collateral as a Source of Interconnectedness

Interconnectedness is one of the most critical factors in creating systemic risk.⁵⁸ A localized shock is unlikely to destabilize the financial system. Interconnectedness, however, can cause a localized shock to become widespread, and thus much more destabilizing. Collateral can cause that interconnectedness—and indeed, as next explained, undercollateralization links this discussion of regulating collateral as a source of interconnectedness to the prior discussion⁵⁹ of regulating collateralization levels.

Prior to the financial crisis, for example, the widespread use of subprime home mortgages as collateral connected massive amounts of financial institution investments in debt securities. A nationwide fall in home prices caused the mortgage loans to become uncollateralized, in turn causing those debt securities to be downgraded or default and triggering the crisis.⁶⁰ Similarly, prior to the Great Depression, the widespread use of margin stock as collateral connected

⁵⁶ *Cf. infra* notes 88-93 and accompanying text (discussing securitization transactions).

⁵⁷ *See, e.g.,* *Bank of N.Y. v. Mont. Bd. of Invs.*, [2008] EWHC (Ch) 1594 (Eng.) (observing, at paragraph twenty-one of the opinion, that extreme illiquidity in the structured products markets reduced the market value of the (largely non-defaulted) collateral to significantly less than the present value of the collateral’s expected cash flows).

⁵⁸ *See, e.g.,* BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM, CALIBRATING THE GSIB SURCHARGE 3 (July 20, 2015). *Cf. Janet L. Yellen, Vice-Chair of Board of Governors of the Federal Reserve System, Speech at the Annual Meeting of the National Association for Business Economics, Denver, Col., Oct. 11, 2010, available at* 2010 WL 3952044 (F.R.B.) (attributing the financial crisis to concurrences of interrelated failures); Steven L. Schwarcz, *Protecting Financial Markets: Lessons from the Subprime Mortgage Meltdown*, 93 MINN. L. REV. 373, 379-83 & 404-05 (2008) (observing that the financial crisis demonstrated that a concurrence of failures is likely when the causes of the failures are interconnected).

⁵⁹ *See supra* Part B.

⁶⁰ *See supra* notes 37-42 and accompanying text.

massive amounts of bank lending. A fall in the stock market caused those loans to become uncollateralized, leading to loan defaults that contributed to the Depression.⁶¹

Regulation itself can also exacerbate interconnectedness. Although it does not involve secured transactions per se, consider how otherwise appropriate regulation can cause an industry not normally associated with systemic risk—insurance—to generate such risk. Insurers are the dominant institutional investors in corporate bonds.⁶² Regulation requiring insurers to hold mostly investment-grade securities can prompt the “forced selling” of bonds that are downgraded, potentially causing systemic consequences.⁶³ There is “strong, newly emerging evidence” that insurers contributed to the financial crisis by engaging in fire sales of downgraded mortgage-backed securities.⁶⁴

What do these observations mean for regulating secured transactions to promote financial stability? They certainly suggest that regulators should try to monitor investments that are, or could be, interconnected by their collateral.⁶⁵ Furthermore, any regulation of secured transactions should avoid imposing industry-wide incentives to sell collateral, which can prompt firesales.

D. Regulating the Right of Systemically Important Firms to Grant Collateral

Should regulation limit the right of systemically important firms to grant so much collateral as to undermine their ability, if they become troubled, to successfully reorganize? This type of a “Faustian bargain” is common for troubled corporations.⁶⁶ It takes on widespread social and economic consequences, however, for systemically important firms.

⁶¹ See *supra* notes 34-36 and accompanying text.

⁶² Daniel Schwarcz & Steven L. Schwarcz, *Regulating Systemic Risk in Insurance*, 81 U. CHI. L. REV. 1569, 1602 (2014).

⁶³ See *id.* at 1602-03.

⁶⁴ *Id.* at 1604-05. Another essay in this symposium issue explains why international banking regulation can exacerbate systemic risk by incentivizing banks to take more risky collateral. See Giuliano G. Castellano & Marek Dubovec, 81 L. & CONTEMP. PROBS. [cite] (2017).

⁶⁵ Part B of this essay also explains why it is important to regulate the collateralization levels of these types of investments.

⁶⁶ Cf. Steven L. Schwarcz, *The Easy Case for the Priority of Secured Claims in Bankruptcy*, 47 DUKE L. J. 425 (1997) (examining the cost of granting collateral).

Although systemically important firms tend to be banks or other financial institutions which currently do not pledge as much collateral as industrial firms, that practice may change.⁶⁷ If substantially all, or even a substantial part, of a troubled firm's assets are encumbered by liens, the firm may be unable to borrow new money in order to pay operating expenses while it tries to reorganize.⁶⁸ Absent the ability to borrow, the firm may have little choice but to liquidate. The liquidation of a systemically important firm might well trigger a broader systemic collapse.⁶⁹

Regulation could address this problem by limiting the right of systemically important firms to grant collateral, but there is another less paternalistic approach. The inability to borrow new money turns on the current legal requirement that existing secured lenders be adequately protected before reorganization financiers can get a priority of repayment.⁷⁰ Adequate protection effectively requires the secured lenders to obtain substitute unencumbered collateral.⁷¹ If all or substantially all of its assets are already encumbered, a firm will be unable to grant such substitute collateral.⁷² A change in law, however, could potentially limit that adequate-protection

⁶⁷ Cf. Harvey R. Miller, *Keynote Address: Bankruptcy And Reorganization Through The Looking Glass Of 50 Years (1960 – 2010)*, American College of Bankruptcy, Induction of Fellows, United States Supreme Court (Mar. 12, 2010; on file with author), at 18-19 (observing that pledging all assets is becoming a new normal).

⁶⁸ Cf. 11 U.S.C. §§ 364, 361 (motivating lenders to advance debtor-in-possession (“DIP”) financing to a firm in bankruptcy by granting the lender a priority of repayment, but requiring existing secured lenders to be adequately protected which effectively requires they be secured by substitute collateral).

⁶⁹ In the United States, certain systemically important firms must file so-called living wills, which are resolution plans setting forth how they could liquidate with minimal systemic impact if they become financially troubled. See, e.g., Jennifer Meyerowitz et al., *A Dodd-Frank Living Wills Primer: What you Need to Know Now*, 31 AM. BANKR. INST. J. 34, 34 (Aug. 2012). Although this requirement is intended to protect financial stability without needing a bailout, it might not completely eliminate that need. In my many years as a workout and bankruptcy lawyer, I rarely saw a firm's failure that accurately reflected, much less closely resembled, expectations about the firm when it was profitable. Furthermore, living wills do not prevent the concurrent failure of multiple otherwise-systemically important firms from collectively having a systemic impact. The financial crisis demonstrated that a concurrence of failures is likely when the causes of the failures are interconnected.

⁷⁰ See *supra* note 68 and accompanying text.

⁷¹ *Id.*

⁷² See *supra* notes 67-69 and accompanying text.

requirement—thereby enabling a troubled systemically important firm that has already encumbered its assets to give reorganization financiers priority repayment.

The policy justification for this change in law is that avoiding a systemic economic collapse should outweigh the harm of the reorganization-financier claims priming existing secured claims.⁷³ In the United States, however, that change in law might raise a novel constitutional question—whether it violates the Fifth Amendment prohibition on depriving a person of “property, without due process of law.” Arguably, it should not violate that prohibition for two reasons. First, any such change in law presumably would create a legal process—constituting “due process of law”—to govern the circumstances under which a troubled systemically important firm could give reorganization financiers priority repayment.⁷⁴ At the judicial hearing that is part of that process,⁷⁵ the court could take into account competing public and private concerns.⁷⁶

⁷³ Such an approach would implicitly limit the right of systemically important firms to grant collateral because secured lenders could not be certain of repayment should the firm later become troubled.

⁷⁴ Cf. James S. Rogers, *The Impairment of Secured Creditor's Rights in Reorganization: A Study of the Relationship Between the Fifth Amendment and the Bankruptcy Clause*, 96 HARV. L. REV. 973, 1003-05 (1983) (arguing that because the Constitution’s “bankruptcy clause confers on the federal government the authority to exercise control over the use of the debtor’s existing assets in order to enhance and preserve his earning power[,] an expansion of the scope of the substantive powers conferred by the bankruptcy clause” that effects this result may be permissible under the Fifth Amendment). Rogers also argues that the view that bankruptcy law may not impair the liquidation value of a secured creditor’s collateral without just compensation is “entirely unsound.” *Id.* At 978.

⁷⁵ Cf. 11 U.S.C. § 364(b) (requiring notice and a hearing for any priority given to reorganization financiers outside of the ordinary course of the debtor’s business).

⁷⁶ A court should consider, for example, the extent to which the reorganization financing is likely to enable the systemically important firm to reorganize, thereby not only avoiding a systemic economic collapse but also protecting existing secured lenders by ultimately enabling their repayment. Cf. *Keystone Bituminous Coal Ass’n v. DeBenedictis*, 480 U.S. 470 (1987) (finding no “taking” under the Fifth Amendment where state regulation required that mining leaves at least 50% of underground coal in place; Court reasoned that the regulation furthered the public purpose of preventing subsidence damage to surface structures and did not completely rule out profitable coal mining).

Second—and although it may not be free from doubt⁷⁷—collateral should not itself be considered property per se. Rather, it is merely a mechanism for advancing the priority of a creditor’s claim over the claims of unsecured creditors.⁷⁸ Furthermore, once a secured claim is paid, the secured creditor has no interest in the surplus collateral value.⁷⁹ Nor does a secured creditor have a right to a collateral cushion beyond the level needed to assure its repayment.⁸⁰

Logically, therefore, because troubled systemically important firm can constitutionally give reorganization financiers priority of repayment over unsecured creditors without providing adequate protection, they ought to be allowed to constitutionally give that priority of repayment over secured creditors if necessary to obtain reorganization financing.

E. Regulating Remedies against Collateral

This regulatory challenge focuses on whether remedies against collateral should be influenced by macroprudential concerns. For example, should systemically important secured parties have greater remedies against collateral, in order to protect them, than other secured parties? Should systemically important debtors have greater immunities against foreclosure than other debtors? These questions link this discussion to the prior discussion⁸¹ of whether regulation should protect systemically important firms by limiting their right to grant collateral.

In the United States (and by analogy, other jurisdictions), the so-called bankruptcy safe harbor for derivatives and other financial contracts gives counterparties to these contracts

⁷⁷ Cf. Steven L. Schwarcz & Alan Rothman, *Civil Forfeiture: A Higher Form of Commercial Law?*, 62 FORDHAM L. REV. 287 (1993) (observing that secured claims are treated in federal civil forfeiture cases as if they create some type of property right).

⁷⁸ Cf. MARTIN J. BIENENSTOCK, BANKRUPTCY REORGANIZATION 166 (1987) (“When a creditor holding a secured claim is temporarily stayed from realizing on its collateral security, the stay is abridging only the contractual rights of the secured claimholder and is not a taking of property rights.”).

⁷⁹ UCC § 9-315.

⁸⁰ Charles J. Tabb, *Credit Bidding, Security, and the Obsolescence of Chapter 11*, 2013 U. ILLINOIS. L. REV. 103, 108 (2013).

⁸¹ See *supra* Part D.

“virtually unlimited enforcement rights against the debtor” and the collateral,⁸² in contrast to the rights of other creditors. For example, derivatives counterparties can foreclose on the collateral notwithstanding the automatic stay under bankruptcy law.⁸³ Also, derivatives counterparties need not “give back preferential collateral calls that other creditors must return.”⁸⁴ The justification for the safe harbor is macroprudential: to protect financial stability.⁸⁵

Although there is significant uncertainty whether the derivatives safe harbor actually increases or reduces financial stability,⁸⁶ it serves as a precedent for regulating remedies against collateral based on macroprudential concerns. I defer a more complete analysis of this possible regulatory approach to another essay in this symposium issue, which focuses on whether systemic importance should be an appropriate basis to vary collateral remedies.⁸⁷

F. Regulating Non-Traditional Secured Transactions

To what extent, if any, should non-traditional secured transactions, including securitization and other forms of structured finance, be regulated to help control systemic risk? This challenge is important because securitization’s abuses contributed to the financial crisis.⁸⁸

In a typical securitization transaction, a sponsor will purchase a pool of loans or other rights to payment (“financial assets”) from firms, such as mortgage lenders, originating those assets (“originators”) and sell them to a special purpose entity (“SPE”, sometimes called a special purpose vehicle or SPV). The SPE will issue securities to investors, repayable from

⁸² Steven L. Schwarcz, *Derivatives and Collateral: Balancing Remedies and Systemic Risk*, 2015 U. ILLINOIS L. REV. 699, 700 (hereinafter, “*Derivatives and Collateral*”).

⁸³ *Id.*

⁸⁴ Mark D. Roe, *The Derivatives Markets Payment Priorities as Financial Crisis Accelerator*, 63 STAN. L. REV. 539, 547 (2011). In 2014, ISDA, the derivatives trade group, issued the Resolution Stay Protocol to eliminate certain of these rights for parties that opt into the Protocol regime. See International Swaps and Derivatives Assoc., *ISDA 2014 Resolution Stay Protocol*, <https://www2.isda.org/functional-areas/protocol-management/faq/20>.

⁸⁵ *Derivatives and Collateral*, *supra* note 82, at 700.

⁸⁶ *Cf. id.* at 705 and Roe, *supra* note 84, at 565 (arguing that the safe harbor reduces financial stability).

⁸⁷ See Rodrigo Olivares-Caminal, [title of essay].

⁸⁸ Steven L. Schwarcz, *Securitization, Structured Finance, and Covered Bonds*, 39 J. CORP. L. 129, 130 (2013).

payments on the financial assets. Securitization enables originators to multiply their available funding by selling off their loans for cash, from which they can make new loans. Otherwise the lenders would have to carry the loans on their books and recoup the principal over many years.⁸⁹

Prior to the financial crisis, securitization had become “one of the dominant means of capital formation” in the United States and abroad.⁹⁰ The levels of securitization dropped precipitously, however, with recognition that its abuses contributed to that crisis. These abuses centered around certain highly leveraged securitization transactions, usually called “ABS CDO” transactions—referring to a securitization of collateralized debt obligations.⁹¹ Repayment of the highly rated securities issued in these transactions was so “extremely sensitive to cash-flow variations” that, when “the cash-flow assumptions turned out to be wrong, many of these [securities] defaulted or were downgraded.”⁹² That, in turn, sparked a loss of confidence not only in securitization generally but also in the value of credit ratings and of all highly rated debt securities.⁹³

The primary regulatory challenge for securitization and other non-traditional secured transactions is their complexity.⁹⁴ Complexity can make disclosure insufficient as a means of reducing the information asymmetry between issuers of, and investors in, the resulting collateralized securities. It can also make understanding harder, which increases the chance of

⁸⁹ See generally Steven L. Schwarcz, *What is Securitization? And for What Purpose?*, 85 S. CAL. L. REV. 1283, 1295-98 (2012).

⁹⁰ Investment Company Act, Release No. 19105, [1992 Transfer Binder] Fed. Sec. L. Rep. (CCH) ¶ 85,062, at 83,500 (Nov. 19, 1992).

⁹¹ *What is Securitization?*, *supra* note 89, at 1285.

⁹² *Id.*

⁹³ *Id.*

⁹⁴ Cf. Manuel A. Utset, *Financial System Engineering*, 32 REV. BANKING & FIN. L. 371 (2013) (identifying complexity as the core problem resulting in systemic market failures).

panics and, like the Delphic Oracle, make people prone to see what they want to see.⁹⁵ Furthermore, it can heighten the risk of “mutual misinformation.”⁹⁶

Prior to the financial crisis, for example, the risks associated with these types of transactions were fully disclosed.⁹⁷ Nevertheless, investors did not fully understand the disclosure, in part because the task of deciphering a prospectus, hundreds of pages long and full of detailed technical and legal phraseology, can be burdensome even for the most sophisticated institutional managers, causing them to overrely on heuristics such as credit ratings and the collective action failure that other investors are likewise investing in those types of securities.⁹⁸

How should regulation address this problem of complexity? One approach might be to try to simplify non-traditional secured transactions without unduly sacrificing their economic value. The European Union is currently pursuing this approach as part of its proposed regulations to create a framework for simple, transparent, and standardised (“STS”) securitization.⁹⁹ The EU expects that STS securitization will create an important additional source of funding for its economy.¹⁰⁰

⁹⁵ Cf. Ricardo J. Caballero & Alp Simsek, *Fire Sales in a Model of Complexity*, 68 J. FIN. 2549 (2013) (arguing that complexity generates uncertainty, especially about counterparty exposure, which causes financial institutions to “retrench into a liquidity conservation mode” and possibly engage in fire sales of assets).

⁹⁶ See *Regulating Complexity in Financial Markets*, *supra* note 18, at 241-42 (observing that by retaining residual risk portions of certain complex securitization products they were selling prior to the financial crisis, securities underwriters may actually have fostered false investor confidence, contributing to the crisis).

⁹⁷ Steven L. Schwarcz, *Disclosure’s Failure in the Subprime Mortgage Crisis*, 2008 UTAH L. REV. 1109, 1110.

⁹⁸ *Id.*

⁹⁹ See generally Proposal for a Regulation of the European Parliament and of the Council (EC) No. 472/2015 of 30 Sep. 2015, 2015/0226 (COD). In 2017, the European Commission conducted a mid-term review of the 2015 regulations, evaluating the progress that had been made and enumerating new “priority objectives.” See generally European Commission, *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the Mid-Term Review of the Capital Markets Union Action Plan*, SWD (2017) 225 final (June 8, 2017).

¹⁰⁰ See EU Regulation 575/2013 (stating that the primary purpose is ensuring the operation of vital services to the real economy while limiting the risk of moral hazard).

Government-imposed standardization can unduly inhibit financial innovation.¹⁰¹ The STS approach is more nuanced, though; it does not require standardization, it merely rewards standardized simplicity—and it appears to contemplate a significant degree of market flexibility in achieving that simplicity.¹⁰² Furthermore, STS securitizations encompass the basic types of securitization transactions that were originated in the 1980s and became economically significant during the 1990s, when the SEC touted their importance.¹⁰³

Ultimately, however, the STS proposal does not—and to protect efficiency, it probably should not—prohibit financial experimentation and innovation. For that reason, regulation may only be a partial solution to the problem of complexity in non-traditional secured transactions.

G. Recognizing De Facto Collateral Rights

An indirect but nonetheless real threat to financial stability is the shrinking middle class and the widening gap between the rich and the poor.¹⁰⁴ The World Economic Forum has identified wealth inequality as the biggest risk to the global community.¹⁰⁵ The noted economist Hernando De Soto has explained how that inequality ties directly into secured transactions.

He argues that the poor hold their resources in defective form, living in houses built on land that, de facto, is theirs but not legally recorded as their property.¹⁰⁶ As a result, they cannot

¹⁰¹ See Steven L. Schwarcz, *Controlling Financial Chaos: The Power and Limits of Law*, 2012 WIS. L. REV. 815, 820 (observing that “the overall impact of standardization is unclear because standardization can stifle innovation and interfere with the ability of parties to achieve the efficiencies that arise when firms craft financial products tailored to the particular needs and risk preferences of investors”).

¹⁰² See Steven L. Schwarcz, *A Global Perspective on Securitised Debt*, chapter 6 in CAPITAL MARKETS UNION IN EUROPE [pin-cite] (Guido Ferrarini, Emiliios Avgouleas, & Danny Busch, eds.) (forthcoming 2017).

¹⁰³ See *supra* note 90 and accompanying text.

¹⁰⁴ See, e.g., *How Inequality Affects Growth*, ECONOMIST, June 15, 2015 (discussing “recent work suggest[ing] that inequality [in wealth] could lead to economic or financial instability”), available at <https://www.economist.com/blogs/economist-explains/2015/06/economist-explains-11>.

¹⁰⁵ World Economic Forum, *Global Risks 2014*.

¹⁰⁶ THE MYSTERY OF CAPITAL: WHY CAPITALISM TRIUMPHS IN THE WEST AND FAILS EVERYWHERE ELSE (2000).

use their houses as collateral to borrow.¹⁰⁷ Mortgage lending, he observes, is the primary source of capital used to start small businesses.¹⁰⁸ Economically disadvantaged people may also hold other assets that cannot currently be used as collateral due to legal constraints.

This poses an important regulatory challenge: Should secured transactions law recognize de facto rights to enable the poor to use their homes and other commonly held assets as collateral? In thinking about this challenge, it may be useful to compare the Uniform Commercial Code’s innovative disentanglement of commercial and property law.¹⁰⁹ For example, UCC § 9-202 provides that, with very limited exceptions, “the provisions of this Article [9] with regard to rights and obligations apply whether title to collateral is in the secured party or the debtor.” Secured transactions law thus provides that the “retention or reservation of title by a seller of goods notwithstanding shipment or delivery to the buyer . . . is limited in effect to a reservation of a ‘security interest.’”¹¹⁰ UCC § 2-401 similarly provides, again with very limited exceptions, that each “provision of this Article [2] with regard to the rights, obligations, and remedies of the seller, the buyer, purchasers or other third parties applies irrespective of title to the goods” UCC § 2-509 even allocates the risk of losing goods in shipment to the party who “control[s] the goods and can be expected to insure his interest in them,”¹¹¹ whether or not that party owns the goods at the time of their loss.

These provisions recognize that property law does not necessarily reflect commercial realities; instead, they articulate commercial law to reflect commercial realities rather than the “arbitrary shifting” of rights based on property.¹¹² Similarly innovating secured transactions law

¹⁰⁷ *Id.*

¹⁰⁸ *Id.* Cf. Chris Arsenault, *Property Rights for World’s Poor Could Unlock Trillions in ‘Dead Capital’*, REUTERS BUS. NEWS (Aug. 1, 2016) (arguing that without the ability to borrow by using their homes as collateral, the poor are “unable to leverage their resources to create wealth, and their assets become ‘dead capital’ which cannot be used to generate income or growth”).

¹⁰⁹ Although (for largely path-dependent reasons, including the lobbying power of the real-estate Bar) the UCC does not apply to security interests in real estate, its innovative principles—such as this disentanglement of commercial and property law—merit consideration.

¹¹⁰ UCC § 1-201(b)(35) (defining a “security interest”).

¹¹¹ Official Comment No. 3 to UCC § 2-509.

¹¹² Cf. Official Comment No. 1 to UCC § 2-509 (observing that the “underlying theory” is to avoid “an arbitrary shifting of the risk with the ‘property’ in the goods”). The UCC itself does

to enable the holders of de facto rights to use their homes and other assets as collateral to borrow could help to unlock “the entrepreneurial potential of billions of people.”¹¹³

Consider also a related challenge for secured transactions law in the 21st century (this symposium’s theme) that goes beyond financial stability (this essay’s focus).¹¹⁴ The UCC’s innovative disentanglement of commercial and property law suggests other possible legal improvements. For example, non-UCC-governed secured transactions are sometimes uneasily bound by property-law rules to create security interests, such as jurisdictions that still depend on retention of ownership arrangements, including conditional sale agreements.¹¹⁵ In contrast, the more unitary concept of security interests, reflected in the UCC, brings “all secured transactions on personal property and fixtures under the same roof if a transaction ‘in substance secures payment and performance of an obligation ... regardless of its form or who has title to the collateral.’”¹¹⁶ Scholars may wish to think through the consequences of these differing approaches, including the potential for further cross-border harmonization of secured transactions law.

CONCLUSION

not yet clearly embrace the recognition of de facto rights as a basis to grant a security interest. Cf. UCC § 9-203(b)(2) & Official Comment No. 6 (requiring the debtor to have “rights in the collateral” as a condition of granting a security interest therein, but not discussing whether de facto rights might suffice).

¹¹³ Arsenault, *supra* note 26.

¹¹⁴ *But cf.* Michael Bridge & Jo Braithwaite, *Private Law and Financial Crises*, 13 J. CORP. L. STUDIES 361 (Oct. 2013) (discussing how conflating contract and property in derivatives transactions in insolvency can jeopardize financial stability).

¹¹⁵ Acquisition financing in many European jurisdictions is often regulated by property-law rules. See Giuliano G. Castellano, *Reforming Non-Possessory Secured Transactions Laws: A New Strategy?*, 78 MOD. L. REV. 611, 615 (2015). Cf. Tibor Tajti, *Could Continental Europe Adopt a Uniform Commercial Code Article 9-Type Secured Transactions System? The Effects of the Differing Legal Platforms*, 35 ADELAIDE L. REV. 149, 161 (2014) (discussing acquisition finance that relies on retention of ownership).

¹¹⁶ *Id.* at 150. Cf. *supra* note 110 and accompanying text (observing that the UCC provides that the retention of title by a seller of goods notwithstanding delivery to the buyer is limited to a security interest).

Although secured transactions traditionally are regulated to protect transacting parties and to make the transactions themselves more efficient, the financial crisis has revealed that regulation should also protect the stability of the financial system. This raises numerous future challenges.¹¹⁷ For example, regulation to control moral hazard in secured loan origination faces the challenge that the relevant market failure is less likely to be asymmetric information than mutual misinformation. Because of its impact on home ownership, the regulation of collateralization levels and interconnectedness faces fundamentally different challenges than those underlying the (technically) analogous post-Depression regulation of margin lending. Non-traditional secured transactions, including securitization and other forms of structured finance, raise innovative regulatory challenges concerning complexity and the limits of disclosure. The potential for the widening gap between the rich and the poor to undermine stability also raises the challenge (which is itself partly informed by the UCC's innovative disentanglement of commercial and property law) of whether to recognize de facto rights, in order to enable the poor to use their homes and other commonly held assets as collateral to raise capital.

¹¹⁷ The regulation of secured transactions can raise other concerns that implicate financial stability, but they are much more diffuse. For example, because secured transactions facilitate access to credit, which is a critical element of a healthy economy, regulation that overly restricts secured transactions can weaken financial stability by causing underinvestment in credit. *Cf.* Steven L. Schwarcz, *The Financial Crisis and Credit Unavailability: Cause or Effect?*, 72 *BUS. LAW.* 409 (2017) (arguing that a loss of credit availability appears to have caused the financial crisis more than the reverse, and that regulators should try to identify and correct system-wide flaws in making credit available).