

# Law & Finance Events



UNIVERSITY OF  
OXFORD

## Leverhulme Lectures 2010

5.30-6.30pm, Gulbenkian Lecture Theatre,  
Faculty of Law, St. Cross Road, Oxford OX1 3UL

**Tuesday, 9 November:**

### The Global Financial Crisis and Systemic Risk

**Wednesday, 10 November:**

### Regulating Complexity in Financial Markets

**Thursday, 11 November:**

### The Future of Securitisation

**Professor Steven L. Schwarcz,**  
Stanley A. Star Professor of Law and Business,  
Duke University; Leverhulme Visiting Professor  
of Law, Oxford University (Michaelmas 2010).



**LEVERHULME LECTURE**  
**THE FUTURE OF SECURITIZATION<sup>1</sup>**

11 November 2010, Oxford University

**Steven L. Schwarcz**

Stanley A. Star Professor of Law & Business

Duke University School of Law

Leverhulme Visiting Professor

University of Oxford, Faculty of Law

*The securitization of subprime mortgage loans is widely viewed as a root cause of the financial crisis. This lecture balances the costs and benefits of securitization, focusing on what went wrong and on what needs to be fixed to curtail securitization's abuses and make it viable again as an important financing tool. Finally, the lecture examines alternatives to securitization, focusing on covered bonds and comparing and contrasting covered bonds and securitization.*

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<sup>1</sup> © 2010 by Steven L. Schwarcz. This lecture is based in part on the following works: *The Future of Securitization*, 41 CONN. L. REV. 1313 (2009), available at [http://ssrn.com/abstract\\_id=1300928](http://ssrn.com/abstract_id=1300928); *Understanding the Subprime Financial Crisis*, 60 S. C. L. REV. 549 (2009), available at [http://ssrn.com/abstract\\_id=1288687](http://ssrn.com/abstract_id=1288687); *Conflicts and Financial Collapse: The Problem of Secondary-Management Agency Costs*, 26 YALE J. ON REG. 457 (2009), available at [http://ssrn.com/abstract\\_id=1322536](http://ssrn.com/abstract_id=1322536); *Fiduciaries With Conflicting Obligations*, 94 MINN. L. REV. 1867 (2010), available at <http://ssrn.com/abstract=1441225>; *Bond Defaults and the Dilemma of the Indenture Trustee*, 59 ALA. L. REV. 1037 (2008; with Gregory M. Sergi), available at [http://ssrn.com/abstract\\_id=1072842](http://ssrn.com/abstract_id=1072842); *The Limits of Lawyering: Legal Opinions in Structured Finance*, 84 TEXAS L. REV. 1 (2005), available at <http://ssrn.com/abstract=774350>; *Securitization Post-Enron*, 25 CARDOZO L. REV. 1539 (2004), available at <http://ssrn.com/abstract=386601>; *Disintermediating Avarice: A Legal Framework for Commercially Sustainable Microfinance*, forthcoming 2011 U. ILLINOIS L. REV., issue 4, available at <http://ssrn.com/abstract=1612766>; and *The Conundrum of Covered Bonds*, forthcoming THE BUSINESS LAWYER (May 2011), available at <http://ssrn.com/abstract=1661018>.

## **PART I**

### **SECURITIZATION'S ROLE IN THE FINANCIAL CRISIS**

The securitization of subprime mortgage loans is widely viewed as a root cause of the financial crisis. In the United States, there was significant government pressure on banks and other lenders to make home-mortgage loans to expand home ownership, even for risky borrowers. These subprime loans were often made, for example, to borrowers with little de facto income, anticipating that home-value appreciation would enable the borrowers to refinance to lower-rate mortgages. Historically, home prices had generally been increasing in the United States since the Great Depression.

But this model failed when, in 2007 and 2008, home prices fell significantly. In one sense, the precipitous drop in home prices was unexpected—like Monty's Python's skit, “Nobody expects the Spanish Inquisition.” In another sense, though, the fall arguably should have been anticipated based on the earlier liquidity glut and its artificially low interest rates, driving up housing prices artificially.

As a result of the fall in home prices, borrowers who were relying on refinancing for loan repayment could not refinance. Furthermore, many subprime mortgage loans had adjustable rates which increased after an initial “teaser” period. Borrowers who could not afford the rate increases had expected to refinance at lower interest rates. That likewise was stymied by collapsing home prices. For these reasons, many risky borrowers began defaulting.

These defaults in turn caused substantial amounts of low-investment-grade-rated mortgage-backed securities to default and the highest (“AAA”) rated securities to be downgraded. That, in turn, spooked investors who believed that “AAA” meant iron-clad safety and that “investment grade” meant relative freedom from default. Investors started losing confidence in ratings and avoiding all types of rated debt securities.

Fewer investors meant that the price of debt securities began falling. Falling prices meant that firms using debt securities as collateral had to mark them to market and put up cash, requiring the sale of more securities, which caused market prices to plummet further downward in a death spiral. The refusal in mid-September 2008 of the U.S. government to save Lehman Brothers, and its resulting bankruptcy, added to this cascade. Investors lost all confidence in debt markets, and even the short-term commercial paper market virtually shut down.

The lack of debt financing meant that companies could no longer grow and, in some cases, even survive. That affected the real economy and led to the financial crisis.

## **PART II**

### **ADDRESSING SECURITIZATION’S PROBLEMS**

Because of its role in initially triggering the financial crisis, securitization has been villainized. But prior to the crisis, and even now, securitization is one of the primary mechanisms by which companies can

obtain financing from the capital markets, bypassing high-cost intermediaries such as banks—an approach known as “disintermediation.”

As a tool for disintermediation, securitization can more precisely allocate risk with capital, avoiding middleman inefficiencies. It also can enable companies to access capital markets directly, in most cases at lower cost than the cost of issuing direct debt (such as bonds or commercial paper). Moreover, when the securitized assets are loans (such as mortgage loans), securitization can help to transform the loans into cash from which banks and other lenders can make new loans. [Indeed, the function of the quasi-governmental firms, Fannie Mae and Freddie Mac in the U.S. (discussed yesterday during the Q&A period), has been to ensure this transformation process occurs.]

These positives might be outweighed, however, by securitization’s flaws revealed by the recent financial crisis. Whether securitization, even with the flaws, created net positive value is an unresolved question. My goal in this talk is not to attempt to answer that question. I merely examine how to overcome these flaws.

There are at least four potential flaws: subprime mortgages may be a problematic asset type that should not have been securitized; the originate-to-distribute model of securitization might create moral hazard; securitization can create servicing conflicts; and securitization can foster overreliance on mathematical models.

The financial crisis also revealed a possible fifth flaw: that investors in securitization transactions may over-rely on rating-agency ratings. The extent of appropriate reliance on ratings, and indeed the integrity of the ratings process itself, are questions beyond the scope of today's talk—although I'm happy to discuss these questions during the Q&A at the end of the talk.

My talk uses the following terminology:

Subprime mortgage loans (also called subprime mortgages) are loans made to risky borrowers who use the proceeds to purchase homes and then mortgage the homes as collateral; because the borrowers are risky, the collateral is the primary source of repayment.

In the most basic form of mortgage securitization, mortgage-backed securities ("MBS") are issued by a special-purpose vehicle ("SPV"), and payment on the securities is derived directly from collections on mortgage loans owned by the SPV.

More complex forms of mortgage-backed securities include collateralized debt obligation ("CDO") securities in which payment derives directly from a mixed pool of mortgage loans and sometimes, also, other financial assets owned by the SPV; and ABS CDO securities in which payment derives from MBS and CDO securities owned by the SPV (and thus indirectly from the mortgage loans and other financial assets underlying those owned securities).

Subprime mortgage securitization can reference any of these financial products, so long as all or a material portion of the underlying financial assets consist of subprime mortgages.

## WHAT WENT WRONG, AND WHAT NEEDS TO BE FIXED?

### A. Problematic Asset Type.

The failure of subprime mortgage securitization was caused by its almost absolute dependence on home appreciation. Some believe this type of particular sensitivity to declines in house prices was unique. From that perspective, parties structuring securitization transactions can minimize future problems by excluding, or at least limiting and better managing, subprime mortgage loans as an eligible type of underlying financial asset, and also by conservatively assessing the payment prognosis for other types of financial assets underlying securitizations. This is important not only to protect the integrity of securitization transactions but also to avoid the unintended consequence that securitization of a problematic asset type can motivate greater origination of that asset type.

This is not to say these procedures will be failsafe. Parties to (and investors in) securitization transactions must always be diligent to recognize and try to protect against the possibility that the underlying financial assets might, as in the case of subprime mortgage loans, fail in unexpected ways. What would happen to automobile loan securitization, for example, if a technological innovation makes cars obsolete, depriving even financially healthy borrowers of the incentive to repay their loans? The invention of a new form of personal transportation is at least as plausible as the idea that home prices—which generally had only risen since the 1930s—would suddenly collapse in value at a rate higher than that seen during the Great Depression (as happened in the recent financial crisis).

The financial crisis also teaches us the danger of mixing politics and finance. Before that crisis, there was political pressure to securitize risky subprime mortgage loans to facilitate financing for the poor. We are likely to see the same type of political pressure to securitize risky microfinance loans to facilitate financing for the poor and disadvantaged, which I later discuss.

### B. Originate-to-Distribute Moral Hazard.

Some argue that securitization facilitated an undisciplined mortgage lending industry. By enabling mortgage lenders to sell off loans as they were made (a concept called “originate-to-distribute”), securitization is said to have created moral hazard since these lenders did not have to live with the credit consequences of their loans. Mortgage underwriting standards therefore fell, exacerbated by the fact that mortgage lenders could make money on the volume of loans originated.

I find the moral hazard argument weak. Mortgage underwriting standards may have fallen, but there are other explanations of why. For example, lower standards may well reflect distortions caused by the liquidity glut of that time, in which lenders competed aggressively for business, allowed otherwise defaulting home borrowers to refinance, and (in the corporate lending context) even made so-called ‘covenant-lite’ loans. The fall in standards may also reflect conflicts of interest between lending-firms and their employees in charge of setting those standards, such as where employees were paid for booking loans regardless of the loans’ long-term performance.

Blaming the originate-to-distribute model for lower mortgage

underwriting standards also does not explain why standards were not similarly lowered for originating non-mortgage financial assets used in other types of securitization transactions. Nor does it explain why the ultimate beneficial owners of the mortgage loans—the investors in the mortgage-backed securities—did not govern their investments by the same strict lending standards that they would observe *but for* the separation of origination and ownership (although I observed in yesterday’s lecture that this failure may at least partly be explained by (i) the inherent inadequacy of disclosure for the most complex (ABS CDO) mortgage-backed securities; (ii) the possibly excessive diversification of risk created by these securities, undermining any given investor’s incentive to monitor; and (iii) the tendency of investors to engage in herd behavior).

Although I don’t believe the originate-to-distribute model was a significant cause of the financial crisis, the model may need fixing *to avoid its perception as the cause*. There is little question, though, that the model should remain basically intact; it is critical to the underlying funding liquidity of banks and corporations, and empirical evidence tentatively indicates that it creates net value. The goal therefore should be to minimize any potential moral hazard resulting from the originate-to-distribute model without undermining the model’s basic utility.

There are various ways this might be done. Potential moral hazard problems could be managed, for example, by requiring mortgage lenders and other originators to retain some realistic risk of loss. This is the central approach of the Dodd-Frank Act in the U.S., although we have already discussed in these lectures how this can lead to a ‘mutual misinformation’

problem.

Moral hazard problems also could be managed by regulating loan underwriting standards. The United States took this type of approach, for example, in response to the margin-loan underwriting failures that helped trigger the Great Depression. When stock values began depreciating in 1929, margin loans (that is, loans to purchase publicly-listed stock) became undercollateralized, resulting in a high loan default rate which, in turn, caused bank lenders to fail. To protect against a recurrence of this problem, the Federal Reserve promulgated margin regulations G, U, T, and X, requiring margin lenders to maintain minimum two-to-one collateral coverage.

A similar type of approach applied to home-mortgage loans would certainly protect against a repeat of the recent crisis. That protection would come at a high price, though, potentially impeding and increasing the cost of home ownership and imposing an administrative burden on lenders and government monitors.

### C. Servicing Conflicts.

Mortgage securitization made it difficult to work out problems with the underlying mortgage loans because the beneficial owners of the loans are no longer the mortgage lenders but a broad universe of investors in the mortgage-backed securities. Servicers theoretically bridge the gap between investors (as beneficial owners of the loans) and the mortgage lenders, retaining the power to restructure the underlying loans “in the best interests” of those investors; but the reality is problematic.

Servicers may be reluctant to engage in a restructuring, for example, if there is uncertainty whether their costs will be reimbursed; whereas foreclosure costs are relatively minimal. Servicers may also prefer foreclosure over restructuring because foreclosure is more ministerial and thus has lower litigation risk. Restructuring can involve difficult decisions. For example, in a mortgage securitization transaction in which cash flows deriving from principal and interest are separately allocated to different investor classes, or ‘tranches,’ a restructuring that reduces the interest rate would adversely affect investors in the interest-only tranche (and likewise, a restructuring that reduces principal would adversely affect investors in the principal-only tranche). This leads to what some have called “tranche warfare”—a bad pun on Armistice Day!

These problems can, and in the future should, be fixed. Parties should write underlying deal documentation that sets clearer and more flexible guidelines and more certain reimbursement procedures for loan restructuring, especially when restructuring appears to be superior to foreclosure. Parties also should try to minimize allocating cash flows to investors in ways that create conflicts. Furthermore, I have argued that non-conflicted servicers that engage in restructuring in good faith should be protected, perhaps akin to the type of protection afforded corporate directors under a business judgment rule.

#### D. Overreliance on Mathematical Models.

To some extent the financial crisis resulted from an *abandonment of common sense* and an overreliance on complex mathematical models.

Models are essential to securitization because of the need to statistically predict what future cash flows will become available from the underlying financial assets to pay the mortgage-backed securities.<sup>2</sup>

Models can bring insight and clarity. If the model is realistic and the inputted data are reliable, models can yield accurate predictions of real events. However, if the model is unrealistic or the inputted data are unreliable, models can be misleading—creating the danger of “garbage in, garbage out.”

Subprime mortgage securitization models relied on assumptions and historical data which, in retrospect, turned out to be incorrect and therefore made the valuations incorrect. We discussed yesterday the limitations of the value-at-risk (VaR) model. The securitization models also incorrectly assumed that housing would not depreciate in value to the levels later seen. Valuation errors were compounded to the extent mortgage loans increasingly were made with innovative terms, such as adjustable rates, low-to-zero down payment requirements, interest-only payment options, and negative amortization. These terms were so complex that some borrowers did not fully understand the risks they were incurring. As a result, they defaulted at a much higher rate than would be predicted by the historical mortgage-loan default rates relied on by loan originators in extending credit.

Securitization models also have been used, sometimes erroneously, to substitute for real market information. For example, some highly-leveraged

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<sup>2</sup> My use of the term ‘mortgage-backed securities’ is meant to be illustrative, not exclusive; securitization embraces securities backed by any form of financial assets.

ABS CDO securities did not have an active trading market, so investors instead relied on mark-to-model valuation of these securities. When assumptions underlying the models turned out to be wrong, investors panicked because they did not know what the securities were worth.

In theory, this overreliance on mathematical models is self-correcting because the recent crisis, by its very existence, has shaken faith in the market's ability to analyze and measure risk through models. Securitization products are likely to be confined, at least in the near future, to those that can be robustly modeled. The only question will be the longevity of the lesson that future risks cannot always be predicted through mathematical models.

### **PART III**

#### **THE FUTURE OF SECURITIZATION**

##### A. General Observations.

Because securitization, *properly utilized*, is an efficient financial tool, its future should be assured no matter how investors or politicians might temporarily overreact. Nonetheless, in the near future at least, it is likely that securitization transactions will need to refocus on basic structures and asset types in order to attract investors.

To this end, there likely will (and, I believe, *should*) be an emphasis on cash-flow securitizations in which there are the traditional “two-ways out.” An example of this would be the securitization of prime mortgages, in which payment can come from the borrower or the collateral.

Furthermore, we are not likely to see many highly complex securitization products, like ABS CDO transactions, which magnify leverage.

But there are exciting potential new applications of securitization, such as to microfinance. Microfinance refers to providing small loans and other proportionally sized financial services to low-income individuals and the poor, in order to enable them to start or expand small businesses. Microfinance loans are now being made domestically and around the world, with estimates of between \$20 and \$60 billion outstanding. As a result of microfinance's success, the need for microfinance lending vastly exceeds the amount of funds that can be raised from charitable donors. It has been estimated, for example, that of the one-and-a-half billion people potentially eligible for microfinance loans, only a hundred million people—less than seven percent—receive them.

To satisfy this demand, commercial banks have become vital funding sources for microfinance loans in many countries. But many of these banks are charging exorbitant rates of interest, with some charging interest rates of 100 percent or more.

I have recently argued that securitization can, and indeed should, be applied to microfinance to *disintermediate* the need for commercial banks. Even profit motivated investors should want to invest in microfinance lending as a means of diversifying their portfolios, thereby protecting themselves from market risk. The challenge, though, is to ensure that microfinance securitization transactions are structured with the lessons of the

failure of subprime mortgage securitization in mind,<sup>3</sup> and to resist political pressures to cut corners.

In the medium term, securitization's future will be at least marginally influenced by the extent to which the intrinsic values of mortgage-backed securities turn out to be worth more than their market values. I have argued that, as a result of irrational panic, the market prices of mortgage-backed securities *originally* collapsed substantially below the intrinsic value of the mortgage loans underlying those securities. A large differential would indicate that the problem was more investor panic than intrinsic lack of worth; although the subsequent collapse of the real economy to some extent has made the price collapse a self-fulfilling prophecy by causing even prime borrowers to lose their jobs and default.

Whether securitization will remain vibrant and inventive in the long term, however, will turn on our ability to better understand the problems of complexity, which was at the root of many of the failures that gave rise to the financial crisis. Complexity was the subject of yesterday's Leverhulme Lecture.

#### B. Alternatives to Securitization.

Covered bonds, which have a long history in European securities markets, are being widely touted as an alternative to securitization. By the

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<sup>3</sup> See *Disintermediating Avarice: A Legal Framework for Commercially Sustainable Microfinance*, forthcoming 2011 U. ILLINOIS L. REV., issue 4, available at <http://ssrn.com/abstract=1612766> (discussing 'Risk of Loss' in Part III.F thereof).

end of 2008, the amount of covered bonds outstanding in Europe alone was approximately 2.38 trillion euros, up from 1.5 trillion euros in 2003.

There is no formal international convention or treaty defining covered bonds. They are instead defined, de facto, by their characteristics. Essentially they are long-term debt securities that are secured by specific assets of the issuer of the bonds. The assets so constituting collateral are called “cover-pool” assets. To the extent the cover-pool assets are insufficient to repay principal and interest on the covered bonds, investors in the bonds have an unsecured claim against the issuer for the insufficiency (‘dual recourse’).

As with any granting of collateral, the cover-pool assets are deemed to remain on the issuer’s balance sheet (i.e., they remain owned by the issuer) for accounting purposes. Unlike normal collateral, however, these assets are “ring-fenced”—effectively segregated from the issuer’s estate—to give covered bondholders greater protection in the event of the issuer’s bankruptcy. Additionally, weak cover-pool assets are required to be replaced by good-quality assets throughout the life of the covered bonds, thereby maintaining a requisite level of “overcollateralization”—a surplus of collateral value over indebtedness.

To ensure this is all enforceable by covered bondholders against other creditors of the issuer, some countries have promulgated specific covered bond legislation (a “legislative” covered bond regime). Absent such legislation, covered bondholders must rely on contractual protections and related commercial law (a “structured” covered bond regime).

*Covered bond and securitization transactions have significant similarities.* The most important is that both strive for bankruptcy remoteness—the goal of protecting covered bond investors in the event of the issuer’s bankruptcy. Covered bond transactions strive to achieve bankruptcy remoteness through ring-fencing or by legislative fiat. Securitization transactions achieve bankruptcy remoteness by having the company originating the receivables (the “originator”) transfer those receivables, in a “true sale” under bankruptcy law, to a bankruptcy-remote SPV—steps that can parallel ring-fencing.

Another important similarity is that after covered bondholders are paid in full, and also after securitization investors are paid in full, any residual value from the transferred assets is returned for the benefit of other creditors.

There are, however, several differences between covered bonds and securitization. A primary distinction is that covered bonds have dual recourse, whereas securitization constitutes non-recourse financing. Another distinction is that, in covered bond transactions, the cover-pool assets typically remain on the issuer’s balance sheet for accounting purposes whereas, in securitization transactions, it has been more typical for the transfer of assets from the originator to the SPV to be accounted for as a sale.

This accounting distinction is somewhat artificial, however. Securitization transactions can be—and increasingly are—structured as on-

balance-sheet transactions. The absence of an accounting benefit does not undermine securitization's key fundraising and risk-transfer functions. The dual recourse distinction, however, is more critical.

Securitization, much like a new-money loan, would not harm unsecured creditors of a company to the extent it entails the exchange of one type of asset (e.g. mortgage loans, automotive loans, or other financial assets) for another asset, cash. But unsecured creditors can fare differently when a company issues covered bonds. Covered bonds are roughly equivalent to a securitization in their neutral immediate impact—unsecured creditors would only be harmed to the extent a covered bond issue increases the issuer's chance of bankruptcy or there is overinvestment of the proceeds of the bond issue. *Covered bonds, however, go beyond securitization in two ways that can harm unsecured creditors.*

In a securitization, if the overcollateralization is insufficient to repay investors, the investors suffer a loss because they only have recourse to assets that the SPV has already purchased. The pool of assets available for repayment is, in other words, effectively fixed or static. In contrast, in covered bond transactions, the cover pools are usually dynamic, requiring the covered bond issuer to continually segregate new assets as needed to maintain overcollateralization—thereby enabling the covered bonds to continue to be paid in priority to unsecured claims.

Covered bonds also go beyond securitization in their recourse. Whereas securitization transactions are non-recourse, covered bonds have dual recourse. If, therefore, the cover-pool assets are insufficient, covered

bondholders have a recourse claim against the issuer. That claim, being *pari passu* with unsecured creditor claims, would further dilute unsecured creditor recovery.

As a result of the dynamic cover pool and dual recourse, covered bond transactions thus shift virtually all risk to unsecured creditors. The extent to which risk should be allocated so asymmetrically is an important policy question that should be addressed by any governments and market participants exploring covered bonds as an alternative to securitization.