Timothy Lane: Shedding light on shadow banking

Remarks by Mr Timothy Lane, Deputy Governor of the Bank of Canada, to the CFA Society Toronto, Toronto, Ontario, 26 June 2013.

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Introduction

Thank you for inviting me to speak to you today. I would like to take this opportunity to talk about shadow banking, which is an important area for financial system reform, both globally and in Canada.

Shadow banking refers to a set of activities outside the formal banking system that carry out similar functions to those performed by banks. While the term “shadow banking” tends to suggest something secretive or illicit, I will argue that, on the whole, shadow banking serves a useful purpose. At the same time, the experience during the global financial crisis revealed that shadow banking has some important fragilities. I will talk about certain common threads in the reforms being developed at the international level to address these fragilities and their relevance to Canada.

How does shadow banking work?

Shadow banking comprises activities involving some element of maturity and liquidity transformation, credit extension, and risk transfer, conducted partly or wholly outside the “traditional” banking system. It covers a wide range of activities, including securitization, repos, and money market funds (MMFS) as well as some activities of non-bank financial institutions such as finance companies and credit hedge funds.

Different investors have different time horizons and different degrees of tolerance for illiquidity and risk. Investors seeking safe places to park their cash holdings typically prefer to hold assets that are of short maturity and liquid. The economy benefits from the existence of safe assets – assets that can be accepted without constantly having to scrutinize the issuer’s financial statements.[1] At the same time, many of the productive long-term investments in the economy – investments that are essential to build its productive potential – are inherently illiquid, long-term, and risky.

As a result, there is a clear role for institutions – either banks or shadow banks – to issue liabilities that are shorter-term, liquid and safe while holding longer-maturity, less liquid and/or risky assets. At the same time, this role brings with it intrinsic risks, as seen by bank runs and failures throughout the history of banking. Such risks are also illustrated by the implosion of some shadow banking activities – such as the collapse of asset-backed commercial paper and runs on repos and MMFs – during the global financial crisis.

So how do you establish confidence that liabilities are safe and liquid?

Banks have a number of features that help them establish confidence. Traditionally, they seek to build and maintain reputations for safety and soundness, in part to earn profits based on those reputations. They typically engage in a broad range of activities, both to diversify their risks and to pursue such profit opportunities. The scope of their activities in many cases makes banks highly interconnected with the rest of the financial system.

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[1] A paper by G. Gorton, S. Lewellen, and A. Metrick, “The Safe-Asset Share,” *American Economic Review* 102 (3)(2012): 101–106, discusses the economic role of safe assets – characterized as assets that are “informationally insensitive” – and shows that they have been stable as a share of total assets over a long historical period.

Banks also maintain confidence through their capital and liability structure. The capital invested by their shareholders is available to absorb losses. They hold liquid assets so that they can redeem deposits on demand. At the same time, since banks are highly leveraged, they have a strong incentive to manage the risks to which they are exposed, notably credit risk, including by collecting information about their borrowers and monitoring their behaviour. Strong banks have long been synonymous with high capitalization levels, conservative balance-sheet structures, and robust risk-management and lending standards.

Despite these traditional features, banks are still subject to runs and failures, which carry enormous costs for the economy. From the Great Depression to the Great Recession, instances of banking failures have led to public policy initiatives to make banks safer. Central banks provide liquidity to banks that are solvent but have run short of liquid assets. Deposit insurance reduces the incentive for depositors to run on a bank in times of stress. These elements of the "safety net" are complemented by stringent regulation – requiring that banks have enough capital to absorb losses and enough liquid assets to meet plausible potential drains. In addition, bank supervisors scrutinize many aspects of their operations. Regulation and supervision are essential to maintain depositor confidence and to ensure that banks do not rely excessively on the safety net – thus limiting moral hazard.

So what about shadow banking?

Confidence in shadow banking is partly based on collateral. For example, investors hold asset-backed securities mainly on the strength of the underlying assets, rather than on the reputation of the issuer – which may be an anonymous special purpose vehicle created for the sole purpose of holding the assets and issuing securities. Similarly, investors provide cash in repo transactions because, even if the institution receiving the cash were to default, the institution providing the cash would have a claim on the underlying asset.

In other cases, shadow banking assets are perceived to be safe because of the narrow range of activities in which they engage. For example, MMFs provide a close substitute for bank deposits, partly because they invest only in very liquid, short-term, low-risk securities.

Other shadow banking institutions, such as credit hedge funds and finance companies, have structured their assets and liabilities in various ways to avoid being subject to runs.

Thus, shadow banks have a variety of business models to maintain investors' confidence and obtain access to financing. These models are different from those of regular banks, and from one another.

So what is the advantage of shadow banking, given that banks already exist?

For some forms of intermediation, shadow banking may be more efficient and provide healthy competition for traditional banks. Room on banks' balance sheets is expensive, so avoiding the use of those balance sheets can save money and free up lending capacity. The regulations to which banks are subject may also give them less flexibility to serve some sectors of the market, or at least restrict their ability to offer those customers a competitive package. Where banks do not tread, shadow banking steps in to fill the gaps and make the financial system more efficient. A financial system with a diverse set of business models may be both more innovative and more resilient. And, given that banks are often highly interconnected, there may be an advantage, in the interest of financial stability, to transferring some risk outside of the banking system. In particular, by using market mechanisms to distribute and diversify this risk, it will end up being borne by those investors most willing to hold the risk.

At the same time, shadow banking can be a form of regulatory arbitrage, circumventing the regulations to which banks are subject. Such behaviour can create distortions and additional risks to the system. As bank regulations are tightened, the incentives for such behaviour obviously increase.

While banks and shadow banks have separate functions and activities, it is important to remember that their paths intersect. Shadow banking relies on traditional banks. Many forms of shadow banking, such as asset-backed commercial paper and related structured products, often require support from banks through liquidity lines to bring them to market. And banks in turn rely on shadow banking for funding, for example, through repo residential mortgage backed securities or covered bonds.

What went wrong?

The weaknesses of both traditional banking and shadow banking were clearly exposed during the global financial crisis: both proved vulnerable to run-like behaviour despite features intended to bolster confidence. A number of core funding markets froze up as financial institutions lost the confidence to lend to one another. The flight from counterparty risk reflected the vulnerabilities of many banks, as well as the fragility of the shadow banking system.

I won't dwell on the vulnerabilities of the banks and how they are being addressed, since that has been discussed in considerable detail elsewhere, but I will discuss some of the weaknesses exposed in global shadow banking.

During the crisis, repo markets came under severe stress. Market makers and cash lenders became less able and willing to provide repo financing, and, as a result, some repo borrowers experienced difficulties financing even good-quality collateral. Borrowing limits were reduced, the terms of transactions shortened, haircuts on private securities accepted as collateral widened and the range of securities accepted as collateral narrowed down to all but the safest. The volume of repo transactions dropped off sharply. Such strains were experienced in Canada and around the world.

Markets for various asset-backed securities collapsed. In the United States, markets for mortgage-backed securities and various other structured products essentially closed: issuance stopped, prices fell sharply, and perceptions of these securities' safety were badly damaged. Canada experienced its own crisis in non-bank asset-backed commercial paper in mid-2007; only coordinated action by the public and private sectors prevented potentially catastrophic system-wide repercussions.

Money market funds in the United States experienced substantial drains, as fears emerged that these funds would have to "break the buck." The Federal Reserve introduced extraordinary liquidity facilities and the United States government provided temporary guarantees to halt a full-fledged run.

These developments were similar to traditional bank runs – a general withdrawal of participation from certain markets for fear of counterparty risk. They also exposed the risks associated with the use of collateral as it became more difficult to value and dispose of in illiquid markets. We saw that as the system came under stress, market participants faced the prospect of unloading collateral at fire-sale prices – in many cases exposing institutions to "wrong-way" risks for which they were inadequately prepared.[2] For similar reasons, margins on derivatives transactions and haircuts on collateral increased. These stresses in the shadow banking system amplified the stresses on the financial system more generally and transmitted them globally.

Another underlying issue that surfaced was the misalignment of incentives. Here, a striking example is the case of mortgage-backed securities, structured products and the "originate to distribute" model. Since investors could not readily assess the quality of the assets backing

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[2] "Wrong-way" risk refers to the risk that the value of collateral is more likely to decline under the same circumstances in which a counterparty is more likely to default. (In other words, collateral turns out to be insufficient precisely when it is needed most).

these securities, there was an incentive for originators to use, and over-issue, lower-quality assets, knowing that they would earn the origination fees, while the investors would bear the risk. Moreover, the complexity of some structured products obscured high levels of leverage, which exacerbated losses when the underlying asset values declined.[3]

The linkages between traditional banks and shadow banks meant that vulnerabilities spread. For example, when asset-backed securities came under pressure, the sponsoring banks faced significant drains through the credit and liquidity lines they had provided. In some cases, they ended up standing behind the asset-backed securities they had sponsored, largely to maintain their reputations, despite having no legal obligation to do so. At the same time, since shadow banking had become an important source of funding for the banks themselves, stresses in shadow banking had an impact on the banks: for example, when repo markets seized up, banks faced severe funding pressures.

How to fix it?

The experience of the crisis points to a need for reforms that will enable shadow banking to continue to play a useful role while addressing its inherent risks. The purpose here is not to stamp out all risk, but to ensure that risks are appropriately understood and managed. A related purpose is to prevent an increase in shadow banking activity driven solely by regulatory arbitrage in response to the tightening of regulations faced by banks.

The Financial Stability Board (FSB) has mapped out international work on shadow banking, identifying five work streams: links between banks and shadow banking; money market funds; other shadow banking organizations; securitization; and securities lending and repos. The FSB has also begun monitoring the evolution of the sector and the associated risks.

To guide the key reforms, the FSB has established some basic principles. The regulatory measures should be:

- focused, to target the risks that shadow banking creates;
- proportionate to the risks to the financial system;
- forward looking and adaptable to emerging risks and innovations;
- effective, so that they balance the need for international consistency as well as jurisdictional differences; and, finally,
- regularly assessed and reviewed following implementation, and improved as necessary.

I would like to stress some common threads that run through the global reform agenda: reducing susceptibility to runs and liquidity freezes and better aligning incentives. Let me talk about how they apply to three shadow banking activities: repo markets, securitization and MMFs.

With repo markets, a key element is to reduce vulnerability to the kind of concerns about counterparty risk that surfaced during the crisis. One important aspect of the reform discussion relates to how market participants set haircuts – the amount of collateral they require – on repo transactions. The focus on haircuts is a question of perception versus

[3] In the United States, during the pre-crisis period, securitization did not disperse risks to the extent that had been believed. In fact, it amplified the exposure of many institutions to a common shock linked to the U.S. housing and mortgage markets and may have increased interconnectedness within the financial system. The widespread use of credit ratings for these structured mortgage products gave investors a misleading sense of security because these ratings were primarily based on the idiosyncratic risks of the mortgages in the securitization pool, rather than on the systemic risk of a collapse in the U.S. housing market. The Financial Stability Board has since introduced principles to reduce reliance on ratings from credit-rating agencies.

reality. It recognizes that when market conditions are good, with low volatility and low perceived levels of risk, the haircuts charged by market participants can fall below levels that might be considered prudent from a risk-management perspective.

This can result from competitive pressures among financial institutions or because haircut methodologies place more weight on recent benign market movements. Declines in haircut levels increase the ability of market participants to obtain leverage, which in turn can fuel further increases in asset prices. When a shock hits, this cycle can quickly reverse as asset prices fall, volatility spikes, haircuts are raised and margin calls ensue.[4]

In light of this possibility, serious consideration is being given to enforcing minimum quality standards for the methodologies that market participants use to set collateral haircuts for repos. This could include imposing minimum numerical haircuts for certain types of more risky transactions.[5]

Now let me turn to securitization. Here, one of the priorities is to align the incentives of institutions that originate loans with those of investors. Proposals have focused on the need to ensure that the originators have "skin in the game," by requiring them to retain a certain minimum share of the securities they sell, and to enhance transparency regarding the underlying assets.

Proposals for the reform of MMFs focus on reducing their vulnerability to run-like behaviour. Like bank deposits, an MMF traditionally promises to redeem its shares at par, that is, at a constant net asset value. The MMF investors may thus have an incentive to run in a case where the assets may be insufficient to back up that claim – for instance, if there are concerns that the fund may have suffered serious credit losses on some assets.

Various proposals to address that weakness are on the table: moving to variable net asset value; requiring a cushion of capital or imposing tighter requirements on the liquidity of the assets held by the MMF; establishing "gates" – i.e., restrictions on investors' ability to withdraw their money at short notice; or a combination of these measures. The goal is to make MMFs less vulnerable to runs without ending their usefulness as a close substitute for bank deposits and an important source of short-term funding for a number of private and public sector borrowers.

What does this mean for Canada?

So far, I've been talking about shadow banking issues mainly from an international perspective. Now I would like to focus on how these issues apply here at home. In Canada, shadow banking is more limited in scale and scope than in other jurisdictions, especially the United States, where competitive pressures and regulatory restrictions drove some activities out of the banking system.

Let's look at some numbers. Shadow banking in Canada represents about 40 per cent of activity in the traditional banking sector, down from an average of about 50 per cent during the decade before 2008. As a share of GDP, Canadian shadow banking is roughly 40 per cent, compared with about 95 per cent in the United States.[6]

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[4] Committee on the Global Financial System, 2010, "The Role of Margin Requirements and Haircuts in Procyclicality," CGFS Publications No. 36.

[5] Financial Stability Board, 2012, "Securities Lending and Repos: Market Overview and Financial Stability Issues," Interim Report of the FSB Workstream on Securities Lending and Repos, 27 April.

[6] See, T. Gravelle, T. Grieder and S. Lavoie, "Monitoring and Assessing Risks in Canada's Shadow Banking Sector," Bank of Canada *Financial System Review* (June 2013): 55–63.This is a measure of shadow banking *activities*, some of which are undertaken by banks and other regulated financial institutions. This is in contrast to entity-based measures reported by the FSB, which comprise only the assets of institutions outside the perimeter of prudential regulation. According to the FSB definition, assets of shadow banking entities in

The composition of shadow banking is also different in Canada than elsewhere. One key element is repo markets, which are an important funding market for Canadian financial institutions. Although repo markets are based primarily on government securities involving little credit risk, and in most cases at least one of the counterparties is a regulated financial institution, during the crisis they experienced the kind of freezes that occurred in other countries. This experience is motivating the move toward central clearing of repos using the Canadian Derivatives Clearing Service, which went live last year.[7]

A very important element of shadow banking in Canada is the securitization of government-guaranteed mortgages, which essentially converts illiquid assets – mortgages – into more liquid, securitized debt instruments. This form of securitization has more than doubled over the past five years.[8] When mortgage lending is funded by issuing debt securities backed by insured mortgages, it moves mortgage lending away from its traditional on-balance-sheet model whereby mortgages are funded by branch-sourced, retail deposits. This represents a relatively low-cost form of term funding for financial institutions. Here, a key concern is the potential misallocation of resources away from non-mortgage lending toward mortgage credit – which, in the current economic environment, contributes to the buildup of imbalances in the household sector.[9]

Another aspect of the securitization of insured mortgages is the increasing role of specialized mortgage-lending institutions. These institutions are not subject to the same level of scrutiny as banks and in some instances don't have access to as stable and diversified sources of funding. While their small size suggests that they do not pose systemic risk, they do involve elements of shadow banking risk that call for careful monitoring.

Money-market funds make up a fairly small segment of shadow banking in Canada. At the end of 2012, Canadian MMFs had approximately $30 billion of assets under management, less than half of the peak level reached in 2009. Despite their small size, the risk of runs posed by MMFs still exists and must be managed carefully.

Coming in from the shadows

Recognizing both the benefits and the risks of the shadow banking sector, we need to continue working to make it safer.

Internationally, we are working with our partners in the FSB to develop an integrated set of recommendations that will be presented at the G-20 meetings in St. Petersburg in September.

The Canadian authorities will need to decide how to implement the reforms that are agreed at the global level. Some measures that could be considered include:

- Establishing consistent standards for how haircuts are set on repo transactions, including numerical minimum haircuts for some types of transactions;
- Requiring that originating securitized products have enough skin in the game to align their incentives better with those of investors;

Canada were 28 percent of GDP in 2011. The measure of traditional bank liabilities consists of gross deposits (including longer-term Canadian-dollar unsecured debt), subordinated debt and the foreign currency deposits of Canadian residents.

[7] A. Côté. 2013. "Toward a Stronger Financial Market Infrastructure for Canada: Taking Stock." (speech to the Association for Financial Professionals of Canada (Montréal Chapter), Montréal, Quebec, 26 March).

[8] The value of securitized mortgages grew from $160 billion in 2007 to $386 billion at end-2012.

[9] The Bank of Canada's June 2013 *Financial System Review* provides an updated assessment of the system-wide risks associated with household sector imbalances.

- Making money market funds less vulnerable to runs, through an appropriate combination of capital and liquidity requirements, and restrictions on withdrawals;
- Establishing a clear and consistent framework for regulating other shadow banking institutions;
- Limiting banks' exposure to shadow banking activity; and
- Providing the right degree of transparency around many aspects of shadow banking, so that market discipline can work better.

Conclusion

As I have stressed, shadow banking delivers important benefits to the economy. There is a need for the liquidity and maturity transformation, credit extension and risk transfer it provides. In delivering these services, it is healthy to have an alternative to the traditional banking system that provides competition, diversity and innovation.

At the same time, reforms are needed to make shadow banking safer. Shadow banking should be made less susceptible to run-like behaviour and contagion. Aligning incentives – through transparency and appropriate regulation – is also essential. Canada has a stake in these reforms, both as a beneficiary of a more resilient global financial system and because our own shadow banking activities could be made more robust.

Since innovation is one of the key benefits of shadow banking, innovation is also a fact of life in regulating the sector. Shadow banking has been known to reinvent itself and will continue to do so in response to regulation. We will need to develop and adopt principles that are broad-based enough to encompass new activities.

Risk is inherent in the global financial system. We can't stamp it all out, nor would we want to. Rather, the goal is to create incentives so that risk is allocated and managed appropriately, both in banking and in shadow banking activities, making the entire financial system stronger and more resilient.