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Systemic Financial Risk:

CAN NEW REGULATIONS PROTECT THE PUBLIC FROM WIDESPREAD ECONOMIC FAILURE?

ANITA ANAND + STEVEN L. SCHWARCZ

ONE ISSUE
TWO VOICES

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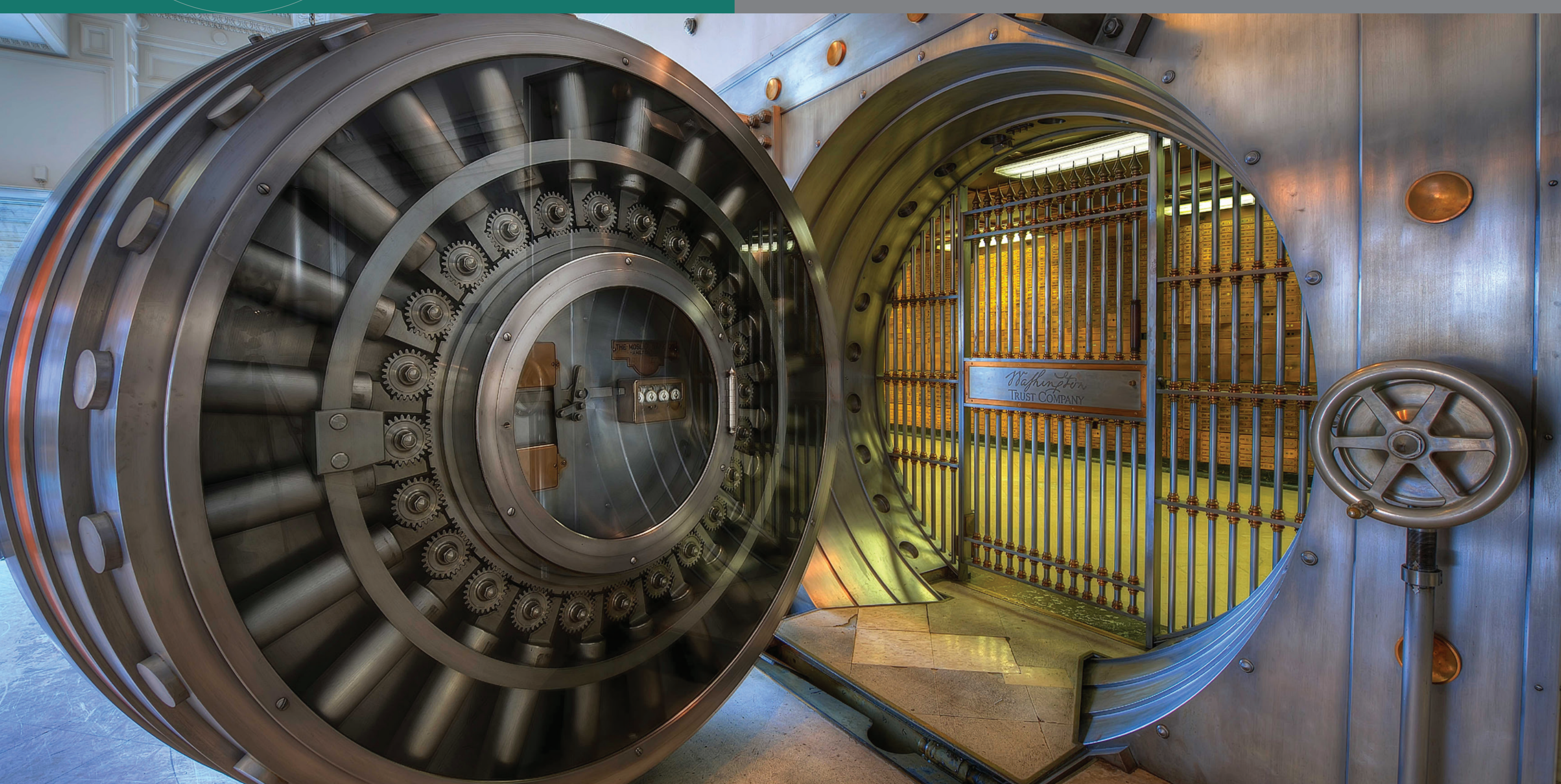

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INTRODUCTION: The *One Issue Two Voices* series presents a dialogue between two leading experts in their fields from Canada and the United States to discuss a policy area of importance to the two countries. Through this dialogue, the *Canada Institute* seeks to identify areas of convergence and divergence and lay the groundwork for future policy recommendations. In this report, Anita Anand and Steven L. Schwarcz assess the options for mitigating systemic financial risk in both Canada and the United States. The regulatory systems in the two countries provide a unique lens through which to explore systemic risk since the systems are broadly interconnected but also separated by a number of regulatory distinctions.

The multiple failures that triggered the 2008 global financial crisis changed the way businesses and governments view risk. *The Economist* notes that financiers who believed that they had found a way to banish risk had instead "simply lost track of it."[1] Rather than breakdowns of individual institutions, systemic risk refers to the probability of breakdown of an entire system, and highlights the vulnerability that arises from the interdependence inherent within the global financial system.

The cascading dynamic that transformed individual failures into a global financial crisis has led policy makers to consider more closely the nature of systemic financial risk and to the consider various regulatory instruments and institutions to prevent a replay of the crisis.

In his briefing, Schwarcz argues that financial institutions and financial markets can trigger and transmit financial risk that could lead to the collapse of the system. Regulation helps to protect investors against fraud, maintain competition and correct market failures.

While recognizing the importance of regulation, Schwarcz concludes that recent attempts at regulating systemic financial risk such as the U.S. *Dodd Frank Act* fall short for a number of reasons, including that they focus on financial institutions, not financial markets, and are constrained by national jurisdictional boundaries. Complexity of financial markets is also an impediment to stabilization efforts, as is moral hazard, i.e. market participants engage in risky behavior because they don't bear the full cost of that behavior.

In the Canadian context, Anand argues that while it is true that Canadian capital markets weathered the financial crisis better than their peers, there are a number of aspects of the Canadian system that can give rise to systemic instability. For instance, even though Canada's regulatory framework helped to safeguard against contagion, certain risk sources augmented the scale of the crisis. In the case of Asset-Backed Commercial Paper, for example, issuers were exempt from certain disclosure and supervision requirements and ratings agencies approving the securities for distribution were unregulated.

Anand agrees with Schwarcz that consumer protection is not the central concern of the individuals supervising the system. Prudential regulators seek to limit risk taking by financial institutions and central banks seek to reduce risk system wide. Nevertheless, she argues, the effects of both central banking and prudential regulation are to ensure that consumers are protected. Anand raises the question of whether Canada needs an entity to provide comprehensive oversight of systemic risk and what changes to the status quo might be needed to ensure more effective supervision. Anand also emphasizes the importance of coordination among regulators both within and across countries.

Finally, one of the most important areas of convergence between the two authors is the recognition that governance of financial institutions is different from that of a public corporation and that financial regulators have a duty to avoid risk taking that could systemically harm the public.

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Steven L. Schwarcz

MANAGING SYSTEMIC RISK: AN AMERICAN VIEW

Beginning in 2007, an unanticipated fall in American housing prices triggered a cascade of failures as mortgage borrowers defaulted on their loans and investment-grade securities backed by these mortgages were downgraded. When the U.S. government refused in 2008 to step in with multi-billion-dollar loans to bail out Lehman Brothers—the fourth largest investment bank in the United States—Lehman's bankruptcy caused the short-term commercial paper market to virtually shut down, and banks and other financial institutions holding mortgage-backed securities had to write down their value even further. Lehman's bankruptcy also caused many of the highly leveraged firms that had been doing business with Lehman—its counterparties—to appear risky, and in the panic that ensued, the fire sale of their assets exacerbated the overall fall in prices.

These events had massive worldwide ramifications, in part due to finance's increasingly global interconnections. In our borderless financial world, the international financial system can collapse like a row of dominos. In the years since, much has been written about systemic risk in the hope that an understanding of its causes and how best to curb it will prevent similar crises from happening again.

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SOURCES OF SYSTEMIC RISK

There has been confusion about the sources of systemic risk. Historically, economists and other scholars discussed it primarily in terms of banks. More recently, they have included other financial institutions in the discussion. This still-limited focus assumes that banks and other financial institutions are the primary source of corporate financing. However, the financial crisis revealed that businesses access much of their funding directly from capital markets without going through intermediary institutions—a process known as "disintermediation."[2] We now know that both financial institutions and financial markets can be triggers and also transmitters of systemic risk, leading to the potential collapse of the financial system.

By systemic risk, I refer to an economic shock (such as a market or institutional failure) that triggers a) the failure of a chain of markets or institutions or b) a chain of significant losses to financial institutions. These failures result in increases in the cost of capital or decreases in its availability.

REGULATING SYSTEMIC RISK

Textbooks claim that perfect markets would never need external regulation, but history proves that markets, including financial markets, are not in themselves perfect. At times, government intervention is necessary. Regulation of systemic risk has traditionally focused on preventing bank failures. Banks are required to hold minimum levels of capital, for example, and the U.S. Federal Deposit Insurance Corporation (FDIC) serves to prevent bank runs by alleviating fears that banks will default on deposit accounts. Going forward, how else should systemic risk be regulated?

In considering that question, it is important to keep in mind that regulation can be expensive. Government or government-delegated employees have to be hired to enforce the regulations. Regulation can sometimes produce unintended negative consequences—such as a reduction in the number of transactions and restraints on both innovation and the natural evolution of markets. In addition, regulation that protects against the results of risky behavior can motivate even more risk-taking, in the anticipation that government intervention or bailout loans will likely prop up failing companies. In contemplating more regulation, we have to ensure that its costs do not exceed its benefits.

Because systemic risk is a form of financial risk, one justification for its regulation is to maximize economic efficiency—to maintain competition, protect investors against fraud and other abuses, prevent externalities, and correct market failures. For that reason, the goal of U.S. securities laws (as of similar laws worldwide) is efficiency. In addition to risks *within* the financial system, however, systemic risk focuses on risks to the financial system. As such, the regulatory regime must aim to preserve both the efficiency and the stability of the financial system as a whole.

We cannot depend on the private sector to preserve stability. Like a tragedy of the commons,[3] individual market participants are motivated to protect themselves rather than the financial system. While the benefits of exploiting finite capital resources accrue to individual participants, the costs are distributed among many. Individuals have little incentive to limit their risk taking in order to reduce the systemic danger to other participants in the financial system.

To be most effective, financial regulation must be situated within an analytical framework—one that realistically describes systemic risk and explains why free-market factors do not constrain it.

The Dodd-Frank Act

Amid the angst on how best to avoid another "Great Recession," in July 2010 the Obama administration passed the *Dodd-Frank Wall Street Reform and Consumer Protection Act*[4] (commonly known as *Dodd-Frank*)—an enormous set of new laws designed to minimize financial risk through tight regulations on key financial institutions. All told, it represents the most drastic change in U.S. financial regulation since the Great Depression of the 1930s.

To list but a few of its provisions, the *Dodd-Frank Act* stipulates new ways to dissolve large, "systemically important" banks and other financial institutions (SIFIs) without the need for government bailouts, including requiring them to submit a "resolution plan" that sets out how, in the event of financial failure, they would wind down in a way that minimizes systemic impact. In addition, it attempts to improve disclosure, standardizes some derivatives transactions and requires them to be implemented through clearing houses, limits SIFIs' ability to engage in "proprietary trading" (investing in securities for their own account),[5] and requires SIFIs to establish risk committees to oversee risk management. It also requires SIFIs to be subject to a range of capital, leverage, and liquidity requirements and to undergo periodic "stress testing." To address the asset-backed securities markets, *Dodd-Frank* mandates heightened reporting and disclosure requirements and also requires securitizers to retain a 5 percent minimum risk—the so-called "skin in the game." And to protect consumers, the Act created the Consumer Financial Protection Bureau (CFPB).

Although many experts agree that *Dodd-Frank* has been a limited success, they also recognize that it has fallen short of the ideal. Opinions on the left and the right are sharply divided over its efficacy. Populists claim that nothing significant has been done to rein in Wall Street; conservatives remain intent on killing the law as an unwanted and market-distorting intrusion on free enterprise[6] with the unintended effect of concentrating, rather than reducing, derivatives risk;[7] and moderates argue that, though flawed, the law has curbed abusive lending practices, improved the regulation of financial derivatives, increased transparency, and instituted an orderly procedure for liquidating failing financial institutions.[8]

In my view, although *Dodd-Frank* represents limited progress in identifying and managing systemic risk, it is severely constrained by being, at least in part, a political response to the financial crisis. To be most effective, financial regulation must be situated within an analytical framework—one that realistically describes systemic risk and explains why free-market factors do not constrain it.[9] For example, although it is now apparent that both financial institutions and financial markets can be triggers and transmitters of systemic risk, *Dodd-Frank* primarily focuses on financial institutions, largely ignoring financial markets. And even in that limited context, *Dodd-Frank* (unwisely, as I'll discuss) restricts the Federal Reserve's power to make emergency loans to financial institutions. Dodd-Frank also barely begins to address how the U.S. regulatory framework should fit as part of a global financial regulatory framework.

Still, *Dodd-Frank* does have the potential ultimately to reach beyond political responses, once further study has been carried out. Most promising, the law has created a nonpartisan Office of Financial Research as well as a Financial Stability Oversight Council (FSOC)—to find gaps in the regulations and to monitor and identify potential systemic threats.

OTHER REGULATORY APPROACHES

In the years since the financial crisis, many scholars and experts have written about a variety of regulatory approaches to help eliminate the risk of systemic collapse. They have often disagreed in their approach. I will now outline some of these suggestions briefly and comment on the likely results.

Aligning Compensation

Compensation structures that provide incentives for corporate risk-taking have been targeted as a potential area for reform.[10] The *Dodd-Frank Act* only partly addresses this problem. Because financial managers can work worldwide, addressing this problem will almost certainly require collective action that transcends national borders.

Averting Panics

Financial panics are often the triggers that set a chain of failures in motion—of which the financial crisis is but one example. But how can we actually prevent panics when we cannot even anticipate all their causes? Moreover, investors are not consistently rational: even when incipient panics are identified, they cannot always be averted easily.[11]

Requiring Increased Disclosure

Another regulatory approach is to require increased disclosure. Under U.S. securities laws, disclosing risks has traditionally been viewed as the primary mechanism for regulating financial markets. By reducing, if not eliminating, asymmetric information among market players, the argument goes, the risks are transparent to all. As mentioned, the *Dodd-Frank Act* itself focuses on improving disclosure.

In my view, greater disclosure will do little to prevent systemic risk.[12] Individual market participants who fully understand that risk will be motivated to protect themselves, not the financial system as a whole. In the lead-up to the financial crisis, most of the risks about the complex mortgage-backed securities were disclosed. Yet even the most sophisticated institutional investors purchased those securities without fully understanding them. Due to general complacency, the desire for quick profits and high yields, a tendency to follow the herd, and middle-management conflicts of interest,[13] they overrelied on private credit ratings. In this respect, the full disclosure misled regulators to believe that these investors understood (and priced in) the risk they were taking.

Imposing Limits on Financial Exposure

In a highly interconnected financial system, the failure of one or two big institutions can create defaults large enough to destabilize other highly leveraged investors. Regulations requiring reduced leverage could lower the likelihood that an institution would fail and, simultaneously, reduce the risk that financial contagion would be transmitted between institutions. Such limits would also facilitate stability by reducing the likelihood that counterparties would fail. That in turn might make counterparties less likely to panic and rush to close out their positions. In theory, this approach may sound promising, and indeed *Dodd-Frank* imposes a host of leverage and similar restrictions on SIFIs. The actuality, however, can be more complex: some leverage is good—and it is impossible to standardize an optimal amount of leverage to suit every institution.

Similarly, regulations limiting an institution's right to make risky investments might reduce risk. However, it is questionable whether the government should paternalistically impose a blanket prohibition—such as *Dodd-Frank's* so-called Volcker Rule[14]—to limit a sophisticated firm from exercising its own business judgment.

Limiting the Size of Financial Institutions

Institutions that believe they are "too big to fail" have been accused of engaging in excessively risky behavior, in the belief that the government will have no option but to bail them out. However, there is no clear proof of such behavior: the losses of huge institutions in the financial crisis can all be explained by other reasons.

In my view, it would be unwise to arbitrarily limit the size of financial institutions. So long as they are manageable, institutions should have the freedom to expand domestically and internationally to the size where they can compete successfully.

Reducing Complexity

Complexity may well be the greatest challenge to the financial system in the 21st century. Complexity can not only undermine disclosure—some things may be just too complex to disclose cost effectively[15]—but also create a "mutual misinformation" problem: an originator of a financial product may misjudge the risk and, by retaining what it believes is acceptable risk when selling the product, mislead investors into believing the product is safer than it is. This problem sometimes occurred when underwriters, before the financial crisis, sold complex multilayered, leveraged mortgage-backed securities.

An obvious solution would be to require investments and other financial products to be more standardized. In that scenario, market participants could reduce the time they spend on due diligence. However, the overall economic impact of standardization is not clear. It may well interfere with the efficiencies firms try to achieve when, for example, they craft financial products to meet the needs of particular investors.

WHAT MORE NEEDS TO BE DONE

I believe that more needs to be done on at least two fronts to adequately regulate systemic risk. First, I will discuss the need for *ex post* regulation to stabilize parts of the financial system afflicted by systemic shocks. Second, I will discuss the need to realign corporate governance and societal interests to help address what I referred to as a type of tragedy of the commons.

Ex Post Financial Regulation

The fundamental problem with systemic risk is that we do not yet, and may never, know how to prevent it. As a result, systemic shocks are inevitable. The regulation of systemic risk therefore should include the additional goal of protecting the financial system against the impact of those shocks. This could be done by stabilizing parts of the financial system afflicted by systemic shocks.[16]

Because the complexities in the financial markets resemble those found in complex engineering systems, chaos theory, which is used to address engineering system complexity, can also inform financial system complexity. The most successful (complex) engineering systems are those in which the consequences of failures are limited. There are at least two ways that financial regulation could limit the consequences of systemic failures: by ensuring liquidity to systemically important firms and markets, and by requiring those firms and markets to be more internally robust.[17]

As already discussed, the extent to which regulation should require systemically important firms to be more internally robust is unclear. Imposing leverage and other requirements for that purpose might even be economically counterproductive. Financial regulation could also help by ensuring liquidity to those firms. Traditionally that is done by a governmental central bank acting as a liquidity provider of "last resort."[18] The U.S. Federal Reserve Bank historically served as such

President Barack Obama delivers remarks and signs the Dodd-Frank Wall Street Reform and Consumer Protection Act at the Ronald Reagan Building in Washington, July 21, 2010. (Official White House Photo by Lawrence Jackson)

a liquidity provider to banks and other financial firms. The *Dodd-Frank Act*, however, restricted its power under §13(3) of the *Federal Reserve Act* to serve in that capacity, in order to limit moral hazard. I personally believe that restriction is the *Dodd-Frank Act's* greatest mistake.

A better way of limiting moral hazard would be to privatize at least part of any government-provided liquidity. For example, regulation could require systemically important firms to pay into a systemic risk fund designed for that purpose—which, in essence, is how banks pay for their FDIC deposit insurance. The possibility that systemically important firms will have to make additional contributions to the fund to replenish bailout monies should motivate those firms to monitor each other and help control each other's risky behavior.

In an era of disintermediation, it is also critical to focus on providing liquidity to critical capital markets as necessary to keep them functioning.[19] A government-sponsored market liquidity provider of last resort could act quickly to curb panic, stabilize markets, and provide a "floor" to how low the market would drop. It could even invest in securities at a deep discount from the market price and still make a profit, because over the long term it will likely be repaid. I have elsewhere explained in detail how such a liquidity provider could operate without creating moral hazard, including how its functions could be at least partly privatized.[20] At the start of the financial crisis, providing liquidity to the failing mortgage-backed securities markets could have helped to raise the prices of these securities to levels that more closely reflected their real value, reducing investor panic.[21]

Financial institutions and markets are global in their scope, so governments and international organizations such as the European Central Bank and the International Monetary Fund are increasingly concerned that a systemic collapse in one country could affect markets and institutions in other countries. We should examine how *ex post* regulatory approaches might work in an international context to limit systemic risk. To what extent, for instance, should a market liquidity provider of last resort be universal, or should it be different for different countries? And, if regulation is done only on a national level, what is the potential, globally, for a regulatory race to the bottom?

Realigning Corporate Governance and Societal Interests

One of the fundamental reasons why the private sector does not adequately constrain systemic risk is that individual market participants have a fundamental misalignment with societal interests. As mentioned, market participants are motivated to protect themselves rather than the financial system because the benefits of exploiting finite capital resources accrue to individual participants whereas systemic costs are distributed among many. Managers—and even members of the *Dodd-Frank*-mandated risk committees[22]—generally view the expected value of corporate risk-taking from the standpoint of a firm's investors, largely ignoring systemic externalities. How could regulation reduce that misalignment?[23]

Since the financial crisis, the control of excessive corporate risk-taking has focused primarily on prosecuting the big banks engaged in the risk-taking and on requiring SIFIs to establish internal risk committees.[24] But being managed by individuals, firms themselves are second-best targets of deterrence. Moreover, firm-level liability can inadvertently harm third parties, such as the prosecution of Arthur Andersen, which caused tens of thousands of employees to lose their jobs. And because the internal risk committees have not been specifically tasked with avoiding systemic risk, they are likely to control that risk indirectly at best.

To help control systemic risk, I have argued that managers of systemically important firms should have not only their traditional corporate governance duty to investors but also a "public governance duty" to society—a duty not to engage in excessive risk-taking that could systemically harm the public. This reformulation of corporate governance law raises a host of questions, including whether its costs would exceed its benefits, and I have elsewhere addressed these questions in detail.[25]

Traders on the floor of the New York Stock Exchange

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Anita Anand

REGULATING SYSTEMIC RISK IN CANADIAN FINANCIAL MARKETS

Since the 2008 financial crisis, regulators have been preoccupied with the notion of systemic risk in financial markets, believing that such risk could cause the markets they oversee to implode. At the same time, they have demonstrated an inability to develop and implement a comprehensive policy to address systemic risk. This inability is likely due not only to the ambiguity inherent in the term, "systemic risk," but also to existing institutional structures which, because of their mandates, ultimately make it difficult to regulate risk across an entire economic system. These two considerations —defining systemic risk and developing appropriate institutional structures— are central to any discussion of systemic risk.

The term systemic risk inspires ambiguity, despite the volumes of academic writing in this area.[2] While many agree that systemic risk refers to the interconnectedness of financial institutions in such a way that the failure of one may lead to the failure of others, they disagree about specifics, including the extent to which the risk should be specified and whether the contemplated collapse relates to financial institutions only or to the entire economic system.[3] This essay analyzes the term systemic risk, ultimately arguing that it has grown to refer not simply to the failure of financial institutions but also to events that cause volatility in capital markets more generally.

The essay is divided into three main sections, followed by a brief conclusion. The first section, "What Is Systemic Risk?" focuses on issues relating to definition. It also examines the concept of "macroprudential regulation," which, broadly speaking, is policy that seeks to mitigate systemic risk. The second, "Systemic Risk and the Canadian Financial System," examines the asset-backed commercial paper (ABCP) crisis and, in so doing, points to aspects of the Canadian economy that can give rise to systemic risk. The third section, "Regulating Systemic Risk," discusses the possible policy responses to these issues, culminating in a discussion of the Canadian federal government's new proposal for a cooperative regulatory authority.

These two concepts—defining risk and developing appropriate institutional structures—are central to financial market regulation.

WHAT IS SYSTEMIC RISK?

Most commentators agree that there is no universally accepted definition of systemic risk.[4] It comes as no surprise, then, that a primary criticism lodged against proponents of regulating systemic risk is that the term defies precise definition: "If we cannot define it, how can we regulate it?" An examination of the academic literature, as well as writings and speeches of policy makers during and following the financial market crisis, suggests that the term systemic risk has itself evolved over time. While originally conceived as the failure of one financial institution that in turn causes the domino-style failure of others, systemic risk now generally describes a possibility of financial meltdown that affects an entire economic system.

Traditionally, the literature has focused on the concept of systemic risk in the financial sector alone, referring to a triggering event that causes a chain of negative economic consequences.[5] Crockett explains this domino-style effect as follows:

> ***For banks, this effect may occur if Bank A, for whatever reason, defaults on a loan, deposit, or other payment to Bank B, thereby producing a loss greater than B's capital and forcing it to default on payment to Bank C, thereby producing a loss greater than C's capital, and so on down the chain.***[6]

Thus, the traditional definition of systemic risk relates specifically to financial institution failure brought on by defaults in contractual relationships between and among institutions.[7] The risk of a domino effect is central to this conception of systemic risk,[8] as is the risk of some triggering event that occasions the fall of the first domino.[9] To give one example, these features are apparent in the definition of systemic risk adopted by the Supreme Court of Canada:

> ***[R]isks that occasion a 'domino effect' whereby the risk of default by one market participant will affect the ability of others to fulfill their legal obligations, setting off a chain of negative economic consequences that pervade an entire financial system.***[10]

Unfortunately, this traditional definition has several problematic ambiguities. For example, at what point must the "risk" crystallize in order to be referred to as "systemic"? Is evaluation of the risk possible only after the financial institution has failed (for example, by declaring bankruptcy)? If only one financial institution fails, and others survive because of government intervention, does systemic risk arise? What type of triggering event can cause systemic risk—only the failure of financial institutions to meet their contractual obligations? The traditional definition leaves all of these questions, and others, unanswered.

These ambiguities have led John Taylor, a professor of economics at Stanford University, to develop a more structured definition. He highlights three components of any definition of systemic risk: the risk of a large triggering event; the risk of financial propagation of such an event through the financial sector; and macroeconomic risk that the entire economy will be affected.[11] The triggering event can arise from the failure of a financial institution, as described above; however, as Taylor explains, it may also arise from an exogenous shock—such as a terrorist attack (9/11) or a natural disaster—and the contracting of liquidity in the public sector.[12]

While Taylor's three-part definition of systemic risk leaves room for questions (for example, what is "financial propagation"?),[13] at the very least it suggests that the term can (and should) be interpreted more broadly to include risks that not only occasion the failure of financial institutions but also destabilize an entire economy.[14] Along these lines, Kaufman and Scott explain that the term "refers to the risk or probability of breakdowns in an entire system, as opposed to breakdowns in individual parts or components, and is evidenced by co-movements (correlation) among most or all of the parts."[15] Similarly, Dijkman asserts that "systemic risk usually refers to financial shocks that are likely to be serious enough to damage the real economy."[16] Thus, a link is drawn between the financial markets and the "real economy," that is, the economy concerned with producing and consuming goods and services as opposed to buying and selling financial products.

Policy makers, it appears, have also adopted a more general understanding of systemic risk than merely the domino-style failure of financial institutions. For example, Bank of England governor Mark Carney refers to the "probability that the financial system is unable to support economic activity."[17] Similarly, former Federal Reserve chairman Ben Bernanke writes that the concept of systemic risk should be broadly defined[18] to include "developments that threaten the stability of the financial system as a whole and conse-

Supreme Court of Canada, Wellington St, Ottawa
Photo courtesy of Robert Linsdell

quently the broader economy, not just that of one or two institutions."[19]

Even with a broad understanding of "systemic risk" the question arises as to whether the existence of systemic risk is discoverable ex ante (before the risk arises) or only *ex post* (after a breakdown in the financial system has made the risk evident). The development of policy relating to the mitigation of systemic risk depends on the ability to make predictions and determine whether those predictions are valid. There were moments before the crisis in the United States when regulators could have responded to systemic risk. For example, the former chair of the Commodity Futures and Trade Commission (CFTC), Brooksley Born, is widely acknowledged to have predicted the crisis in over-the-counter (OTC) derivatives before the 2007 financial market crash. Yet the U.S. Congress moved to enact legislation that prevented the CFTC from taking any pre-emptive regulatory action.[20]

If we agree that systemic risk may in fact require regulation, then we move into the sphere of "macroprudential regulation," a term that refers to a definite intention by regulators to respond to systemic risk (above and beyond merely identifying it). The Group of Thirty[21] has declared that "macroprudential policy is concerned not only with systemic risk but also with developing the appropriate responses to those risks in order to strengthen the financial system and avoid similar crises in the future."[22] The focus is on "the interconnectedness of financial institutions and markets, common exposures to economic variables, and procyclical behaviors [that] can create risk."[23] The reforms contemplated below modify this concept by seeking to ensure that any regulatory response to crises takes account of common institutions and markets.

SYSTEMIC RISK AND THE CANADIAN FINANCIAL SYSTEM

Some commentators may have difficulty discussing systemic risk in the Canadian context—and not only because of the definitional issues associated with the concept. Canadian capital markets fared relatively well during the recent financial crisis, and it could be argued that systemic risk has not been an issue for Canadian regulators, especially given that, historically, the Bank of Canada has regulated at least the clearing

A common thread running through the legal mandates of all of these bodies—securities regulators, monitors of financial institutions, and central banks—is that the same consumer base is ultimately served under each regime.

and settlement process.[24] However, there are aspects of the Canadian economy that can give rise to systemic instability—as, for example, with the asset-backed commercial paper (ABCP) crisis (discussed below).

Many commentators rightly point to the efficacy of Canada's regulatory framework in safeguarding against financial contagion.[25] Nevertheless, a consensus seems to be emerging regarding certain sources of systemic risk, perhaps applicable in any jurisdiction, which augmented the scale of the financial crisis.[26] These sources include regulatory capital requirements,[27] credit ratings,[28] derivatives trading, registration exemptions,[29] clearing and settlement systems,[30] lending standards, and securitization.[31] Conflicts of interest or other moral hazard problems are also endemic in Canada —particularly those associated with creditors (bank and non-bank), rating agencies, monoline (specialized) insurance policy providers, and distribution agents (dealers and investment advisors) — which may contribute to systemic risk.

The importance of these factors became evident during Canada's ABCP crisis.[32] The collapse of the ABCP market involved "conduits"—trusts holding pools of assets that issue notes or commercial paper—established and managed by sponsors (corporations, banks, or other third parties[33] that provided standby liquidity to the conduits),[34] while ratings agencies rated the ABCP, and investment dealers marketed and sold it to investors.[35] Experts agree that the U.S. subprime mortgage crisis was the catalyst for the near collapse of Canada's ABCP market,[36] which was averted through restructuring pursuant to the *Companies' Creditors Arrangement Act*[37] under the guidance of Purdy Crawford.[38] Had the $32 billion ABCP market collapsed, the default would have propagated throughout our financial system. Thus we must ask, what aspects of the ABCP crisis gave rise to a near systemic collapse? Responding to this question may shed light on the value of regulating systemic risk after the crisis, an issue discussed in more detail in "Regulating Systemic Risk" below.

ABCP was distributed almost exclusively in the exempt market,[39] with little oversight relative to thatexercised over issuers of securities (and their disclosure) in the public markets.[40] That said, ABCP could be issued without prospectus-level disclosure,[41] although some information did accompany the distribution of these securities: the distributing entities provided an information memorandum, a legal opinion, and a report by the associated rating agency, which in all cases was the Dominion Bond Rating Service (DBRS).

What factors gave rise to the ABCP crisis? First, ABCP issuers were exempt from securities law prospectus requirements, which would have mandated a certain level of disclosure with respect to the notes or commercial paper being issued.[42] Second, non-bank sponsors of ABCP issuers, for example Coventree Inc., were not subject to regulatory supervision in that capacity.[43] Third, domestic and foreign banks, as well as non-bank financial institutions, also acted as liquidity providers to the ABCP conduits, providing them with standby lines of credit. Many such liquidity providers were not subject to capital requirements and were otherwise minimally regulated (if the provider was not a financial institution). Fourth, the conduct of rating agencies that approved the securities (in this case DBRS) was unregulated.[44] Fifth, the risks borne by ABCP were passed on to the public by investment dealers and salespeople, who, while subject to "know your client" and "suitability" rules administered by the Investment Industry Regulatory Organization of Canada (IIROC), were not subject to any explicit fiduciary duties.[45]

More broadly, the ABCP crisis demonstrates that various aspects of Canada's financial system were poorly regulated. Regulatory authorities failed to act in a coordinated manner, which in turn allowed the ABCP crisis to evolve more quickly and to reach greater proportions than if regulators had worked together to forestall it.[46] Thus, the diffusion of regulatory oversight (different bodies overseeing different aspects of the same market) reduced the ability of these bodies to appreciate the size and scope of the crisis and to act effectively ex ante to contain its effects.[47]

In hindsight, the failure of regulators to oversee the ABCP market suggests that there were gaps in financial market regulation. Hindsight tells us that crises in markets outside Canadian borders can have vast effects on similar markets inside Canadian borders: the ABCP market and its relation to the U.S. subprime crisis is a key example. It also tells us that coordination among regulatory bodies on an ongoing basis is likely to be beneficial.

REGULATING SYSTEMIC RISK

The traditional focus of prudential regulation has been to supervise financial institutions and, in particular, the soundness of their financial condition.[48] By contrast, securities regulation has been concerned with investor protection and market efficiency.[49] Managing systemic risk has not traditionally fallen squarely within the mandates of either of these regulators, though central banks have undertaken this task to some degree.[50] In particular, the Bank of Canada has held statutory responsibility since 1996 for overseeing and controlling systemic risk in the context of clearing and settlement systems.[51]

A common thread running through the legal mandates of all of these bodies—securities regulators, monitors of financial institutions, and central banks—is that the same consumer base is ultimately served under each regime.[52] In all likelihood, however, central banks and prudential regulators would not view their mandate as one about consumer protection. Central banks seek to reduce risk in the financial system. Prudential regulators seek to supervise financial institutions, limit their risk-taking, and ensure that they meet capital requirements. But the effect of both central banking and prudential regulation is to ensure that consumers in our society are protected and, in the case of prudential regulators, that their funds are safely maintained. This understanding of the ultimate beneficiaries of central banking and prudential regulation is fundamental to my argument here. But even once we accept this point—and in particular that the stability of the financial system and its institutions ultimately serves consumers —the question of who should have comprehensive oversight of systemic risk in financial markets remains open.

A first option is to retain the status quo. Under the passport system, established in 2003 by the Canadian Securities Administrators (CSA), if an issuer or investment dealer complies with the rules of one jurisdiction, it is deemed also to be in compliance with those of the other participating jurisdictions.[53] The main problem with relying on the CSA to manage systemic risk is that, because of its non-mandatory nature, no true and timely national response can take place under its purview; at any point, provinces can refuse to participate in an initiative. This gap may be why even those who object to a national securities regulator argue that the current system requires reform and that a pan-Canadian body is preferable.[54]

A second policy option, one ultimately chosen by the federal government, is to pass federal legislation rather than relying on the CSA. This option engages constitutional considerations particular to Canadian federalism that are mostly beyond the scope of this essay. In brief, however, securities law in Canada has historically been exclusively under provincial jurisdiction. The Supreme Court of Canada has recently rejected draft federal legislation designed to create a single pan-Canadian securities regulator that would address broader issues of systemic risk as well as more day-to-day matters of securities regulation.[55] Nevertheless, the Court also held that managing systemic risk and national data collection are areas within the federal government's constitutional jurisdiction.[56] The Court suggested a "cooperative approach" that "recognizes the essentially provincial nature of securities regulation while allowing [the federal government] to deal with genuinely national concerns."[57]

In response to the *Securities Reference*, the federal government and participating provinces have introduced two pieces of draft legislation. The first is the provincial and territorial *Capital Markets Act* (CMA) and the second is the federal Capital Markets Stability Act (CMSA). These Acts would form the Capital Markets Regulatory Authority (CMRA) – a separate body with a specific mandate to focus on systemic risk and to ensure information sharing among existing regulators.[58] This body would have legislative authority to oversee securities markets, especially in times of financial crisis. As a joint federal-provincial regulator, it would comprise provincial representatives (likely from current securities commissions), and would seek counsel from the relevant institutions: the federal Department of Finance, the Office of the Superintendent of Financial Institutions (OSFI), the Canada Deposit Insurance Corporation, the Financial Consumer Agency of Canada (FCAC), and the Bank of Canada. The CMRA would be charged with assessing systemic risks on a regular basis and discussing measures to mitigate those risks.[59] In this context, systemic risk is defined as "a threat to the stability of Canada's financial system that originates in, is transmitted through or impairs capital markets and that has the potential to have a material adverse effect on the Canadian economy."[60]

The powers in the proposed federal statute, including the definition of "systemic risk," are broad and the parameters of legitimate action by the regulatory body are undefined, at least to some extent. This ambiguity is perhaps necessary given the amorphous nature of the concept. However, from a pragmatic standpoint, questions arise: What constitutes a "threat" that "impairs capital markets" or that has "a material adverse effect on the Canadian economy"? Market participants will be struck by the lack of certainty and predictability inherent in the statute.[61] The ambiguity was exacerbated by the proposed regulation of "systemically important entities" (SIEs), including market infrastructure entities, credit rating organizations, and capital markets intermediaries. While this concept has been removed in the most recent iteration of the draft legislation, the concept of systemic risk is to be newly regulated in Canadian law, and the consequences of the proposed legislation are, without question, significant.

CONCLUSION

While the term systemic risk contains ambiguities and has, in the past, been narrowly construed as pertaining solely to the successive failures of financial institutions in a domino-like fashion, the concept should be broadly interpreted to refer to the possibility of financial meltdown of an entire economic system. Developing a systemic risk policy requires research, institutional coordination, and legal input. As the world is certain to experience another financial crisis, it is imperative that such coordination among regulators occurs, both within and across countries.

STEVEN L. SCHWARCZ RESPONDS TO ANITA ANAND

In responding to Professor Anand's opinion essay from a U.S. regulatory standpoint, I will address each of the key topics she discussed.

DEFINING SYSTEMIC RISK

Anand observes that there is "no universally accepted definition of systemic risk." It's not even clear, she also notes, when risk crystallizes in order to be called systemic. I generally agree and would add that although panics are a common (though by no means exclusive) trigger of systemic risk, it is also not clear how to anticipate or prevent panics.

An important consequence of these observations is that a risk or trigger that can't be clearly defined or anticipated cannot be prevented. For this reason, Iman Anabtawi of UCLA and I have argued that systemic risk regulation should not only be ex ante preventative but also ex post ameliorative.[1] Neither Canadian nor U.S. systemic risk regulation has yet risen to that challenge.

Notwithstanding Anand's observation that there is no universally accepted definition of systemic risk, she observes that the Supreme Court of Canada has attempted to define it. In many ways the Supreme Court's definition is broad, but I believe it fails in one critical respect. It focuses only on the possibility that "the risk of default by one market participant" will set off a domino-like financial collapse.

As our financial system becomes more disintermediated—meaning that operating firms obtain financing not only from banks but also from financial markets—a market problem can also be the trigger of a domino-like financial collapse.[2] In fact, that is what occurred in the 2007–8 financial crisis when panic in the mortgage-backed securities (MBS) markets caused by declining housing prices was the primary trigger. The failure of Lehman Brothers, which the media sometimes identify as the cause of the crisis, was at most a secondary trigger. It was the MBS market panic that forced Lehman to devalue its huge stock of mortgage-backed assets; that devaluation, in turn, made Lehman appear risky, spooking its counterparties into demanding collateral that Lehman couldn't offer.

Canadian regulators should therefore broaden the court's "systemic risk" definition (at least de facto, if not de jure) lest a major area of regulatory inquiry—financial markets—be ignored. I acknowledge, though, that U.S. regulators have not yet fully embraced financial market regulation in thinking about preventing systemic risk.

LESSONS OF CANADA'S ABCP CRISIS

Anand uses Canada's asset-backed commercial paper (ABCP) crisis to illustrate "aspects of the Canadian economy that can give rise to systemic instability." I next examine three of those aspects from a U.S. regulatory standpoint: securities registration, securities disclosure, and lack of regulatory coordination.

Securities Registration

I am surprised that "registration exemptions" are identified as an aspect of systemic instability. Anand argues that the problem arose because ABCP "was distributed almost exclusively in the [securities law] exempt market, with little oversight relative to" that of public securities offerings. As a result, investors in ABCP did not

1 Iman Anabtawi and Steven L. Schwarcz, "Regulating Ex Post: How Law Can Address the Inevitability of Financial Failure," *Texas Law Review* 92 (2013): 75–113.

2 Steven L. Schwarcz, "Systemic Risk," *Georgetown Law Journal 97 (2008): 193–249;* Steven L. Schwarcz, "Understanding the 'Subprime' Financial Crisis," *60 South Carolina Law Review 60 (2009): 549–72.*

fully understand the risks of what they were buying.

This argument is odd from an American perspective. ABCP is always exempt from registration under U.S. securities laws,[3] yet no one believes that causes problems. There are, however, two possible reasons for a U.S.-Canadian distinction.

The first reason is that, when ABCP conduits began to lose money and potentially fail, U.S.-based sponsors of those conduits generally chose, as a reputational matter (and without the legal obligation to do so), to bail them out. The resulting impact on those sponsors' own financial conditions appeared to be acceptable. This example nonetheless provides a lesson about the risks of implicit sponsor guarantees, both in the United States and in Canada.

The other possible reason for a U.S.-Canadian distinction pertains to the nature of the investors purchasing ABCP. In the United States, ABCP—even if exempt from registration under §3(a)(3) and thus able to be publicly sold[4]—is purchased almost exclusively by sophisticated institutional investors. I was surprised to learn from Anand's essay that Canadian investors in ABCP apparently included non-institutions. As Anand observes, that availability certainly raises questions whether "suitability" rules and more explicit underwriter fiduciary duties are needed to protect retail investors.

If ABCP begins to be purchased in the United States by non-institutional investors, the United States may face the same problem as Canada—a cautionary lesson.

Securities Disclosure

Another aspect of systemic instability in Canada is more broadly relevant: that disclosure may be insufficient for protecting investors in ABCP and other increasingly complex forms of disintermediated investing. Financial complexity has got to the point where even the most sophisticated institutional investors, with the fullest of disclosure, do not always understand what they are buying.[5] Moreover, the underwriters themselves don't always completely understand the risks. This lack creates not only a classic information asymmetry problem but also a mutual misinformation problem: that underwriter / sponsor belief in the safety of their product, and their willingness (and now legal requirement) to hold a portion of that risk in order to prevent moral hazard, can mislead investors into believing that the product is safer than it is.[6]

Lack of Regulatory Coordination

The third aspect of systemic instability in Canada is that Canadian regulatory authorities do not act in a coordinated manner. Regulatory incoordination used to be a major problem in the United States. As one of its positive results, the *Dodd-Frank Act* has better integrated regulatory coordination and directed the Financial Stability Oversight Council to study ongoing integration.

Anand notes that Canada's regulation of systemic risk is partly on a province-by-province basis. U.S. systemic risk regulation is almost entirely federal, with one exception: insurance regulation. In that context, Daniel Schwarcz of the University of Minnesota and I have argued that individual states are poor systemic risk regulators because, among other things, they won't see the big picture.7 This same concern may be applicable to Canadian provincial regulation of systemic risk.

3 In the United States, virtually all commercial paper is issued under the *Securities Act of 1933: the §3(a)(3) "commercial paper" exemption or the §4(2) private placement exemption. Section 3(a)(3) exempt commercial paper can be publicly sold without registration.*

4 See note 70.

5 See, for example, Steven L. Schwarcz, "Disclosure's Failure in the Subprime Mortgage Crisis," *Utah Law Review 3 (2008): 1109–22;* Steven L. Schwarcz, *"Rethinking the Disclosure Paradigm in a World of Complexity," University of Illinois Law Review 2004: 1–38.*

6 Steven L. Schwarcz, "Regulating Complexity in Financial Markets," *Washington University Law Review 87* (2009): 211–68.

7 Daniel Schwarcz and Steven L. Schwarcz, "Regulating Systemic Risk in Insurance," *University of Chicago Law Review 81* (2014): 1569, 1627–29 (discussing this inability to see the big picture in the context of the "internalization principle": that regulatory responsibilities should generally be assigned to the unit of government that best internalizes the full costs of the underlying regulated activity).

ANITA ANAND RESPONDS TO STEVEN L. SCHWARCZ

Professor Schwarcz's essay suggests different approaches to the regulation of systemic risk in the United States and Canada, reflective perhaps of different financial markets and players in those markets. The U.S. financial market landscape comprises multiple financial institutions, whereas there are only five "Big Banks" in Canada. Furthermore, U.S. financial markets are relatively deep. The U.S. fixed income market, for example, is 32 times the size of Canada's fixed income market—remarkable given that the U.S. population is but nine times the size of Canada's.

Schwarcz correctly argues that both financial institutions and financial markets can be "triggers and transmitters" of systemic risk, leading to the potential collapse of the financial system. This characterization might suggest an implosion of the financial system. But does the decline in financial markets give rise to systemic risk? This argument bears similarity to the claim that volatility feeds more volatility, or that the underlying cause for the decline of financial markets is the financial markets themselves. The causes of systemic risk are largely unknowable before they occur, making systemic risk all the more difficult (if not impossible) to regulate ex ante, regardless of the jurisdiction in which such regulation occurs.

Schwarcz also argues that because systemic risk is a form of financial risk, one justification for its regulation is to maximize economic efficiency. This characterization of the objectives of financial market regulation potentially conflates the objectives of separate areas of regulation. For example, the securities regulatory mandate in both Canada and the United States is justified on the basis of furthering investor protection in the capital markets, while the primary goal of financial regulation is to determine whether financial institutions are in sound financial condition. Investor or consumer protection is not an explicit part of this latter mandate, though it may well be a by-product of effective regulation.

Canada lags behind the United States in terms of regulating systemic risk (which may not be negative). Unlike the United States, which has the Dodd-Frank Act in place, the comparable federal Canadian legislation, the *Capital Markets Stability Act* (CMSA), is in revised draft form only, awaiting debate and approval by Parliament. Although Schwarz is justifiably critical of the details of the *Dodd-Frank Act*, it is notable that the United States has specific legislation regarding systemic risk in place, something Canada does not.

Schwarcz rightly argues that the *Dodd-Frank Act* represents limited progress in identifying and managing systemic risk. Like the *Sarbanes-Oxley Act* and so many other pieces of legislation, the *Dodd-Frank Act* is a political response to the crisis. By contrast, the draft Canadian CMSA does not appear to be a knee-jerk response to the financial crisis. Canada has taken a more cautious approach to introducing legislation relating to systemic risk. For example, while the draft version of the CMSA was first released for public comment in 2014, it has since been revised to address the concerns raised by stakeholders. The federal government released a new draft for further public comment in May 2016.[8]

In addition, Schwarcz contends that the *Dodd-Frank Act* primarily focuses on financial institutions, largely ignoring financial markets. I agree that financial institutions are its main focus. Nevertheless, by regulating the largest financial institutions, the legislation indirectly regulates the financial markets. Institutions are the largest participants and, in many ways, the gatekeepers of much of the volume in markets. To use

8 The latest draft can be found online here: http://ccmr-ocrmc.ca/wp-content/uploads/cmsa-consultation-draft-revised-en.pdf.

Schwarcz's accurate phrase, financial institutions are "triggers and *transmitters" of systemic risk*.

Schwarcz points to another approach to regulate systemic risk: increased disclosure. Under U.S. securities laws, disclosing risks has traditionally been viewed as the primary mechanism for regulating financial markets. By reducing, if not eliminating, asymmetric information among market players, the risks are transparent to all. Schwarcz notes that the *Dodd-Frank Act* focuses on improving disclosure. In Canada also, despite the fact that the federal CMSA has not been implemented, provincial securities law relies on disclosure, including with respect to asset-backed securities (ABS). Thus, the disclosure-based approach in Canada is similar to its U.S. counterpart.

I agree that heightened disclosure may not be entirely effective at preventing systemic risk because many investors, even sophisticated investors, may not fully read and digest the relevant disclosure, especially complex disclosure relating to ABS. But a disclosure-based system is the one we designed well before the most recent financial crisis. From a practical standpoint, this is the system within which we must work—and greater disclosure may indeed minimize systemic risk. Systemic risk emerges when excessive risks are taken to generate returns (perhaps due to overvaluation forcing investors to take on greater risk). Through enhanced disclosure, informed participants, however small that number may be, will not be buyers but sellers, which could serve to cool the market and in turn reduce systemic risk.

Canada does not have upper limits on the size of financial institutions, perhaps reflecting Schwarcz's view that as long as they are manageable, institutions should have the freedom to expand to the size where they can compete successfully. Perhaps it is also recognized here that it would be incredibly difficult to measure and assess the optimal size of banks or what a "manageable" institution might be. Such an assessment presumably would require a separate set of stress tests on a more micro, perhaps operational, level of analysis, different from the purely financial and reserve-based analysis undertaken for current stress tests.

Schwarcz argues that managers of systemically important banks and other financial institutions (SIFIs) should have not only their traditional corporate governance duty but also a "public governance duty" to society. He casts the duty as one "not to engage in excessive risk-taking that could systemically harm the public." His motivation appears to be that corporate law duties are insufficient to protect the public interest ex ante because they bind the board and senior managers to take into account only the interests of the corporation as manifested in its various stakeholders, including shareholders. That is as true in Canada as it is in the United States. The governance of financial institutions is different from that of a public corporation—a claim that warrants further exploration on both sides of the border.

About the Authors

Anita Anand holds the J.R. Kimber Chair in Investor Protection and Corporate Governance and is a professor at the Faculty of Law, University of Toronto. She served as associate dean from 2007 to 2009. Since 2010, she has been the academic director of the Centre for the Legal Profession. She is a Senior Fellow at Massey College and is cross-appointed to the School of Public Policy and Governance at the University of Toronto. In 2009–10, she was a visiting scholar at the Bank of Canada and a Herbert Smith Visitor at the University of Cambridge. She is a Fellow-in-Residence at the C.D. Howe Institute in Toronto, Ontario. In 2005–6, Anand was a Canada-U.S. Fulbright Scholar and Visiting Olin Scholar in Law and Economics at Yale Law School. During the fall of 2005, she was also a visiting lecturer in law at Yale Law School, where she taught comparative corporate governance. She has received three research grants from the Social Sciences and Humanities Research Council and, in 2003, the Scholarly Paper Award from the Canadian Association of Law Teachers.

Steven L. Schwarcz is the Stanley A. Star Professor of Law & Business at Duke University and founding director of Duke's interdisciplinary Global Capital Markets Center. He holds a bachelor's degree in aerospace engineering (summa cum laude) and a Juris Doctor from Columbia Law School. Before joining Duke, he was a partner at two leading international law firms. He also helped to pioneer the field of asset securitization, and his book *Structured Finance: A Guide to the Principles of Asset Securitization* is one of the most widely used texts in that field.

Schwarcz has been the Leverhulme Visiting Professor at the University of Oxford and has also lectured and visited at other universities worldwide. He has testified before the U.S. Congress on topics including systemic risk, securitization, credit rating agencies, and financial regulation; advised the United Nations; and advised several U.S. and foreign governmental agencies on the financial crisis, insolvency, and shadow banking. He also is a Senior Fellow of the Centre for International Governance Innovation (CIGI), a leading think tank based in Canada.

End Notes for Publication

Article one

1 *The Economist,* "Crash Course: The Origins of the Financial Crisis," (September 7, 2013).

2 See Steven L. Schwarcz, "Regulating Complexity in Financial Markets," *Washington University Law Review* 87 (2009): 211–68. As this article discusses, perhaps the most widely used disintermediation tool is securitization.

3 Insofar as market participants suffer from the actions of other market participants, the situation can described as a type of "tragedy of the commons." But it also is a more standard externality insofar as non-market participants (i.e., the ordinary citizens affected by an economic collapse) suffer from the actions of market participants.

4 *Dodd-Frank Wall Street Reform and Consumer Protection Act,* Pub. L. No. 111-203, §1103, 124 Stat. 1376, 2118 (2010).

5 This limitation is referred to as the Volcker Rule.

6 See, for example, Alan Greenspan, "More Capital Is a Less Painful Way to Fix the Banks," *Financial Times,* August 17, 2015, available at http://www.ft.com/intl/cms/s/0/4d55622a-44c8-11e5-af2f-4d6e0e5eda22.html?siteedition=intl#axzz3lTHgulU2 (arguing that Dodd-Frank has caused a deterioration in market liquidity).

7 See, for example, Kimberly Summe, "An Evaluation of the U.S. Regulatory Response to Systemic Risk and Failure Posed by Derivatives," *Harvard Business Law Review Online* (2015), available at http://www.hblr.org/wp-content/uploads/2014/04/Summe_-Regulatory-Response-to-Derivatives.pdf.

8 See, for example, Paul Krugman, "Obama's Other Success: Dodd-Frank Financial Reform Is Working," *New York Times,* Aug. 3, 2014, A21, available at http://www.nytimes.com/2014/08/04/opinion/paul-krugman-dodd-frank-financial-reform-is-working.html (stating that the two biggest successes of Dodd-Frank are the creation of the CFPB and the orderly liquidation authority).

9 Iman Anabtawi and Steven L. Schwarcz, "Regulating Systemic Risk: Towards an Analytical Framework," *Notre Dame Law Review* 86 (2011): 1349–1412.

10 See, for example, Lucian A. Bebchuk and Holder Spamann, "Regulating Bankers' Pay," *Georgetown Law Journal* 98 (2010): 247–87; Steven L. Schwarcz, "Conflicts and Financial Collapse: The Problem of Secondary-Management Agency Costs," *Yale Journal on Regulation* 26 (2009): 457–70 (arguing that in our increasingly complex and technologically sophisticated era, the greater problem is not senior managers but compensation incentives for secondary managers).

11 Steven L. Schwarcz, "Too Big to Fail? Recasting the Financial Safety Net," in Lawrence E. Mitchell and Arthur E. Wilmarth, Jr., eds., *The Panic of 2008: Causes, Consequences, and Implications for Reform* (Northampton, MA: Edward Elgar, 2010), 94–115.

12 For an analysis of disclosure's insufficiency, see Steven L. Schwarcz, "Disclosure's Failure in the Subprime Mortgage Crisis," *Utah Law Review* 3 (2008): 1109–22.

13 or an analysis of these middle-management conflicts of interest, see Schwarcz, "Conflicts and Financial Collapse."

14 See the text around note 5.

15 See Schwarcz, "Disclosure's Failure in the Subprime

Mortgage Crisis" and "Conflicts and Financial Collapse," and the text around notes 12 and 13 above.

16 See Steven L. Schwarcz and Iman Anabtawi, "Regulating *Ex Post:* How Law Can Address the Inevitability of Financial Failure," *Texas Law Review* 92 (2013): 75–113.

17 Requiring systemically important firms to be more internally robust can also help to deter systemic shocks in the first place by preventing such firms' failures, which could trigger systemic shocks. At least existing regulatory requirements to make these firms more internally robust are more microprudential. However, they focus on protecting individual firms, as opposed to protecting the financial system per se.

18 Such a liquidity provider should provide funding only to solve temporary liquidity problems; it should not attempt to bail out insolvent firms.

19 Steven L. Schwarcz, "Markets, Systemic Risk, and the Subprime Mortgage Crisis," *Southern Methodist University Law Review* 61 (2008): 212–14.

20 See, for example, Schwarcz, "Too Big To Fail?"

21 See Steven L. Schwarcz, "Understanding the 'Subprime' Financial Crisis," *South Carolina Law Review* 60 (2009): 549–72.

22 See the text around note 5.

23 See generally Steven L. Schwarcz, "Misalignment: Corporate Risk-Taking and Public Duty," available at http://ssrn.com/abstract=2644375.

24 For an analysis of why prosecutors chose to focus on firms, as opposed to their managers, see Steven L. Schwarcz, "Excessive Corporate Risk-Taking and the Decline of Personal Blame," forthcoming *Emory Law Journal* 65, 2 (December 2015), available at http://ssrn.com/abstract=2553511.

25 Schwarcz, "Misalignment."

Article Two

1 This piece derives from a previous article written by the author entitled "After the Reference: Regulating Systemic Risk in Canadian Financial Markets" (2012) in *What Next for Canada: Securities Regulation after the Reference*, Anita Anand (ed.) (Toronto: Irwin Law, 2012). Thanks to Dov Kagan and Andrew Mihalik for research assistance in preparation of this piece.

2 This writing is reviewed and discussed in Steven Schwarcz, "Systemic Risk," Duke Law School Legal Studies Research Paper no. 163, March 2008. See also Iman Anabtawi and Steven Schwarcz, "Regulating Systemic Risk: Towards an Analytical Framework," *Notre Dame Law Review* 86, 4 (2011): 1349; Anita Anand, "Is Systemic Risk Relevant to Securities Regulation?" University of Toronto Law Journal 60 (2010): 941; Miquel Dijkman, "A Framework for Assessing Systemic Risk," World Bank Policy Research Working Paper 5282, April 2010; Olivier De Bandt and Philipp Hartmann, "Systemic Risk: A Survey," European Central Bank Working Paper no. 35, November 2000; George G. Kaufman and Kenneth E. Scott, "What Is Systemic Risk, and Do Bank Regulators Retard or Contribute to It?" *The Independent Review* 7, 3 (2003): 371; John Taylor, "Defining Systemic Risk Operationally," in George Shultz, Kenneth Scott, and John Taylor, eds., *Ending Government Bailouts as We Know Them* (Stanford, CA: Hoover Press, Stanford University, 2003), 33–57; João A.C. Santos, "Bank Capital Regulation in Contemporary Banking Theory: A Review of the Literature," Bank of International Settlements (BIS) Working Paper no. 90, September 2000; Seraina Gruenewald, "Financial Crisis Containment and Its Implications for Institutional and Legal Reform," December 31, 2009, online: Social Science Research Network papers.ssrn.com/sol3/papers.cfm?abstract_id=1516700.

3 See Kaufman and Scott, "What Is Systemic Risk, and Do Bank Regulators Retard or Contribute to It?" See also Anita Anand et al "Institutional Design and the New Systemic Risk in Banking Crises" in Anita Anand, ed, Systemic Risk, Institutional Design and the Regulation of Financial Markets (forthcoming Oxford University Press, 2016).

4 Taylor states, "The recent crises show how far away we are from defining and agreeing on systemic risk." Shultz, Scott, and Taylor, eds., *Ending Government Bailouts as We Know Them*, 47.

5 Some commentators identify the triggering event as a default by a market participant, while others see it as an

economic shock, and still others do not define the "event" but leave it general. See George Kaufman, "Bank Failures, Systemic Risk, and Bank Regulation," *The Cato Journal* 16 (1996): 17.

6 Andrew Crockett, "Why Is Financial Stability a Goal of Public Policy?" in *Maintaining Financial Stability in a Global Economy* (Kansas City, MO: Federal Reserve Bank of Kansas City, 1997), 7–36.

7 This formal definition may appear somewhat extreme if one believes that systemic risk can arise even where defaults amount to less than a bank's capital. Systemic risk during the financial crisis likely occurred when doubts arose about banks' willingness and ability to pay.

8 US Commodity Futures Trading Commission, CTFC Glossary, online: CFTC www.cftc.gov/opa/glossary/opaglossary_s.htm, cited in Schwarcz, "Systemic Risk," 197.

9 See Claudio Borio, "Towards a Macroprudential Framework for Financial Supervision and Regulation," *CESifo Economic Studies* 49 (2003): 181. See also Schwarcz, "Systemic Risk," who states that, in defining the risk, it is not clear whether the trigger event must occur or whether it merely has the potential to occur; BIS/Central Banks of the Group of Ten Working Group, *Recent Developments in International Interbank Relations* (Basel, Switzerland: BIS, 1992), 61, defines systemic risk as "the risk that a disruption (at a firm, in a market segment, to a settlement system, etc.) causes widespread difficulties at other firms, in other market segments or in the financial system as a whole."

10 *Reference re Securities Act*, 2011 SCC 66 at para 103. This definition is drawn from the expert evidence of Michael Trebilcock.

11 Schultz, Scott, and Taylor, eds., *Ending Government Bailouts as We Know Them*.

12 Schultz, Scott, and Taylor, eds., *Ending Government Bailouts as We Know Them.*

13 See Schultz, Scott, and Taylor, eds., *Ending Government Bailouts as We Know Them,* 36.

14 A further example is the ABCP crisis discussed in "Regulating Systemic Risk" below.

15 Kaufman and Scott, "What Is Systemic Risk, and Do Bank Regulators Retard or Contribute to It?" 371.

16 Dijkman, "A Framework for Assessing Systemic Risk," 6.

17 Mark Carney, cited in Nikil Chande, Nicholas Labelle, and Eric Tuer, *Central Counterparties and Systemic Risk* (Bank of Canada, Financial System Review, December 2010), 1.

18 Including institutions with "unsafe amounts of leveraging by banks, gaps in regulatory oversight and the possibility that the failure of a large interconnected firm could lead to a breakdown in the wider financial system": Corey Boles, "Bernanke Offers Broad Definition of Systemic Risk," *Wall Street Journal*, November 18, 2009, online: The Wall Street Journal blogs.wsj.com/economics/2009/11/18/bernanke-offers-broad-definition-of-systemic-risk/; Edward Green and Katia Kirova, "'Too Big To Fail': Should Breaking Up Large Financial Institutions Be an Answer? U.S. and European Approaches," *Columbia Journal of European Law* 16, 19 (2009): online: The Columbia Journal of European Law www.cjel.net/online/16_1-greene-kirova.

19 Letter from Ben Bernanke to Senator Bob Corker, October 30, 2009.

20 Pat Garofolo, "Former CFTC Chair Who Predicted the Derivatives Crisis Endorses Dodd-Frank Financial Reform Bill," *ThinkProgress*, July 2, 2010, online: ThinkProgress thinkprogress.org/economy/2010/07/02/173371/brooksley-born-endorse/?mobile=nc.

21 The 'Group of Thirty' is an international non-profit organization composed of leading representatives from the public and private sectors, and academia. The 'Group of Thirty' has many former central bankers within its membership and aims to use the stature of its members to deepen understanding of economic and financial issues, and advocate on such matters.

22 Group of Thirty Report, "Enhancing Financial Stability and Resilience: Macroprudential Policy, Tools, and Systems for the Future," October 2010, online: Group of Thirty www.group30.org/images/PDF/Macroprudential_Report_Final.pdf [G30 Report].

23 Macroprudential regulation does not seek to remove economic shocks, but it does aim to identify and address a

financial system's exposure to such shocks ex ante, so that they can be addressed and the market's ability to resist such shocks can be established. Group of Thirty Report, "Enhancing Financial Stability and Resilience," 17.

24 See, for example, Michael D. Bordo, Angela Redish, and Hugh Rockoff, "Why Didn't Canada Have a Banking Crisis in 2008 (or in 1930, or 1907, or . . .)?" The National Bureau of Economic Research (NBER) Working Paper no. 17312, August 2011, online (abstract): NBER www.nber.org/papers/w17312. Regarding the Bank of Canada's role in clearing and settlement, see generally the *Payment Clearing and Settlement Act*, SC 1996, c 6, Sch. With this Act, Canada became one of the first countries to have a statutory definition of systemic risk, and it served as a model for years. The argument here is that this model is outdated and in need of amendment.

25 Lev Ratnovski and Rocco Huang, "Why Are Canadian Banks More Resilient?" International Monetary Fund (IMF) Working Paper no. 152, 2009, online: Social Science Research Network papers.ssrn.com/sol3/papers.cfm?abstract_id=1442254; Franklin Allen and Douglas Gale, *Comparing Financial Systems* (Cambridge, MA: MIT Press, 2000) (who, by comparing the history in the United States [marked by greater financial instability] to that in the United Kingdom and Canada [where the banking sector is dominated by fewer big banks], argue that bank supervision is more effective in a concentrated banking system); IMF, "Canada – 2008 Article IV Consultation, Preliminary Conclusions of the IMF Mission (Article IV Staff Reports," December 17, 2007), online: IMF www.imf.org/external/np/ms/2007/121707.htm. See also Anita Anand, "Canada's Banks: Conservative by Nature," Financial Post, March 31, 2009, online: Financial Post www.financialpost.com/.

26 See, for example, Expert Panel on Securities Regulation, *Final Report and Recommendations* (Ottawa: Department of Finance Canada, 2009), online: Expert Panel www.expertpanel.ca/eng/documents/Expert_Panel_Final_Report_And_Recommendations.pdf; Financial Stability Board (FSB), "Progress in the Implementation of the G20 Recommendations for Strengthening Financial Stability" (Basel, April 10, 2011), online: FSB www.financialstabilityboard.org/publications/r_110219.pdf; IMF, "Initial Lessons of the Crisis for the Global Architecture and the IMF" (prepared by the Strategy, Policy, and Review Department, January 2009), online: IMF www.imf.org/external/np/pp/eng/2009/021809.pdf; Ben Bernanke, "Financial Reform to Address Systemic Risk," speech delivered at the Council on Foreign Relations, Washington, DC, March 10, 2009); Janis Sarra, "Risk Management, Responsive Regulation, and Oversight of Structured Financial Product Markets," *University of British Columbia Law Review* 44 (2011): 779; Masahiro Kawai and Michael Pomerleano, "Regulating Systemic Risk," ADBI Working Paper Series no. 189, January 2010.

27 See John Chant, *The ABCP Crisis in Canada: The Implications for the Regulation of Financial Markets*, Report for the Expert Panel on Securities Regulation, 2009, 34.

28 Chant, *The ABCP Crisis in Canada*, 21.

29 Chant, *The ABCP Crisis in Canada*, 22.

30 *Payment Clearing and Settlement Act*, SC 1996, c 6, Sch.

31 Chant, The ABCP Crisis in Canada, 23.

32 Although the ABCP market reached its peak in 2007 and has declined significantly since then, the market is beginning to show some signs of a rebound. It ended 2011 at $27.4 billion, still far below the $117 billion valuation it achieved in 2007. See DBRS, Press Release, "DBRS Releases Monthly Canadian ABCP Report for December 2011," February 23, 2012, online: DBRS www.dbrs.com/research/245560/dbrs-releases-monthly-canadian-abcp-report-for-december-2011.html; Chant, The ABCP Crisis in Canada, 4.

33 Such as Coventree Capital Inc. and Newshore Financial Services Inc. Chant, The ABCP Crisis in Canada, 7.

34 Standby liquidity arrangements were necessary because of the maturity mismatch between the assets held by the conduit, which generally had a long-term maturity period, and the shorter maturity of the ABCP issued against these assets. These conduits were also highly leveraged, with very little equity to protect them in the event of a run of investor redemptions. Chant, The ABCP Crisis in Canada, 19.

35 Chant, The ABCP Crisis in Canada, 6.

36 See Bank of Canada, Financial System Review, December 2007, 3; ATB v Metcalfe & Mansfield Alternative

Investments II Corp, [2008] OJ No 2265, 47 BLR (4th) 74 at paras 17–19 (SCJ), Blair JA (based on the affidavit of Purdy Crawford, QC, sworn March 17, 2008, and filed in the Ontario Superior Court of Justice (Commercial List) cited in this decision), cited in Jeffrey Leon and Shara N. Roy, "Pain and Promise: Lessons from the Collapse of the Third-Party ABCP Market in Canada," Corporate Securities and Finance Law Report 14, 3 (2009): 41; Investment Industry Regulatory Organization of Canada (IIROC), "Regulatory Study, Review and Recommendations Concerning the Manufacture and Distribution by IIROC Member Firms of Third-Party Asset-Backed Commercial Paper in Canada," October 2008,10 [IIROC Report], cited in Leon and Roy, "Pain and Promise." Canadian Securities Administrators (CSA), "Securities Regulatory Proposals Stemming from the 2007–08 Credit Market Turmoil and Its Effects on the ABCP Market in Canada," October 2008, 5; Scott Hendry, Stéphane Lavoie, and Carolyn Wilkins, "Securitized Products, Disclosure, and the Reduction of Systemic Risk," Bank of Canada, *Financial System Review,* June 2010, online: Bank of Canada www.bankofcanada.ca/wp-content/uploads/2011/12/fsr-0610-hendry.pdf; and Chant, The ABCP Crisis in Canada, 23.

37 RSC 1985, c C-36.

38 Crawford was appointed chair the Pan-Canadian Investors Committee for Third Party Structured ABCP (the Crawford Committee), which was charged with restructuring all existing non-bank sponsored ABCP in August 2007. See also Brendan O'Neill and Mike Dean, "Restructuring of Canada's $32 Billion Market in Asset-Backed Commercial Paper Completed through a *CCAA* Plan of Compromise and Arrangement," INSOL World, Second Quarter, 2009, online: Goodmans LLP www.goodmans.ca/files/file/docs/Restructuring%20of%20Canada's%20$32%20Billion%20Market.pdf; Leon and Roy, "Pain and Promise," 50.

39 Exempt market issuers in Canada benefit from reduced requirements related to disclosure. As a result of this lower level of disclosure exempt market issuers are only permitted to sell securities to accredited investors, or to family and friends. The exempt market in Canada is designed to recognize that certain more sophisticated investors require less protection from regulators before making investment decisions. Exempt market issuers are therefore generally restricted from selling securities to the broader investing public.

40 See section 2.35 of NI 45-106, which provided, "The prospectus requirement does not apply to a distribution of a negotiable promissory note or commercial paper maturing not more than one year from the date of issue, if the note or commercial paper distributed . . . (b) has an approved credit rating from an approved credit rating organization" [NI 45-106]. According to Chant, this provision meant that, "credit rating agencies provided the rating that exempted ABCP from prospectus requirements and made it an eligible investment for many investors": Chant, *The ABCP Crisis in Canada*, 4.

41 In particular, ABCP was issued under either the accredited investor exemption or the short-term debt exemption, which are based on investor sophistication and approval of a credit rating agency, respectively. See s. 1.1 ("accredited investor" definition), s. 2.3, and s. 2.35 NI 45-106. Chant, *The ABCP Crisis in Canada*.

42 Anand, "Is Systemic Risk Relevant to Securities Regulation?" 954. Chant, *The ABCP Crisis in Canada*, 9.

43 For further exposition and analysis, see Chant, *The ABCP Crisis in Canada*; IIROC Report, 4.

44 Chant, *The ABCP Crisis in Canada*, 15.

45 Chant, *The ABCP Crisis in Canada*, 15.

46 Chant, *The ABCP Crisis in Canada*, 40.

47 Although Chant does not explicitly advocate consolidation of financial regulation in Canada, he notes that "with consolidation, the regulator would be able to take a broad view and consider the overall effects of the measure and respond appropriately. The case for consolidation would be strengthened if there is evidence that communication between different parts of a single agency proves more effective than communication among agencies." Chant, *The ABCP Crisis in Canada*, 40.

48 The mandate of the Office of the Superintendent of Financial Institutions under the *Office of the*

Superintendent of Financial Institutions Act, RSC 1985, c 18 (3d Supp), is

(a) to supervise financial institutions to determine their sound financial condition and compliance with governing statutory requirements; (b) to promptly advise senior management or the board of directors of a financial institution if the institution is not in sound financial condition or is not complying with its governing statutory requirements and in such circumstances to take or require the management or board to take appropriate correction action; (c) to promote management and boards of financial institutions to adopt policies and procedures to control and manage risk; and (d) to monitor and evaluate system-wide or sectoral events or issues which could negatively impact the financial condition of financial institutions: ss 4(2)(a)–(d).

See also Franklin Allen and Richard Herring, "Banking Regulation versus Securities Market Regulation," Wharton School Center for Financial Institutions, University of Pennsylvania, July 11, 2001.

49 *Securities Act* (Ontario), RSO 1990, c S.5, s 1(1).

50 The Bank of Canada is responsible for Canada's monetary policy, bank notes, financial system, and funds management: Bank of Canada Act, RSC 1985, c B-2. See also Bank of Canada, "What We Do," online: Bank of Canada www.bankofcanada.ca/about/what-we-do.

51 The bank's responsibilities stem not only from the *Bank of Canada Act*, RSC 1985, c B-2, but also from the *Payment Clearing and Settlement Act*, SC 1996, c 6, Sch.

52 Anand, "Is Systemic Risk Relevant to Securities Regulation?" Note that the International Organization of Securities Commissions (IOSCO) has had as one of its principles that securities regulators should "have or contribute to a process to monitor, mitigate and manage systemic risk, appropriate to its mandate." See, for example, IOSCO, "Mitigating Systemic Risk: A Role for Securities Regulators," IOSCO Discussion Paper OR01/11, February 2011, online: IOSCO www.iosco.org/library/pubdocs/pdf/IOSCOPD347.pdf.

53 ee Passport System, OSC MI 11-102, (2008) 31 OSCB 1009; Process for Prospectus Reviews in Multiple Jurisdictions, OSC NP 11-202, (2008) 31 OSCB 1009; Process for Exemptive Relief Applications in Multiple Jurisdictions, OSC NP 11- 203, (2008) 31 OSCB009, in Anita Anand and Andrew Green, "Why Is This Taking So Long? The Move towards a National Securities Regulator," University of Toronto Law Journal 60, 2 (2010): 679.

54 See the comment letter of Jeffrey MacIntosh, submission to the Wise Persons' Committee (2003), online: Wise Persons' Committee www.wise-averties.ca/submitted_en.asp?file=sub_mac_int. For example, although vocal in his opposition to a central federal securities regulator, MacIntosh argues that "there is a compelling case for reforming the institutional structure of securities laws" in Canada.

55 *Reference re Securities Act*, 2011 SCC 66 [Securities Reference].

56 *Reference re Securities Act*, 2011 SCC 66 at paras 104–5.

57 Reference re Securities Act, 2011 SCC 66 at para 130.

58 Specifically, day-to-day securities regulation would occur pursuant to the Provincial *Capital Markets Act* while regulation of systemic risk, data sharing and criminal activity in the financial markets would occur under the *Capital Markets Stability Act*. The draft legislation for both the provinces and the federal government is available at http://ccmr-ocrmc.ca/.

59 Draft *Capital Markets Stability Act*, section 4, states: "The purposes of this Act are … (a) to promote and protect the stability of Canada's financial system through the management of systemic risk related to capital markets; and (b) to protect capital markets, investors and others from financial crimes."

60 Draft *Capital Markets Stability Act*, s 3.

61 Draft *Capital Markets Stability Act,* s. 4. See also Davies LLP comment letter online at http://ccmr-ocrmc.ca/wp-content/uploads/com_20141208_draft-legislation_davies-ward-phillips-vineberg-llp.pdf. See also commentary from Torys LLP: http://ccmr-ocrmc.ca/wp-content/uploads/com_20141208_draft-legislation_torys-llp.pdf.

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