

## KEEPING THE GENIE IN THE BOTTLE: GRADING THE REGULATION OF CANADIAN FINANCIAL INSTITUTIONS\*

John F. Chant<sup>†</sup>

Emeritus Professor of Economics, Simon Fraser University

### SUMMARY

The Canadian financial sector made it through the recent global credit crisis in better shape than most. Still the government undertook extraordinary measures to support the soundness of Canadian financial institutions. Fortunately, Canadians learned the lessons of the world banking crisis at lower cost than others. They may not be so lucky the next time.

Canada's approach to regulation includes many features that have been effective in insulating its financial sector from major shocks. Its principles-based approach has proven more adaptable to emerging financial innovations than the rules-based approaches as adopted in the U.S. By favouring permission over prohibition, it has allowed beneficial financial innovations to thrive, while leaving regulators able to step in when innovations appear harmful to the stability of the system. On the whole, Canada's regulatory approach is, put simply, simpler and reduces the costs of compliance and enforcement. Significantly, it has remained immune from the toxic political influences that overshadow U.S. regulation.

None of this guarantees that the Canadian approach to regulation is fail-proof. The Canadian financial sector has a few large banks – some with assets ranging up to 50% of GDP – who could be categorized as “too big to fail.” Deposit insurance rates remain low and insurer's reserves are not sufficient to shield the Canadian public from the costs of institutional failure.

Despite the good job in fostering a stable environment, Canadian regulators must still face a number of issues. Each financial crisis is different and future crises are always over the horizon. Success in avoiding the brunt of the last crisis does not guarantee that Canadian financial institutions will escape unscathed from the next one. Also, fast paced innovation puts regulators in a continual game of catch-up. The rapid growth of shadow banks and over-the-counter derivatives contributed to the last crisis and the issues they raise have yet to be resolved.

Finally, the success of international efforts to reverse “too big to fail” by allowing troubled financial institutions to fail safely cannot be assured. It requires authorities to close failing institutions promptly but history suggests that delay may appeal to regulators. They may hope that an institution, if given time, can recover. They may also fear fuelling a financial crisis by repeating the distress unleashed by the failures in the last crisis. With no chance for a trial run, regulators may be forced to bailout failing institutions in the heat of a crisis. To prevent such an outcome, regulators must strengthen measures to ensure that major institutions are too safe to fail.

---

\* This research was financially supported by the Government of Canada via a partnership with Western Diversification.

<sup>†</sup> The author is indebted to participants at the Financial Markets Regulation Roundtable, Jack Mintz and two anonymous referees for their useful comments.

## GARDER LE GÉNIE DANS LA BOUTEILLE: RENFORCER LA RÉGLEMENTATION DES INSTITUTIONS FINANCIÈRES CANADIENNES\*

John F. Chant<sup>†</sup>

Professeur émérite d'économie, Université Simon Fraser

### RÉSUMÉ

Le secteur financier canadien s'en est mieux tiré que la plupart lors de la récente crise mondiale du crédit. Le gouvernement a néanmoins pris des mesures extraordinaires pour soutenir la solidité des institutions financières canadiennes. Fort heureusement, les Canadiens ont moins pâti que d'autres des leçons tirées de cette crise, mais ils ne seront peut-être pas aussi chanceux la prochaine fois.

La stratégie du Canada en matière de réglementation comprend de nombreuses caractéristiques qui ont prémuni efficacement son secteur financier contre de graves bouleversements. Son approche axée sur des principes s'est avérée plus adaptable aux innovations financières que l'approche américaine fondée sur des règles. En mettant l'accent sur la permission plutôt que sur l'interdiction, elle a valorisé les innovations financières bénéfiques, tout en permettant aux organismes de réglementation d'intervenir lorsque des innovations menaçaient la stabilité du système. En bref, l'approche réglementaire canadienne est plus simple et moins coûteuse à appliquer et respecter que celle des États-Unis. Elle est également à l'abri de considérations politiques comme celles qui ont pris le dessus sur la réglementation américaine.

Cependant, rien de tout cela ne garantit l'infailibilité de la stratégie de réglementation canadienne. Le secteur financier canadien comprend quelques grandes banques — dont certaines détiennent des actifs équivalant à 50 % du PIB — qui pourraient être caractérisées de « trop importantes pour faire faillite ». Les taux d'assurance-dépôts demeurent faibles et les provisions de l'assureur ne suffisent pas à préserver le public canadien des coûts d'une faillite institutionnelle.

Les organismes de réglementation ont réussi à favoriser un environnement stable, mais ils doivent encore résoudre un certain nombre de problèmes. Chaque crise financière est différente et d'autres se dessinent à l'horizon. Le fait d'avoir évité le choc de la dernière crise n'est en rien un gage que les institutions financières canadiennes sortiront indemnes de la prochaine. En outre, le rythme effréné des innovations met constamment les organismes de réglementation en mode de rattrapage. La croissance rapide des banques parallèles et des produits dérivés de gré à gré a alimenté la dernière crise et les problèmes qu'elle soulève n'ont pas encore été résolus.

Enfin, l'aboutissement des démarches internationales visant à inverser la logique des « sociétés trop grandes pour faire faillite », en permettant aux institutions financières en difficulté de faire faillite en toute sécurité, demeure incertain. Il faudrait que les autorités ferment rapidement les institutions chancelantes; cependant, les organismes de réglementation ont généralement plutôt tendance à retarder la fermeture de ces institutions, dans l'espoir qu'elles récupèrent. Il se peut également que les autorités redoutent d'aggraver la crise financière, en ranimant la détresse provoquée par les faillites lors de la dernière crise. Faute de pouvoir mettre à l'essai les nouvelles mesures, les organismes de réglementation pourraient être contraints, au plus fort de la crise, d'effectuer le sauvetage des institutions en difficulté. Pour éviter pareil scénario, ces organismes doivent renforcer des mesures faisant en sorte que les grandes institutions soient trop sûres pour faire faillite.

\* Cette recherche a été soutenue financièrement en partie par le gouvernement du Canada via Diversification de l'économie de l'Ouest Canada.

<sup>†</sup> L'auteur remercie de leurs commentaires pertinents les participants de la table ronde sur la réglementation des marchés financiers, Jack Mintz et deux lecteurs anonymes.

## INTRODUCTION

The influence of the financial crisis that started in 2007 still looms over financial markets today and calls attention to the crucial role of regulation in ensuring the success of the financial industry. The vast literature that has been focused on the problems faced by the U.K., U.S. and Europe may seem less relevant to Canada where markets were less troubled and the strings of failures and troubled banks elsewhere were avoided. Canadian banks navigated the crisis better during the crisis because of our banks' reliance on stable funding and their avoidance of dubious activities. Nevertheless, Canadian authorities did resort to extraordinary measures to support the banks. Canadians should be thankful that they learned the lessons of the world banking crisis at lower costs than others, but they should not be complacent in believing that they'll be so fortunate the next time.

This paper will provide a report card for Canadian financial regulation using a number of measures: Is regulation keeping pace with the moving target posed by rapid changes in the financial industry? How has it managed the trade-offs that arise between the competing goals of safety and efficiency? Inevitably the paper will emphasize banks relative to other financial institutions because of their significance to the economy and the greater sensitivity of banks to market developments.

## WHAT DO FINANCIAL INSTITUTIONS DO?

Financial institutions are among the most heavily regulated entities in developed economies. Any assessment of regulation must reflect an understanding of the activities of these institutions that lead to this degree of regulation.

The term "financial institution" covers a broad range of entities, including banks, credit unions, life insurance companies, property and casualty insurance companies and investment (mutual) and pension funds (Table 1). They share the feature that they take other people's money in exchange for promises to make future payments. Unlike the alchemists of old, they succeed in turning dross into gold by transforming the qualities of financial assets by offering claims that their customers value more than the underlying assets. Different types of financial institutions transform financial assets and liabilities in different ways (Table 2). Banking-type institutions — banks, caisses/credit unions and money market funds — perform this alchemy by holding assets that are less liquid and less certain in value than the liquid, fixed-value claims they issue.<sup>1</sup> Life insurers, property insurers and defined-benefit pension funds create the transformation through offering assured payments against the occurrence of events whose timing and size are unpredictable at the individual level (death, sickness, injury, damage, etc.) against assets whose maturity is independent of these events. Investment funds such as mutual funds and defined-contribution pension funds transform risk by offering their investors a share of a portfolio of assets that is less risky than its components individually.

---

<sup>1</sup> The inclusion of money market funds among banking institutions reflects investors' expectations that the value of the funds is fixed. Technically, these funds are not fixed-value in all circumstances. Commonly their prospectus will state: "the Fund intends to maintain a consistent price, but there is no guarantee that its price will not go up or down."

**TABLE 1: ASSETS OF CANADIAN FINANCIAL INSTITUTIONS (BILLIONS OF DOLLARS 2012)**

Type of institution	Banking institutions				Insurers		Investment funds
	Banks	Credit unions and caisses populaire	Trust and mortgage-loan companies	Money mutual funds	Life Insurers	Property and casualty insurers <sup>1</sup>	Mutual funds
Sector size	3,849	292	49	26	968	97	756
Largest entity in sector	859	16	n/a	3	486	11	118 <sup>2</sup>

Sources: Office of the Superintendent of Financial Institutions (OSFI); Bank of Canada; Longworth, "Combatting the Dangers," Property and Casualty Insurance Compensation Corporation; and GlobeInvestor.com.

Note: Dates may not coincide exactly.

1. Refers to OSFI-regulated companies that account for about 70 per cent of the property and casualty companies in Canada.
2. Refers to a corporate group of funds.

**TABLE 2: ACTIVITIES AND RISKS OF FINANCIAL INSTITUTIONS**

Institutions	Assets	Liabilities	Sources of institutional risk
<b>Banks, Caisses populaire and Credit unions, Money market mutual funds</b>	Longer term than liabilities, Uncertain, Illiquid, Opaque	Fixed value, Short term	Maturity mismatch, Uncertainty of asset value
<b>Life insurers, Pension funds (defined benefit)</b>	Long term, Uncertain, Illiquid	Fixed value, Long term, Uncertain timing	Claim risk, Asset value, Underwriting risk
<b>Mutual funds, Exchange-traded funds, Pension funds (defined contribution)</b>	Varied term	Share of assets	Pass through
<b>Property and casualty insurers</b>	Varied term	Event dependent	Asset value, Underwriting risk

Financial institutions also perform a vital function on the asset side of their business by directing finance toward different users of funds. In addition, financial institutions, banks especially, participate in non-traditional activities such as buying and writing derivative securities that promise to make payments under specified contingencies. Banks also own Canada's largest investment dealers, who participate in brokerage and underwriting activities.

Confidence and trust are crucial to making this alchemy succeed. If this confidence breaks down, the business of these institutions will be put at risk. The source of confidence in financial institutions is generically the same: customers must be convinced that the institutions will meet their obligations. The specifics, however, differ. Deposit-taking institutions and investment funds with fixed obligations must manage a portfolio that is opaque to outsiders in a way that keeps their short-term claims in place; insurers must price their underwriting so that they can meet their claims; and investment funds must convince customers that their investments are properly managed.

The different financial institutions suffer differently from a loss of customer confidence:

- A loss of confidence for a bank would precipitate a sharp and sudden run, where depositors and short-term creditors rush to withdraw their funds. Given their dependence on short-term funding, banks can collapse quickly, even if they could be fundamentally sound in the long run.
- Life insurers would experience a more gradual and prolonged downward spiral as they are unable to attract new business, face demands for policy loans, and experience a shrinkage of premium revenues. Their impairment may be less evident immediately because the bulk of their claims come due far into the future.<sup>2</sup>
- Traditional property and casualty insurers would face a drop in both renewals and new business. Since much of their business is short term, the resulting drop in revenues will push them toward failure quickly.
- A loss of confidence in investment funds would produce a more orderly shrinkage as investors are entitled to a proportionate share of the funds' assets rather than a fixed payment, and have less incentive to be first in line. Runs could happen, however, if customers suspect fraud through the diversion of assets, such as schemes linked to the names of Ponzi, Cornfeld, Madoff and in Canada, Portus.

The costs of failures would be borne directly by the customers of the institutions were it not for the presence of a safety net of guarantees. These arrangements reflect the nature of the risks and scale of each type of financial institution (Table 3).<sup>3</sup> Canada Deposit Insurance Corporation (CDIC), the guarantor for banking-type institutions, has substantial pre-paid funding together with access to government support. The resources of Assuris, the guarantor for life and health insurers, and the Property and Casualty Insurance Compensation Corporation (PACICC) are smaller and are intended to meet liquidity needs. Neither has access to government support.

**TABLE 3: CUSTOMER-GUARANTEE PLANS**

Industry	CDIC	Assuris	PACICC
	Federally regulated deposit-taking institutions	Life and health insurers	Property and casualty insurers
Coverage	\$100,000 per account	Death – \$200,000 Health – \$60,000 Monthly income – \$2,000 Cash value – \$60,000 Or 85 per cent, whichever is greater	Auto and commercial – \$250,000 Home – \$300,000
Assets (millions)	\$2,441	\$122	\$66
Fees (millions)	\$224	\$1.5	\$1.2
Expenses (millions)	\$32	\$5.6	\$1.5
Borrowing powers	Maximum \$18-billion line of credit from CDIC	Yes	Yes

<sup>2</sup> See: R. McQueen, *Who Killed Confederation Life? The Inside Story* (Toronto: McClelland & Stewart, 1996), for a narrative of the failure of a large life insurer.

<sup>3</sup> Provincial institutions, such as caisses/credit unions, are covered to differing degrees by provincial guarantee funds backed up by CDIC support.

The differences among institutions justify differences in their regulation:

- Property and casualty insurance failures have been frequent, with some 32 since 1989, and are resolved at little cost. The six failures that took place between 2000 and 2005 were settled at less than \$4 million each.<sup>4</sup>
- Only four life insurers have failed since 1990, of which three have now been resolved at an average cost of \$60 million.<sup>5</sup>
- The losses are much greater for failures of banking-type institutions. The Canada Deposit Insurance Corporation (CDIC) provided a \$2.4 billion guarantee in the 1980s to support a bank's takeover of a failing trust and loan company. Three of the last four bank failures, all small, received \$1.4 to \$5.2 billion support each from the Bank of Canada.<sup>6</sup>

## WHY REGULATE FINANCIAL INSTITUTIONS?

### The need for regulation

This need for regulation of financial institutions has long been recognized by economists, from Adam Smith in the 1700s to Walter Bagehot in the 1800s, to modern-day theorists. Many have warned of the fragility inherent in financial institutions, especially banking. On the theoretical side, the work of Diamond and Dybvig has been a staple of graduate courses in monetary theory for more than 25 years.<sup>7</sup> Friedman and Schwartz documented the collapse of the U.S. banking system in the 1930s and its consequences in their monumental monetary history of the United States.<sup>8</sup>

Underlying the concerns about banking stability is the principle that, by issuing short-term debt in the form of deposits against longer-term illiquid and opaque assets, banks will be inherently fragile, relying as they do on the confidence of their depositors to be viable. This confidence can be eroded by depositors' concerns, based on the actual condition of the institution, or by concerns based on faulty perceptions. Both can induce a run on a bank where depositors rush to withdraw their funds that can bring down the bank, whether it was initially sound or not.

Economists' concerns about stability of financial institutions go beyond the viability of single institutions. They have long realized that the troubles of one institution can spread, and cast uncertainty about the conditions of others. The fragility that characterizes individual banks applies to the banking system as a whole.

---

<sup>4</sup> P. Kovacs, "Lessons learned from insolvency in the Canadian P&C insurance industry" (Presentation to the Canadian Institute for Actuaries, June 2012).

<sup>5</sup> Assuris, Annual Report, 2011.

<sup>6</sup> R. Shearer, J. Chant and D. Bond, *The Economics of the Canadian Financial System: Theory, Policy & Institutions* 2nd edition (Toronto: Prentice-Hall, 1984), 659.

<sup>7</sup> D. Diamond and P. Dybvig, "Bank Runs, Deposit Insurance and Liquidity," *Journal of Political Economy* (June 1983): 401-419.

<sup>8</sup> M. Friedman and A. Schwartz, *A Monetary History of the United States* (Princeton: Princeton University Press, 1963).



## Remedy versus prevention

The term “regulation” itself may be negative to many who ask “why can’t governments leave us alone to carry out our business?” Still, it must be recognized that economic activity in a market economy is embedded in a legal system of which regulation is only a part. The system includes *preventive* measures intended to deter actions that cause harm together with *remedial* measures that determine liability for the harm once it occurs.<sup>9</sup>

Regulation is an important element of the preventive aspect of the legal system through constraining or limiting parties’ actions in order to prevent harm from occurring. The remedial part of the legal system is tort liability, which deals with harms after they have occurred. This part of the legal system defines the recourse available to harmed parties when, among other things, their property rights are violated, when others breach their contractual commitments, or when they are damaged by the actions of others.

Factors influencing the choice between remedy and prevention include:

1. differences in knowledge,
2. ability to pay for the full magnitude of harm,
3. possibility (or threat) of suit for harm done.<sup>10</sup>

Each of these factors has relevance for the financial industry.

### 1. DIFFERENCE IN KNOWLEDGE

Financial institutions exist because their customers have delegated the management of risks to them in order to avoid duplicating effort, were the customers to manage risks themselves. Just as there are economies for institutions in monitoring specific risks, so too are there economies in assessing and monitoring the risks of financial institutions. Thus, differences in knowledge can support a collective role in overseeing financial institutions through regulation and supervision.

### 2. ABILITY TO COMPENSATE

The fact that financial institutions hold claims on financial rather than concrete assets undermines the usefulness of compensation as a remedy for harm, because the value of these claims depends on the institution’s monitoring and its accumulated experience with the issuers. The transfer of these assets to others without this experience would diminish the assets’ value. The effectiveness of compensation is further limited because financial institutions tend to be highly levered: their owners’ stake may be insufficient to provide compensation when the institution’s asset values fall short of its obligations. The combination of the types of assets held, and the high levels of leverage, both limit the prospects of compensation for harm and tilt the balance toward preventive regulation.

---

<sup>9</sup> For the origins of this distinction, see: S. Shavell “Liability for Harm versus Regulation of Safety,” *Journal of Legal Studies* 13 (June 1984): 357-374; and S. Shavell, “A Model of the Optimal Use of Liability and Safety Regulation,” *Rand Journal of Economics* 15, 2 (Summer 1984): 271-280.

<sup>10</sup> Shavell, “Liability for,” 359-363.

### 3. THREAT OF SUIT

Financial institutions by their nature tend to have a large number of creditors, each with a relatively small stake. A suit by any individual creditor to recover its losses would be too costly to be justified by the returns. Collective action through regulation may be necessary to protect creditors' interests to a degree unnecessary in many other economic activities.

## THE FINANCIAL CRISIS IN BRIEF

The financial crisis that started in 2007 casts a shadow over any attempt to assess financial regulation. The root of the crisis was the securitization of U.S. sub-prime residential mortgages, a process through which the party that originated the mortgages sold them onward in packages to others. In the right conditions, securitization can be beneficial by allowing specialization between initiating a loan and funding it. The superstructure built on sub-prime mortgages was weakened by some parties pursuing an “acquire-to-sell” strategy whereby they purchased mortgage packages not to hold, but rather to sell them onward combined with other mortgage packages. This greatly diluted the accountability of mortgage initiators to the ultimate investors. Initiators responded in many cases by lowering their lending standards to keep new mortgages flowing. Many investors, leery of the structured arrangements, protected themselves by buying derivatives that would pay off if their securitized-mortgage holdings turned bad. The sub-prime mortgage market was transformed from a simple market to a complicated and opaque one.

The first signs of the crisis emerged in the summer of 2007, when warnings and rating downgrades from credit-rating agencies for many mortgage-based securities were quickly followed by difficulties and even failures of specialized mortgage institutions. These alarms strengthened in the autumn, when the Bank of England was forced to give emergency support to Northern Rock Bank to offset its loss of funding. Other financial institutions found it increasingly difficult to maintain their short-term funding. Despite measures by the U.S. Federal Reserve to lower its target rates from 6.25 per cent in August 2007 to 2.00 per cent in April 2008, and to grant an unprecedented amount of financial assistance over a broader range of institutions than ever before, the pressures strengthened and continued to spread.

By September 2008, many major financial institutions came under pressure and either required government assistance, were merged with others, or were placed into government conservatorship.<sup>11</sup> However, Lehman Brothers, a major investment bank, was not rescued and was allowed to fail, causing a major blow to confidence. Throughout the autumn, the government was forced to introduce multiple interventions, including the Troubled Asset Relief Program (TARP), which purchased capital in troubled financial institutions, and the Temporary Liquidity Guarantee Program, which guaranteed their uninsured deposits and senior debt. TARP assistance was soon extended beyond banks to insurance companies and even to car makers.

---

<sup>11</sup> The list includes Fannie Mae and Freddie Mac, two bulwarks of housing finance; Bear Stearns and Merrill Lynch, two major investment banks; Wachovia Bank; and the U.K.'s Black Rock Financial, among others.



The crisis abated in 2009, but not before leaving a legacy of 400 failed banks and “hundreds of billions of dollars of capital and over a trillion dollars of emergency loans” injected by the U.S. government to financial institutions.<sup>12</sup> The crisis was not confined to the U.S.: it also eventually entailed the rescue of three of the largest banks in the U.K., including the world’s largest bank, the Royal Bank of Scotland, together with major banks in the Netherlands, Switzerland, and Ireland, among others.

## The impact on Canada

At the early stages of the financial crisis, Canada experienced a crisis of its own in the asset-based commercial paper (ABCP) market, where specialized entities (conduits) financed holdings of mortgage-backed securities, or derivatives based on them, through issues of short-term commercial paper, mainly from large institutional investors.<sup>13</sup> In August 2007, investors withheld funding from conduits over concern about the deteriorating condition of the U.S. sub-prime market. While Canadian banks supported their sponsored conduits, the non-bank or third-party conduits, accounting for \$32 billion of the \$117-billion ABCP market, were unable to roll over their maturing notes. A committee consisting of large investors and other interested parties agreed to a 60-day standstill to allow for a restructuring of non-bank ABCP. After prolonged negotiations, small investors were reimbursed, while other investors received substitute notes that matched the classes of assets underlying their conduits. These notes have been actively traded at varying discounts from their face value and some have now been rated by a Canadian rating agency.

Canadian financial institutions did not escape the financial crisis unscathed. The market value of the Big Six Canadian banks fell by 44 per cent in the two years following the start of the crisis. Canadian authorities responded to prevent the spread of the crisis with measures that included:

- Larger and more frequent purchase-and-resale agreements (PRAs) by the Bank of Canada;<sup>14</sup>
- Creation of new longer-term credit facilities from the Bank of Canada;
- Acceptance of a broadened range of collateral for borrowings by the Bank of Canada;
- Offer of government guarantees to financial institutions for new issues of unsecured wholesale debt up to either 120 per cent of wholesale debt or 20 per cent of deposits on an optional basis;<sup>15</sup>
- Purchase of up to \$75 billion of insured mortgages from financial institutions by the Canada Mortgage and Housing Corporation.<sup>16</sup>

---

<sup>12</sup> U.S. Government Accounting Office, *Financial Regulatory Reform: Financial Crisis Losses and the Potential Impacts of the Dodd-Frank Act* (Washington: January 16, 2013), 1.

<sup>13</sup> For details, see: John Chant, “Appendix: The ABCP Crisis in Canada: the Implications for the Regulation of Financial Market,” in David Johnston, Kathleen Rockwell and Cristie Ford, *Securities Regulation in Canada* 5th ed. (Markham: LexisNexis, forthcoming 2014).

<sup>14</sup> PRAs are arrangements where financial institutions gain liquidity by selling securities to the central bank against their promise to buy them back at a later date.

<sup>15</sup> In the event, financial institutions did not make use of the program. Still, the program strengthened confidence in the financial institutions because the offer of a guarantee is in itself a guarantee to the outside world.

<sup>16</sup> For more details, see: Bank of Canada, *The Macroeconomic Environment*, Financial System Review (December 2008), 13, Table 1.

While these measures were less drastic than those in other countries, they dwarfed any previous measures taken to support Canada's banks. Still, Canada experienced a lesser impact on the stability of its banks and the rest of financial system than what occurred in most other countries, earning many plaudits for the soundness of the Canadian banking system.

### **The costs of the crisis**

A financial crisis imposes substantial economic costs on the economy. Distributional costs consist of the costs borne by the government in supporting and winding up troubled institutions. Distributional costs of the financial crisis can be substantial and result from capital injections, asset purchases and guarantees by governments and their agencies, and central-bank support. These costs shift the losses of financial institutions from their stakeholders, leaving the public to pick up the tab. The real economic costs of financial crisis consist of the consequent losses of output and wealth. A U.S. government study estimates that the total losses from the financial crisis will total \$5 trillion by 2018, while academic economists suggest that these costs range from 36 to 45 per cent of the base-year GDP.<sup>17,18</sup> The U.S. Government Accounting Office suggests these estimates are conservative because they do not include other costs such as the effects on long-term unemployment, household wealth and the disruptions arising from foreclosures.<sup>19</sup>

These estimates may not reflect the costs of a domestic financial crisis confined to Canada. Canada's deep ties with the U.S. could serve as a buffer that would moderate the extent of such a crisis. These same ties, however, make Canada vulnerable to the U.S. economy, so its financial institutions need to be braced to deal with the spillovers from the U.S.

## **LESSONS FROM THE FINANCIAL CRISIS**

### **Sources of runs**

The bank runs of the 2007–09 crisis differed from the classic bank runs of the past in that they were caused not by retail depositors, but by holders of wholesale claims. A recent study showed that the funding structures of large banks explain the degree to which they were affected by the crisis.<sup>20</sup> Banks that relied on non-depository funds suffered greater declines in equity value than did other banks. The study concluded that “depository funding significantly and robustly explains bank performance during the credit turmoil.”<sup>21</sup> Banks that relied more heavily on retail deposits, such as those in Canada, did better than those that did not.

---

<sup>17</sup> U.S. Government Accounting Office, *Financial Regulatory*, 12-18.

<sup>18</sup> John H. Boyd and Amanda Heitz, “The Social Costs and Benefits of Too-Big-To-Fail Banks: A Bounding Exercise” (University of Minnesota, Draft, August 2011), used the methods developed in the classic article on the costs of financial crises by J. Boyd, S. Kwak and B. Smith, “The Real Output Losses Associated with Modern Banking Crises,” *Journal of Money, Credit and Banking* 37 (2005): 977-999.

<sup>19</sup> U.S. Government Accounting Office, *Financial Regulatory*, 17.

<sup>20</sup> See: L. Ratnovski and R. Huang, “Why Are Canadian Banks More Resilient?” International Monetary Fund WP/09/152 (2009).

<sup>21</sup> *ibid.*

A significant new element in the banking crisis was the widespread weakness of U.S. non-banking institutions such as Bear Stearns, Merrill Lynch and Lehman Brothers; the mortgage lenders such as Fannie Mae and Freddie Mac; the insurer American International Group (AIG); and even industrial corporations such as General Electric.<sup>22,23</sup> These so-called shadow banks transform assets in the same way as regulated financial institutions. Some perform maturity transformation by issuing short-term claims to fund longer-term commitments, while others issue fixed-value claims against risky assets. Like regulated financial institutions, they can be imperilled by liquidity shortages when their funding dries up. The experience of these entities showed that they share the same characteristics as banks: they could be fragile enough, large enough and interconnected enough to threaten the stability of the financial system.

### **Complexity and interconnectedness**

The financial crisis highlighted the degree of mutual dependence among financial institutions in that the viability of one institution can depend on the conditions of others. The channels for these interdependencies include:

- ***Painting with the same brush:***

Given the limited ability of customers to assess the soundness of what backs their own financial institution, difficulties at other institutions may raise doubts about their own institution and subject it to a run. The failures of Northern Rock and Lehman Brothers at the early stages of the crisis spread doubts to other institutions, drying up their sources of funds and taking the crisis to new levels.

- ***Dependency chains:***

Financial institutions are often exposed to the risk that their counterparties — for example, in markets such as the interbank funding market, derivative markets, and credit-default swaps — do not deliver on their commitments. Moreover, these counterparties may themselves be exposed to other counterparties, creating a chain of exposure with the potential to produce a domino effect where one institution's problems spread to others, even those without direct dealings with it. Indeed, it was these dependencies that forced the U.S. government into a \$180-billion rescue of the insurer AIG because its failure would weaken not only on its counterparties, but also the counterparties' counterparties, who had no direct dealings with AIG.

- ***Fire sales:***

Fire sales arise because different financial institutions hold similar assets. While a single troubled institution could sell its assets with little effect on market prices, this possibility disappears when numerous institutions try to sell the same assets at the same time, pushing prices downward, devaluing their holdings and intensifying their difficulties. Fire sales can even lead to market freezes that shut down asset markets entirely.

---

<sup>22</sup> Like financial corporations, GE received a government guarantee — in this case, \$126 billion — to bolster investor confidence in GE's outstanding commercial paper.

<sup>23</sup> The experience of Long-Term Capital Management exhibited a similar threat in 1998, the lessons of which were not heeded.

Traditionally, financial regulation has been concerned primarily with the safety and soundness of individual institutions, especially banks. Accordingly, economists have recommended moving beyond policies aimed at protecting the safety of single institutions or types of institutions toward macroprudential policy directed at protecting the financial sector as a whole.<sup>24</sup>

### **Impact on the safety net**

The crisis challenged the elements of the existing safety net. While in normal times, deposit insurers deal with a few institutions that run into trouble, financial authorities had to deal with events well outside the range of normal experience. The crisis, as it progressed, proved to be more than something that could be solved through infusions of more liquidity. The crisis became a crisis of confidence, where the solvency of some of the world's largest financial institutions came into question. As was the case in the Continental Illinois episode of the 1980s, large banks that depended on wholesale sources of funds suffered substantial losses of deposits, shaking confidence in the entire banking system. As the crisis spread, the threats posed by non-banking institutions, and the complex interconnectedness among financial institutions and other enterprises, led authorities to take extraordinary measures. Since their wind up of large, troubled institutions could not be managed smoothly in the heat of the moment, authorities expanded short-term lending facilities, extended the range of assets eligible for collateral, increased deposit-insurance limits, guaranteed bank liabilities, contributed to bank capital and purchased assets, including impaired assets, from financial institutions. In some cases, they bolstered financial enterprises that lay outside the domain of regulation and the safety net.

### **Changed expectations**

The expansion of the safety net during the crisis passed a milestone comparable to the initiation of deposit insurance in the 1930s, the acceptance of “too big to fail” in the 1980s and the 1998 bailout of Long-term Capital Management. The extraordinary measures taken in each case raise expectations regarding the support for troubled institutions. As the margin of support expands, the exceptional can soon become the normal, with financial institutions following the margin and accepting higher levels of risk.<sup>25</sup> In the aftermath of the crisis, authorities must deal with the consequences of a perception of an expanded safety net in addition to any weaknesses revealed by the crisis itself.

---

<sup>24</sup> Borio and White were pioneers in asserting this need. See: C. Borio and W. White, “Whither Monetary and Financial Stabilization: The Implications of Existing Policy Regimes” (Presented at “Monetary Policy and Uncertainty: Adapting to a Changing Economy,” Symposium sponsored by the Federal Reserve Bank of Kansas City, August 28 - 30, 2003), <http://www.kc.frb.org/publications/research/escp/escp-2003.cfm>.

<sup>25</sup> A large literature has documented the effects of deposit insurance on banks' risk taking. For example, in a study of 61 countries, Demirguc-Kunt and Detragiach find that the introduction of deposit insurance was detrimental to bank stability. A. Demirguc-Kunt and E. Detragiach “Does Deposit Insurance Increase Banking System Stability?” (IMF Working Paper WP/00/03, January 2000).

## THE FRAMEWORK FOR PRUDENTIAL REGULATION

The content of a country's financial regulation should not be judged in isolation from its institutional setting, because the same regulations can have different outcomes in different circumstances. Instead, judgment should be based on the institutional arrangements that govern the financial regulation's formulation and modification in addition to the ways it is administered and enforced.<sup>26</sup>

The effectiveness of the institutional arrangements governing financial regulation will be influenced by:

- The goals chosen for regulators
- The independence of regulators from outside pressures
- Their accountability with respect to responsibility
- Their adaptability to changing conditions
- Simplicity

### Goals

Financial institutions have been governed by regulations with objectives ranging from safety and soundness on the one hand, to national control and social objectives on the other (Table 4). The objectives of the Office of the Superintendent of Financial Institutions (OSFI), as set out in its governing act, are clearly directed at safety and soundness: it is to assure that financial institutions are in sound financial condition and are compliant with their governing laws and statutory requirements.<sup>27</sup> Further, it is “to protect the rights and interests of depositors, policyholders, and creditors of financial institutions, having due regard to the need to allow financial institutions to compete effectively and take reasonable risks.”<sup>28</sup>

TABLE 4: TYPES OF REGULATION GOVERNING FINANCIAL INSTITUTIONS

Type of regulation	Objective	Examples
<b>Prudential</b>	Safety and soundness of financial institutions System stability	Capital and liquidity requirements Limits to concentrated ownership
<b>Market conduct</b>	Governs the relationship between institutions and customers	Codes of conduct (credit/debit cards)
<b>Price regulation</b>	Sets limits to the prices charged to customers	Insurance-rate ceilings Regulation Q (U.S. ceiling on deposit rates)
<b>Social objectives</b>	Directs actions toward specific activities or groups	Community Reinvestment Act (U.S.) Access to service guidelines
<b>National objectives</b>	Promote national control	Foreign-ownership limits Director requirements
<b>Competition and market structure</b>	Foster competitive markets	Prohibition of bank mergers Limits to concentrated ownership
<b>Anti-money laundering</b>	Prevent transfer of funds for terrorism and illegal activity	Screening of money transfers
<b>U.S. tax policy</b>	Compliance with tax regime	Reporting about financial accounts

<sup>26</sup> Table 5 outlines the agencies responsible for regulating different financial institutions.

<sup>27</sup> Office of the Superintendent of Financial Institutions Act, Section 4(2).

<sup>28</sup> *ibid.*, Section 4(3)(a).

Financial authorities have, at different times, pursued additional goals, including provisions limiting foreign participation in banking<sup>29</sup> and provincial authorities, and to a lesser degree, federal authorities, have developed market-conduct rules for financial institutions that govern their relations with their customers.

Canadian authorities have avoided using financial regulation for achieving social objectives such as housing, unlike in the U.S. where institutions must meet targets in order to gain regulatory approvals.<sup>30</sup> Policies such as the Community Reinvestment Act in the U.S. contributed to the crisis by pressuring banks to expand housing credit, leading them to make riskier loans that were more likely to become delinquent.<sup>31</sup>

**TABLE 5: AUTHORITIES RESPONSIBLE FOR REGULATION AND GUARANTEE OF FINANCIAL INSTITUTIONS**

Authority	Role	Powers
<b>Department of Finance</b>	Policy formation	Policy advice with respect to legislative changes and orders in council Establishes framework for regulation Oversees five-year reviews of financial legislation
<b>Bank of Canada</b>	Monetary policy	Lender of last resort Regulator of payments system
<b>Office of the Supervisor of Financial Institutions</b>	Assuring safety and soundness of federal financial institutions	Regulates and supervises major financial institutions Administers OSFI Act, Bank Act and other federal legislation
<b>Investment Industry Regulatory Agency of Canada</b>	Regulation of market conduct in securities markets	
<b>Financial Transactions and reports Analysis Centre of Canada</b>	Prevention of money laundering and financing of terrorists	
<b>Canada Deposit Insurance Corporation</b>	Insures deposits at banks and federal trust companies	Sets terms for deposit insurance Participates in the resolution of failed institutions
<b>Assuris</b>	Insures policies of life insurance companies	Participates in the resolution of failed institutions
<b>Property and Casualty Insurance Compensation Corporation</b>	Insures policies of property- and casualty-insurance companies	Participates in the resolution of failed institutions
<b>Canadian Securities Administrators</b>	Oversees securities activities of federal institutions	Sets reporting standards for financial transactions
<b>Provincial regulators</b>	Assuring the safety and soundness of provincial institutions	Regulate and supervise provincial institutions
<b>Provincial guarantee funds</b>	Insure deposits at caisses/credit unions	Set terms for deposit insurance Participate in the resolution of failed institutions

<sup>29</sup> A prohibition on foreign banking introduced in 1967 has been gradually eased from 1980 onward.

<sup>30</sup> Forcing financial institutions to invest in housing finance is a hidden form of taxation, the burden of which falls on the institutions and their customers.

<sup>31</sup> S. Agarwal et al., “Did the Community Reinvestment Act (CRA) Lead to Riskier Lending?” (NBER Working Paper 18609).



## Independence

The degree of independence that financial regulators have from the pressures of political and business interests will affect their performance. Nominally, these regulators are organized in industrialized countries as stand-alone entities separate from the rest of government in order to insulate them from such outside pressures.

The major financial regulators in Canada, namely OSFI, CDIC and provincial securities regulators, have been established as independent agencies in much the same way as their counterparts in the U.S., with one exception. Technically the minister of finance “by statute ‘presides over’ and ‘is responsible for’ OSFI, while the Superintendent is the deputy head of the office.”<sup>32</sup> In addition, the deputy finance minister is an ex officio member of both key committees concerned with the supervision of financial institutions and financial-sector policy issues, and the minister of finance has the power to reject interventions by Canada Deposit Insurance Corporation to resolve failing institutions, although this power has not been used.

De facto independence from outside pressures, however, is more than a matter of institutional form. While Canadian agencies may appear less independent than their U.S. counterparts, senior levels of U.S. agencies, for example, are staffed by political appointees, who move through a revolving door when there are changes in government.<sup>33</sup> Many are drawn from, and will return to, the financial industry. Canadian agencies, in contrast, are staffed mainly by career civil servants with much less movement back and forth with the financial industry.

Differences in independence may also occur with respect to responsibility for the development of financial rules. Legislation in the U.S. is developed in the House and the Senate, and their respective committees, where the members are targets for vigorous lobbying and receive substantial campaign support from interest groups.<sup>34</sup> Legislators can also offer amendments reflecting their specific interests in return for their overall support for the proposals. Canadian legislation, in contrast, is developed in the Department of Finance and is then presented to the legislature with assured support from the governing party.<sup>35</sup>

---

<sup>32</sup> J. Crow, “Seeking Financial Stability: The Best Role for the Bank of Canada,” *C.D. Howe Institute Commentary* 369 (December 13, 2012): 7.

<sup>33</sup> See J. Barth, G. Caprio, and R. Levine, *Guardians of Finance: Making Regulators for Us* (Cambridge, Mass.: MIT Press, 2012), 208-10.

<sup>34</sup> The Center for Responsive Politics reports that the Finance/Insurance/Real Estate industry spent \$482 million on lobbying in 2012 and a further \$492 million in campaign contributions over the 2012 electoral cycle. Accessed at OpenSecrets.com, March 10, 2013.

<sup>35</sup> Calomiris and Harden contrast the politicized environment that characterizes financial regulation in the U.S. with that of Canada, and attributes the different environment in Canada to the British desire to centralize powers with the federal government. See the presentation based on their forthcoming book: Charles W. Calomiris and Stephen Haber, *Fragile by Design: Banking Crises, Scarce Credit, and Political Bargains* (Princeton, N.J.: Princeton University Press), <http://media.hoover.org/sites/default/files/documents/Calomiris-Haber-notes-20120612.pdf>.

## Accountability

The place of the financial regulators' organization within the governing apparatus will determine the degree to which they are accountable for their performance. In some countries, including the U.S. and the U.K., some or all responsibility for financial regulation lies with the central bank rather than with a separate agency.

This consolidation of responsibilities within a single agency has been defended on the basis that the information derived from each of these activities can be vital to the others.<sup>36</sup> Indeed, the Financial Services Authority of the U.K. has suggested that a lack of information sharing between regulatory and supervisory authorities there delayed the response to the emerging financial crisis.<sup>37</sup> Canadian authorities have compensated for the separation of functions by establishing the Financial Institutions Steering Committee (FISC), a high-level inter-agency committee organized "to facilitate consultations and the exchange of information ... on all matters relating directly to the supervision of financial institutions."<sup>38,39</sup> The terms of FISC state that any member must make available, on request from the other members, any information related to the supervision of financial institutions.<sup>40</sup> The auditor general of Canada has concluded that the FISC arrangement has worked well for the exchange of information and as a forum for addressing a range of issues, from financial stability to international and domestic regulatory developments.<sup>41</sup>

The assignment of responsibilities to separate agencies has a key advantage over giving multiple responsibilities to a single agency: assessment of the single agency will be complicated by the need to account for performance of multiple, and possibly competing, goals. In particular, it will be difficult to distinguish whether the agency's failure to achieve a goal resulted from the placing of more emphasis on other goals or just poor performance. The arrangements in Canada, where monetary policy is assigned to the central banks and prudential regulation to regulatory authorities, avoids the problem by providing clear accountability for each function.

---

<sup>36</sup> See: J. Peek, E. Rosengren and G. Tootell, "Is Bank Supervision Central To Central Banking?" *The Quarterly Journal of Economics* 114, 2 (May 1999): 629-653. Recently, the head of another Federal Reserve Bank has argued the opposite position, urging that the Fed's responsibilities be confined to a single goal to ensure clearer accountability. See: C. Plosser, "A Limited Central Bank" (Speech presented at Cato Institute's 31st Annual Monetary Conference, Washington, D.C., Nov. 13, 2013), [http://www.philadelphiafed.org/publications/speeches/plosser/2013/11-13-13\\_cato-institute.pdf](http://www.philadelphiafed.org/publications/speeches/plosser/2013/11-13-13_cato-institute.pdf).

<sup>37</sup> United Kingdom, House of Commons, Treasury Committee, *The Run on the Rock, Fifth Report of Session 2007–08, Volume I* (January 2008), paragraph 276.

<sup>38</sup> OSFI Act 18(3).

<sup>39</sup> The senior advisory committee, which shares the same composition as FISC and is chaired by the deputy minister of finance, provides a forum for discussing longer-term policy issues such as legislative changes and the regulatory and supervisory framework.

<sup>40</sup> OSFI Act 18(4).

<sup>41</sup> Office of the Auditor General of Canada, 2010 *Report of the Auditor General of Canada*, Chapter 5: "Regulating and Supervising Large Banks" (2010).

## Adaptability

Past experience shows that financial markets can change quickly through changes in the processes used and the services supplied. “You have to think about regulation as an arms race,” said the chief economist at the Bank for International Settlements. “So every day, the banks wake up looking for a way around it. And the regulators and the supervisors look for a way to try to contain the next thing they do.”<sup>42</sup> To keep up in this race, regulators must be able to respond quickly to market developments.

The Canadian approach to regulation incorporates adaptability in a number of ways. At the simplest level, the guidelines issued by the superintendent are predominately principles-based rather than rules-based, offering institutions flexibility with respect to the ways they conform. These guidelines can be quickly adapted to changing conditions, as was the case when OSFI altered capital requirements for banks that offered liquidity lines to asset-backed-commercial-paper conduits well before the ABCP crisis emerged. The flexibility for Canadian regulators to adapt guidelines in response to financial-market conditions contrasts with the processes in the U.S., where the regulations based on the 2010 Dodd-Frank Act have still to be completed.

In addition, the legislative framework for financial institutions has a distinctive feature in that the laws have sunset clauses that require renewal every five years. These renewals have been the occasion for major reviews of the financial system and its regulation.<sup>43</sup> This feature helps to keep the framework in step with financial-market developments.

Adaptability may not be desirable for all aspects of regulation. In the absence of clear-cut criteria for determining when a financial institution is deemed to have failed, regulators around the world have, in the past, delayed taking action to foreclose on failing institutions in the hope that they might be turned around, leading to larger losses than would have taken place with earlier intervention.

## Simplicity

Simple regulation benefits both the regulated and the regulators through lower costs of compliance and enforcement. OSFI’s principles-based approach allows greater simplicity than a rules-based approach to regulation, like that used in the U.S. The differences are substantial: Table 6 illustrates the difference with respect to one type of provision: securities lending. Recent U.S. reform initiatives will add further to complexity: the Dodd-Frank Act of 2010 runs to 848 pages and will require a further 400 rules from different regulatory agencies.<sup>44</sup> The one-third of the rules that were completed by July 2012 added 8,838 pages to the rule book.<sup>45</sup>

---

<sup>42</sup> Alex Blumberg, “The Big Banking Overhaul Most People Haven’t Heard Of,” *Planet Money*, National Public Radio, August 20, 2010, <http://www.npr.org/blogs/money/2010/08/19/129306242/the-finance-overhaul-most-of-us-haven-t-heard-of>.

<sup>43</sup> Notable are the 1964 Royal Commission on Banking and Finance (the Porter Commission), which served as a blueprint for much subsequent financial reform, and the 1998 Task Force on the Future of the Canadian Financial Services Sector (the MacKay Task Force).

<sup>44</sup> A. Haldane, “The Dog and the Frisbee” (Paper presented at the Federal Reserve Bank of Kansas City’s 36th economic policy symposium, “The Changing Policy Landscape,” Jackson Hole, Wyoming, August 31, 2012), 9, [www.bankofengland.co.uk/publications/Pages/speeches/default.aspx](http://www.bankofengland.co.uk/publications/Pages/speeches/default.aspx).

<sup>45</sup> *ibid.*, 10.

**TABLE 6: PRINCIPLES- AND RULES-BASED REGULATION: A COMPARISON**

The difference between principle-based and rules-based regulation can be illustrated by comparing OSFI's Guideline B-4: Securities Lending, with the U.S. Federal Reserve's Regulation U (Part 221: Credit by banks and Persons Other than Brokers or Dealers for the Purpose of Purchasing or Carrying Margin Stock). Despite covering all securities lending, Guideline B4 consists of four pages with five sections, whereas Regulation U uses 23 pages for 32 sections and is supplemented by Regulation X "Borrowers of Securities Credit."

Guideline B4 advises financial institutions to "ensure that securities lending activities are conducted in a safe and prudent manner" and makes no mention of the purpose. Regulation U requires execution of a purpose statement (Form FR U1) for margin loans against stock except for loans extended under paragraph (c)(2) of the section, and has sections on "Amendment of purpose statement," "Special purpose loans to brokers and dealers," with 10 subsections together with interpretations on "Determination and effect of purpose of loan," "reliance on 'good faith' on statement of purpose of loans," and a response to a question about "Accepting a purpose statement through the mail without benefit of face-to-face interview."

Guidelines may not always be sufficiently specific to deal with an issue, leading OSFI, in these cases, to resort to rules. As an example, *Advisory: Innovative Tier 1 Capital and Other Capital clarifications – Revised Version* is itself detailed, and refers to a guideline and its appendix, two advisories, plus another document, *The Capital Regime for Regulated Insurance Holding Companies and Non-operating Life Insurance Companies*.

OSFI deserves high marks for relying on a predominantly principles-based approach to regulation. These choices have saved financial institutions the costs of dealing with detailed prescriptive rules and also have likely contributed to the strong performance of Canadian institutions. Recently, however, the adoption of the Basel III capital requirements has shifted the emphasis away from simplicity and lowers OSFI's final grade.

## THE SAFETY NET

Financial institutions and their customers are protected by the safety net. The formal part of the net consists of deposit insurance and other guarantee programs. As the experience of the financial crisis shows, informal measures including rescues, bail outs and other support have extended the scope and size of the safety net to dwarf the formal measures.

The Canadian financial sector now pays for the deposit insurance coverage offered by the Canada Deposit Insurance Corporation (CDIC). Recently CDIC has raised its rates substantially to better reflect the risks involved. In 2011, these premiums were \$224 million for coverage of insured deposits worth over \$622 billion, a rate of 0.015 per cent.<sup>46</sup>

<sup>46</sup> This premium rate, for example, would imply a failure rate of one per cent of bank assets per year at a cost of 1.5 per cent per failure. CDIC charges higher rates to institutions that pose greater risks.

Deposit insurance is only a small part of the safety net. Taking account of “too big to fail” would give a different perspective on the costs of protection: the total assets of the five largest domestic banks are more than \$3.8 trillion. CDIC’s current reserves would cover 1/1470th, and its annual premium only 1/37,000th of these assets. Despite the increase in CDIC’s fees, they do not adequately protect the Canadian public from the costs of institutional failure: they have been based on the scope of its explicit deposit guarantees rather than the “too big to fail” blanket, which is five times larger. The persistent difference between standalone and overall credit rating of Canadian banks indicates that deposit-insurance premium levels are at levels where banks gain an implied subsidy from the safety net.

Some suggest that the confidence-building effects of the government’s guarantees may be costless. Now that some U.S. institutions are repaying their TARP funds, some authorities, including former Treasury secretary Timothy Geithner, suggest the program has turned a profit. This claim has been strongly contested by the special inspector general of the program, who declared: “[i]t is a widely held misconception that TARP will make a profit.”<sup>47</sup> And even if the funds are repaid, this outcome could not have been assumed. The experiences of the Netherlands, Switzerland, and the U.K., among others, reinforce the view that guarantees can be costly. Even if bailouts turn out to be costless in retrospect, they do put the public at risk for losses that would turn up with a different roll of the dice.

## DEALING WITH FRAGILITY

The fragility of the financial sector and the economic costs of failure pose a challenge for policy-makers. Not only must they act to prevent fragility, they must deal with instability when it occurs. During the recent financial crisis, authorities in many countries responded by reinforcing financial institutions to prevent their failure and to forestall contagion, in effect deeming institutions “too big to fail.” They may have had little choice, given the circumstances.

The international Financial Stability Board has now designated 29 global banks as Systemically Important Financial Institutions (SIFIs) “whose distress or disorderly failure, because of their size, complexity and systemic interconnectedness, would cause significant disruption to the wider financial system and economic activity.”<sup>48</sup> These banks, effectively deemed “too big to fail,” will be required to hold more capital than other banks by 2019. In addition, national authorities are expected to develop orderly regimes capable of resolving institutions without risk to taxpayers. Large Canadian banks were not included among the designated SIFIs. Nevertheless, their significance on a national scale means they are effectively too big to fail, and may be too big to resolve.

---

<sup>47</sup> Office of the Special Inspector General of the Troubled Asset Relief Program, *Advancing Economic Stability through Transparency, Coordinated Oversight, and Robust Enforcement, Quarterly Report to Congress*, April 25, 2012, 5.

<sup>48</sup> Financial Stability Board, “Policy Measures to Address Systemically Important Financial Institutions,” November, 2011.

**TABLE 7: THE COMPLEXITY OF A MAJOR CANADIAN BANK**

- Provides back-stop liquidity and credit-enhancement facilities for Special Purpose Entities — maximum exposure \$34 billion
- Exposed trading positions (repo-style transactions and over-the-counter derivatives) — \$300 billion
- Off-balance-sheet obligations (financial guarantees, operating leases and commitments to extend credit) — \$147 billion
- 64 subsidiaries and subsidiaries of subsidiaries
- Foreign currency assets of almost 40 per cent of all assets

The policy response to the crisis in Canada and other countries makes it clear that large banks are too big to fail in the sense that governments will step in to preserve them in a crisis. Such an approach is understandable in that winding up a large bank would be complicated in any circumstances and even more so in the heat of a crisis. But if big banks are, in fact, judged too-big-to-fail, policy-makers must ensure that their policies reflect this fact.

“Too big to fail” can be dealt with by policies i) that lower the costs of bailouts and rescues through more effective resolution; and ii) that minimize the possibility of failure.

#### **All the king’s horses.... effective resolution**

Initiatives aimed at reversing the “too big to fail” dilemma, by lowering the costs of institutional failure, have been gaining support from policy-makers. The G20 has moved forward with the Financial Stability Board’s Key Attributes of Effective Resolution Regimes. The success of reversing “too big to fail” will depend on overcoming the legacy of the past, especially from the bailouts, mergers, takeovers and other extraordinary measures taken during the financial crisis.

Allowing financial institutions to fail in an orderly way has the appeal of strengthening incentives for stakeholders — uninsured depositors, other creditors and shareholders — to bolster the governance of financial institutions. Doing so would have the benefit of allowing a lighter approach to regulation, allowing scope for greater efficiency. These benefits can be realized only if there is a credible threat that troubled institutions will be allowed to fail and that any of the costs of failures will be borne by the stakeholders. Following the lesson of Lehman Brothers and its harmful impact on financial-market conditions, any institutional failure must be managed in an orderly way.

To this end, authorities from the G20, the European Union, the United States, and United Kingdom have proposed that the resolution of large financial institutions could be made more tractable by requiring the institutions themselves to prepare “living wills,” or plans for the



stabilization of troubled institutions and orderly resolution of institutions beyond rescue.<sup>49</sup> Living wills would include advance commitments that specify the triggers to initiate action and the measures to be taken. If successful, they would avoid the financial-market shocks arising from the failure of major financial institutions.

Among the problems identified with living wills have been the high costs of preparation and maintenance, institutional complexity, and the multiple jurisdictions involved with multinational banks. Further, given the complexity of modern financial institutions, it is hard to imagine managers devoting the resources needed for an effective roadmap, much less when their immediate interests are with the survival of their institution. It also seems unrealistic to rely on plans for winding down an institution that were developed by the managers who brought that institution to failure.

There is good reason to question the possibility of reversing “too big to fail” in this way. It requires authorities to avoid forbearance and to close troubled institutions promptly. But the lessons from history suggest that forbearance has a strong appeal. Authorities may hope that an institution, if given time, can overcome its difficulties. They may also hope to avoid fuelling a financial crisis by not repeating the distress precipitated by the failures of Northern Rock and Lehman Brothers. Authorities may also be inclined to forbear because shutting institutions may be perceived as indicating poor regulatory performance.<sup>50</sup>

Further, any plan to reverse “too big to fail” must be capable of resolving complex institutions with assets as large as 49 per cent of Canada’s GDP.<sup>51</sup> Size is only part of the problem: complexity and interconnections throughout the financial sector add to the difficulty of resolving a single institution by increasing the likelihood that multiple institutions require resolution at the same time.

The benefits of reversing “too big to fail” depend critically on the credibility of the resolution process which, in turn, depends on the degree to which the details of the intervention are prescribed. The present approach set out in OSFI’s *Guide to Intervention for Federally on the Regulated Deposit-Taking Institutions* leaves considerable discretion to the authorities in choosing both the timing and degree of intervention.<sup>52</sup> Such discretion seems warranted given the uncertainties about the resolution of major institutions. It may be appropriate in the heat of the moment to support institutions rather than attempt a resolution with an uncertain outcome. Nevertheless, this discretion erodes the credibility of the commitment to reverse “too big to fail,” leaving the prospect of orderly resolution as an article of faith: there is no possibility for a test run. Relying on such a reversal without a fail-proof resolution plan could produce the calamity of light regulation followed by more costly rescues and bailouts.

---

<sup>49</sup> O. Schmid, “Living wills: Will They Remedy “Too Big To Fail,” *Columbia Journal of European Law Online* 18 (2012): 69-80, describes the measures undertaken to implement living wills in the U.K. Federal Reserve Regulation QQ specified the content required for a living will. See: <http://www.federalreserve.gov/bankinforeg/reglisting.htm#QQ>. The Federal Reserve and FDIC have now released the public portion of the living wills of 16 large banks at: <http://www.federalreserve.gov/bankinforeg/resolution-plans/boa-1g-20120702.pdf>

<sup>50</sup> The failure of a financial institution inevitably creates a stigma, whether justified or not, for financial regulators. Each of the Canadian banks failures, from the Home Bank in 1924 onward, have accounted for less than one per cent of the banking-system assets. Yet all have precipitated major public inquiries.

<sup>51</sup> Table 7 illustrates the complexity of a major Canadian bank.

<sup>52</sup> Office of the Superintendent of Financial Institutions, *Guide to Intervention for Federally Regulated Financial Institutions*.

## Preventing failures

The uncertainties of reversing “too big to fail” can be avoided through recognizing that circumstances can force authorities, regardless of their prior intent, to rescue and support troubled financial institutions, and by adopting policies that strengthen financial institutions to minimize the risk of failure. Among the ways for reducing the need for such rescues and support are:

- i) Limiting activities of financial institutions
- ii) Capping the overall size of institutions
- iii) Making institutions safer

### LIMITING ACTIVITIES

Banks serve as underwriters, broker-dealers, insurers, and finance companies, in addition to performing their traditional banking activities. The crisis in the U.S. demonstrated the difficulties of supporting core banking activities without rescuing other activities at the same time. Numerous committees, commissions, regulators and academics have identified the expansion of banking into other activities as contributing to “too big to fail” and have advocated isolating core banking activities that are covered by the safety net from an institution’s other activities.<sup>53</sup> These proposals have antecedents dating back to well before the financial crisis, in the narrow-banking proposals of Milton Friedman and James Tobin, two Nobel Prize winners from opposite sides of the political spectrum.<sup>54</sup> Their proposal would limit banks to holding only safe assets against their deposits, making deposits at narrow banks completely safe. Other less drastic proposals would hive off selected activities such as underwriting and proprietary trading from core activities.

The separation of selected financial activities suffers from a lack of credibility. During the ABCP crisis in Canada, OSFI allowed Canadian banks to support their sponsored ABCP conduits which had been treated as off-balance sheet. This action suggests that the distinction between on- and off-balance-sheet bank activities was malleable when entities not on the parent’s balance sheet became distressed. Any such distinction must offer the institution no room for discretion so as to prevent support for activities beyond the narrow bank.

The Volcker plan to separate investment banking from commercial banking has been incorporated into the Dodd-Frank legislation and represented a return to the separation that had lasted from 1933 through to the 1990s under the Glass-Steagall Act. This act required “‘complete divorcement’ of commercial and investment banking by prohibiting commercial banks from engaging in the ‘issue, flotation, underwriting, public sale or distribution either wholesale, or retail or through a syndicate participation, of stocks, bonds, debentures, notes or other securities.’”<sup>55</sup>

---

<sup>53</sup> The President of the Dallas Federal Reserve Bank and a colleague argue that banking entities should be of size that is “too small to save.” R. Fisher and H. Rosenblum, “Vanquishing Too Big,” Federal Reserve Bank of Dallas, Annual Report, 2012.

<sup>54</sup> They have been joined by two other Nobel Prize winners: Robert Merton and Thomas Sargent.

<sup>55</sup> J. Markham, “The Subprime Crisis: A Test Match for the Bankers: Glass-Steagall vs. Gramm, Leach-Bliley,” *University of Pennsylvania Journal of Business Law* 12, 4 (2009): 1092.

The experience of the financial crisis raises doubts about the need for separating core banking from other activities. Canadian banks have combined investment banking with core banking since the 1980s and were able to weather the crisis better than others. On the other hand, investment houses at the eye of the storm, such as Lehman Brothers, Bear Stearns and Merrill Lynch, were all freestanding institutions independent of commercial banks at the time they ran into trouble. Moreover, a strict separation will tend to push the non-core activities of banks into the realm of present-day shadow banking. While such a separation may prevent rescues from related parties, the size and fragility of the non-core activities may lead to government bailouts when they run into trouble.

Still, Canadians should avoid being too complacent about the better performance of our investment banks. It may be that they are inherently more stable than their U.S. counterparts, but we should not count on it. This performance raises several questions relevant to policy: Did it result from their integration with banking institutions? Did these ties with banks affect their risk-taking, or did it shield them from market pressures? Or, was it a result of character of their business? If so, would it leave them vulnerable to a different crisis?

#### **CAPPING THE SIZE OF FINANCIAL INSTITUTIONS**

Some have argued that “too big to fail” can be avoided best by limiting the size of banks to a size where they can fail without disrupting the financial system.<sup>56</sup> Johnson and Kwak are very specific, proposing that that no institution be allowed to have total assets exceeding four per cent of their home country’s GDP, implying a ceiling of \$73 billion for Canadian banks.<sup>57</sup> At present, Royal Bank’s assets stand at more than 11 times the proposed ceiling and those of National Bank, the smallest of the Big Six, at more than two-and-a-half times. Imposing a ceiling to the size of Canadian banks runs the risk of losing the benefits of the current structure of the financial system. Smaller banks may be unable to maintain the current nation-wide branching systems that have contributed to the stability of Canada’s financial system.<sup>58</sup>

#### **SAFER INSTITUTIONS**

Capital requirements and leverage ratios create buffers protecting the creditors of financial institutions and have been one of the primary instruments used to assure the soundness of financial institutions. Making institutions safer through higher capital levels also has advantage over using resolution plans because of their sequencing. A resolution plan can be a backup if strengthened capital proves to be inadequate to prevent an institution from failing. In contrast, failure of the resolution plan would leave losses to be absorbed by the public. This difference, plus the limitations of resolution plans, suggests the emphasis should be placed on capital standards for dealing with banks that are too big to fail.

---

<sup>56</sup> See: S. Johnson and J. Kwak, *13 Bankers: The Wall Street Takeover and the Next Financial Meltdown* (New York: Pantheon Books, 2010); and N. Roubini and S. Mihm, *Crisis Economics: A Crash Course in the Future of Finance* (London: Penguin Press, 2010).

<sup>57</sup> Johnson and Kwak, *13 Bankers*.

<sup>58</sup> See M. Bordo, H. Rockoff, and A. Reddish, “Why did n’t Canada have a banking crisis in 2008 (or in 1930, or 1907 or...?)” National Bureau of Economic Research, Working Paper 17312, August 2011.

Research by the Basel Committee on Banking Supervision suggests there are net benefits from raising capital requirements: the savings expected from reducing the frequency and costs of future crises exceed the costs to the economy from higher bank-capital requirements. Overall, its findings suggest that raising the capital ratio from eight to nine per cent would reduce the expected costs of financial crises by 0.60 per cent of GDP at an expense of just 0.13 per cent from the costs of the higher bank capital.<sup>59</sup>

Canadian authorities already have a track record of going beyond international standards with respect to capital requirements. The Financial Stability Board notes that from 1999 onwards, OSFI had required banks and trust and loan companies to maintain capital in excess of the Basel II standards and to require a higher proportion of shareholder equity in their capital.<sup>60</sup> OSFI also subjected deposit-taking institutions to an asset-to-capital ratio that limited their leverage. Both these measures contributed to the Financial Stability Board's approval of OSFI's adoption of "regulatory policies that go beyond international minimum standards."<sup>61</sup> OSFI has now announced that Canada's six largest banks have been designated as being of domestic systemic importance on the basis of their "size, interconnectedness, substitutability and complexity" and will be subject to a one-per-cent risk-weighted capital surcharge by 2016, well before the Basel III target of 2019.<sup>62</sup>

The question remains as to how much capital institutions should hold. Conceptually, they should hold capital to the point that eliminates any subsidy from the safety net and its cost to taxpayers. There may be some distance to go: Canadian banks are rated on a standalone basis lower by credit-rating agencies than they are when the government's backstop is taken into account (Table 8). Twenty-six leading academics have argued that "ensuring that banks are funded with significant more equity should be a key element of effective regulatory reform."<sup>63</sup> Some even suggest that capital requirements should be as high as 20 per cent.<sup>64</sup>

**TABLE 8: RATINGS OF LARGE CANADIAN BANKS (AS OF FEBRUARY 22, 2013)**

Bank	Financial strength (Stand-alone basis)	Long-Term Rating (Supported basis)
Bank of Montreal	C+	Aa3
Toronto-Dominion	B	Aa1
Bank of Nova Scotia	B-	Aa2
CIBC	C+	Aa3
Royal Bank	C+	Aa3

Source: Moody's.

<sup>59</sup> Bank for International Settlements, Basel Committee on Banking Supervision, *An assessment of the longer-term economic impact of stronger capital and liquidity requirements* (August 2010), 29.

<sup>60</sup> Financial Stability Board, *Peer Review of Canada*, Review report (January 2012).

<sup>61</sup> *ibid.*, 6.

<sup>62</sup> Office of the Superintendent of Financial Institutions, *Guide to Intervention for Federally Regulated Financial Institutions*.

<sup>63</sup> "Healthy Banking system is the Goal, not Profitable Banks," Letter published in the *Financial Times* (November 9, 2010).

<sup>64</sup> A. Admati and M. Hellwig, *What's Wrong with Banking and What to Do About It* (Princeton, N.J.: Princeton University Press, 2013).

## REGULATION AND EFFICIENCY

Efficiency in the short run refers to the ability of the financial sector to transfer funds from suppliers to users of funds and direct them to their most productive uses and, as in other industries, is fostered by existence of competition. Nevertheless, overriding concern for stability of the industry may lead to policies that could conflict with efficiency. Measures such as capital requirements and activity restrictions may appear to reduce efficiency by precluding financial institutions from undertaking activities that are beneficial to their customers and profitable for themselves in the short run. Similarly, they may be prevented from realizing economies of scale from restrictions on mergers.

A longer-run perspective must take account of the sustainability of the financial-sector arrangements. A financial system can be efficient in the short run, but this efficiency will be lost if it is unstable in the longer run. Stability fosters the confidence necessary for the success of the system: without it, individuals would be less willing to entrust their funds to financial institutions and borrowers will lose their access to credit. From a longer-run perspective, the key issue is not whether stability measures conflict with efficiency, but rather whether the measures chosen to maintain stability are the least-cost combination in terms of efficiency.

### Regulatory approach

On the whole, the Canadian broadly principles-based approach has minimized the impact of regulation on efficiency. While the Bank Act does restrict banks to the business of banking and the Insurance Act similarly restricts insurance companies to providing financial services, the respective acts specify a host of other permitted activities.<sup>65</sup> The manner in which institutions perform these activities is generally governed by broad guidelines directed toward assuring practices that are compatible with safety and soundness. In sum, the framework allows institutions greater scope for their business practices than in other countries and in the past.

### OSFI AND PRUDENTIAL REGULATION

The measures to enhance capital requirements in the Basel III agreements have shifted the emphasis of regulation away from principles toward prescriptive rules and greater complexity. Haldane points out that the documentation for capital requirements in the U.S. and U.K. has mushroomed from the less than 20 pages for Basel I to over 1000 pages for Basel III.<sup>66</sup> In the same vein, McKinsey & Company estimate the implementation cost of regulatory compliance for a midsize European bank of \$68 to \$110 million together with an additional 135 and 210 employee FTE years.<sup>67</sup> Added to these direct costs to the banks must be the costs incurred by the regulators which in the end are charged back to the regulated and ultimately to their

---

<sup>65</sup> They do prohibit financial institutions from dealing in goods or engaging in any other trade or business without approval. See Bank Act, sections 409 and 410, and the Insurance Companies Act, Section 440 and 441.

<sup>66</sup> A. Haldane and V. Madouros, The Dog and the Frisbee, in Federal Reserve Bank of Kansas City, The Changing Policy Landscape, Jackson Hole Policy Symposium, 2012, p.122.

<sup>67</sup> McKinsey & Company, Basel III and European banking: Its impact, how banks might respond, and the challenges of implementation (November 2010), p.22.

customers. The costs of compliance could be justified if it was necessary for the safety of the financial system. Evidence suggests, however, that simpler leverage ratios protect stability more effectively than complex capital ratios such as those in Basel III.<sup>68</sup>

## **FINTRAC AND ANTI-MONEY LAUNDERING**

International anti-money laundering efforts are coordinated by the Financial Action Task Force (FAFT), an international body that sets and promotes standards for national agencies in their fight against money laundering. It describes itself as a “‘policy making body’ which works to generate the necessary political will to bring about legislative and regulatory reforms” for this purpose. FAFT bases its approach to anti-money laundering on its “40+9” recommendations.<sup>69</sup>

FAFT continually monitors members’ progress in great detail and has evaluated Canada’s AML regime three times since the adoption of the rules in 1990. It has performed six follow-up reports to its latest evaluation before agreeing to remove Canada from the regular follow-up procedure. The final follow-up in 2014 by itself consisted of over 45 pages.

Canada’s anti-money-laundering efforts are administered by the Financial Transaction and Reports Analysis Centre of Canada (FINTRAC) which depends on the record keeping and reporting of financial institutions and other entities. In 2013 reporting entities transmitted almost 20 million transactions reports to FINTRAC which, in turn, referred 919 actionable cases to authorities for further investigation.

Two recent reports have been critical of FINTRAC’s operations. The Privacy Commissioner has reviewed its data requests and has judged them to exceed to exceed the information relevant for FINTRAC’s own purposes.<sup>70</sup> The Senate Committee on Banking, Trade and Commerce has commented about the lack of indicators for judging its performance and has urged it to demonstrate “value for money.”<sup>71</sup> This request, though a step in the right direction, does not deal with the real costs of anti-money laundering. Confining concern to just value for money fails to recognize that the agency’s \$50 million budget understates the overall cost by neglecting the costs imposed on financial institutions, costs that may overshadow the government’s budgetary cost. In responding to the Committee’s request, FINTRAC should demonstrate its value for its overall cost including to reporting entities.

---

<sup>68</sup> Haldane, op. cit., 13-14; A. Demirguc-Kunt, A. Detragiache and O. Merrouche, “Bank capital: lessons from the financial crisis” (Policy Research Working Paper series 5473, World Bank, 2010); and A. Estrella, S. Park and S. Peristiani, “Capital ratios as predictors of bank failure,” *Economic Policy Review* 6, 2 (Federal Reserve Bank of New York: February 2000): 33-52.

<sup>69</sup> See FAFT, International Standards on combatting Money Laundering and the Financing of Terrorism & Proliferation for the 40 money laundering recommendations and FAFT, FAFT IX Special Recommendations for the 9 terrorism financing recommendations.

<sup>70</sup> See Office of the Privacy Commissioner, Financial Transactions and Reports Analysis Centre: Audit Report of the Office of the Privacy Commissioner, 2013.

<sup>71</sup> Senate of Canada, Following the Money: Is Canada Making Progress in Combatting Money Laundering and Terrorist Financing? Not Really, Report of the Standing Committee on Banking, Trade and Commerce, March 2013.



FINTRAC should now have sufficient experience to review its information needs with a view toward paring its information and record keeping demands to those that are essential to its purpose. A good first step would be consultation with law enforcement agencies to determine exactly which information has contributed to their investigations. While such a paring may appear to put Canada offside with FAFT's rule-based approach, FAFT itself has announced a shift in emphasis away from procedures towards results in assessing performance of AML regimes. Canadian authorities should encourage this shift and take advantage of it to streamline its operations.

#### **FATCA AND U.S. TAX COMPLIANCE**

The U.S. Foreign Account Tax Compliance Act (FATCA) of 2010, enacted to assure tax compliance by U.S. citizens and residents, has added a further layer to Canadian financial regulation. FACTA requires non U.S. financial institutions to agree to identify U.S. accounts and report information about transactions in these accounts to the Internal Revenue Service (IRS). Failure to enter into an agreement with the IRS would subject financial institutions to a 30% withholding tax on certain payments.

The impact of FATCA on financial institutions and their customers has been lessened from what it could have been by an intergovernmental agreement that i) makes compliance conform to Canadian privacy laws by allowing financial institutions to report to the Canada Revenue Agency (CRA) instead of the IRS and ii) exempts a variety of registered accounts, including registered retirement saving plans, registered pension plans and tax-free savings accounts, among others, from the reporting. Even with these changes, compliance with FATCA requires Canadian banks to identify relevant customers and report their transactions to CRA. Even so, FACTA's extraterritorial conscription of Canadian institutions to be agents for U.S. tax collection imposes significant costs to the institutions and their customers.

#### **Efficiency and size**

The government's rejection of two proposed bank mergers in 1998, and a subsequent merger between a life insurer and a bank, may have come at the expense of the operational efficiency of the banking system. The decisions on the bank mergers were made with the benefit of reviews by the Competition Bureau and the Office of the Superintendent of Financial Institutions. The bureau suggested that the unfavourable competitive effects would require divestment from several lines of business.<sup>72</sup> The superintendent expressed concerns about the difficulties of stabilizing a merged bank if it ran into trouble. In particular, a rescue through its sale to, or merger with, a foreign institution could limit the ability of regulators to assure its future stability, and a resolution involving another large domestic institution would raise competition concerns.<sup>73</sup>

---

<sup>72</sup> The Competition Bureau's letter to the Royal Bank and the Bank of Montreal, and the Competition Bureau's letter to Canadian Imperial Bank of Commerce and Toronto-Dominion Bank (December 14, 1998).

<sup>73</sup> Office of the Superintendent of Financial Institutions, "Report to the Minister of Finance: Proposed mergers between the Royal Bank of Canada and the Bank of Montreal, and the Canadian Bank of Commerce and the Toronto-Dominion Bank" (December 1998).

A number of economic studies for Canada and elsewhere indicate that there are economies of scale to be realized by larger bank size in the short run.<sup>74</sup> These studies may, however, be less relevant in the longer run. The limited span of the data used for these studies may not capture the “fat tail” events than can swamp relationships derived on normal times. They may also fail to take account of the reality that lower costs of funds for large banks may be the result of their “too big to fail” status. Most important, econometric studies, despite capturing technical efficiencies, are less likely to capture the less tangible aspects, such as governance, which may be as vital or more so in determining the performance of large banks over the longer run. Governance problems of big banks arising from their complexity may swamp technical efficiency over the longer run.<sup>75</sup> A bank may carry out its actions efficiently, but this efficiency may not counteract the effects of making wrong choices.

The severe impact of the financial crisis on some of the world’s largest banks casts a new light on the consequences of bank size in the longer run. The market value of the private stakes in the five largest U.S. banks by the end of 2008 had shrunk to just one quarter of its 2004 value, leading some observers to question whether they even remained solvent.<sup>76,77</sup> Similarly, Japanese banks dominated world banking through the 1980s, accounting for the top six positions among world banks in terms of assets. By 2005, the top Japanese banks ranked 6th, 15th and 18th, despite each being combinations of at least two former top 10 banks. Together the recent performance of “mega-banks” and the Japanese experience suggests that the evidence of benefits from greater bank size needs to be treated with caution.

## **Innovation and efficiency**

Over the long run, innovation is vital to the efficiency of the financial industry and the economy as a whole. Given the role of information in the provision of financial services, much innovation has taken place in the industry in light of technological advances, especially in computing and telecommunications. Innovation can also be induced by regulation as financial institutions seek to minimize the regulatory impact on their business. Table 9 shows some recent financial innovations.

---

<sup>74</sup> J. Allan and Y. Liu, “Efficiency and economies of scale of large Canadian banks,” *Canadian Journal of Economics*, 40, 1 (2007): 225-244; and J. McIntosh, “A welfare analysis of Canadian chartered bank mergers,” *Canadian Journal of Economics* 35, 3 (2002): 457-475.

<sup>75</sup> The experience of Robert Rubin at Citibank offers insight into complexity and governance in large banks. A former co-chairman of Goldman Sachs and former U.S. Secretary of the Treasury, Rubin was exceptionally qualified to participate in the running of a major bank and served as a director and special advisor to the CEO. After the breakdown of Citibank, Rubin declared “the board can’t run the risk book of a company” and “the board as a whole is not going to have a granular knowledge” of operations. Despite their positions, Rubin, other board members and even senior managers appear to have been too detached from the bank’s activities to protect it from massive losses.

<sup>76</sup> Market capitalization is derived from the Data Page at: <http://pages.stern.nyu.edu/~adamodar/>.

<sup>77</sup> See: L. Bebchek, “Near-Sighted Stress Tests,” *Forbes.com*, May 20, 2009.

**TABLE 9: RECENT FINANCIAL INNOVATIONS**

<b>Payments</b>	ATMs Credit-card expansion Debit cards E-banking Mobile payments Pre-paid cards
<b>Lending</b>	Credit-card expansion Credit-scoring Adjustable-rate mortgages Home-equity lines of credit Reverse mortgages Securitization
<b>Investment</b>	Daily interest saving accounts Money market funds Indexed mutual funds Exchange traded funds Asset-backed securities Interest/currency swaps Credit default swaps
<b>Regulation</b>	Money market funds Certificate of Deposit Account Registry Service (CDARS) Regulatory capital trades (synthetic securitizations)

Source: Based on R. Litan, "In Defense of Much, But Not All, Financial Innovation" (Washington: Brookings Institution, Feb. 17, 2010), [http://www.brookings.edu/papers/2010/0217\\_financial\\_innovation\\_litan.aspx](http://www.brookings.edu/papers/2010/0217_financial_innovation_litan.aspx).

Judging financial innovation by the "do no harm" principle sets a high standard that could be met by few innovations. Automobiles improved mobility while destroying buggy-making jobs, adding pollution and killing more people than guns.

Some financial innovations have mainly beneficial effects. Despite Paul Volcker's quip that the ATM was the last valuable new banking product, others, such as debit and credit cards and electronic banking, have added convenience and lowered costs in making payments with few drawbacks. Innovations induced by regulation can also be beneficial: the development of money market funds offered holders of small savings relief from an ill-judged cap on savings-deposit rates imposed by Regulation Q, where regulatory reform was blocked by vested interests. Other innovations had mixed effects. Securitization has generally improved terms for both savers and investors. Still, a mutant form became the toxic asset that triggered Canada's ABCP crisis.

Finally, some innovations have few redeeming virtues. The Certificate of Deposit Account Registry Service, a scheme involving over 3,000 U.S. financial institutions, allows holders of large money balances to divide them among deposits at numerous financial institutions, effectively subverting the intent of deposit insurance. Similarly, regulatory capital trades allow banks to reduce their required capital by acquiring third-party insurance against loan losses. This device has recently allowed a major U.S. bank to buy capital insurance from an unregulated company set up by a large private-equity firm, effectively placing part of the bank's capital outside the scope of regulation and leaves it subject to an opaque counterparty of the type that aggravated the financial crisis.<sup>78</sup>

<sup>78</sup> See: Michelle Wiese Bockmann, Liam Vaughan and Ben Moshinsky, "Blackstone profits from regulation with Citigroup deal," Bloomberg, February 27, 2013, <http://www.bloomberg.com/news/2013-02-28/blackstone-profits-from-regulation-with-citigroup-deal.html>.

These differences among innovations cause headaches for regulators. Regulators need to avoid standing in the way of beneficial innovations while simultaneously being prepared to act when they detect potentially harmful innovations or the morphing of beneficial processes or products into harmful ones. Innovation thrives in an environment where the bias leans toward permission rather than prohibition. OSFI's principles-based regulation provides some assurance to financial institutions that their plans for innovation will receive the benefit of the doubt, allowing acceptable innovations without the complications and delays of rule changes. At the same time, it allows regulators to step in to halt or reverse harmful innovations and limit the misuse of others. Finance Canada has taken advantage of this flexibility to issue directives governing the practices of credit- and debit-card suppliers. On the whole, Canada's principles-based approach has been supportive of innovation.

### **Innovation and payments<sup>79</sup>**

Canada has lagged behind other countries with respect to innovation in the payments sector. Advances in technology and communication have transformed the ways in which payments are made to the extent that virtually all payments have become electronic in some countries. While Canada's consumers rank among the leaders in the use of electronic payments, Canadian businesses and governments write approximately one-billion cheques a year, accounting for 60 per cent of their payments, compared to less than 10 per cent in other countries.<sup>80</sup> McKinsey estimates that Canadians could save as much as \$7 billion a year from the reduced use of paper payments.<sup>81</sup>

Businesses continue to use cheques, in part, because the limited information-capacity on electronic transactions prevents the seamless integration of payments data with enterprise accounting. The current organization of the clearing and settlement system hinders change by relying on bilateral exchanges among the clearing members which require members' systems to be harmonized with the diverse systems of all others.<sup>82</sup> A hub-and-spoke clearing arrangement would facilitate technological advancement by allowing participants to co-ordinate their systems with only a single counterparty at the hub. Major financial institutions now have little incentive to move to a hub-and-spoke arrangement because of considerable required investment with little prospect of gaining a competitive advantage. The Task Force on the Future of the Canadian Payments System recommended reorganization of the core of the payments system under an independent body mandated to construct a hub-and-spoke arrangement for clearing and settlement and to advance technology to meet the informational requirements of businesses.

---

<sup>79</sup> In the interests of full disclosure, the author has been a director of the Canadian Payments Association and, subsequently, a member of the Task Force for Payments System Review.

<sup>80</sup> Task Force for Payment System Review, *Going Digital: Transitioning to Digital Payments* (2011), 21, [http://paymentsystemreview.ca/wp-content/themes/psr-esp-hub/documents/r03\\_eng.pdf](http://paymentsystemreview.ca/wp-content/themes/psr-esp-hub/documents/r03_eng.pdf).

<sup>81</sup> *ibid.*, 17.

<sup>82</sup> A survey of payments systems showed that multilateral systems outperformed bilateral systems with respect to speed of final settlement, automated posting from a clearing to a settlement system, and remittance standards for straight-through processing for business-to-business payments. See: Canadian Payments Association, *International Research and Benchmarking Survey Results – Core Systems* (February 2009), [http://www.cdnpay.ca/imis15/pdf/pdfs\\_publications/payments\\_strategy\\_intl\\_core\\_systems.pdf](http://www.cdnpay.ca/imis15/pdf/pdfs_publications/payments_strategy_intl_core_systems.pdf).

## Fostering competition

The segments of the Canadian financial system differ with respect to the number of competitors and the degree of concentration. While over 400 insurers are active in the property- and casualty-insurance industry, and 94 operate in the life insurance industry, competition in deposit-taking has been a continual concern for Canadian policy-makers. Five large banks account for 86 per cent of banking assets and 79 per cent of deposit-taking as a whole. Competition has been constrained by the need for safety and soundness and has been subject to entry barriers against both domestic enterprises and foreign institutions.

The barriers to entry for new domestic banks have been eased progressively as regulators have eliminated the need for banks to be incorporated through an act of Parliament, lowered the initial capital requirements, and have permitted banks with less than \$12 billion in equity to be controlled by a single interest. At present, some 15 smaller domestic banks compete with the Big Five banks. Despite the number of other banks, the Big Five banks still account for the bulk of total bank assets. Even though smaller domestic banks compete with the large banks in some sectors, they are likely to remain a source of limited competition because of challenges to their growth.<sup>83</sup>

Caisses populaire and credit unions account for 13 per cent of the deposit-taking in Canada, and have competed vigorously with banks in terms of services and products. They have been pioneers with respect to such innovations as daily interest chequing, debit card and ATM networks, hours of operation, electronic imaging for cheques, and mobile cheque deposit. The federal government has recently strengthened the potential competition from these institutions by making it possible for credit unions to become federally incorporated and gain the broader powers of federal institutions, including offering services beyond their home province.<sup>84</sup>

Foreign bank subsidiaries were first permitted to operate in Canada as a further source of competition under the 1980 Bank Act that subjected their activities to a number of restrictions including limits on bank size, a cap on the total size of the foreign-subsiary sector, and limits to branching, which have all been subsequently relaxed. Twenty-four foreign bank subsidiaries now hold \$127 billion in Canadian assets, a three-per-cent share of the total banking market. HSBC, the largest foreign bank subsidiary, has now grown to \$82 billion in assets.<sup>85</sup> Foreign bank subsidiaries, like new domestic banks, must confront challenges to growth, including the need to establish all the corporate trappings such as boards and management.

Since 1999 foreign banks have also been able to operate directly in Canada through full-service branches that have limited powers to accept deposits. Twenty-three banks have taken advantage of this opportunity and hold \$62 billion in assets. An additional category, comprised of four lending branches that conduct more limited activities, have total assets of \$3.9 billion. Foreign banks could also enter Canada by acquiring a domestic bank, which is currently only possible for a target bank with less than \$12 billion in equity.

---

<sup>83</sup> Historically, banks have grown large from takeovers and mergers. Some of the smaller banks that entered the market in the 1980s foundered on the basis of overly ambitious expansion plans that exposed them to excessive risk.

<sup>84</sup> S. Clark, K. Zaman and V. Graham, "New Proposed Regulations for Credit Unions – A Step Closer to a Federal Regime" (Toronto: Osler, Hoskin and Harcourt LLP, July, 2012), <http://www.osler.com/NewsResources/New-Proposed-Regulations-for-Federal-Credit-Unions-A-Step-Closer-to-a-Federal-Regime/>.

<sup>85</sup> ING, one of the largest foreign-owned banks was recently sold to a domestic bank, because of its parent's troubles.

A foreign bank takeover of a failing major bank offers an alternative to further bank consolidation that avoids further concentration in the deposit-taking sector. Such a takeover would need to satisfy certain conditions to protect Canadians: i) It must come from a jurisdiction with a strong regulatory regime; ii) its home-country authorities must commit to offering deposit insurance comparable to Canadian levels; and iii) they must grant Canadian creditors equal status to home-country creditors in case of failure. In practice, the financial crisis has raised doubts whether another country's regulatory regime would satisfy the first condition. The U.S. Federal Reserve, which had allowed foreign banks to operate in the U.S., has recently proposed that foreign banks with significant U.S. operations would now be required to organize as a separate U.S. holding company and meet its risk-based capital and leverage requirements.<sup>86</sup>

## **CANADIAN FINANCIAL REGULATION: A REPORT CARD**

It would be tempting to grade the performance of Canadian financial regulation on the basis of the strength of Canadian institutions during the crisis. That would be like judging the quality of a school on its success in a spelling bee. Would they have won if the final word had not been “incunabula”? In addition, no financial crisis is the same. Would Canadian institutions have fared so well with a different throw of the dice? The school should be judged on its foundation of curriculum and quality of instruction. By the same token, Canadian financial regulation should be judged on its institutional framework and the regulator's performance within the framework.

Canada's framework for regulation provides a sound foundation; there are clear lines of accountability. While other agencies, both federal and provincial, are responsible for market conduct and regulation of markets, OSFI has sole responsibility for prudential regulation of banks, life insurers and property and casualty insurers. Minimal overlap arises from the Bank of Canada's responsibility for clearing and settlement systems and CDIC's responsibilities for resolution. The emphasis on principles versus rules has also been a strength, giving both institutions and regulators the flexibility to respond to developments in the financial system.

OSFI has not been afraid to move ahead of the pack in the face of a need for unpopular moves. It has consistently maintained higher capital requirements than have most other national regulators, and was one of the few national regulators to supplement capital requirements with a leverage cap. OSFI also moved quickly to shield Canadian banks from their exposure to third-party issuers of ABCP.

Finally, Canadian authorities have been heedful of keeping regulation from interfering with the efficiency of the financial sector. Recent measures, however, have added to the burden of regulation for the financial sector. The introduction of Basel III has increased the complexity of regulation with no apparent benefit relative to simpler leverage ratios; anti-money laundering efforts have added yet another administrative burden, and the extraterritorial extension of U.S. tax law has coerced Canadian financial institutions into enforcing its application. Each of these initiatives has come at the expense of the efficiency of financial institutions in meeting Canadians financial needs.

---

<sup>86</sup> Board of Governors of the Federal Reserve System, Press Release, December 14, 2012.



With respect to competition, some argument could be made in the case of the proposed bank mergers that stability trumped short-run efficiency. A succession of other measures, however, have been directed to improving efficiency through fostering competition. Some measures such as allowing non-deposit-taking institutions greater scope in the Canadian payments system, allowing foreign banks to operate lending branches, and creating federal co-operative financial institutions through retail associations may not have met expectations. Still, these results should not discourage further innovation: the success of initiatives cannot always be judged in advance. Other efforts have been more successful. Closely held banks have increased competition for personal savings and the proposals for federal credit unions will allow them to escape the confines of their home province.

The superior performance of Canadian institutions in the financial crisis did not take place by chance. It was the consequence of financial institutions operating within a well-grounded regulatory and supervisory system that was free from the politicization that has tainted the U.S. system.<sup>87</sup> Even so, the crisis did cause authorities to take extraordinary measures to bolster confidence. The crisis was largely unexpected and, unfortunately, its features provide limited insight about future crises because crises are not all alike. Though the crisis, beginning in 2007, was triggered by troubles in American housing finance, it was the collapse of the energy market in the late 1980s that toppled over 400 Texas banks, and it was the difficulties of a hedge fund, Long-term Capital Management, that required drastic actions to avert a full-fledged crisis in 1998. The recent crisis has revealed additional threats to stability from outside the regulated financial sector in the form of shadow banking and over-the-counter derivatives. Though regulators have made progress in dealing with these issues, much remains to be done.

Canadian regulators are part of a class of international regulators who jointly develop initiatives to maintain stability of financial systems. The class, as a whole, has spent too much attention on how to pick up the pieces of financial failures and not enough on how to prevent this breakage in the first place. Certainly authorities need to shore up resolution procedures because troubled institutions will always be with us. But orderly resolution of large financial entities during the heat of a financial crisis may be little more than a hope. Financial institutions need to be regulated and supervised in a way that makes failure a remote possibility. Higher capital standards will be needed as long as the standalone credit rating of Canadian banks fall short of their ratings that reflect their government backstop.

---

<sup>87</sup> See Calomiris and Haber, *Fragile by Design*, which argues that differences in the political systems between Canada and the U.S. explain the absence of politicization of financial regulation in Canada.

### **About the Author**

**John F. Chant** is an Emeritus Professor of Economics at Simon Fraser University. He has written in the areas of monetary theory and policy, financial systems and their regulation, and the economics of universities. John has served as Director of the Economic Council's financial market group, Research Director of the Task Force on the Future of the Canadian Financial Services Sector (the Mackay committee), a member of the C.D. Howe Institute's Monetary Policy Committee, and Special Adviser to the Governor of the Bank of Canada. He has also been a Director of the Canadian Payments Association and a member of the recent Task Force for the Payment System Review.

## ABOUT THE SCHOOL OF PUBLIC POLICY

The School of Public Policy will become the flagship school of its kind in Canada by providing a practical, global and focused perspective on public policy analysis and practice in areas of energy and environmental policy, international policy and economic and social policy that is unique in Canada.

The mission of The School of Public Policy is to strengthen Canada's public service, institutions and economic performance for the betterment of our families, communities and country. We do this by:

- *Building capacity in Government* through the formal training of public servants in degree and non-degree programs, giving the people charged with making public policy work for Canada the hands-on expertise to represent our vital interests both here and abroad;
- *Improving Public Policy Discourse outside Government* through executive and strategic assessment programs, building a stronger understanding of what makes public policy work for those outside of the public sector and helps everyday Canadians make informed decisions on the politics that will shape their futures;
- *Providing a Global Perspective on Public Policy Research* through international collaborations, education, and community outreach programs, bringing global best practices to bear on Canadian public policy, resulting in decisions that benefit all people for the long term, not a few people for the short term.

### The School of Public Policy

University of Calgary, Downtown Campus  
906 8th Avenue S.W., 5th Floor  
Calgary, Alberta T2P 1H9  
Phone: 403 210 7100

---

#### DISTRIBUTION

Our publications are available online at [www.policyschool.ca](http://www.policyschool.ca).

#### DISCLAIMER

The opinions expressed in these publications are the authors' alone and therefore do not necessarily reflect the opinions of the supporters, staff, or boards of The School of Public Policy.

#### COPYRIGHT

Copyright © 2014 by The School of Public Policy.

All rights reserved. No part of this publication may be reproduced in any manner whatsoever without written permission except in the case of brief passages quoted in critical articles and reviews.

#### ISSN

1919-112x SPP Research Papers (Print)  
1919-1138 SPP Research Papers (Online)

#### DATE OF ISSUE

March 2014

#### MEDIA INQUIRIES AND INFORMATION

For media inquiries, please contact Morten Paulsen at 403-453-0062.

Our web site, [www.policyschool.ca](http://www.policyschool.ca), contains more information about The School's events, publications, and staff.

#### DEVELOPMENT

For information about contributing to The School of Public Policy, please contact Courtney Murphy by telephone at 403-210-7201 or by e-mail at [cdmurphy@ucalgary.ca](mailto:cdmurphy@ucalgary.ca).

## RECENT PUBLICATIONS BY *THE SCHOOL OF PUBLIC POLICY*

### ENERGY EFFICIENCY: FINDING LEADERSHIP OPPORTUNITIES

<http://policyschool.ucalgary.ca/?q=content/energy-efficiency-finding-leadership-opportunities>

William D. Rosehart and Hamidreza Zareipour | February 2014

### SHOULD CANADA WORRY ABOUT A RESOURCE CURSE?

<http://policyschool.ucalgary.ca/?q=content/should-canada-worry-about-resource-curse>

Alan Gelb | January 2014

### PRIORITIZING DEFENCE INDUSTRY CAPABILITIES: LESSONS FOR CANADA FROM AUSTRALIA

<http://policyschool.ucalgary.ca/?q=content/prioritizing-defence-industry-capabilities-lessons-canada-australia>

Craig Stone | January 2014

### THE VALUE OF CAREGIVER TIME: COSTS OF SUPPORT AND CARE FOR INDIVIDUALS LIVING WITH AUTISM SPECTRUM DISORDER

<http://policyschool.ucalgary.ca/?q=content/value-caregiver-time-costs-support-and-care-individuals-living-autism-spectrum-disorder>

Carolyn Dudley and Herbert Emery | January 2014

### HOW A GUARANTEED ANNUAL INCOME COULD PUT FOOD BANKS OUT OF BUSINESS

<http://policyschool.ucalgary.ca/?q=content/how-guaranteed-annual-income-could-put-food-banks-out-business>

Herbert Emery, Valerie Fleisch and Lynn McIntyre | December 2013

### CANADIAN DEFENCE COMMITMENTS: OVERVIEW AND STATUS OF SELECTED ACQUISITIONS AND INITIATIVES

<http://policyschool.ucalgary.ca/?q=content/canadian-defence-commitments-overview-and-status-selected-acquisitions-and-initiatives>

Elinor Sloan | December 2013

### 2013 ANNUAL GLOBAL TAX COMPETITIVENESS RANKING: CORPORATE TAX POLICY AT A CROSSROADS

<http://policyschool.ucalgary.ca/?q=content/2013-annual-global-tax-competitiveness-ranking-corporate-tax-policy-crossroads>

Duanjie Chen and Jack Mintz | November 2013

### CLIMATE CHANGE AND THE TRADING SYSTEM: AFTER DOHA AND DOHA

<http://policyschool.ucalgary.ca/?q=content/climate-change-and-trading-system-after-doha-and-doha>

Dan Ciuriak and Natassia Ciuriak | November 2013

### THE TIMING AND DIRECTION OF STATUTORY TAX RATE CHANGES BY THE CANADIAN PROVINCES

<http://policyschool.ucalgary.ca/?q=content/timing-and-direction-statutory-tax-rate-changes-canadian-provinces-technical-paper>

Ebenezer Adjeic, Bev Dahlby and Ergete Ferede | November 2013

### PROVINCIAL TAX RATE ADJUSTMENTS IN CANADA (COMMUNIQUÉ)

<http://policyschool.ucalgary.ca/?q=content/provincial-tax-rate-adjustments-canada-communiqué>

Ebenezer Adjeic, Bev Dahlby and Ergete Ferede | November 2013

### THE FISCAL, SOCIAL AND ECONOMIC DIVIDENDS OF FEELING BETTER AND LIVING LONGER

<http://policyschool.ucalgary.ca/?q=content/fiscal-social-and-economic-dividends-feeling-better-and-living-longer>

J.C. Herbert Emery, Ken Fyie, Ludovic Brunel and Daniel J. Dutton | June 2013