Remarks by Mark Carney
Governor of the Bank of Canada
International Center for Monetary and Banking Studies
9 November 2010
Geneva, Switzerland

CHECK AGAINST DELIVERY

Looking Back, Moving Forward: Canada and Global Financial Reform

Introduction

There is an old saying, "Knowledge is gained from experience, and experience is gained from mistakes." In Canada, we made our mistakes early and often in the 1970s and 1980s. Our fiscal situation deteriorated sharply, inflation surged to double-digit levels, and a few small regional banks collapsed.

The core lesson we learned from those difficult years was the importance of coherent, principle-based policy frameworks. Such frameworks discipline policy-makers and enhance credibility. In Canada, this approach yielded several attributes that helped the financial system weather the storm, including:

- a commitment to higher and better-quality capital,
- an active supervisory regime with close co-operation amongst authorities,
- a well-regulated mortgage market, and
- a limited shadow banking sector.

In my remarks today, I will elaborate on these elements, many of which are now being incorporated into new global regulatory and supervisory standards. I will also discuss other measures—including more robust market infrastructure, better resolution mechanisms and macroprudential instruments—that have the potential to enhance the efficiency and resiliency of all our systems.

Lessons from the Crisis

The crisis demonstrated the importance of incentives, the dangers of conformity, the imperative that core markets are continuously open, and the value of matching risk to risk-bearing capacity. It exposed the fallacy of composition that strong financial institutions collectively ensure the safety and soundness of the system as a whole.

The crisis also clearly illustrated the fundamental interconnectedness of the global economy. Strains that emerged in a few countries quickly spread around the world, resulting in a deep, synchronous recession. It is in all of our interests to get these proposed reforms right. That's the value of sharing experiences, such as Canada's, and I am grateful to the International Center for Monetary and Banking Studies for this opportunity.

Not for publication before 9 November 2010
12:15 Eastern Time

The fundamental objective of the reforms should be to create a system that efficiently supports economic growth while providing financial consumers with choice. The system must be robust to shocks, dampening, rather than amplifying, their effect on the real economy.

Such a system needs resilient financial institutions and robust markets, since both play a central role in financing and, if properly structured, each can support the other. New measures should promote competition rather than concentration, and build systemic resilience rather than entrench indispensable institutions.

Given the frameworks that we had at the time, Canada has largely achieved these objectives. Given the perspective we have gained from the crisis, there are some promising new avenues to extend this advantage.

Even though it experienced a short, sharp recession, Canada fared relatively well. The cumulative fall in real GDP of 3.4 per cent in Canada compares with declines of over 4 per cent in the United States, 5 per cent in the euro area, and 8 per cent in Japan. Today, employment and economic activity in Canada are back at their pre-crisis levels —a situation unique in the G-7.

Canada's better performance during the crisis can be explained by two factors. First, with a highly credible monetary policy and the strongest fiscal position in the G-7, Canadian policy-makers were able to respond swiftly and effectively with extraordinarily accommodative measures.

Second, Canada's sound financial system continued to function throughout the period. It was not just that no Canadian bank failed or required government capital injections—or that extraordinary liquidity was a fraction of that in other jurisdictions.[1] It was that credit continued to grow throughout the crisis period and into the recovery.[2]

The obvious question is, why?

In our view, it was the result of a combination of good policy and, in retrospect, some good fortune. Allow me to expand.

Looking Back: Some Lessons from Canada

Higher and better-quality capital

Risk-based capital adequacy—that is, the amount and quality of capital and the level of risk and leverage—emerged as a key source of strength as the turmoil intensified.

Canadian banks were required to meet supervisory targets for the level and quality of capital, which more than exceeded international minimums. Canadian capital requirements were set at 7 per cent and 10 per cent for Tier 1 and Total Capital ratios instead of the 4 per cent and 8 per cent prescribed in the Basel II Capital Accords.

---

[1] At its peak, the Bank of Canada liquidity extension represented just under 3 per cent of GDP. This compares to peak liquidity extensions of about 8.5 per cent of GDP in the United States, about 13 per cent in the European Union and nearly 23 per cent in the United Kingdom.

[2] For example, credit issued by the chartered banks to Canadian households and businesses has exhibited monthly year-over-year growth of around 5 per cent, on average, from the beginning of 2007 to the present.

In practice, Canada's banks typically held more. All financial institutions had to establish internal targets to provide an operating cushion against volatility and unexpected losses from inherent risks—and to avoid breaching supervisory targets.

Capital adequacy depends on a bank's risks—which the Basel framework tries to measure. While Basel II had higher risk-weighted assets for riskier businesses, Canada's bank supervisor, the Office of the Superintendent for Financial Institutions (OSFI), also demanded that banks with higher risks should further offset that risk with higher capital.

Capital not only had to be higher, it also had to be higher quality. OSFI insisted that common equity form the predominant share (at least 75 per cent) of Tier 1 capital.[3]

Focusing on risk-based capital adequacy ensured that banks with greater risks entered the turmoil with larger cushions against unexpected losses. At the time of the Lehman failure, the average Tier 1 capital ratio at Canadian banks was about 10 per cent and their total capital ratio stood at almost 13 per cent. During the turmoil, all major Canadian banks maintained, without reducing dividends, capital in excess of supervisory targets, and none required injections of government capital. Again, crucially, this capital was predominantly made up of tangible common equity.

During the panic, investors understandably lost faith in Basel risk weights. Gallingly, on the day before each went under, every bank that failed (or was saved by the state) reported capital that exceeded the Basel II standard by a wide margin. By the autumn of 2008, investors had already seen far too many major institutions hobbled by losses on purportedly risk-free securities such as leveraged super senior tranches of securitizations. Many turned instead to simple leverage ratios to assess capital adequacy.

Canadian banks were already subject to such a stringent test. As a supplement to Basel II, they were required to ensure that the ratio of total assets to total capital reached no more than 20 times. In practice, banks had to maintain their ratios well below this level.

As Swiss authorities understand, a leverage ratio corrects a fundamental shortcoming and serves as a useful complement to the Basel requirements. It recognizes the limits of our knowledge and protects against understated risks by operating fully independently of sophisticated (and error-prone) risk assessments and modelling. It is an objective measure that complements the ultimately subjective risk-based Basel II.

In an ideal world, we would take into account the riskiness of banks' assets in setting leverage. But who lives in a world where risks are known with certainty and can be measured with precision?

In the run-up to the crisis, when concerns about risks were at their lowest (and risks themselves were, in fact, at their highest), Canadian banks were constrained by the leverage ratio.

Elsewhere, absolute leverage soared. From 2002 to 2007, simple asset-to-capital multiples at U.S. investment banks, U.K. banks and major European banks, rose by 10 to

[3] Prior to the crisis, OSFI rules required common equity to account for at least 75 per cent of Tier 1 capital. In other words, other components (preferred shares and innovative and hybrid instruments) were limited to 25 per cent. In January 2008, OSFI relaxed the rules, allowing non-common sources to account for as much as 30 per cent of Tier 1 capital. Then, in November 2008, that limit was raised again to 40 per cent. See: http://www.osfi-bsif.gc.ca.

15 turns. Actual leverage, including off-balance-sheet transactions, was even more extreme. In many cases, higher leverage fully accounted for the entire increase in banks' returns on equity. This proved to be a mirage as the assets funded by this increased leverage contributed much to the staggering losses revealed in the crisis.

When the financial panic intensified, investors increasingly simplified their judgments about capital adequacy. In the end, only true loss-bearing capital and simple leverage tests mattered. In this light, many financial emperors around the world were seen to have no clothes. Canadian banks were comparatively draped in full winter regalia.

Basel III incorporates many of the advantages of the Canadian system, such as a leverage ratio and substantially higher quantity, quality and transparency of Tier 1 capital.

Beyond making the global system look more Canadian, Basel III introduces some important innovations, including:

- a tighter definition of intangible assets;
- new global standards for liquidity;
- a capital conservation buffer that is above the minimum capital requirement to ensure that banks and supervisors take prompt corrective action and that banks can absorb losses during periods of financial and economic stress; and
- a complementary countercyclical buffer that would vary over time and help smooth the economic cycle.

An active and co-operative supervisory regime

Of course, systemic resilience is about much more than capital. Similarly, the success of the Canadian financial system was the product of strong macroeconomic fundamentals and sound risk management by the banks themselves, underpinned by an effective regulatory and supervisory regime. Four aspects of this regime were particularly important.

First, supervision was <u>focused</u>. Consolidated supervision concentrated on prudential supervision and was not burdened by other objectives such as the promotion of home ownership or community reinvestment. It also ensured that the leverage ratio and other tests applied equally to banking and investment banking operations, which helped limit regulatory arbitrage.

Second, supervision was <u>active</u>. Following the failure of some small regional banks in the 1980s, a framework for early intervention was established. This so-called staged intervention enabled supervisors to work with institutions to correct problems at an early stage, while they were still manageable. Board-level interaction, capital penalties and restrictions on business all helped to concentrate the minds of management to address issues in a timely fashion.

Third, supervision was <u>coordinated</u>. Staged institutions were reviewed regularly by a joint micro-prudential committee composed of the bank regulator, the central bank, the deposit insurer, the consumer protection agency and the Department of Finance. This coordination is a central element of our regime. In general, there is close co-operation

amongst all the entities responsible for financial stability, including mandated information sharing among all of these parties.[4]

Finally, the entire financial framework was regularly reviewed and updated. In Canada, there is a statutory requirement to renew the legislative and regulatory framework for the financial system every five years. This has proven invaluable given the pace of change in the financial system. In addition, Canada regularly subjects its system to rigorous external examination under the International Monetary Fund's Financial Sector Assessment Program (FSAP), and Canadian authorities conduct regular system-wide stress tests.

Many of these elements are now being adopted internationally. The G-20 has made FSAPs mandatory. Many jurisdictions are adopting committees to oversee their financial systems.[5] Based on a working group report chaired by Canada's Superintendent of Financial Institutions, the Financial Stability Board will propose to G-20 leaders in Seoul a series of recommendations to strengthen oversight and supervision.[6]

Well-regulated mortgage market

Given the genesis of the crisis in U.S. subprime mortgages and its subsequent potential to taint everything related to mortgages and securitization, the structure of Canadian mortgage finance also proved to be a major advantage. Common-sense attributes include mortgagors being personally liable for their debts and mortgage interest not being tax-deductible. In addition, key lending standards are effectively set by the terms of government-backed mortgage insurance.[7] Banks are required to have insurance on the mortgages of purchasers with loan-to-value ratios of over 80 per cent. All borrowers must satisfy an incomes test, and insurance premiums vary with loan-to-value and amortization periods.

Leading up to the crisis, the principal-agent problems that developed in originate-to-distribute models were absent in Canada. Banks largely retained the risks of their underwriting, maintained their standards, and held onto credit skills. Most mortgages originated by banks were for their own balance sheets and, as a result, underwriting standards remained high. Banks obtained natural geographic diversification of their loan portfolios through their nationwide branch system, which eliminated one motivation for securitization.

Only about 30 per cent of mortgages in Canada are securitized. Moreover, securitization in Canada is dominated by government-guaranteed mortgage-backed securities (about 85 per cent pre-crisis). As a consequence, the mortgage-backed security market in Canada continued to function well during the crisis.

Other private-label securitization markets were less developed. Similarly, there was little

---

[4] Office of the Superintendent of Financial Institutions Act, 1985. Published by Minister of Justice.

[5] Examples with an explicit macroprudential focus include the European Systemic Risk Board for the European Union, the Systemic Risk Council in the United States, and unitary models housed in central banks in the United Kingdom and Australia.

[6] Financial Stability Board, "Intensity and Effectiveness of SIFI Supervision; Recommendations for Enhanced Supervision," 1 November 2010.

[7] The publicly owned mortgage insurer, Canada Mortgage and Housing Corporation, has an explicit sovereign guarantee and is the largest insurance provider. Lenders relying on private mortgage insurers receive a government guarantee for losses (from insurer failure) on amounts above 10 per cent of the original mortgage.

usage of credit default swaps to hedge Canadian corporate risk. With exposures largely staying on balance sheet, Canadian bankers remained bankers rather than warehousers or traders.

Consider what happened elsewhere.

The severing of the relationship between originator and risk holder lowered underwriting and monitoring standards. In addition, the transfer of risk itself was frequently incomplete, with banks retaining large quantities of supposedly risk-free senior tranches of structured products.

These exposures were compounded by the rapid expansion of banks into over-the-counter (OTC) derivatives. In essence, banks wrote a series of large out-of-the-money options.[8] With pricing and risk management lagging reality, there was a widespread misallocation of capital. As credit standards deteriorated, the tail risks embedded in these strategies were realised.

The magnitude of these developments was remarkable. In the final years of the boom, as complacency about liquidity reached its zenith, the scale of shadow banking activity exploded. The value of structured investment vehicles, for example, tripled in the three years to 2007. Credit default swaps grew six-fold. On the eve of the crisis, assets in the U.S. shadow banking sector were roughly equivalent to those in the regulated sector. [9]

Limited shadow banking sector

This brings me to where Canada, in hindsight, was fortunate. With sound, bank-based finance much more important than in the United States, Canada was much less exposed to the drying up of private-label securitization and the collapse of the shadow banking sector.[10]

Canada's banking system is highly concentrated, with six major banks holding almost 90 percent of total bank assets. Banks are the most important suppliers of credit. Direct and indirect bank finance accounts for 58 per cent of credit provision, while other regulated financial institutions supply 14 per cent, and traditional market instruments, 28 per cent.

The major banks also lead securities underwriting and merchant banking in Canada, and are among the country's largest asset managers—evidence that commercial and investment banking can be successfully combined within one organization. Following mergers in the late 1980s in Canada, dealers became more like commercial banks, rather than the reverse.

The structure of Canadian funding markets also made a difference. Canadian banks relied less than their American and universal banking peers on unsecured interbank transactions and short-term repos. For example the repo market in Canada is one-fifth the size of other jurisdictions and the commercial paper market is relatively small.

---

[8] See A. Haldane, "The Contribution of the Financial Sector—Miracle or Mirage?" Speech delivered at the Future of Finance Conference, London, England, 14 July 2010.

[9] Z. Pozsar, T. Adrian, A. Ashcraft, and H. Boesky, "Shadow Banking," Federal Reserve Bank of New York Staff Report No. 458, July 2010.

[10] An exception was the Canadian non-bank asset-backed commercial paper market which did freeze up and had to be restructured. However, this paper financed offshore assets and the restructuring did not have any significant effect on credit creation in Canada.

In contrast, short-term money markets were the predominant source of financing for the one-third increase in the gross leverage of U.S. investment banks, U.K. banks and European banks. It is a simple fact that banks' reliance on wholesale, collateral-based finance rose from $200 billion to a peak of $4 trillion during this decade. By borrowing in short-term wholesale markets to fund asset growth, banks became more dependent on continuous access to liquidity in money and capital markets. The system's exposure to market confidence was enormous.

Moving Forward: What Else Is Required?

The collapse in confidence necessitated a host of extraordinary measures and bank rescues. A common motivation was fear of contagion through bilateral counterparty relationships in funding and derivatives markets. With U.S. investment banks at the hubs of so many crucial markets, such as tri-party repos, the system was profoundly fragile.

Ultimately, the historic G-7 commitment to use all available tools, including public capital, to support systemically important financial institutions and prevent their failure was necessary to keep the system functioning. The cost has been enormous moral hazard that, if left unchecked, will distort private behaviour and inflate public costs.

A series of concerted measures will be required to build resilient, continuously open funding and derivatives markets and to restore market discipline to financial institutions.

Keeping markets continuously open requires policies and infrastructure that reinforce the private generation of liquidity in normal times and facilitate central bank support in times of crisis. The cornerstones are central clearing counterparties or "CCPs" for repos and OTC derivatives. Properly risk-proofed CCPs act as firewalls against the propagation of default shocks across major market participants. Through centralised clearing, authorities can also require the use of through-the-cycle margins, which would reduce liquidity spirals and their contribution to boom-bust cycles.

To develop a robust, collateral-based, short-term financing market, the Bank of Canada is supporting the creation of a domestic CCP for Canadian-dollar repos.

The Bank is working with its domestic and international partners to develop a similar infrastructure for OTC derivatives markets. Current G-20 efforts to transfer standardized OTC derivatives to clearing houses have great potential to reduce contagion from counterparty risk and to improve the transparency, pricing and management of risk.

At the same time, G-20 countries will need to ensure that linkages between different CCPs do not increase the degree of market concentration amongst dealers. Access and interoperability criteria must be carefully developed in order to maximise the systemic benefits of this important reform.

Addressing too big to fail and re-instilling market discipline

There is a firm conviction among policy-makers that losses incurred in future crises must be borne by the institutions themselves. This means management, shareholders and creditors, rather than taxpayers.

Better market infrastructure alone will not be sufficient to re-instill market discipline. Ultimately, a series of measures, including living wills and better cross-border resolution regimes, will be required to expose fully firms to the ultimate sanction of the market.

All jurisdictions need the tools to intervene safely and quickly to ensure the continued performance of a firm's essential functions and to sell, transfer or restructure part or all of a firm while apportioning losses. Statutory bail-in authority could fill a crucial gap in the resolution toolkit and should catalyze private alternatives to the restructuring process.

An example of a promising market-based mechanism is to embed contingent capital and bail-in features into unsecured market debt and preferred shares issued by financial institutions. Contingent capital is a security that converts to capital when a financial institution is in serious trouble, thereby replenishing capital without the use of taxpayer funds. Contingent conversions could be embedded in all future new issues of senior unsecured debt and subordinated securities to create a broader bail-in approach. Its presence would also discipline management, since common shareholders would be incented to act prudently to avoid having their stakes diluted by conversion.

Conclusion

The scale and complexity of the crisis and the multiple points of failure all demonstrate that there are no panaceas. Wholesale reforms of regulation, changes to policy and adjustment of private behaviour are required. We should all approach these tasks with a measure of humility.

While Canada's experience offers some important lessons (on capital, leverage, mortgage finance, and supervision), we recognise that we do not have all the answers.

Responding to challenging events, Swiss authorities, particularly President Hildebrand, are to be commended for their vision and leadership on such global innovations as contingent capital, bail-ins and cross-border supervisory frameworks.

All policy-makers should redouble their efforts to reform infrastructure to achieve continuously open, competitive markets.

Finally, while these official initiatives are essential, systemic resilience importantly depends on the oversight of private parties ranging from investors to management and boards. Ultimately, the private sector will remain the first line of defence. A focus on improving these oversight functions is thus required.

As we look back and move forward, we would all be advised to remember that pride goes before the fall. Risks are usually the greatest when they appear the least; and financial market participants the most vulnerable when they think they know all the answers. In a dynamic financial system, all participants need to focus continually on identifying vulnerabilities and improving resilience. Our work has just begun.