Mark Carney: From hindsight to foresight

Remarks by Mr Mark Carney, Governor of the Bank of Canada, to Women in Capital Markets, Toronto, Ontario, 17 December 2008.

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It has been a difficult year for capital markets professionals. The turmoil has deteriorated into a full-blown financial crisis. Most financial markets have experienced historic falls in prices, and some are strained to the point of closing. Issues of financial stability that were once the obsession of a pessimistic few are now the daily concern of many. Policy-makers have had to respond with bold measures. These will work, although it will take time for confidence to return and for capital to flow once again. In the interim, the dramatic repricing of risk across financial assets will be increasingly mirrored in the real economy. Businesses are already beginning to postpone large investments, and households now hesitate over major purchases. Partly as a consequence of financial instability, next year will be a trying one for many Canadians.

Few forecast these events; although, in an outbreak of retrospective foresight, an increasing number now claim they saw it coming. The reality is that among all the banks, investors, academics and policy-makers, only a handful were able to identify ahead of time the causes and potential scale of the crisis.[1] Central banks, ministries of finance and international financial institutions all believed either that risks were being adequately managed or that vulnerabilities lay elsewhere. Around the world, private banks exceeded their regulatory capital requirements. Clearly, though, risks were not being managed properly and capital was inadequate.

Now, in the rush to respond, we must avoid building the financial equivalent of the Maginot line – overpreparing for a repeat of current events while remaining vulnerable to the root causes of the next crisis. Rather, we must develop early-warning systems with precision and with teeth. This will require progress internationally and domestically.

Internationally, both the Financial Stability Forum (FSF) and the International Monetary Fund (IMF) must become more effective. There are several ways of accomplishing this. The first is to divide more clearly responsibilities between these bodies, with the IMF having primary responsibility for surveillance (i.e., the early-warning system) and the FSF for coordinating the development of a resilient financial system. Second, policy-makers themselves must become more engaged. The value of international organizations is not that their bureaucracies possess unique powers of insight, but rather that they can convene senior policy-makers, challenge them, and then forge a consensus on how to foster sustainable global economic growth. Third, countries must recognize that membership in these organizations brings responsibilities. This is why Canada successfully pushed at the recent G-20 summit for mandatory regular reviews of each country's financial system by the IMF (a process carried out under the Financial Sector Assessment Program or FSAP). Finally, it matters who is around the table. In Washington last month, G-20 leaders agreed to expand the FSF to include key emerging markets. These countries not only have first-hand experience of financial crises but also are the major surplus countries who, as major capital providers, need to be part of a global solution.[2]

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1 Examples include Bill White, formerly of both the Bank of Canada and the Bank for International Settlements; Harvard University's Ken Rogoff; Nouriel Roubini of New York University; Wynne Godley of Cambridge; and Bernard Connolly of AIG Financial Products.

2 M. Carney, "Reflections on Recent International Economic Developments" (Speech to the Canadian Club of Montreal, Montréal, Quebec, 25 September 2008).

Domestic responsibility for financial stability is currently shared among a large number of federal and provincial bodies. This includes the Bank of Canada, which is mandated by legislation to "promote the economic and financial welfare of Canada." Today I would like to focus on how the Bank can fulfill this broad mandate by contributing to financial stability in Canada.

A macroprudential approach

A clear lesson of the current crisis is the need to take a macroprudential approach to financial stability. Macroprudential surveillance assesses current risks by looking at the broad economic and financial conditions that can contribute to the buildup of risks to the financial system and the economy as a whole. Macroprudential regulation seeks to improve the resiliency of the financial system by designing standards and codes to limit the buildup of financial and economic imbalances. Put simply, a macroprudential approach focuses on the forest, not the trees.

Two topical fallacies of composition illustrate the point. The first is what Keynes termed the "paradox of thrift." It may be individually rational for people to want to save more and businesses to invest less during uncertain economic times. If this behaviour is widespread, however, it becomes collectively irrational. Fear of recession feeds a recession. Similarly, a bank may decide to hoard capital in anticipation of increased loan losses during a slowdown. If all banks do the same, their actions will exacerbate the downturn and increase their eventual losses. It is well-known that timely and properly calibrated monetary and fiscal policy can address the first issue. It is less widely recognized that macroprudential regulation can address the second.

In many ways, the central bank is ideally suited to bring a macroprudential approach to financial stability. Our mandate demands that we take an economy-wide perspective. Further, we have a strong motivation to maintain a stable, efficient financial system because we rely on it to transmit our monetary policy actions. However, we do not have many of the tools necessary to secure financial stability. Monetary policy is a blunt instrument, poorly suited to addressing financial imbalances. Instead, macrofinancial stability should be one of the core objectives of financial regulation. Until it is, under the current framework, the Bank can promote financial stability through two tools: liquidity and advocacy.

The Bank is the ultimate source of liquidity within the economy. We have used our recently enhanced powers under the Bank of Canada Act extensively throughout the crisis, with measures that now total more than $36 billion of term liquidity. There are four important points of context. First, we are not supplying net liquidity to the system – there is no new central bank money. Rather, we are redistributing liquidity by exchanging liquid assets for high-quality, though less-liquid ones. Second, we are substantially over-collateralized to protect our balance sheet.[3] Third, consistent with Canada's relatively strong banking system, our liquidity provision has not been as large as elsewhere. For example, the Bank of Canada is currently providing liquidity equivalent to around 1 per cent of total domestic banking assets. The comparable figures are 4 per cent in Europe, 5 per cent in the United Kingdom and 6 per cent in the United States. Finally, while the provision of extraordinary liquidity by central banks is limiting the damage from the crisis, it has long been apparent that official liquidity, irrespective of size, cannot re-open markets on its own.

The Bank's second tool – advocacy – has not received the same profile as the first – a fact I hope to begin to change today. The Bank can promote financial stability by influencing public sector policies and private sector behaviour. We do this in two ways; by leveraging our

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[3] For example, at the end of November, the Bank had collateral for its term purchase and resale agreements worth 105 per cent of the amount outstanding in term PRAs.

position in key domestic and international organizations, and by producing solid analysis and research to ground our advice. Domestically, we work closely with representatives from the Federal Department of Finance, the Office of the Superintendent of Financial Institutions (OSFI), the Canada Deposit Insurance Corporation, and the Financial Consumer Agency of Canada. We meet regularly to share information, coordinate actions, and advise the federal government on financial sector policy. Within this group, the Bank of Canada is the only organization that brings a solely macroprudential perspective to the table – a perspective we intend increasingly to assert.

Improving our analysis and sharpening our accountability

In recent years, the Bank has made financial stability a strategic priority. Strengthening this priority was one of the primary motivations behind our internal reorganization last month. We now have a department dedicated to financial stability, and we are investing heavily in our research and analysis. We are hiring senior capital markets professionals and drawing on leading academics as special advisers. In addition, the mandate of the Bank's Governing Council has been sharpened to add financial stability assessment to its responsibilities. The deputy governors and I should be held accountable for our analysis; others for whether or not they follow our advice.

To be clear, we are not seeking to identify every worthy reform in the financial sector (they are legion). Rather, we will seek to identify stresses in the economy as well as the regulations and practices that have the potential for serious macroeconomic consequences. In doing so, we will want occasionally to change behaviours, conventions and even regulations to mitigate threats.

The latest edition of the Bank's *Financial System Review* (FSR), which was published last week, is a first step. It contains, for the first time, the judgment of the Governing Council as to the main risks to Canadian financial stability. I will return to this shortly. First, I will say a few words regarding an article in the current FSR, which details efforts by Bank staff to construct an early-warning indicator for financial stress in Canada.[4]

An early-warning system

The Bank of Canada has developed a financial stress indicator, the FSI, which uses a number of domestic variables to measure the degree of financial stress in the economy.[5] As you would expect, the FSI is now showing record levels of stress. It is correlated with how you all probably feel. While this indicator does an excellent job of measuring stress in real time, our objective is to develop empirical measures that could forewarn of potential financial crises. In other words, given that the FSI accurately measures financial stress, what accurately predicts changes in the FSI?

It has been clear for some time that rapid growth in credit and sustained growth in asset prices often precede financial crises. Bank researchers have found a promising tool for assessing Canada's vulnerability to crisis: a combination of growth in domestic business credit and real estate prices that tends to be a good predictor of changes to the Bank's financial stress indicator one to two years in the future. However, this combination was unable to predict the current crisis because the root causes came from outside Canada. There is ongoing work at the Bank to refine these tools, which could prove important, not

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4 M. Misina, P. St-Amant, and G. Tkacz, "Credit, Asset Prices, and Financial Stress in Canada", *Financial System Review* (Ottawa: Bank of Canada, December 2008): 29-33.

5 M. Illing and Y. Liu, "An Index of Financial Stress for Canada" (Working Paper No. 2003-14, Bank of Canada, 2003).

only for predicting future periods of financial instability and thereby prompting timely corrective actions, but also for the development of countercyclical capital rules that I will discuss in a few minutes.

Current risks to stability

In the FSR, five major risks to financial stability were identified: first, the liquidity and funding of financial institutions; second, their capital adequacy; third, the state of household balance sheets; fourth, the possibility of a more prolonged downturn in the global economy; and fifth, the threat of a destabilizing unwinding of global financial imbalances. Let me now spend a few minutes discussing the first three of these risks in some detail, although I should stress that these are risks, and not the most likely outcomes.

Funding and liquidity

The current crisis began in the summer of 2007 as liquidity dried up, leading to major disruptions in money and bond markets. In response, the Bank of Canada provided exceptional liquidity to core financial institutions, with the expectation that this liquidity would cascade through the financial system. This was indeed the case this past spring. With the intensification of the crisis since September, our liquidity efforts have been significantly expanded. While these actions have sharply lowered money market spreads and encouraged some lending at longer maturities, conditions remain far from normal.

Bond issuance has been slow to return, which is putting greater pressure on banks as the sole source of lending growth. In tandem, financial institutions have curtailed their central roles as intermediaries and market-makers. This feeds illiquidity and volatility in financial markets and delays the return of confidence in the financial system. This could aggravate the adverse feedback loop between the financial system and the real economy.

In essence, we have gone from one extreme – with overabundant liquidity leading to the misallocation of capital – to another – where, in some systemically important markets, capital is barely being allocated at all. The challenge for policy-makers is to provide transition support that effectively restarts rather than replaces markets. As I have argued elsewhere, this may require structural changes to some markets, including the greater use of clearing houses, and a re-thinking of the scale and frequency of central bank liquidity operations.[6]

Procyclical capital adequacy

The second risk identified in the FSR is the procyclicality of bank capital. Put simply, banks characteristically increase leverage in a boom, further feeding the expansion, before reducing leverage in a downturn, exacerbating the slowdown. Regulation often reinforces these tendencies when it should lean against them. This is now a serious global problem.

Banks outside of Canada are under enormous pressure to reduce leverage. Given the scope of likely ultimate losses from structured products alone, it would take an enormous amount of capital to reduce average leverage ratios to Canadian levels. Bank of Canada research estimates that U.S., U.K. and European banks would need to raise a combined US$1.2 trillion to bring their leverage ratios down to Canadian levels. These capital needs will rise linearly with any recession-induced writedowns. In this environment, banks are inclined to hoard capital, rather than deploy it. In a world with guarantees, liquidity and funding support, regulators should not reinforce this tendency.

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[6] M. Carney, "Building Continuous Markets" (Speech to the Canada-United Kingdom Chamber of Commerce, London, England, 19 November 2008).

In Canada, our banks are not facing the same pressures to de-lever as their counterparts abroad. Still, their loan portfolios would experience higher credit losses in a deep or prolonged downturn. The risk identified in the FSR is that market forces could compel banks to maintain higher capital ratios than necessary to guard against the possibility of worse economic outcome. This could lead banks to slow balance sheet growth, which would tighten lending conditions for both households and businesses and weaken the economy. Ultimately, the financial institutions themselves would suffer from this self-fulfilling prophecy.

Given these concerns, the Superintendent of Financial Institutions last month took the welcome step of giving Canadian banks more flexibility by allowing them to raise the proportion of preferred shares that comprise their Tier 1 capital from 30 per cent to 40 per cent. The lower absolute leverage of Canadian institutions and the higher quality of their Tier 1 capital should mean that they can expand lending faster than their international peers. The value of this virtually unique advantage of our economy should not be underestimated.

The Bank is working with its international counterparts to examine how the current regulatory capital framework may amplify fluctuations in economic and financial conditions.[7] Under current rules, capital requirements are linked to the credit risk in an institution's portfolio. In an upturn, risk goes down, banks are required to hold less capital, and the growth of credit increases. The problem is that this can amplify swings in financial conditions and lead to the emergence of financial imbalances. Recall the link between credit growth and future financial stress that I just mentioned. Then, during the downturn when credit risk increases, banks are required to increase capital holdings, thus exacerbating the economic weakness and financial stress.

This is the motivation for proposals to have capital requirements move procyclically. Banks could be required to build up capital buffers during times of rapid credit expansion. This would strengthen their balance sheets and reduce the risk that financial imbalances will develop from overly easy financial conditions. During a downturn, banks could then draw down these buffers, which would reduce the need to liquidate assets or restrict loan growth at a time when credit conditions and asset prices are already under stress. In this way, capital requirements would moderate the ups and downs of the credit cycle – the reverse of what currently happens – reducing the risk of a future crisis.

This macroprudential approach to capital requirements is tremendously important, but it is also complex, with a number of practical and logistical concerns. Such a system could be accomplished by linking capital requirements to movements in credit-cycle indicators, such as loan growth and asset prices. For example, our research on the determinants of financial stress that I mentioned a moment ago can help inform the development of such regulatory guidelines. It is probably unrealistic to think that ex ante a perfect formula can be derived. Ultimately, there are important questions regarding the balance of rules and discretion and, regarding the latter, who should exercise that discretion.

Household balance sheets

The third risk relates to the health of Canadian household balance sheets. Household credit makes up about 60 per cent of the Canadian banking sector's total loan exposure, so losses on household lending would likely have an immediate impact on capital adequacy and forward profitability. The household sector could be an important channel through which global economic weakness affects the Canadian financial sector more widely.

While the Canadian household sector remains relatively healthy, its resilience will be tested during the recession. Various indicators of financial stress, such as bankruptcies and loans in

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[7] See "Recent Proposals for Procyclical Capital Requirements", *Financial System Review* (Ottawa: Bank of Canada, December 2008): 15.

arrears, have increased recently from historically low levels. Falling equity markets and softening house prices have put pressure on household balance sheets at a time when the ratio of debt to income is already at a record high of 140 per cent. The household debt-to-asset ratio has risen as the credit crisis intensified, reaching 19 per cent at the end of the third quarter – the highest level since 1990. At the same time, the debt-service ratio of households actually declined modestly to 7.5 per cent, well below the historical average of 9.2 per cent seen since 1992, owing to lower effective borrowing costs. This gives a measure of assurance that most households can comfortably manage their debts.

The health of Canadian households is obviously important to our banking sector. If the global economic downturn were significantly more severe than projected, then household defaults in Canada could rise sharply. This risk would be magnified if banks begin to tighten credit conditions to households more significantly than they have so far. In the FSR, we examined these risks using a simulated stress test. Specifically, we examined an extreme scenario where nominal household income drops at an average annual rate of 2 per cent for six straight quarters as a result of global economic weakness. Such an event could double – from 3 per cent to 6 per cent – the proportion of Canadian households considered to be vulnerable; that is, with debt-service ratios above 40 per cent of income. Further, those vulnerable households would own 13 per cent of total household debt, a figure double the average of the past 10 years. If this scenario were to materialize, it would prompt significant losses among Canada's banks.

However, it is important not to overplay this scenario, since it actually illustrates the strength of our system. First, the scenario is extreme – the annual growth of household income has not been negative during any quarter over the 37 years for which data are available. Second, while the average Tier 1 capital ratio of our banks would fall from 9.7 per cent to about 8.8 per cent, this figure is still more than two times the minimum ratio allowed under the Basel II Accord, and well above OSFI's 7 per cent threshold.

There are a number of reasons why the risk posed by household balance sheets is significantly lower in Canada than elsewhere, not the least of which is Canada's more conservative lending culture. For example, subprime mortgages account for less than 5 per cent of Canadian mortgage lending, roughly one-third the level in the United States. Further, since Canada requires insurance on high-loan-to-value mortgages and Canada Mortgage Bonds carry an explicit sovereign guarantee, there has been no negative feedback loop between the housing market and the financial sector as has been all too apparent in other major economies. While Canada's debt-service ratio remains below its historical average, as I mentioned, the debt-service ratio in the United States remains above its historical average. Further, the absolute cost of household debt in Canada – both mortgage and other loans – has fallen by about 100 basis points since the onset of the crisis last year.

Nonetheless, the Bank of Canada will continue to closely monitor the risk posed to financial stability from household balance sheets. In addition, the Bank will closely consider the possibility that households may be more sensitive to shocks to their income or wealth as it develops its outlook for Canadian growth and inflation.

Conclusion

In times of crisis, it is easy to understand the links between financial stability and the real economy. While these are all too apparent, it is sometimes hard to see the end of the crisis. But end it will. The actions that policy-makers are taking will be effective. The global economy will emerge from this period of weakness. In the years ahead, when times are better, the need to promote financial stability may not be as clear-cut, even though it will be no less important. The Bank of Canada will continue to take a macroprudential approach. We will use all the tools at our disposal to promote financial stability at home and abroad and, in so doing, continue to contribute to the economic and financial welfare of Canada.