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Integrating Financial Stability into Monetary Policy

Introduction

The experience of the global financial crisis and subsequent Great Recession has led policy-makers to question some basic assumptions. Long-held beliefs about monetary policy no longer apply in today's global environment. Ten years ago, the idea that focusing on price stability could actually contribute to the buildup of dangerous imbalances was very much a minority view. Central bankers now understand that financial stability issues must somehow be integrated into the conduct of monetary policy. And both central bankers and leaders of financial institutions are working to understand the impact of the sweeping regulatory reform agenda that is being implemented.

Around the world, researchers are looking at the issues from several angles. How are financial system reforms affecting monetary policy? How can different monetary policy choices affect financial stability? Today, the idea that central bankers should pay little heed to stability issues and simply "stick to our knitting" of inflation control, a position once advocated by many, seems quaintly naïve.

Through painful experience, we have been reminded that a well-functioning financial system is critical for economic activity and the transmission of monetary policy. We saw the emergence of excessive risk taking, aided by financial engineering and shortcomings of oversight, during an extended period of low and stable inflation and low volatility. The crisis showed us how financial imbalances in one sector of one economy could be amplified and propagated across the entire financial system, leading to the worst global downturn since the Great Depression. So what I will discuss today is how central banks integrate financial stability concerns into the pursuit of our goals of price stability and macroeconomic stabilization. This exercise is fraught with risks and uncertainties and it is complicated by the fact that macroeconomic and financial stability objectives are not always consistent with each other. Coping with this becomes a problem not of policy optimization, but of risk management. In other words, we put aside the idea of engineering the perfect policy and focus instead on the

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more realistic goal of finding an appropriate policy setting, given the risks and uncertainties.

Monetary Policy and Financial Imbalances

The debate about using monetary policy to respond to financial imbalances has evolved rapidly since the pre-crisis era. A decade or so ago, the discussion was essentially between those who argued that monetary authorities should lean against imbalances such as asset-price bubbles and those who said that monetary policy should be reserved for cleaning up the mess after the bubble popped.

Before the financial crisis, the Bank of Canada basically straddled the two camps. On the one hand, we argued that it's very difficult to identify an asset-price bubble, and central bankers have no comparative advantage in making this determination. Like many, we questioned the wisdom of using the blunt instrument of interest rates on a bubble that could be confined to one asset class. Indeed, if a bubble was particularly large and persistent, a central bank that used the cure of higher interest rates could end up causing the very economic damage it was trying to prevent.

On the other hand, the Bank recognized that price stability was a necessary, but not sufficient, condition for financial stability. Given our keen interest in a well-functioning financial system and our macro perspective, we worked to raise awareness of stability threats. Our decision to begin publishing our *Financial System Review* (FSR) in 2002 showed our early commitment to promoting financial stability. We used the phrase "global imbalances" a lot in speeches leading up to the crisis. In other words, we weren't content to just stand on the sidelines and wait to clean up messes.

The widespread and extremely high cost of the Great Recession made it clear just how difficult the clean-up job can be. It has been roughly seven years since the crisis, and the damage done to the global economy has left many central banks still struggling with weak growth and inflation.

However, the more fundamental lesson we learned is that "lean versus clean" is a false dichotomy. It's far too simplistic to say that financial stability threats compel central banks to choose between leaning and cleaning. In a perfect world, we would have a macroeconomic model sophisticated enough to capture the emergence and resolution of financial imbalances, along with their related impacts on the real economy. With such a model, we would be able to incorporate financial stability threats into our reaction function, if not with absolute precision, then at least as well as we incorporate other economic variables.

Unfortunately, we don't live in that perfect world. A general-equilibrium model containing a grand synthesis of real and financial variables doesn't exist and isn't likely to. I don't mean to downplay the importance of research and the development of stylized models, which are crucial in helping us understand aspects of the relationship between the real economy and financial stability. But the reality is that central banks have to cope with tremendous uncertainty regarding financial stability issues, and this is layered on top of the regular uncertainties of monetary policy concerning unobservable variables such as potential output.

Given all of the uncertainty, it seems to me the proper response of the monetary authority is to acknowledge and accept all the things we don't know, gauge the risks facing the economy as best we can, and manage those risks as we conduct monetary policy. I'll describe our risk-management framework in detail later on. But we still have the question of how policy-makers should respond to financial imbalances, particularly those that are concentrated in a specific sector or asset class.

The Bank of Canada's view is that monetary policy should be the last line of defence against threats to financial stability, behind the joint responsibility of borrowers and lenders, appropriate regulatory oversight within the financial sector, and sound macroprudential policies. Let me say a little bit about each of these.

Financial Stability Threats — Lines of Defence

Borrowers and lenders are the first line of defence. They bear the ultimate responsibility for their own decisions at the individual and firm level. It is not the role of monetary policy to protect individuals from making bad choices. It is possible that the sum of those bad decisions could threaten financial stability or the economy as a whole, and so we monitor the situation as a matter of course. But there is no reason to assume that, in all circumstances, equilibrium will devolve into turmoil as borrowers and lenders inevitably sow the seeds of a financial crisis. Indeed, market discipline enhanced by appropriate transparency can be very helpful in this regard.

That's not to say policy-makers have no role in enhancing this line of defence. Financial education and efforts to improve financial literacy can help consumers better understand the important decisions they make.

In Canada, we have seen increasing levels of household debt that represent a key vulnerability for the financial system. The main driver behind this rise has been an increase in home-backed debt against a backdrop of rising house prices, particularly in two of Canada's largest cities—Toronto and Vancouver. Among other factors, this was due to low interest rates that resulted in the ratio of debt service to income, including principal repayment, remaining roughly unchanged since 2008. Given this, the increase in household debt levels is no surprise. Rather, this rational response by consumers to easy monetary policy is a sign that the transmission mechanism has been working.

I'm not trying to diminish the threat posed by elevated household debt. We are continuing to watch this closely. The point is that there is more to the story than the debt-to-income ratio. Because house prices have generally been rising faster than incomes, we have seen increases in the size of a first-time mortgage that a new borrower might take out. Mathematically, the total debt-to-income ratio rises as a result. But it doesn't necessarily mean an increase in the vulnerability of the economy or the financial system.

The second line of defence is sound regulatory oversight of the financial sector. This oversight has been significantly strengthened since the financial crisis. Basel III has made the world a safer place; there can be no doubt about that. But even before the crisis, Canada's banking system was well served by its strong

regulatory environment and prudent culture, which allowed our institutions to avoid the worst of the turmoil.

Given the scale of the damage caused by the financial crisis, it’s not surprising that authorities devised a reform agenda of corresponding proportions. The G20 pledged to do everything necessary to address the weaknesses exposed by the crisis.

With Basel III, we gave ourselves an ambitious task. We aimed for a financial reform package that would be implemented consistently across jurisdictions and would not impede the ability of financial institutions to innovate, intermediate and foster economic growth. The road to implementation hasn’t been as smooth as one would like. But that’s hardly surprising, given the political processes and trade-offs required to put the reforms in place and the many differences among the jurisdictions involved.

What’s important now is that we finish the job. Ensuring the safety of the global financial system is in all of our interests. We can’t be distracted and lose sight of this objective. For financial institutions, that means meeting both the letter and the spirit of the new capital and liquidity regulations. And policy-makers should expect institutions to respond to the new regulatory regime. We are seeing competitive forces leading to innovation, in market-based finance, for example. To be clear, such innovation is a good thing. Even as we implement the new rules, we need to be cognizant of their full impact and ensure that we don’t stifle competition and innovation.

That said, the scars of the financial crisis will not fade quickly, and we are determined not to let another such crisis occur. The proper implementation of the Basel rules will go a long way to preventing certain threats to financial stability from forming in the first place. It will also reduce the potential consequences of those threats by making the financial system much more resilient.

Nonetheless, Basel III can’t prevent the formation of all financial imbalances, such as those in housing markets. Elevated house prices can become a concern for central bankers, particularly if they are associated with higher levels of household indebtedness and leverage. And we know that house prices can deviate in a meaningful way from underlying fundamentals, especially if expectations of price gains are based on simple extrapolations and become disconnected from economic fundamentals. A sudden reversal of such misalignments can cause significant stress in the financial system and the economy as a whole.

That is where the third line of defence—macroprudential policy—comes into play. Macroprudential policies have a relatively short history, and there isn’t a lot of empirical evidence yet. But one set of tools that has been used more frequently and studied more extensively consists of those that deal with housing. The International Monetary Fund and several central banks—including the Bank of Canada—have looked at this area. They’ve found that some macroprudential policies, such as limits on mortgage loan-to-value ratios and increased capital weight on bank holdings of mortgages—can moderate the growth of credit and house prices as well as improve the average creditworthiness of borrowers. The

impact of recent macroprudential tightening in Canada, which was aimed primarily at rules for insured mortgages, appears to support these findings.

If we accept that properly implemented macroprudential policies can help to effectively combat financial vulnerabilities by strengthening resilience in the financial system and reducing systemic risk, this supports the view that authorities should look to these policies first when imbalances arise, before turning to monetary policy.

Across the advanced economies, there is a wide variety of governance models for macroprudential policy-making. In many cases, the mandate is centralized—sometimes within the central bank, as is the case at the Bank of England, or outside the central bank, as in the United States. Some macroprudential bodies have the power to write regulations; others are limited to monitoring and making recommendations.

While their precise roles may differ, it's crucial that central banks be involved, because we bring a unique, system-wide perspective that can help identify and assess systemic vulnerabilities and risks. Further, our interests in financial stability cut across the Bank of Canada's functions—not only do we need a well-functioning financial system to transmit our monetary policy, but we also have oversight of systemically important financial market infrastructures and, of course, we are the lender of last resort to the system.

When more than one body is involved in macroprudential policy, there needs to be a mechanism to discuss and coordinate responses and to provide checks and balances within the regulatory system. In Canada, the Senior Advisory Committee fulfills this role. The committee is chaired by the Deputy Minister of Finance and includes the Bank of Canada, the Office of the Superintendent of Financial Institutions, the Canada Deposit Insurance Corporation and the Financial Consumer Agency of Canada. It is an informal forum where members can share information and perspectives on their own policies as well as on the overall regulatory environment. The committee's strength lies in the way it allows members to understand the views of other members and to coordinate macroprudential policies, which is essential, given the potential side effects that macroprudential and monetary policies can have on each other.

The last line of defence is monetary policy, and this is the context in which we think of leaning against imbalances. To be clear, I'm defining leaning as choosing a different path for interest rates than would be optimal for the inflation target in order to mitigate risks to financial stability. This could mean, for example, accepting a significant delay in getting inflation back to target so as not to exacerbate financial vulnerabilities along the way.

Understanding the Links

At this point, let me remind you of a complicating factor for policy-makers that I mentioned earlier—the fact that macroeconomic and financial objectives aren't always consistent. It's clear that financial system policies—including global frameworks such as Basel III and country-specific macroprudential policies—can reduce the likelihood of financial imbalances and crises by reducing tail risks. However, it is also clear that these policies, and the state of the financial system in general, can also influence the effectiveness of monetary policy. So we need

to deepen our understanding of the links and potential trade-offs between monetary and financial system policies.

Let me explain. Sometimes the economic and financial cycles move in tandem. Consider a demand shock where excess demand and upward inflationary pressure lead the central bank to raise interest rates. Here, monetary policy can restrain both demand and credit growth. Now consider a different scenario, where a central bank is running easy monetary policy to try to encourage borrowing and spending. Over time, the increased borrowing could potentially lead to imbalances, in the housing market for example. In this case, you could have macroprudential policy tightening that's working in the opposite direction of monetary policy.

It's therefore crucial to deepen our understanding of how the various transmission channels for monetary policy can be affected by variables that could be targets for financial system policies.

Central banks, including the Bank of Canada, have made progress in developing new economic models and adapting existing ones to integrate financial system variables and stresses as we conduct monetary policy. We've added potential sources of vulnerability, such as the balance sheets of households, companies and banks, to our macroeconomic models. We are using enhanced frameworks, fuelled by more and better data, to help monitor the financial system and make more informed judgments about stability risks and how they might interact with each other. We have boosted the profile of our semi-annual FSR publication.

We will continue to strive for a better understanding of the interactions between monetary policy and financial stability, and I expect to see a large amount of groundbreaking research that will shed light on various aspects of this relationship. However, there is a fundamental problem—policy-makers need models that analyze a wide variety of variables and shocks in order to do their projections, but it is enormously difficult to capture bubble-related behaviour within a typical general-equilibrium model. So we have to rely on our regular models and supplement them with stylized models that give us insights into specific financial stability issues. These models show us a view of certain parts of the economic picture, but we will never have a single tool that can provide the complete picture by itself.

Risk Management in Monetary Policy

So, given that we're working with an incomplete picture of the economy, what is a central bank to do? At the Bank of Canada we take a risk-management approach to monetary policy. Let me explain what that means, and what it doesn't mean.

Since the early 1990s, inflation targeting has become increasingly popular among central banks, and Canada was an early adopter. Under our current agreement, we aim to keep inflation around a target of 2 per cent, and we usually try to accomplish this over six to eight quarters.

Even in the absence of financial stability threats, the practice of monetary policy requires the central banker to deal with vast amounts of uncertainty. Think of the most important aspects of a macroeconomic model—the level and growth rate of potential output, the real neutral interest rate, and the transmission of terms-of-

trade shocks. None of these can be observed; they all must be estimated. The assumptions that we make in running our models inject uncertainty throughout the policy-making process. And, since the crisis, we have also been confronted with the risk that our models have been distorted because of fundamental shifts in economic behaviour.

Now, on top of all this uncertainty, we have to add the uncertainty represented by risks to financial stability, a concept that is difficult to quantify. Adding this whole other dimension of uncertainty complicates the practice of monetary policy by forcing us to weigh both sets of risks, the probabilities that they will be realized and the potential consequences of a policy error.

So how do we manage the risks? At the Bank of Canada, we try to be realistic about the things we don't know and do a thorough examination of the related risks. Every time we come to a decision, there are a number of potential paths for policy that could be consistent with the inflation goal. In the process of formulating policy, we weigh these possibilities and focus on those that fall into a zone where the range of likely outcomes makes us reasonably certain that we'll achieve the inflation target over an acceptable time frame and that financial stability risks will evolve in a constructive way.

Still, we know there can be times when setting policy to achieve the inflation target within the usual time frame can increase the level of financial stability risk to an unacceptable level. This would take us out of the zone where the risks are essentially balanced. Because the flexibility in our framework allows it, we reserve the right to choose our policy tactics so that our actions don't significantly worsen financial stability concerns by opting for a policy path that aims to return inflation to target over a longer time frame than normal.

Risk management, then, does not mean that the central bank will adjust policy to try to lean against every emerging financial imbalance. Since we are an inflation-targeting central bank, our policy tool must always be directed first at our inflation target. Even in extreme conditions, when financial stability risks constrain monetary policy from achieving the inflation target over a reasonable time frame, a central bank would want to ensure that all macroprudential options were exhausted before trying to address those risks with monetary policy.

Let me give a real-life example to illustrate how we put our risk-management approach into practice. Last year, before the oil price shock hit the Canadian economy, our policy was in the zone I just described, with inflation on course to return to target in a reasonable time frame and vulnerabilities in the household sector looking as if they would evolve constructively.

The oil price shock changed the outlook dramatically. It represented a potentially sizable reduction of our national income and threatened to drive inflation below target for an unacceptably long time. The expected sharp decline in economic activity and employment also represented a possible trigger for Canadian financial stability risks related to elevated household debt. Our monetary policy was knocked out of the zone, and the downside risk to future inflation was material. So, in January, we lowered our policy interest rate, and we did so again six months later as the impact of the shock became clearer.

We knew that easing policy would have implications for financial stability. However, we also knew that those concerns had to remain subordinate to the primary mission of achieving our inflation target and getting our policy back in the zone where the risks are balanced. Our risk-management approach implied that, in the absence of any additional macroprudential measures, our actions would affect the balance of risks in opposite directions. Lowering interest rates could worsen vulnerabilities related to household debt at the margin, but it would also lessen the chances of the oil price shock triggering financial stability risks. In the current context, getting the economy back to full capacity with inflation on target is central to promoting financial stability over the longer term.

Conclusion

It's time to conclude. The dramatic events of the financial crisis required a dramatic reaction. New financial sector rules are being implemented to make the global economy safer. For financial institutions, this is a long and difficult path, but the stakes are too high to contemplate leaving the job incomplete. Policy-makers are working hard to understand the impact of new regulations and to develop effective frameworks and best practices for implementing macroprudential policies.

For central banks, we know that financial stability has now become a permanent preoccupation. We can't have a firm grasp on the economy and its outlook without also having a good understanding of the links between financial stability and monetary policy.

At the Bank of Canada, we will remain committed to delivering on our mandated inflation goal. We will continue to strive toward improving our understanding of how monetary policy and financial stability influence each other. And we will continue to use the flexibility in our inflation targeting framework as needed to integrate financial stability concerns into the conduct of monetary policy, while always keeping inflation control as our primary mission.