Lynn Patterson: Markets calling - intelligence gathering at the Bank of Canada

Remarks by Ms Lynn Patterson, Deputy Governor of the Bank of Canada, to the Calgary Chartered Financial Analyst (CFA) Society, Calgary, Alberta, 28 June 2017.

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Introduction

Good afternoon. Thank you for that kind introduction.

As participants in today's marketplace, you are likely experiencing how quickly technology and markets are evolving. And I can relate. The changes that I saw during my years in fixed-income and equity markets were remarkable. Shortly before I began working in fixed-income markets, if you wanted to sell a bond, you would make a phone call and follow up with a teletype message with all the details. Then, someone in your back office would physically descend into a vault to pull the bond and have it delivered to the buyer by hand. Imagine how sluggish that process would seem to today's traders who transact and settle securities worth millions of dollars with a couple of taps on the keyboard.

The shifts in market function and participation that we are seeing globally today are as dramatic. Some stem from central bank actions in certain jurisdictions, such as quantitative easing and negative interest rates. Others are the result of regulatory reform, new technologies and investor preferences. Think, for example, of the influx of investors in the commodity space using indexed and exchange-traded funds (ETFs). Or how high-frequency trading (HFT) firms are compressing bid-ask spreads in the futures and equity markets. Or the development in Canada and globally of central counterparties for over-the-counter (OTC) derivatives and repos.

Keeping up to date on new trading practices and how the markets are functioning is important to the Bank of Canada. Our mandate is to "promote the economic and financial welfare of Canada."[1] So we closely monitor the vigour and health of the financial system.

My responsibilities at the Bank include the oversight of our activities in financial markets. This includes market intelligence, which is my topic today.

Now market intelligence can take many different forms, including—in its broadest sense—the macroeconomic insights we gain from talking face to face with businesses operating in the real economy. This includes the important work done by our regional teams on a quarterly basis for our *Business Outlook Survey*.

I can't emphasize enough how critical these real-time perspectives are to our overall understanding of economic developments, particularly during periods of heightened uncertainty. They provide us with timely insights that we wouldn't have been able to see in the data until months later. In my remarks I will highlight an example of how this feeds into our policy decision making. But my focus today will be on the intelligence we gather from financial markets.

Let me start by expanding on the significance of the Bank's market intelligence. I will then explain how we gather it and how that has evolved. Finally, I will share with you what we are learning and how we use what we learn.

Our need to know

The market intelligence we gather is a critical complement to our analytical work. Often, in interpreting data, or through our modelling, we develop a view about the future direction of the economy or inflation. Our intelligence work then offers us an opportunity to corroborate or, occasionally, refute what we see in the data. It helps us fill in the pieces of the puzzle that may be missing or that need greater clarity so that we can refine our judgment surrounding the outlook. It can give us new insights into how markets are functioning and responding to regulatory or other changes. All of this helps us shape Bank policies and is integral to our core functions. Let me say a few words here about those functions.

First is the conduct of our inflation-targeting monetary policy. We have successfully maintained inflation close to our 2 per cent target since 1995. The policy's effectiveness depends on the efficient transmission of our rate decisions through to capital markets. It is therefore essential that we have a solid understanding of how those transmission channels function and are evolving.

Second, we act as fiscal agent for the federal government, managing its reserves, auctioning its bonds and managing its cash. And that is why it is important for us to assess how market developments could influence these activities.

Third, we are responsible for promoting the efficiency and stability of the financial system. We do this in a number of ways. We consider financial stability issues in our decisions and operations. We provide liquidity facilities and serve as lender of last resort. And we oversee the key payment clearing and settlement systems that support the Canadian economy and financial markets. So we need to understand how market developments could affect the financial system, vulnerabilities to it or the effectiveness of our tools. I should underline that, payment and settlement systems aside, we do not have regulatory responsibilities for financial market participants. This is actually helpful and conducive to open, two-way exchanges. At the same time, we maintain regular and open dialogue with the federal and provincial authorities that do exercise such responsibilities. And we share with them our analysis of potential vulnerabilities and risks.[2]

The Governor of the Bank of Canada is a member of the Senior Advisory Committee, a non-statutory body that discusses macroprudential policy. Its other members are the Federal Deputy Minister of Finance, the Superintendent of Financial Institutions, the Chair of Canada Deposit Insurance Corporation, and the Commissioner of the Financial Consumer Agency of Canada.

Our intelligence gathering supports these functions by ensuring that we remain well informed of market activity and structure. This is by no means a new activity for us. The Bank has been observing markets since it opened in 1935.

However, until the 2007–09 financial crisis, intelligence gathering by the majority of central banks, including the Bank of Canada, tended to focus on operations and monetary policy formulation.[3] But the crisis made it clear that central banks missed some areas where risk was building. We were familiar with traditional markets, such as those for government bonds and foreign exchange, but much less knowledgeable about other areas, such as markets for structured credit and OTC derivatives. Those were some of the areas where leverage had risen to dangerous levels.

In 2009, the G20 called for new regulations to strengthen the stability of the global financial system.[4] The measures that have since been put in place range from structural reforms to capital enhancements. They include new solvency and liquidity standards and new risk requirements for products such as OTC derivatives.[5]

These regulatory reforms have strengthened the global financial system. Today, the institutions at the heart of the system—the banks and other financial intermediaries—are safer and have lower levels of leverage. However, we all know that risk remains. It may now reside in some areas that are not subject to as much or any regulation and, as such, is not easily observed.

The regulations have also affected the intermediary function that banks have long performed. As they look to optimize their use of capital, they are allocating less balance sheet to certain asset classes, such as corporate bonds. This has affected liquidity in these products and altered the way investors execute and trade.

In response to these evolutions in market functioning and behaviour, we have adapted how we track the health of the financial system. We’ve increased the frequency of our checkups, are making contact with a broader set of players and have added new diagnostic tools. We now devote more resources to the who, what, how and why of the vulnerabilities we identify and their interplay with markets.

How we gather market intelligence

To undertake these new tasks, we have expanded our team at the Bank of Canada. Because communication is key—not by email, or tweets, but with in-person meetings and discussions with a wide range of market participants. We augment our conversations with analysis, research and surveys.

To facilitate our exchanges, we maintain and, in some cases, have expanded our presence in Toronto, Montréal and New York. We make regular trips across the country as well as to London and other key international financial centres.

Across Canada, and around the world, we also hear from participants at our speaking engagements. And while we are committed to communicating new information on the outlook and policy only in public settings, the insights we garner in both public and private are invaluable for our policy making.

Internationally, we collaborate closely with other central banks, and many of us sit on committees of various global institutions.[6] For example, I’m a member of the Committee on the Global Financial System of the Bank for International Settlements. My participation allows me the opportunity to discuss market functioning from a Canadian perspective, while hearing about developments in other parts of the world.

Another important source of intelligence, one that helps us understand developments in foreign bond markets, is our reserve-management operations, which total roughly US$75 billion in assets denominated in foreign currency.

And, along with other central banks and monetary authorities, we conduct regular surveys of turnover activity in the foreign exchange and OTC derivatives markets to obtain information on their size and structure.

Domestically, our own operations are an important source of intelligence on funding and liquidity. Our traders maintain a continuous dialogue with participants in our Receiver General auctions and repo operations. We combine what they learn with other sources of market intelligence in a framework we developed several years ago to assess financial system vulnerabilities and risks.[7] Some of you will be familiar with this framework from our biannual *Financial System Review* (FSR). (The most recent issue was published earlier this month.) It helps us explicitly identify underlying weaknesses, such as high leverage, asset price misalignments or maturity and funding mismatches that could amplify and propagate shocks.

For example, a few years ago we increased our focus on ETFs, particularly those related to fixed-income instruments, given their increasing popularity among investors. While ETFs are still relatively small in Canada, if they were to grow substantially, they could, in some circumstances, propagate liquidity shocks, especially where the underlying assets they hold are less liquid. We currently have no concerns about the sector but will continue to monitor its functioning and growth.

Our assessments are augmented by meetings with market participants that help deepen our understanding of the vulnerabilities we have identified as well as the underlying drivers of market activity. These meetings are a two-way exchange. We learn about market behaviour from them, and we have an opportunity to explain our policy framework.

With the expansion of our intelligence gathering, we have developed a wider network of contacts. Still, we know the financial sector is dynamic and our work will never cover all of the playing field. Nonetheless, we now capture a broader sweep of market segments and participants. This allows us to gather information when significant events that could affect Canadian markets occur, such as the commodity price collapse, Brexit or the recent US election. The expansion helps us track more closely how markets are positioned going into such events, gauge how they will react, and, in the aftermath, understand the short- or long-term repercussions.

Let me get to that example that underscores why multiple sources of broader market intelligence are so helpful for us, particularly at times when there is a great deal of uncertainty in markets. You may remember that in the months following the commodity price collapse in 2014 the outlook for oil prices was cloudy. The futures curve out to six months was upward sloping. This implied that either market participants were expecting oil prices to rebound or, more negatively, the cost of storage was increasing, given the high level of inventories, and oil prices would remain low.

To obtain a better picture of what was happening, colleagues from our domestic economy department, in particular, staff from the Bank's office here in Calgary, interviewed some of their contacts in the oil industry. Those discussions led us to conclude that market expectations were likely too optimistic. It was clear that the path to higher oil prices was not assured in the medium term and that the negative real effects on capital spending were going to be larger than what had been suggested by the data. This would have a major impact on the economy. That knowledge fed into our judgment and, ultimately, our decision to lower our policy rate in January and July 2015. Two years later, it is our view that these cuts have helped facilitate the economy's adjustment to the oil price shock and that the economic drag from lower prices is largely behind us.[8] We will be updating our outlook over the next few weeks, and it will be released on July 12 in our *Monetary Policy Report*.

Lastly, we have established a forum for gathering fixed-income market intelligence. We wanted to better understand the shift in risk taking that we were seeing and its impact on market functioning. So, some two years ago we created the Canadian Fixed-Income Forum (CFIF). Its membership is composed of senior professionals from both buy- and sell-side firms across the country. I co-chair the committee, which meets quarterly. Its goal is to explore developments in the fixed-income market by tapping into the collective expertise of the membership, including areas such as trading practices and changes in market infrastructure. The committee's efforts involve research and analysis to identify potential enhancements and raise awareness of these issues. All of our meetings, presentations and minutes are published on the Bank's website.[9]

What we are learning and how we use market intelligence

As the G20 financial system reforms were being put into place there was a lot of concern among market participants about how these reforms could affect bond market liquidity. That's why one of the first initiatives CFIF undertook was a survey of investors active in the Canadian fixed-income market. We wanted to hear first-hand whether there had been changes in liquidity and, if so, whether that had altered the trading, execution and portfolio-management practices of participants, including active domestic issuers.

We learned a great deal from the survey.[10] Participants confirmed that most fixed-income instruments have experienced a slight decline in market liquidity over the past two years. They also told us that liquidity for certain products, such as investment-grade corporate bonds, has deteriorated the most.

One key takeaway was that many participants have adapted to the change in liquidity by adjusting how they manage their portfolios. Those adjustments include taking more time to execute by breaking up their trades into smaller pieces, holding more on-the-run securities, holding less liquid assets for longer periods of time and reducing the turnover in their portfolios. These changes in strategy are especially evident in the corporate bond space. Some buy-side participants also told us that they were willing to provide liquidity by acting in a countercyclical fashion to take advantage of market distortions caused by temporary illiquidity in certain markets.

The survey results are providing CFIF with a foundation for further work in areas where improvements in market functions may be made.

Discussions at CFIF meetings are also inspiring new areas of research. Last year, members commented on the increased use of Canadian bond futures for hedging by the dealers. In analyzing the data, we noted an increased level of participation by high-frequency traders in this space. In response, we undertook a study of HFT in the Government of Canada bond futures market. We used data provided by the Montréal Exchange to understand the impact of HFT on market functioning.[11]

Our analysis showed that its average effect on market pricing was slightly positive. Both effective and bid-ask spreads, as well as price volatility, declined, while the average depth of the market increased. HFT had a small beneficial impact on the all-in cost of the execution of smaller trades. However, no effect was found on the cost of execution for larger trades (greater than $10 million). It was also clear from the data that many participants now split their trades into smaller blocks, something we have been hearing through CFIF and in discussions with market participants across a range of asset classes.

So what's on our horizon these days?

As we outlined in the recent FSR, changes in mortgage rules late last year have led to important shifts in mortgage activity. Because of significant growth in house prices in some of Canada's largest cities, we have seen an important increase in the uninsured mortgage space. This has highlighted the potential need for market participants to develop additional sources of funding, particularly for the smaller lenders in this market.[12]

To diversify funding sources, one solution would be the development of a private mortgage securitization market. This option has come up in several of our recent conversations. If poorly structured, securitization markets can have significant vulnerabilities.[13] However, if appropriately developed, private-label securitization could benefit the economy by helping lenders fund assets while broadening available collateral to promote market functioning. We will continue to monitor developments in this space.

Another initiative we are working on is a new systemic risk survey that we will launch next year. We plan to conduct the survey biannually to seek views on key financial system risks and developments, as well as measure overall confidence in the Canadian financial system. The survey will support our surveillance of the financial system, inform policy decision making and help strengthen our network. We are finalizing the details and expect to launch in early 2018. The results will be published in the FSR.

Conclusion

As a central bank, we rely heavily on our excellent models and incoming data for our forecasts. Yet we know that the intelligence we gather is a critically important complement to them, particularly during times of transition or when sentiment is playing a bigger role. This information gives us a deeper understanding of how the economy is performing and how markets are functioning and evolving. And what we learn from all of it—our models, the data, our analysis and intelligence from our contacts—feeds into our judgment on policy actions.

I want to emphasize that although our policy judgments are guided, in part, by our intelligence gathering, we know that financial markets are dynamic and that we will never have a perfectly complete, up-to-the-minute picture of all activity. We are realistic about this and are constantly learning and seeking to know more. So it is essential that we communicate regularly with participants across all dimensions, be they investors or issuers, the operators of financial market infrastructures, regulators or other capital market facilitators.

And we share much of what we learn. While we are committed to transparency, we are mindful of the need to respect the confidentiality of what we hear from individual firms. We publish our findings broadly in the FSR and other Bank publications and in CFIF minutes posted on our website to educate and raise awareness both domestically and internationally.

So let's talk. Our ultimate goal is to promote a stable and resilient financial system that serves all market participants. We need and value your collaboration and feedback.

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1 *Bank of Canada Act*.

2 The Governor of the Bank of Canada is a member of the Senior Advisory Committee, a non-statutory body that discusses macroprudential policy. Its other members are the Federal Deputy Minister of Finance, the Superintendent of Financial Institutions, the Chair of Canada Deposit Insurance Corporation, and the Commissioner of the Financial Consumer Agency of Canada.

3 Bank for International Settlements, "Market Intelligence Gathering at Central Banks," December 2016.

4 Under the terms of Basel III, the minimum amount of capital that banks must hold was increased by about five times. The largest, most complex firms were obliged to hold even more. The quality of capital that banks must hold was also increased with new standards established for bank liquidity and funding. See Bank for International Settlements.

5 Committee on the Global Financial System, "Market-Making and Proprietary Trading: Industry Trends, Drivers and Policy Implications," CGFS Papers No. 52 (November 2014).

6 Bank of Canada staff are active participants in the Financial Stability Board and its Standing Committee on Assessment of Vulnerabilities, the Bank for International Settlements Committee on the Global Financial System and its Markets Committee, as well as the recently formed Global Foreign Exchange Committee.

7 See Financial System Review, June 2014.

8 See Carolyn A. Wilkins, "Canadian Economic Update: Strength in Diversity" (speech to The Associates of the Asper School of Business, Winnipeg, Manitoba, 12 June 2017) and CBC Radio interview the Governor Stephen S. Poloz, 13 June 2017.

9 Canadian Fixed-Income Forum page on the Bank's website.

10 See the Canadian Fixed-Income Forum Survey results.

11 Canadian Fixed-Income Forum, "High-Frequency Trading in the Government of Canada Bond Futures Market."

12 The uninsured mortgage market is now worth more than $650 billion. See Box 2, Bank of Canada Financial System Review, June 2017.

13 Market features that could mitigate those vulnerabilities include standardization of the underlying collateral and transaction structure, meaningful disclosure requirements and risk retention. See Box 3, Bank of Canada

Financial System Review, June 2017.