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## **Three Things Keeping Me Awake at Night**

### **Introduction**

The holiday season is traditionally a time to reflect on the events of the past year, and to look ahead at what may be in store for next year. Speaking from an economic perspective, I think we can look back at 2017 with considerable satisfaction. And 2018 is looking positive, too.

The Canadian economy is on pace for about 3 per cent growth in 2017, which would be the strongest among the Group of Seven economies. Most sectors and regions are now participating. Over 350,000 full-time jobs have been created so far this year, and wages have recently shown signs of picking up. This is supporting robust consumer spending.

Exports and business investment have long been the laggards in our recovery story. Encouragingly, though, business investment has grown for the past three quarters in a row. As well, the government's infrastructure program is becoming increasingly evident in the data. In contrast, exports have not been stellar. They started the year strong, but faltered during the summer. Nevertheless, the most recent data show a broad-based upturn, supporting our forecast that—after looking through all the noise—exports will continue to be pulled along by rising foreign demand.

That brings me to inflation, our policy anchor. Inflation spent the year within our 1 to 3 per cent target band, although it has tended to fall a little short of the 2 per cent midpoint. We did a lot of work this year to satisfy ourselves that our fundamental understanding of inflation remains valid. It does, once you take account of short-term effects in the data.

I have talked before about the process of bringing the economy back home—at the intersection of full capacity and 2 per cent inflation. Our return home was made even longer by the detour we took when oil prices collapsed back in 2014. But, today, we find ourselves quite close to home, and getting closer, with the economy now running close to full output and inflation expected to be around 2 per cent later in 2018.

That is all good. But as an economist, and as a central banker, I find myself preoccupied with a number of slower-moving, nagging issues that I expect will be with us for a long time. They keep me awake at night because I wonder if we have done all we can to address them. I have chosen three of these things to talk about today.

These personal preoccupations are a little different from the more pressing, immediate risks to the economy that economists usually think about. I can assure you that the Bank is fully engaged on a wide range of such issues, from the effects of technology on inflation to uncertainty over the future of the North American Free Trade Agreement (NAFTA) and the response of housing demand to mortgage rule changes, to cite just a few.

I am not trying to spoil everyone's holiday cheer with my topic today. Rather, I have found over the years that issues that appear daunting often become less so when we understand them better. What is more, a better understanding of the issues helps everyone—from the various government authorities to the public at large—determine what should be done to resolve them.

So, with that, let me share with you three things that are keeping me awake at night, and bring you up to date on developments surrounding them.

## **Cyber Threats**

The first issue I want to touch on is the potential for a cyber attack that leads to a major disruption of our financial system.

People take for granted the efficiency and convenience of today's financial system, as they should. It was not all that long ago that your choices for making a retail purchase were a personal cheque, a credit card or cash—and cash was an option only if you remembered to get to your bank branch before it closed. Today, e-commerce is pervasive. People can have electronic access to their accounts instantly, almost anywhere. The infrastructure that underpins our financial system is a public good, every bit as important to the health of Canada's economy as our roads, bridges and airports.

I am not exaggerating. Every day, Canada's major payments systems process millions of transactions, large and small, and billions of dollars change hands. These transactions happen so routinely and with such accuracy that it is easy to overlook how critical these systems are. The process looks completely risk-free, but it is not. And to be without these systems for any length of time could have a significant impact on the economy.

Our financial system is as good as it is today because of major advances in communications and financial technology, and a high degree of connectivity between institutions. However, this connectivity also creates a vulnerability. It means that a problem in one institution may spread to others and be amplified. As such, a successful cyber attack on one institution can become a successful attack on many. These attacks can be launched from anywhere and spread across global networks.

The good news is that all the major participants in the financial system are taking this threat very seriously. They are collaborating with each other by sharing information and best practices. As for the key payments systems that connect everyone together, the Bank of Canada has the legislative authority to oversee them and to ensure that they follow strong risk-management practices, including those aimed at preventing cyber attacks. We are also collaborating with partners in the federal government who are working to ensure that Canada is resilient to cyber threats.

However, we cannot assume that our financial system is immune, despite best-in-class cyber defences. We need to be prepared to recover our systems should a cyber attack succeed. The Bank is working closely with our financial institutions and payments systems to ensure that we have robust joint recovery plans in place. Further, the Bank is making significant investments in its own operational redundancies, increasing the resilience of our systems and our people. It is vital that we be able to “fail over” quickly so our key functions will be maintained in the event of a major disruption, be it a cyber attack, natural disaster or some other crisis. This is a matter not just of operational continuity, but of maintaining confidence in our financial system in stressed situations.

The bottom line is that I am confident that we are doing everything we can on this issue. Still, the system may be only as robust as its weakest link, and that keeps me thinking.

### **High House Prices and Household Debt**

My second preoccupation is the state of Canada’s housing markets and the associated level of household debt. The Bank said in last month’s *Financial System Review* that these vulnerabilities are showing early signs of prospective easing, which is good. However, these vulnerabilities are elevated, and are likely to remain so for a long time. Remember, it took years for these vulnerabilities to build up in the first place.

It is not just the amount of debt; it is also its composition and distribution. More than 80 per cent of household debt is composed of mortgages and home equity lines of credit (HELOCs). Increasingly, mortgages are being combined with HELOCs, to the point where about 40 per cent of all housing-backed loans are blended with a HELOC component.

HELOCs have been a very convenient tool for many households. They give borrowers flexibility to finance renovation projects or handle emergencies—such as when your furnace dies on a cold February night. Their popularity shows how useful these lending arrangements are. However, there are some potential risks that borrowers need to manage.

HELOCs usually allow the borrower to pay only the interest on the loan each month, leaving the principal amount unchanged. Indeed, about 40 per cent of HELOC borrowers are not regularly paying down their principal, which means that debt loads may persist longer than in the past. Furthermore, some may be using their HELOC to speculate—for example, to fund a down payment on a second house with the intention of flipping it. Given the potential for volatility in house prices and for higher interest rates, such activity may be adding to the overall vulnerability of the system.

We have seen several rounds of macroprudential measures to tighten mortgage finance rules. These include measures last year that were aimed at high-ratio mortgages—those where the down payment is less than 20 per cent of the value of the home. Since then, there has been a sharp drop in the number of highly indebted Canadians obtaining these mortgages—and by highly-indebted we have in mind people with a ratio of debt to income that is more than 450 per cent. But we have also seen an increase in low-ratio mortgages with risky characteristics, such as extended amortization periods. New lending guidelines

for low-ratio mortgages, which will come into effect next year, should work to limit the number of low-ratio mortgages going to highly indebted households.

These mortgage rule changes will help build up the resilience of the financial system over time, as each new mortgage will be stress-tested to ensure that the borrower can manage a higher interest rate at renewal time. It is important to remember that the purpose of these rule changes is not to control house prices. Ultimately, the laws of supply and demand will determine the direction of house prices.

At the same time, there is little doubt that these rule changes will mean less growth in our housing sector. In the wake of the global financial crisis, ultra-low interest rates have helped our economies weather the storm, but an important by-product has been exceptional growth in housing. For some time now we have been expecting a rotation away from housing and toward other engines of growth, such as exports and investment. We are seeing signs of that fundamental rotation now.

A key issue for the Bank, then, is understanding how people will react when they are told that, under the new rules, they do not qualify for the mortgage they would like. Staff examined data from new mortgages issued last year by federally regulated lenders. They found that about 10 per cent of low-ratio mortgages—around 36,000 loans, representing about \$15 billion worth of borrowing—would not have qualified last year under the new stress test.

Of course, there is more than one way for people to respond. The most likely response is for people to look for a less-expensive house with a smaller mortgage so they qualify under the new rules. Others might try to boost their down payment, or delay the purchase until they can do so.

But people might also look for a lender that is not bound by these new mortgage rules so they can avoid facing the stress test. No doubt, certain non-federally regulated lenders will step up to compete for that business, although other regulators may choose to impose the same guidelines. In any event, to those people who hope to avoid the rules, I offer this advice: testing yourself to make sure you could handle your mortgage payments if interest rates were higher at renewal is a very good idea, whether it is a rule or not.

One final issue related to indebtedness—we expect that high levels of debt will make the economy as a whole more sensitive to higher interest rates today than in the past. This issue has obvious implications for monetary policy, so we have done a lot of work this year to enhance our models to capture it. As we said in our October *Monetary Policy Report* and in our interest rate announcement last week, this is one of the key issues we will be monitoring in real time as we consider the appropriate path for interest rates.

## **The Tough Job Market for Young People**

My third long-term preoccupation is the state of our labour market; specifically, how hard it has been for so many young people to find work. I mentioned earlier that more than 350,000 full-time jobs had been created this year. However, only about 50,000 of those have gone to young workers.

A decade ago, the proportion of people aged 15 to 24 participating in the workforce peaked at almost 68 per cent. That figure hit a trough earlier this year at nearly five percentage points lower—the lowest in almost 20 years. If we could return the youth participation rate to its level before the global financial crisis, more than 100,000 additional young Canadians would have jobs.

Of course, this is not only a problem for youth. We know of people in all age groups who are working part-time when they would prefer a full-time job. We also know people who cannot find jobs that match their skill set and are underemployed. And we know there are people who have lost the job they held for years when their factory closed, and have faced extreme difficulty in finding new work in a similar field. These are all serious concerns. But I want to concentrate on young people, for whom a long period of unemployment can leave a scar that could last a lifetime.

I know there are legitimate explanations for why more young Canadians are staying out of the labour force. Enrolment in post-secondary schooling has increased in recent years, and we expect some of this rise will be permanent. Some of these youth are looking to gain the skills that will match what employers are demanding. There are more than 250,000 job vacancies in the economy today, the highest on record. Canadian business leaders say that most of these vacancies are unfilled because they cannot find workers with the right skills.

Let me suggest that responsibility for addressing this skill mismatch rests with all of us, not just the students and the education system. There surely is room for more ambitious on-the-job training programs in this picture.

This issue is taking on greater urgency because the economy is reaching the stage where more-efficient job matching and increased workforce engagement will be our main means of building economic capacity. With more economic capacity comes the opportunity for more non-inflationary growth and a permanently higher level of Canadian GDP, and more income for everyone. Clearly, that is something worth having.

Let me elaborate. Right now, we are at a point in the economic cycle that I think of as the “sweet spot.” We know that a majority of Canadian companies are running flat out. They may have been hesitating to invest in new capacity until now, perhaps because of lingering economic uncertainty, or concerns over the future of NAFTA, for example. But, despite these uncertainties, companies are moving to expand their capacity now, which augurs well for the future.

Most expansions of capacity have two elements—more capital equipment, and more people. Attracting the right people to new jobs may require higher wages, and this in turn can cause people to re-enter the workforce. We may be seeing early signs of this happening. I mentioned earlier that measures of wages have turned higher over the past couple of months and, in November, the participation rate for young people jumped back to more than 64 per cent. These are encouraging signs, but it will take awhile before they become trends.

The Bank is watching these indicators very carefully at the moment, for they will help us manage the risks that monetary policy faces at this point in the business cycle. Our current policy setting clearly remains quite stimulative. With the economy operating near potential, a mechanical approach to policy would

suggest that monetary policy should already be less stimulative. However, as we said in last week's interest rate announcement, we still see signs of ongoing, albeit diminishing, slack in the labour market.

Fundamentally, this is an exercise in risk management. The facts that the economy is operating near its capacity, and that growth is forecast to continue to run above potential, together pose an upside risk to our inflation forecast. At the same time, our belief that there remains some slack in the labour market poses a downside risk to our inflation forecast. Given the unusual factors at play, the Bank is monitoring these risks in real time—the term we use for this is “data dependent”—rather than taking a mechanical approach to policy setting.

### **And One More Thing...**

So there we have it, three preoccupations that are keeping me awake at night. I could give you even more, but these are my top three, and you do not have all afternoon.

Actually, there is one more thing keeping me awake at night, which perhaps I should mention, and that is all the noise I keep hearing about cryptocurrencies, especially Bitcoin. There is a lot of hype around Bitcoin, and markets are evolving quickly to allow wider access, including to retail investors. So perhaps you will allow me to make a couple of points.

To begin with basics, the term “cryptocurrency” is a misnomer—“crypto,” yes, but “currency,” no. For something to be considered a currency, it must act as a reliable store of value, and you should be able to spend it easily. These instruments possess neither of these characteristics, so they do not constitute “money.”

So, what are cryptocurrencies, exactly? Characteristics vary widely but, generally speaking, they can be thought of as securities. The Canada Revenue Agency agrees. That means, if you buy and sell them at a profit, you have income that needs to be reported for tax purposes. What their true value is may be anyone's guess—perhaps the most one can say is that buying these things means buying risk, which makes it closer to gambling than investing.

To be absolutely clear, I am not giving investment advice. I never do. All I will say to people intending to buy a so-called cryptocurrency is that you should read the fine print and make sure you know what you are getting into. The Bank of Canada does not regulate these instruments and their markets, just as we do not regulate traditional securities and their markets.

But one question that does preoccupy me is, what does the arrival of cryptocurrencies mean for the cash in your pocket? Supplying the Canadian dollars you need to carry out your business is one of the Bank's most important mandates.

It is often forgotten that the cash provided by a central bank is the only truly risk-free means of payment. With cash, buyers and sellers can be certain that payment is final. This is an absolutely vital public good, which has always been provided by the central bank. All other payment types, from debit cards to credit cards to cheques, work through intermediaries in the financial system. Yes, of course, they are safe. But, fundamentally, they can never be quite as risk-free as

cash. Just ask yourself—if you were concerned that an imminent cyber attack was about to hit the financial system, would you not want to carry some extra cash until everything was back to normal?

Nonetheless, it is natural that transactions using electronic payments, such as debit and credit cards, continue to grow in volume and value relative to cash. It is certainly possible that the demand for digital cash could grow over time. If so, there could be very strong arguments for the central bank to provide it, given its obligation to fulfill the public good function. Bank staff are exploring the circumstances under which it might be appropriate for the central bank to issue its own digital currency for retail transactions. All central banks are researching this. We will have more to say about the subject in the months ahead.

## **Conclusion**

Now I am ready to conclude. Cyber threats, elevated household debt, youth underemployment—these are all long-term issues that will continue to be major preoccupations for myself personally, and for the Bank of Canada.

I hope I have not spoiled your festive, pre-holiday mood by talking about my preoccupations. In case I have, let me repeat that the economy has made tremendous progress over the past year, and it is close to reaching its full potential. We are very encouraged by this, and we are growing increasingly confident that the economy will need less monetary stimulus over time.

Nevertheless, a number of uncertainties remain around our outlook, many of which I have touched on today. As Senior Deputy Governor Carolyn Wilkins said in an important speech last month, it is critical that we take these uncertainties on board in our policy-making. So, allow me to repeat what we said in our interest rate announcement last week: We will continue to be cautious in our upcoming policy decisions, guided by incoming data in assessing the economy's sensitivity to interest rates, the evolution of economic capacity, and the dynamics of both wage growth and inflation.

By sharing my preoccupations with you today, I hope that I have also raised your understanding of them, so that they appear somewhat less daunting. The Bank will continue to work on these issues while doing our part to help bring about a strong and stable economy. This has been the Bank of Canada's role since our beginning. And it will remain our role for years to come.

Let me wish you all the best for the holidays, and for a prosperous 2018.