Intelligence MEMOS

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To: Bank of Canada Governing Council

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Re: ASSESSING THE IMPACT OF UNCONVENTIONAL MONETARY POLICY

For much of the past two decades, interest rates have fallen in Canada (and elsewhere) but are now headed in the opposite direction.

Where we land over the long haul is unclear. However, it is vital that central banks have a clear understanding of whether the monetary policy transmission mechanism – i.e., how monetary policy affects the economy – changes based on the underlying interest rate environment.

Our new C.D. Howe Institute paper answers the question by comparing a novel approach to identifying monetary policy shocks – one that takes into consideration the impact of unconventional monetary policy like quantitative easing and forward guidance – with more traditional approaches focused only on unexpected moves in the Bank of Canada's primary policy tool, the overnight rate.

The first step in our analysis is to separate what we call a more normal interest rate environment from a low interest rate environment. We restrict attention to those years when the Bank pursued inflation targeting to hold constant the monetary policy regime. We use a simple approach that looks at periods when the real interest rate – the Bank of Canada's bank rate less inflation – is negative.

As it turns out, the real interest rate was never negative from the beginning of our sample, January 1992, to September 2002, but was negative over half the time from October 2002 to the end of our sample, February 2020.

Our second step is to identify monetary policy shocks. Most of the existing literature identifies monetary policy shocks using only large, unexpected changes in the overnight rate.

But, in low interest rate periods, the Bank goes beyond the use of the overnight rate, using unconventional tools such as forward guidance and quantitative easing, both of which make use of interest rates with longer duration. Rather than a single statistic to summarize the impact of a policy announcement, we follow Inoue and Rossi (2021) and create a more comprehensive monetary policy shock that makes use of the entire yield curve.

Thirdly, we reduce a series of financial and macroeconomic variables to so-called factors. Each factor can be interpreted as representing a well-known monetary policy transmission mechanism.

We find four, which we label: monetary aggregates, real economy, asset markets, and changes in credit intermediation.

Lastly, we estimate the impact of monetary policy on each factor.

Our findings are as follows:

- The impact of monetary policy on the economy differs across the two interest rate periods studied. In particular, the magnitude of how factors react to monetary policy is larger in the low interest rate environment.
- Our four factors all play a distinct role in how monetary policy effectiveness changes, with the credit, asset, and real economy channels playing a more significant role in the low interest rate environment. This points to private demand and financial market conditions having become more important at the expense of the monetary channel, which plays a more significant role in normal interest rate periods.
- The more comprehensive shock series, which focuses on the entire yield curve, has had a larger effect on the economy compared with the more traditional shock series. This evidence suggests that unconventional monetary policy can be successfully used to create additional stimulus at the lower bound of the overnight rate, if needed.

As today's interest rates have increased sharply, our results suggest that the impact of monetary policy on the economy will differ in this environment relative to the decade after the financial crisis where interest rates were persistently near the lower bound. For example, money conditions, whether cash, bank deposits, or the broader supply of money, may play a more important role in the world we face today.

Ultimately, understanding how the interest rate environment influences the effectiveness of monetary policy will determine how successful monetary policy will be in bringing inflation back to target.

The Bank must adjust its models, putting more weight on some variables, like monetary conditions, and less on others, in order to better gauge monetary policy's likely impact on inflation.

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