Intelligence MEMOS

From: Steve Ambler and Jeremy M. Kronick

To: The Bank of Canada Governing Council

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Re: **Seniors May be the Answer to the Inflation Puzzle**

Over the past decade, inflation in many countries has been tepid, despite rock-bottom interest rates and different forms of unconventional simulative monetary policy, including quantitative easing.

For its part, Canada has averaged 1.5 percent inflation over this period, below the Bank of Canada's 2 percent target. We explored what role demographics, in particular an aging population, has on monetary policy effectiveness, looked at through the lens of its impact on inflation and unemployment.

In our C.D. Howe Institute Commentary we first evaluated the impact of Canadian monetary policy effectiveness on economic variables from the mid-1980s onward and then looked at the impact of an aging population on this effectiveness in the years since the Bank of Canada became an inflation-targeting central bank.

We improve on previous work on the link between demographics and Canadian monetary policy effectiveness by using monetary policy shocks that remove the puzzling results found in standard empirical setups. Furthermore, since the old-age dependency ratio changes only slowly over time, we use a panel data set that gives us the necessary variation. This allows us to estimate the impact of aging in Canada more precisely.

Results are ambiguous on monetary policy's effectiveness over the last 30 years. In part this could be due to the fact that inflation expectations have become better anchored at the 2 percent target. This would mean that even if the bank has to work harder to affect inflation, inflation is at least more stable in the face of real economic shocks.

Our follow-up question – and, really, the central question of our commentary – is what is the impact of demographics on this record of monetary policy effectiveness? And what we found is that Canada's aging population has acted as a drag on and is likely a leading cause of the systematic undershooting of inflation we have seen since the financial crisis. We also found that the interest rate and credit channels help explain this result. Specifically, an aging population that takes on less debt is less sensitive to changes in the interest rate.

This means that meeting the Bank of Canada's inflation target will require more significant changes to the overnight rate target and, in the case of expansionary monetary policy, will be made more difficult by a lower neutral rate of interest that is consistent with output at potential and inflation on target. This may result in a quicker move to unconventional monetary policy. Our results should help the Bank of Canada adjust its analysis accordingly.

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