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Our Economic Destiny: Written in R-stars?

"The fault, dear Brutus, is not in
our stars, but in ourselves..."
— William Shakespeare

Introduction

It's a pleasure to be here in Toronto. Let me first thank the Economic Club of Canada for the invitation.

I'd like to speak with you today about long-term economic prospects—for Canada and other advanced economies—and how to strengthen them.

The global economy has grown 45 percent over the past decade, and unemployment is near historic lows in many countries, including Canada. At the same time, the political and social backdrop is troubling. The trade war between the United States and China has contributed to a worldwide slowdown in trade and investment. There have been some welcome developments—the United States and China have signed an initial trade deal, and the Canada-US-Mexico agreement is close to being ratified. Yet, there is still plenty of uncertainty about the global environment. Tensions in the Middle East have had tragic consequences for Canadians and others. And, there's the coronavirus.

Longer-term forces are also at play. Our aging population and weak gains in productivity are weighing on trend growth. Lower economic potential means fewer business opportunities and fewer jobs for people.

The underlying state of economies around the world affects how well central bankers can do their jobs. Slower trend growth is one reason why r-star is lower than it used to be. What do I mean by r-star? It's math shorthand for what economists call the neutral rate of interest. That's the interest rate where monetary policy neither stimulates nor holds back economic activity. Given that r-star is lower today, central banks have less room to stimulate the economy by cutting interest rates.

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Because of this, some people worry that central banks won't have enough firepower to respond to a downturn. Some even argue that without that firepower, advanced economies are destined to suffer chronically slow growth and weak demand—a condition that's been called "secular stagnation" by Lawrence Summers and others.[1] It refers to situations where r-star falls so low that it's extremely hard to nurse a sick economy back to health. The Japanese experience is often given as an example of this.

In my remarks today, I'll make three main points:

1. *Canada is not experiencing secular stagnation*. Nonetheless, we are affected by the same forces that are taking the wind out of the sails of trend growth and r-star across advanced economies.

2. *We can navigate a world with low neutral interest rates*. To do so, we need the right monetary policy framework and tools in place.

3. *Japan-style secular stagnation isn't written in the stars*. Building prosperity is up to us. The best policies to guard against stagnation and improve living standards are those that raise the trend line for growth and lift r-star.

Canada isn't experiencing secular stagnation

In my first speech as Senior Deputy Governor in 2014, I spoke about the main forces that are lowering growth prospects for advanced economies: demographic trends and slower productivity growth.[2]

These forces explain why the potential for growth in advanced economies, including Canada's, has slowed from around 3 percent in the 1990s to just under 2 percent now.

They also help to explain why r-star is lower. Firms have been investing less because business owners think that, in this environment, their return on investment will be too low or uncertain. The trade war reinforces this hesitancy. A glut of global savings has also pushed r-star down at the same time. Research points to several reasons for this. They include higher retirement savings as people live longer and more saving for a rainy day in emerging economies because of gaps in the social safety net.[3] Canada is a small open economy, so these global factors play a leading role in determining Canada's r-star.[4]

Estimates of r-stars in advanced economies have fallen from above 5 percent in the early 2000s to below 3 percent today.[5] Canada is no exception.[6] This implies that central banks have 200 basis points less room to stimulate the economy in the traditional way.

It's one thing to say that trend growth is slower and r-stars are lower than they used to be. It's another thing to say that r-stars have dropped so far that advanced economies are experiencing secular stagnation.[7]

The Japanese experience brings this to life. Japan was an economic success story for about 20 years, until the early 1990s when equity markets crashed and

housing markets collapsed. That led to more than two decades of slow growth, falling wages and periodic bouts of deflation.

And that's despite significant and sustained support from monetary and fiscal policy. Japan's central bank has maintained an unusually accommodative monetary policy—interest rates have hovered around zero for decades. Meanwhile, government debt as a share of Japan's economy was around 64 percent in 1990 and is nearly 240 percent now.

How did stagnation take hold in Japan? It started with massive demographic change. Japan's population is relatively old, and it's shrinking. In this environment, businesses have less incentive to invest and people have more incentive to save for retirement.

Moreover, financial vulnerabilities were allowed to build in the 1980s. This ended with a stock market crash in 1990 and a brutal downturn afterward. With the benefit of hindsight, some experts in Japan and elsewhere say the initial fiscal and monetary policy responses were too tentative.[8] As people lived through years of very low inflation, expectations of future inflation became entrenched at a very low level. That made it harder for monetary policy to stimulate demand.[9]

Some fundamental factors make Canada's situation quite different from Japan's.

Canada's population is still rising thanks to immigration. Immigrants are increasingly joining the labour market, offsetting some of the impact of aging on trend growth.

Canada's banks are much healthier and better capitalized than Japan's were 30 years ago, when the asset bubble burst.

And, the bedrock of Canada's monetary policy framework has been our inflation target since 1991, something that Japan didn't implement until 2012. We have a long track record of achieving our target, so inflation expectations in Canada are well anchored at 2 percent.

Because of all this, inflation in Canada is back at target, unemployment is near historic lows, and wages are growing. Household-debt accumulation has supported demand in Canada and this certainly has limits—but the debt-to-disposable income ratio has stabilized. And, Canada didn't have to use anywhere near as much policy stimulus as Japan to get the economy back on track.

Now, people will continue to debate the presence or absence of secular stagnation. We know two things for sure, though. We live in a world where trend growth is slower than it used to be, and r-stars are lower. So, we need to confront the challenges that this presents.

How the right monetary policy framework can help

This brings me to my second point. With the right policy framework and tools, we can navigate a low r-star world.

US Federal Reserve Board Chairman Jerome Powell has said while r-star is a guiding light for monetary policy, its location is imprecise and changes over time.[10] It's definitely difficult to pin down, but there is a consensus that it's lower than in the past. And we know that a low r-star world poses twin challenges. It

means that central banks need lower interest rates, possibly for longer, to counter harmful economic shocks and achieve their inflation objectives. It also means that financial vulnerabilities can build, posing risks to future growth.

You won't be surprised to hear that we've been thinking about these challenges. The Bank renews its monetary policy mandate every five years through an agreement with the Government of Canada, and the next renewal is in 2021. So, we're in the middle of a top-to-bottom review.

The review has three pillars. The **first pillar** is a "horse race" among different policy frameworks, using model-based simulations to assess their ability to navigate the challenges of a low r-star world. We're looking to see how well they achieve price stability, maintain a stable environment for growth and jobs, support financial stability, and how easy they are to communicate.[11]

One possible guide for policy could be to put more weight on past inflation outcomes. For instance, the central bank could make up for periods of below-target inflation by temporarily aiming for inflation to be above the target, and vice versa. This could give the central bank more room to manoeuvre by creating expectations that monetary policy will be stimulative for longer.

We're looking at other policy frameworks too. Targeting nominal gross domestic product (GDP) could also give monetary policy more room to manoeuvre. And, a dual mandate where we'd target inflation and full employment could foster a more stable environment for jobs.

We'll have a workshop around the middle of this year to discuss early results, and then we'll publish staff research sometime after that.

The **second pillar** of our review is refining our tool kit. Over the past decade, central banks around the world have deployed a range of tools, including forward guidance about the interest rate path, negative nominal interest rates and large-scale asset purchases or quantitative easing (QE). These and other measures have been used in the United States, Europe and Japan, among others. It's been long enough to tell that they prevented far worse economic outcomes. And, they can alleviate the effects of being stuck near the effective lower bound for interest rates. Even so, it's too early to know what the long-term consequences are when they're used for an extended period.

So, the **third pillar** of our review is looking at how fiscal, monetary and macroprudential policies could complement each other. We know that fiscal policy becomes a more powerful force as interest rates fall toward zero.[12] Of course, policy-makers must always keep long-run fiscal sustainability in mind.

Concerns that policy arsenals won't be sufficient to get the job done in the next downturn have prompted an old idea to pop up: "direct delivery" of stimulus, or "helicopter money." The basic idea—introduced by Milton Friedman in 1969—is that the central bank creates money that is then transferred to people who go out and spend it. It is essentially fiscal stimulus financed by creating money instead of issuing debt.

There are serious limitations to this tool. For starters, it would be very difficult to determine how large a dose of helicopter money the economy would need to get

back on track.[13] New work by Bank staff shows how this could lead to volatility in interest rates, output and inflation that's reminiscent of the monetary-targeting frameworks of the 1970s and 1980s.

The staff work also shows that an equally effective but less risky option would be to provide fiscal stimulus that's debt-financed the traditional way, in combination with accommodative interest rates from the central bank.

Another line of inquiry is how to strengthen the framework for macroprudential policies aimed at keeping financial vulnerabilities in check in a low-interest rate environment. My colleague Deputy Governor Paul Beaudry spoke last week about how the effective use of macroprudential tools can give central banks more leeway to do our core job.[14]

As we study these issues, my colleagues and I are exchanging ideas and research with academics and other central banks. The Federal Reserve, European Central Bank and Bank of England are also reviewing their frameworks. And we've been engaging with labour and civil society groups to learn how our policies affect people. We plan to launch online consultations in the spring. Later this year, we'll publish a report outlining what we learned.

How other policies can help build lasting economic prosperity

The right monetary policy framework and tool kit are foundational to economic well-being because they help create a stable environment for businesses and households to plan.

Monetary policy can only take us so far, though. It won't raise trend growth in incomes, and it won't raise r-star either. Canada and other advanced economies will need to do more to support prosperity and avoid suffering from chronically slow growth and weak demand in the future.

This brings me to my third point: Japan-style stagnation is not written in our stars. There is a whole galaxy of ways to boost the trend line for growth in incomes and, in doing so, raise r-star. Of course, given the importance of global factors in determining r-star, raising it would require global action to increase incentives to invest and reduce incentives to save excessively.

Let me start with what we can do at home.

Boosting trend growth in Canada means focusing on productivity because that's how you raise GDP per capita and grow the economic pie. We know from Canada's history that higher labour productivity leads to higher wages, too.[15]

The innovation happening in Canada as the economy becomes more digital is already leading to exciting new opportunities.

Take agriculture. Farmers are installing sensors to get a constant stream of data on soil conditions, which they then put through algorithms that allow more efficient use of fertilizer and pesticides. Data-driven farming doesn't just boost productivity—it's also good for the environment.

Firms in the oil and gas sector are using technology not only to cut costs and improve worker safety but also to lower emissions. One uses natural gas

cogeneration to generate low-cost electricity that's added to Alberta's provincial power grid.

Digital economic activities now make up about the same share of GDP in Canada as mining, oil and gas combined.[16] And, Canada is emerging as a global leader in developing artificial intelligence.

There may be even more investment in technology than what's showing up in the statistics. In fact, digitalization is changing how companies invest, making it tougher for statistical agencies around the world to get an accurate picture of the economy.[17] This is an important focus of work at the G7, where the Bank of Canada chairs a group studying these issues.[18]

Measurement issues aside, we all know that we could be more productive. Canada trails many other advanced economies on indicators that we know increase productivity and the competitiveness of our businesses.[19]

For instance, we invest less than many countries in information and communications technology and in research and development. That's one reason why productivity growth in Canada has lagged the United States for many years. If Canada had the same productivity growth as the United States during the 1990s tech boom, for example, our GDP would be about 13 percent higher now. That's $5,000 per Canadian every year for the past 25 years.

It's not a central banker's place to be prescriptive here. But, several think tanks and policy organizations have outlined sensible avenues to consider.[20]

Creating opportunities in new markets is a start. One recommendation is to reduce trade barriers between provinces. This, and taking better advantage of newly signed international trade agreements, would help firms diversify their markets even as they deal with protectionism.[21]

Canada needs to catch up with other countries on the diffusion and adoption of new technologies. This involves businesses and governments working together to invest in education and skills training, transform digital infrastructure, and optimize the tax and regulatory environment.

Physical infrastructure projects that lift the economy's growth potential are also important. At very low interest rates, there are public projects with high social returns that would pay for themselves in the long run.

These kinds of policies would raise the trend line for growth in Canada by making us more productive at home *and* more competitive abroad.

When it comes to raising r-star, we'd get even more bang for our buck if other countries pushed in the same direction. Reducing trade uncertainty is the obvious place to start because it would boost global investment. The G20 also needs to advance efforts to strengthen inclusive growth. Success on this front would improve the lives of many and reduce excess global saving. Pensions and other social spending have mitigated the structural decline in interest rates in advanced economies in recent decades.[22]

Policies like these could help to restore some lost manoeuvrability for monetary policy and keep the global economy on a more even keel, benefiting everyone.

Conclusion

It’s time to conclude.

There’s a lot of talk these days about whether advanced economies are experiencing secular stagnation. I don’t see this as Canada’s reality today. Inflation is back at target, unemployment is near historic lows, and real wages are growing. And, with the fourth industrial revolution underway, there is upside for trend growth in the future.

The Bank of Canada already has a strong policy framework that has served us well for nearly three decades. The work that we’re undertaking now to renew our inflation-control agreement and tool kit will only make that framework stronger for a world with low neutral interest rates.

It’s true that the global economy is being challenged in unprecedented ways. However, I disagree with the notion that Canada or other advanced economies are doomed to secular stagnation. Part of that is refusing to take a low neutral interest rate as a given.

It’s up to all of us, in public policy and the private sector, to raise growth and r-star in a sustainable way. It will take decisive, ambitious policies at home and abroad. Yet, the payoff is clear: we’ll be more resilient to the next downturn, and we’ll secure long-term opportunity and prosperity for people in Canada and around the world.

[1] The concept of secular stagnation was first used by Alvin Hansen during the Great Depression. See A. Hansen, "Economic Progress and Declining Population Growth," *American Economic Review* 29, no. 1 (1939): 1–15; and L. Summers, "U.S. Economic Prospects: Secular Stagnation, Hysteresis, and the Zero Lower Bound," *Business Economics* 49, no. 2 (2014): 65–73.

[2] See C. A. Wilkins, "Monetary Policy and the Underwhelming Recovery" (speech to CFA Society Toronto, Toronto, Ontario, September 22, 2014).

[3] See L. Rachel and T. Smith, "Are Low Real Interest Rates Here to Stay?" *International Journal of Central Banking*, vol. 13, no. 3 (September 2017): 1–42. Other possible contributing factors cited by the authors and others include rising inequality, which has boosted the savings of wealthy individuals; rising concentration in some industries, which gives bigger firms the incentive to invest and increases savings; and greater investor demand for safe assets, which has reinforced all these trends by pushing rates down in advanced economies viewed as low risk.

[4] Staff research suggests that, based on a reduced form model, the weight of global factors is about two times greater than that of domestic factors in determining Canada's neutral rate. See T. Carter, X. Chen and J. Dorich, "The Neutral Rate in Canada: 2019 Update," Bank of Canada Staff Analytical Note No. 2019-11 (April 2019), and R. Mendes, "The Neutral Rate of Interest in Canada," Bank of Canada Staff Discussion Paper No. 2014-5 (September 2014).

[5] Precise estimates vary widely across the academic literature, but all point to a declining neutral rate in advanced economies. See, for example, K. Holston, T. Laubach and J. Williams, "Measuring the Natural Rate of Interest: International Trends and Determinants," Federal Reserve Bank of San Francisco Working Paper 2016-11 (December 2016).

[6] In Canada, the nominal neutral rate has fallen to an estimated range of 2.25 to 3.25 percent, from an estimated range of 4.5 to 5.5 percent in the years before the global financial crisis. The Bank will revise its estimate of the neutral rate in the April *Monetary Policy Report* (MPR). For more information about the current assessment, see Box 3 in the Bank's April 2019 MPR.

[7] Economists such as Summers use more technical language, describing secular stagnation as when the neutral rate is so low that the economy faces chronic shortfalls in demand due to frequent and persistent episodes where nominal interest rates are at the effective lower bound.

[8] See B. S. Bernanke, "Some reflections on Japanese monetary policy" (Brookings Institution and Hutchins Center on Fiscal and Monetary Policy presentation at the Bank of Japan, May 24, 2017); and A. Posen, *Restoring Japan's Economic Growth*, Peterson Institute for International Economics, September 1998.

[9] See H. Kuroda, "The Role of Expectations in Monetary Policy: Evolution of Theories and the Bank of Japan's Experience" (speech at Oxford University, Oxford, United Kingdom, June 8, 2017).

[10] See J. H. Powell, "Monetary Policy in a Changing Economy" (speech at "Changing Market Structure and Implications for Monetary Policy," a symposium sponsored by the Federal Reserve Bank of Kansas City, Jackson Hole, Wyoming, August 24, 2018).

[11] For a full description of the scope of this work and recent research, see our Toward 2021 page.

[12] The opposite is true as interest rates rise because monetary policy may need to offset fiscal stimulus to meet the inflation target in that situation.

[13] See T. J. Carter and R. R. Mendes, "The Power of Helicopter Money Revisited: A New Keynesian Perspective," Bank of Canada Staff Discussion Paper (forthcoming).

[14] See P. Beaudry, "Monetary Policy and Financial Vulnerabilities" (speech at Laval University, Québec, Quebec, January 30, 2020).

[15] See R. Barnett and J. Dorich, "Making Cents of Wages," *The Economy, Plain and Simple*.

[16] For more detail, see Statistics Canada, "Measuring digital economic activities in Canada, 2010 to 2017," *The Daily* (May 3, 2019).

[17] See S. S. Poloz, "Technological Progress and Monetary Policy: Managing the Fourth Industrial Revolution," Bank of Canada Staff Discussion Paper No. 2019-11 (November 2019).

[18] The Bank of Canada chairs the G7 Central Bank Digitalization Working Group. This group released a report during France's G7 presidency in 2019 that raised the importance of advances in measurement and discussed the potential implications of digitalization for r-star.

[19] See, for example, the OECD's Main Science and Technology Indicators and IMD's world competitiveness rankings for 2019, including profiles for Canada and other countries. Also, for evidence of the impact that digitalization can have on firms' productivity, see P. Gal, G. Nicoletti, C. von Rüden, S. Sorbe and T. Renault, "Digitalization and Productivity: In Search of the Holy Grail—Firm-level Empirical Evidence from European Countries," *International Productivity Monitor,* no. 37 (Fall 2019): 39–71.

[20] For example, see the three reports of the Government of Canada's Advisory Council on Economic Growth published in 2016–17; the 2019 report and recommendations of the Business Council of Canada's Task Force on Canada's Economic Future; and the OECD's Canada note in Going for Growth 2018.

[21] Estimates from the International Monetary Fund suggest that complete liberalization of internal trade in goods in Canada could increase GDP per capita by about 4 percent. For more detail, see J. Alvarez, I. Krznar and T. Tombe, "Internal Trade in Canada: Case for Liberalization," IMF Working Paper No. 19/158 (July 22, 2019).

[22] Rachel and Summers find that over the past half-century increases in public debt, the expansion of social security and increases in old-age health care spending added about 400 basis points to neutral rates in advanced economies. See L. Rachel and L. Summers, "On Secular Stagnation in the Industrialized World," NBER Working Paper 26198 (August 2019).