Canada and US Long-Run Economic Outlook: 2018–23

- **Over the long run Canadian real GDP is expected to grow at 1.8% annually, reflecting relatively weak productivity and modest labour input growth, slightly weaker than the Bank of Canada's assumption (1.9%). Real GDP growth in the US is assumed to be 1.9% in the long run.**
- **During 2018–23 the US and Canadian economies are expected to evolve in parallel, entering excess demand before easing back to equilibrium by the end of the forecast horizon (chart 1).**
- **Following a temporary boost in 2018–20, largely due to the impact of fiscal stimulus in the US, growth in Canada and the US is forecast to slow significantly in 2021–22, in part because of rising interest rates, making the North American economy vulnerable to shocks, including rising global protectionism.**
- **Inflation is expected to rise above the 2.0% targets in Canada and the US, before settling at 2.0% in 2022–23.**
- **Facing the build-up of excess demand and rising inflationary pressures, both the US Federal Reserve and the Bank of Canada are expected to gradually raise the overnight rate towards 3.0% which is reached in 2020Q1 for the US and 2020Q4 for Canada.**

The outlook is informed by the Scotiabank Global Macroeconomic Model (SGMM), which is briefly described in box 1 on page 5.

ASSUMPTIONS REGARDING POTENTIAL GDP* GROWTH

US:

- We assume that in the long run the growth of potential GDP is 1.9%, consistent with the latest dot plots of the FOMC members.
- In 2018–2020 we also assume that the Tax reform will add 0.1ppts compared to the long-run forecast, leaving potential GDP growth at 2.0% over that period.

Canada:

- We assume that potential GDP will grow at 1.7% in 2018–2020 and 1.8% thereafter, on the back of relatively weak productivity and modest labour input growth.
- This growth profile is slightly softer compared to the one in the April 2018 MPR of the Bank of Canada, mainly due to our less optimistic view of labour productivity.

*Potential GDP is the equilibrium level of GDP consistent with inflation being sustainably at the 2.0% target. Potential output is driven by trend labour input (hours worked economy-wide), as well as labour productivity, which is a function of capital per unit of trend labour and trend total factor productivity.

CONTACTS

René Lalonde
416.862.3174
Scotiabank Economics
rene.lalonde@scotiabank.com

Nikita Perevalov
416.866.4205
Scotiabank Economics
nikita.perevalov@scotiabank.com

Chart 1: Synchronized US and Canadian Economic Cycles

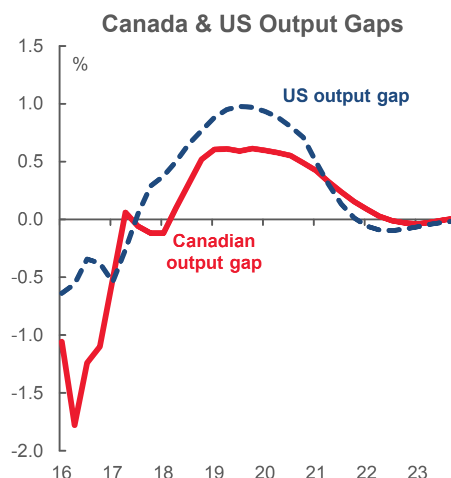
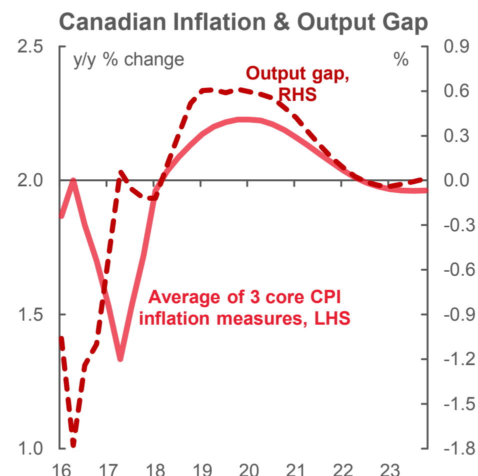


Chart 2: As the output gap closes, inflation in Canada returns to target



SHORT TERM FORECAST 2018–19: GROWTH ABOVE POTENTIAL

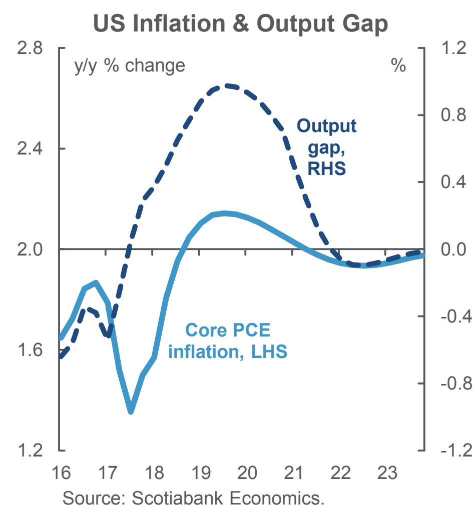
In the short term, we expect the Canadian and US economies to expand briskly, surpassing growth in potential output, leading to excess demand and building inflationary pressures (table 1).

In the US, near-term growth is projected to accelerate on the back of the tax reform and spending stimulus, which together add 0.5ppts to US real GDP growth in both 2018 and 2019.

In Canada, in addition to stronger exports due to the US fiscal stimulus, growth is expected to be supported by rising oil prices, a relatively weak exchange rate and fiscal policy at the federal and provincial levels:

- Largely due to strong demand, WTI is expected to average $65/bbl in 2018 and $68/bbl in 2019, up from $51/bbl in 2017.
- Along with strong growth in the US economy, the level of non-energy exports is supported by the CAD that is forecast to be weaker than its equilibrium. The USDCAD is expected to reach 1.25 at the end of both 2018 and 2019 relative to an equilibrium value of between 1.21 and 1.22.

Chart 3: US excess demand expands as growth outstrips potential with inflation overshooting



Source: Scotiabank Economics.

Table 1

Long-Run Forecast for the United States and Canada

	2016	2017	2018	2019	2020	2021	2022	2023
United States								
GDP growth, annual average, %	1.5	2.3	2.6	2.4	1.9	1.4	1.5	1.9
Core PCE inflation, annual average, %	1.8	1.5	1.9	2.1	2.1	2.0	2.0	2.0
Federal funds target rate: upper limit, % eop	0.75	1.50	2.25	2.75	3.00	2.75	2.75	2.75
10-year nominal government bond yield, % eop	2.44	2.40	3.00	3.25	3.43	3.57	3.68	3.70
Unemployment rate, annual average, %	4.9	4.4	4.0	3.9	3.8	4.0	4.2	4.3
Canada								
GDP growth, annual average, %	1.4	3.0	2.2	2.1	1.7	1.5	1.5	1.8
Average of 3 core CPI inflation measures, annual average, %	1.8	1.5	2.0	2.2	2.2	2.1	2.0	2.0
BoC's overnight rate, % eop	0.50	1.00	1.75	2.50	3.00	3.00	2.75	2.75
10-year nominal government bond yield, % eop	1.72	2.05	2.50	2.75	3.22	3.44	3.60	3.67
Unemployment rate, annual average, %	7.0	6.3	5.8	5.7	5.7	5.8	5.9	5.9
USDCAD, eop	1.34	1.26	1.25	1.25	1.23	1.21	1.21	1.21
WTI, annual average, US$	43	51	65	68	67	67	67	67

Note: More details on the 2018–19 outlook can be found in Scotiabank's Global Outlook, April 12, 2018.

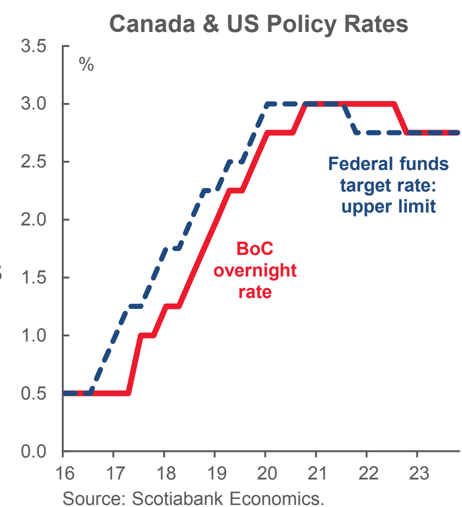
Given that Canada and the US entered 2018 with the output gap essentially closed, strong growth in 2018–19 is expected to leave both countries in a situation of excess demand and building inflationary pressures:

- In Canada, with the output gap peaking at +0.6% in 2019 and labour costs and oil prices rising, the average of the Bank of Canada three measures of core inflation is projected to reach 2.2% in 2019 (chart 2).
- In the US, the output gap is projected to reach +1.0% in 2019. Coupled with rising unit labour costs and rising oil prices, core Personal Consumption Expenditures (PCE) inflation is expected to rise and overshoot the inflation target, reaching 2.1% at the end of 2019 (chart 3).

In this context, with GDP of both economies surpassing their respective equilibrium levels, and inflation modestly overshooting targets as a result, the central banks raise their respective policy rates towards the long-term equilibrium of 2.75% (chart 4).

Note that every episode of excess demand is followed eventually by a period of GDP growth lower than the growth of potential output, as aggregate demand returns to the level of aggregate supply in the economy (i.e. potential output). This happens unless the supply side expands to absorb excess demand. Put differently, in a period of excess demand what goes up must eventually go down. We forecast that the slowdown will occur over 2020–22. In this context, the pro-cyclical nature of the US and provincial fiscal stimulus in 2018–19 exacerbates the eventual slowdown of the US and Canadian economies in 2021–22, though this effect is much more pronounced in the US than it is in Canada.

Chart 4: US and Canadian policy rates gradually normalizing



Source: Scotiabank Economics.

MEDIUM TERM FORECAST 2020–22: GROWTH GRADUALLY MOVING BELOW POTENTIAL

Beyond 2019, growth in Canada and the US should slow significantly, as the boost from fiscal stimulus dissipates and eventually reverses, and interest rates rise marginally above their neutral levels as central banks attempt to bring inflation back sustainably to the targets.

- In the US, at the end of 2020, the stimulus spending is anticipated to decline consistent with current-law spending limits (see CBO, 2018, “The Budget and Economic Outlook: 2018 to 2028”), subtracting from real GDP growth. At the same time, the Federal Reserve is expected to raise the Federal Funds rate to 3.0% by 2020q1, above the neutral rate estimate of 2.75%, clamping down on inflationary pressures. The rising Fed Funds rate combined with the gradual unwinding of the Fed’s balance sheet induces a gradual increase of the US 10-year government bond rate.
- As a result of all these factors, US growth is anticipated to decline to 1.9% in 2020 and average just 1.5% in 2021–22, closing the output gap in 2022.
- Over the course of 2020, the Canadian overnight rate is expected to catch up with the Fed Funds rate. By the end of 2020, the Canadian policy rate, at 3.0%, equals that of the Fed, and by the end of 2021 the Canadian policy rate exceeds the us rate by 25bps (chart 4).
- The gradual elimination followed by a modest inversion of the interest rates differential with the US induces a gradual appreciation of the Canadian dollar towards its long-run equilibrium of 1.21 (US$0.826). This long-run equilibrium is consistent with the equilibrium price of oil and a global adjustment of the US dollar.
- In Canada, the withdrawal of fiscal stimulus in the US, rising short- and long-term rates and the appreciation of the Canadian dollar are projected to slow growth significantly to 1.7% in 2020 and an average of 1.5% in 2021–22. As a result of this slowdown the output gap is forecast to close in 2022.

LONG RUN (BEYOND 2022): GROWTH AT POTENTIAL

Beyond 2022, both the US and Canada are expected to reach their respective long-run equilibria.

In the US, this means inflation remains sustainably at the 2% target; the overnight rate is at the neutral rate of 2.75% and GDP is growing at potential, which we estimate at 1.9%, broadly in line with the latest dot plots of the FOMC members.

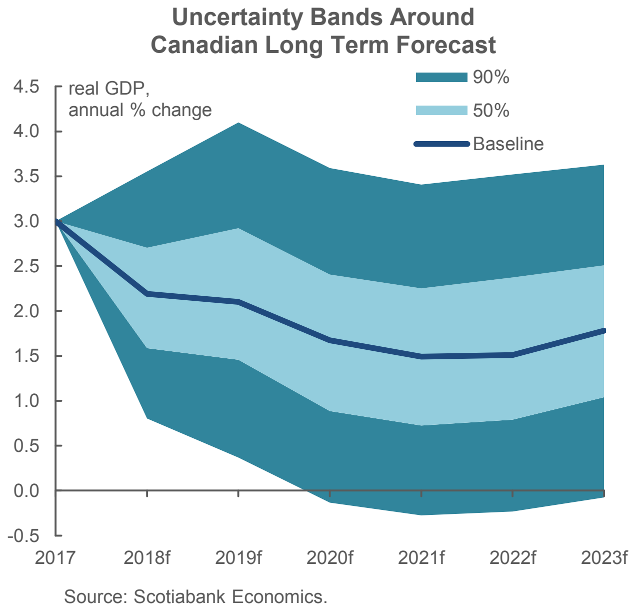
In Canada, the equilibrium inflation and the neutral rate are identical to those in the US, but potential GDP is expected to grow slightly slower, at 1.8%.

UNCERTAINTY AROUND OUR BASE CASE SCENARIO

The uncertainty around our forecast remains significant, as can be seen from confidence bands around our forecast for Canada (chart 5).

- The relatively wide 90% range of outcomes, from 0.8% to 3.6% in 2018, is not uncommon (see IMF WEO, April 2018). It also highlights an important feature of our forecast: beyond 2020 there is a higher probability of weak or negative growth, given the expected slowdown in GDP growth in the baseline over that period. Therefore, while there is still a significant chance of growth close to 3%, there is also an increased risk of recession beyond 2020.

Chart 5: Canadian growth slowdown in 2021 leaves the economy vulnerable



Source: Scotiabank Economics.

Box 1: Scotiabank Global Macroeconomic Model (SGMM)

The Scotiabank Economics *Global Outlook* published on April 12th and the long-term outlook discussed in this note are informed by SGMM, a recently-developed estimated general equilibrium model of the Canadian, US and other economies (including Europe and emerging markets), similar to, but less detailed than, the semi-structural models at the Bank of Canada, such as MUSE (Gosselin and Lalonde 2005) and LENS (Gervais and Gosselin, 2014). SGMM helps Scotiabank Economics develop an internally consistent outlook for the Canadian and US economies simultaneously taking into account the following key macroeconomic channels:

- the positive impact of a strengthening economy on consumer price inflation, with excess demand (supply) implying inflation above (below) the target;
- the reaction of monetary authorities, the Bank of Canada (BoC) and the Federal Reserve, who raise their policy rates in the face of rising inflationary pressures and dwindling economic slack;
- the cooling impact of higher interest rates on the macro-economy, including the direct impact of interest rates on domestic demand, and the impact of higher interest rates on the Canadian dollar, which has a slowing effect on net trade; and
- international spillovers from US growth to Canada, including on the forecast for exports.

Below we provide more details on the structure of the model and the drivers of key variables in the Canadian economy block of SGMM:

- The model environment features forward-looking behaviour, with agents attempting to optimally set the level of their decision variables, such as real GDP, policy rates and others.
- Real GDP is the sum of private domestic demand, government expenditures and net international trade.
- Domestic demand is driven by short-term and long-term interest rates, oil prices, disposable income, financial and housing wealth and the exchange rate.
- While imports are mostly driven by private domestic demand and the exchange rate, exports are a function of foreign demand, financial wealth in the US and the exchange rate.
- The augmented Phillips curve equation relates the slack in the economy (the output gap), the exchange rate, the unit labour cost and the price of oil, to core inflation.
- A forward-looking monetary policy rule determines the response of the BoC's overnight rate to the evolution of the output gap and a three-quarter-ahead forecast of inflation, the latter relative to the BoC's target.
- The 10-year government bond yield is a function of the expected path for the BoC's overnight rate, and the term premium. The latter is strongly affected by the evolution of the term premium in the US 10-year government bond yield; the latter a function of the US Federal Reserve balance sheet and the holdings of US Treasury bonds by Chinese authorities.
- The Canada-US bilateral exchange rate is a function of the price of oil, the differential of GDP growth in the two countries, the 10-year interest rate differential and a US factor capturing the multilateral adjustment of the US dollar.
- Other variables included in the model are the real price of oil, the real disposable income, the unemployment rate, financial and housing wealth, and other. The endogenous global supply of oil and demand for oil determine the evolution of the oil price in the model.

The structure of the US and Europe is similar to that of Canada, while the specifications for countries in the rest of the world are less detailed.

Gosselin, Marc-Andre and Rene Lalonde, 2005, "MUSE: The Bank of Canada's new projection model of the U.S. economy", *Bank of Canada Technical Report 96*.

Gervais, Olivier, and Marc-Andre Gosselin, 2014, "Analyzing and Forecasting the Canadian Economy through the LENS Model", *Bank of Canada Technical Report No. 102*.

Scotiabank Economics, Global Outlook, April 12, 2018.

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