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%), because we consider the resurgence in labour productivity in 2017 to be more of a temporary phenomenon. 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. This slowdown makes the North American economy vulnerable to shocks, including rising global protectionism.**
- **Although the near-term outlook is somewhat clouded by NAFTA and global trade uncertainty, our base case assumes that this uncertainty dissipates gradually over the 2018–19 period with no additional waves of tariffs and retaliation and with successful renegotiation of NAFTA in early 2019.**
- **In 2018Q2, due to NAFTA uncertainty, as well as the unfavourable interest rate and output growth differentials, the Canadian dollar is 7% weaker than its long-run equilibrium driven by the price of oil and the multilateral adjustment of the US dollar. The unwinding of uncertainty regarding NAFTA and global trade war, and a gradual convergence of Canadian interest rates towards the US rates should lead to an appreciation of the Canadian dollar from 1.28 at the end of 2018 to 1.21 in 2022.**
- **Increasing excess demand, oil prices and unit labour costs are expected to increase core inflation slightly above the 2.0% targets in Canada and the US, before it settles around 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 their policy rates toward 3.0% which is reached in 2019Q4 for the US and 2021Q1 for Canada.**

The outlook is informed by the Scotiabank Global Macroeconomic Model (SGMM), which is briefly described in box 2 on page 6.

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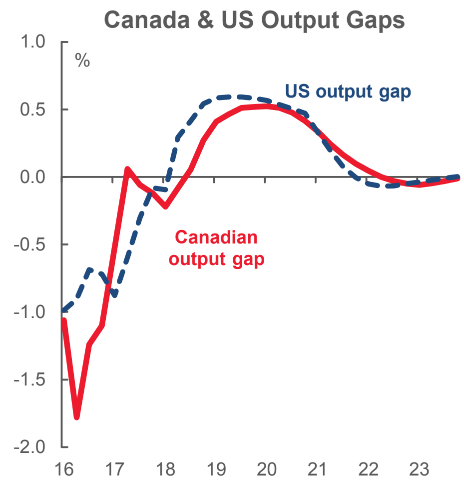
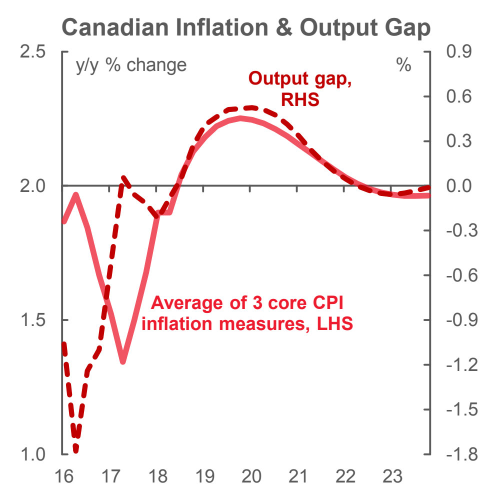
Chart 1: Synchronized US and Canadian Economic Cycles



Source: Scotiabank Economics.

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



Source: Scotiabank Economics.

TRADE UNCERTAINTY: NO LASTING LONG-TERM EFFECTS YET

Our base case assumes no additional waves of tariffs and retaliation (including tariffs on motor vehicles), with NAFTA renegotiation concluding successfully in 2019. Our recent paper *NAFTA: Steeling Ourselves for the Macro Costs of Tariffs* models the macroeconomic implications of several scenarios where the US withdraws from NAFTA and/or moves ahead with additional tariffs.

- We do not assume long-term impact from trade uncertainty on the level of potential output in the US and in Canada.

In the short term we assume trade uncertainty crimps growth somewhat in both countries:

Table 1

Canadian Real GDP growth: impact of policy developments

	2018f	2019f
Model-based projections based on fundamentals	**2.3**	**2.3**
Less: adjustments for policy developments	**-0.3**	**-0.2**
B-20 mortgage rules	-0.1	0.0
Steel & aluminum tariffs	0.0	-0.1
NAFTA uncertainty	-0.1	0.0
Global protectionism	-0.1	-0.1
Current baseline	**2.0**	**2.1**

Source: Scotiabank Economics.

- In the US, we assume that global trade uncertainty removes -0.1 ppts from real GDP growth in 2019;
- In Canada, NAFTA and global trade uncertainty subtract from real GDP growth 0.2 ppts in 2018 and 0.1 ppts in 2019 (table 1);
- The recent tariffs on steel and aluminum further reduce Canadian real GDP growth by 0.1 ppts in 2019.

However, if the global trade war scenario materializes, perhaps triggered by tariffs on motor vehicles, with US imposing 20% average tariffs on imports across the board and trade partners retaliate, the impact on potential output growth, from lower productivity and the reversal of gains from specialization, would be substantial:

- Growth of potential GDP in Canada would be on average 1.0 ppts lower each year in 2019–2021, and 0.5 ppts in the US;
- Weaker long-term growth prospects, in addition to lower commodity prices and the unfavourable interest rate differential with the US, would also lead to a significant impact on the Canadian currency, with the USDCAD depreciating to 1.40 in 2021–22. See box 1 "The Canadian dollar and its long run equilibrium" below for the discussion of forces driving the USDCAD in the forecast.

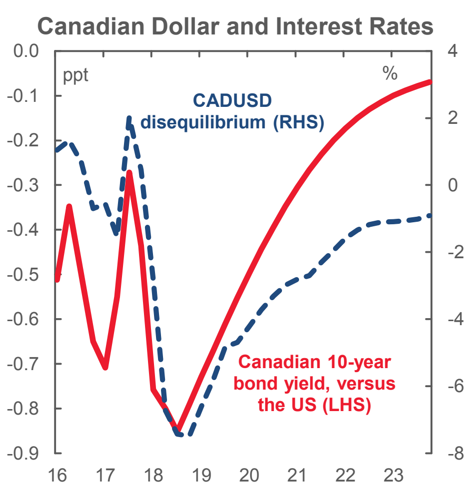
Box 1: The Canadian Dollar and its Long-Run Equilibrium

In 2018Q2, due to unfavourable Canada-US interest rate and GDP growth differentials and NAFTA and global trade war uncertainty, the Canadian dollar is 7% weaker than its long-run equilibrium which is driven by the price of oil and global adjustment of the US dollar.

Chart B.1 shows that the gap between the level of the exchange rate and its equilibrium is strongly related to the Canada-US interest rate differential, especially in the 10 year bond space.

The gradual convergence of the Canadian long-run rates toward US yields should help the Canadian dollar appreciate to its long-run equilibrium. It is worth noting that in a case of a quick and fruitful resolution of NAFTA renegotiation and a fast easing of global trade protectionism tensions, the convergence of the Canadian dollar towards its equilibrium could be faster than expected.

Chart B.1: Canadian Dollar Below Long-Run Equilibrium CADUSD



Source: Scotiabank Economics.

SHORT-TERM FORECAST 2018–19: GROWTH ABOVE POTENTIAL

Despite global trade and NAFTA uncertainty, in the short term, we expect the Canadian and US economies to expand strongly, above growth in potential output, and leading to excess demand and building inflationary pressures (table 2).

In the US, near-term growth is projected to accelerate on the back of the tax reform and spending stimulus, which together add 0.5 ppts 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, interest rates that are still stimulative (i.e. lower than the Bank of Canada assumed equilibrium of around 3%), a relatively weak exchange rate, and stimulative fiscal policy at the federal and provincial levels:

- Largely due to strong demand, WTI is expected to average US$68/bbl in 2018 and US$71/bbl in 2019, up from US$51/bbl in 2017.
- Along with strong growth in the US economy, Canadian non-energy exports are supported by the CAD that is forecasted to be weaker than its equilibrium value. The USDCAD is expected to reach 1.28 at the end of 2018 and 1.25 at the end of 2019 relative to an equilibrium value between 1.21 and 1.22.

ASSUMPTIONS REGARDING POTENTIAL GDP* GROWTH

US:

- We assume that in the long run potential GDP growth is 1.9%, consistent with the latest dot plots of the FOMC members.
- In 2018–20 we also assume that the tax reform will add 0.1 ppts 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 2018–20 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 Bank of Canada's April 2018 Monetary Policy Report, in large part because we do not consider the resurgence in labour productivity in 2017 to be as sustainable in the long run as the Bank of Canada indicated.

*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.

Table 2 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	2.8	2.3	1.9	1.6	1.7	1.9
Core PCE inflation, annual average, %	1.8	1.5	1.9	2.1	2.0	2.0	2.0	2.0
Federal funds target rate: upper limit, % eop	0.75	1.50	2.50	3.00	3.00	2.75	2.75	2.75
10-year nominal government bond yield, % eop	2.44	2.40	3.05	3.30	3.51	3.63	3.73	3.80
Unemployment rate, annual average, %	4.9	4.4	3.8	3.7	3.9	4.0	4.2	4.2
Canada								
GDP growth, annual average, %	1.4	3.0	2.0	2.1	1.7	1.5	1.6	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 target overnight rate, % eop	0.50	1.00	1.75	2.50	2.75	3.00	2.75	2.75
10-year nominal government bond yield, % eop	1.72	2.05	2.55	2.75	3.10	3.44	3.60	3.71
Unemployment rate, annual average, %	7.0	6.3	5.8	5.7	5.9	5.9	5.9	6.0
USDCAD, eop	1.34	1.26	1.28	1.25	1.23	1.22	1.21	1.21
WTI, annual average, US$/bbl	43	51	68	71	70	69	69	69

Note: More details on the 2018–19 outlook can be found in Scotiabank's Global Outlook, July 3, 2018.

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

- In Canada, with the output gap peaking at +0.5% 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).

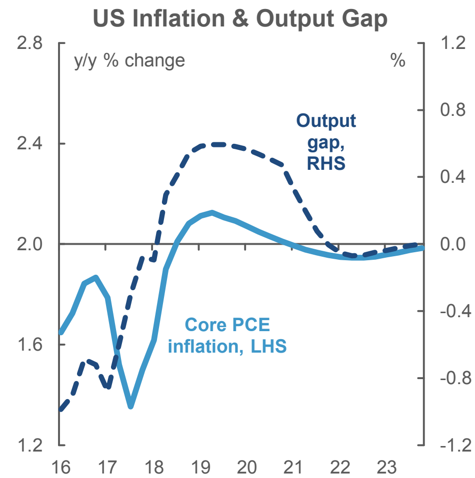
- In the US, the output gap is projected to reach +0.6% in 2019. Coupled with rising unit labour costs and oil prices, core Personal Consumption Expenditures (PCE) inflation is expected to increase and overshoot the inflation target, reaching 2.1% at the end of 2019 (chart 3).

In this context, with the 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 and temporarily slightly overshoot the long-term equilibrium of 2.75% (chart 4).

In Canada and the US, the buildup of excess demand would be larger and interest rates would rise a bit faster if it weren't for NAFTA and global trade uncertainty that together depress real GDP in 2018 and 2019. In Canada, the B-20 mortgage rules also reduce somewhat real GDP in 2018.

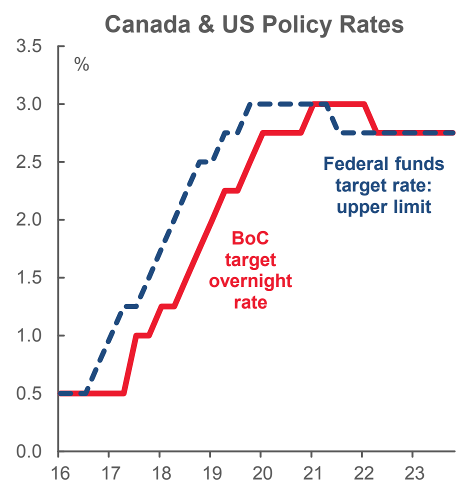
- In addition, the pro-cyclical nature of the US and provincial fiscal stimulus in 2018–19 exacerbates the eventual slowdown of the US and Canadian economies in 2021–22, though this effect is much more pronounced in the US than it is in Canada — the so-called "fiscal cliff".

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



Source: Scotiabank Economics.

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 sustainably bring inflation back to the target and output back to potential GDP.

- 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"), which would dampen real GDP growth. At the same time, the Federal Reserve is expected to raise the federal funds target rate to 3.0% by 2020Q1, above the neutral rate estimate of 2.75%, in an effort to clamp down on inflationary pressures. The rising fed funds target rate combined with the gradual unwinding of the Fed's balance sheet induces a gradual increase of the US 10-year government bond yield.

- As a result of all these factors, US growth is anticipated to decline to 1.9% in 2020 and average just 1.6% in 2021–22, closing the output gap in 2022.

- At the start of 2021, the Canadian overnight rate is expected to catch up with the fed funds target rate at 3.0%. At the end of 2021 the Canadian policy rate briefly exceeds the US rate by 25bps (chart 4).

- The gradual elimination of the interest rates differential with the US followed by a modest inversion combined with the rising price of oil, induce a gradual appreciation of the Canadian dollar toward its long-run equilibrium of USDCAD 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.

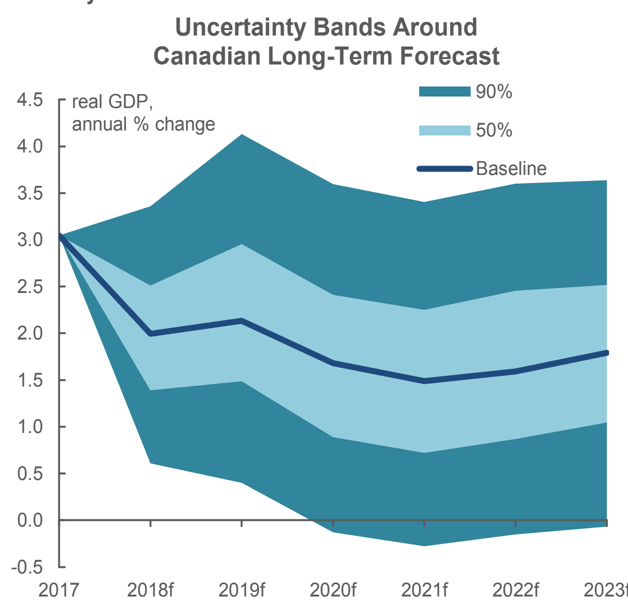
In Canada, the equilibrium inflation rate and the neutral rate are identical to those in the US, but potential GDP is expected to grow slightly slower, at 1.8%.

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 -0.2% to 3.5% in 2020, 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 2: Scotiabank Global Macroeconomic Model (SGMM)

The Scotiabank Economics *Global Outlook* published on July 3rd 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 by 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, which raise their policy rates in the face of rising inflationary pressures and dwindling economic slack;
- the cooling impact of higher interest rates on the macroeconomy, 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, which is 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 assets and housing wealth. The endogenous global supply 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, July 3, 2018.