

ECONOMIC AND FINANCIAL MARKET OUTLOOK

December 2018

The Winds of Change

Global expansion to continue, but downside risks are growing

The global economy faces a more challenging environment in 2019. The expansion is entering its tenth year, the era of ultra-low interest rates is coming to an end, and the political backdrop is the most unsettled since the Cold War.

Momentum looks to have topped out and the global economy is now forecast to expand by 3.7% in 2019, matching the pace of the previous two years. More worrisome is that risks to the outlook have shifted to the downside. Trade uncertainty surged in 2018 as tariffs on steel and aluminum as well as billions in US and Chinese goods poured cold water on 2017's recovery.

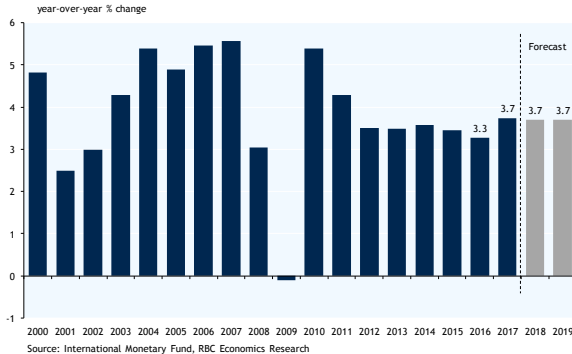
The expansion in Canada and the US is expected to continue in 2019 with the US headed for another year of above-trend growth as fiscal stimulus offsets the impact of higher interest rates. In Canada, the combination of tighter financial conditions and lower oil prices will swamp the lift from government spending, resulting in a more material weakening next year. Growth in the Euro area economies is also expected to moderate. Sentiment indicators softened over the course of 2018, reflecting political pressures in Italy and France. In the UK, the decision to delay the vote on the Brexit agreement means that the heightened uncertainty of recent months will continue into early next year. From the economy's perspective this uncertainty will continue to weigh on activity and may keep the Bank of England on the sidelines.

As 2018 draws to a close, the policy outlook looks increasingly uncertain, commodity prices are under pressure and confidence is starting to fray. That said, after 10 years of expansion, extraordinarily stimulative monetary policy is no longer needed. Central banks in Canada and the US are expected to continue to hike rates in 2019 with the ECB and BOE likely to start the long process of returning to more normal conditions assuming a framework agreement emerges. With the US Federal Reserve so much further down the road to normalization and the US economy forecast to lead the others in terms of economic growth, 2019 is projected to see the US dollar maintain its gains against the Canadian dollar, Euro and sterling.

US economy headed for another solid gain

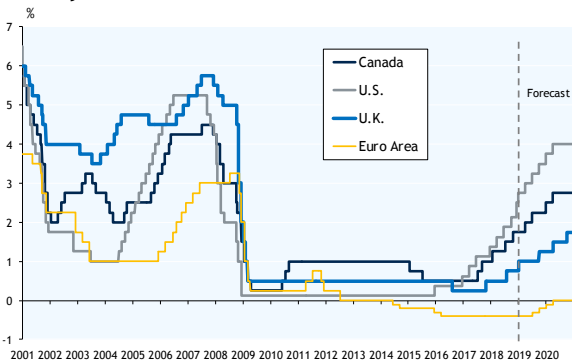
The US economy blew past the other G-7 countries in 2018 growing at close to a 3% pace. Stronger consumer spending and a rebound in investment aided by tax cuts more than compensated for weakness in housing and trade. Rising government spending provided extra torque. The economy is forecast to con-

Global GDP growth



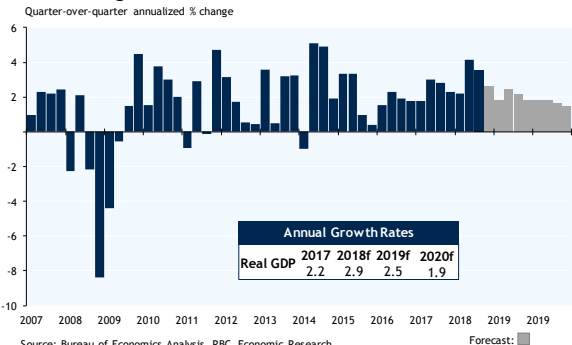
Source: International Monetary Fund, RBC Economic Research

Policy rates: International

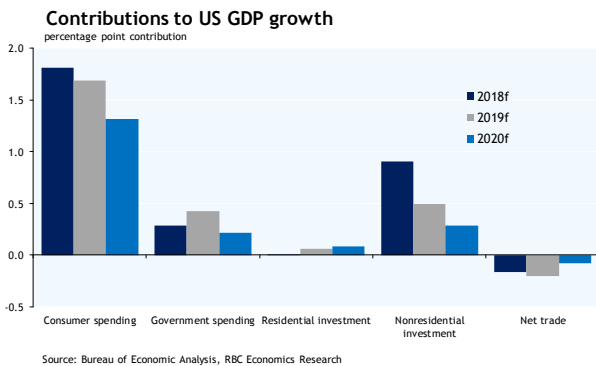


Source: ECB, BoE, BoC, Federal Reserve, RBC Economic Research

Real GDP growth: U.S.

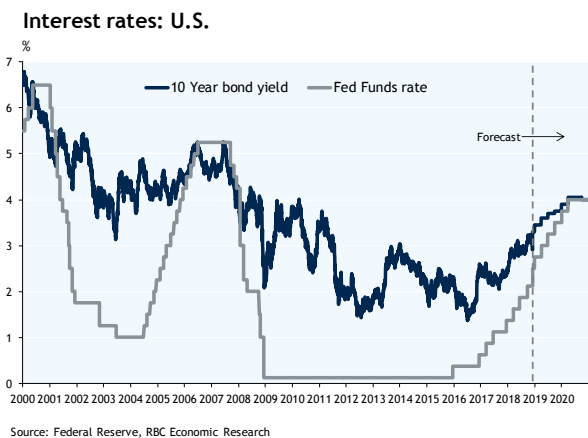


Source: Bureau of Economic Analysis, RBC Economic Research



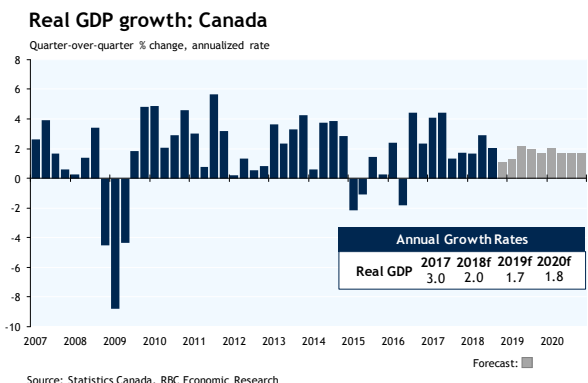
continue to expand at an above-potential pace in 2019 although tighter financial conditions will likely cool consumer spending and business investment somewhat and government spending support will dissipate over the course of the year.

Foreign-policy measures including tariffs on both Chinese goods and tariffs on steel and aluminum from several countries will weigh on trade activity. We expect growth of both exports and imports to slow in 2019 with the strong US dollar also weighing on demand for US exports. At the same time, the strong currency will partially offset the tariff-driven rise in the cost of imported goods. While costs associated with the tariffs may initially be absorbed by businesses, they will likely filter into consumer prices the longer they remain in place.



The late-cycle surge in growth fueled strong hiring activity, with the US unemployment rate falling close to a 50-year low of 3.7%. Hiring accelerated in 2018 and businesses reported that workers were becoming harder to find. As a result, wage growth, which had been lackluster, picked up pace. With the economy projected to grow at an above-trend rate again in 2019, we expect these labour shortages to persist, creating greater competition for workers and further upward pressure on wages.

Faster wage growth, lower taxes and solid balance sheets will support another healthy year for consumer spending. Financial-market volatility pared back asset values somewhat in the fourth quarter, however owners' equity in real estate is back to pre-recession levels and overall net wealth grew 3.4% in the first half of the year. Household savings rates are holding up and continue to run at almost double what they were heading into the 2008 recession, meaning consumers have sufficient resources to mitigate the impact of higher interest costs.



Housing-market activity slowed in 2018 following four years of rising sales. While affordability has deteriorated, conditions remain significantly better than in the run-up to the housing market crash more than a decade ago. Higher rates will pressure affordability further in 2019 though rising incomes will limit the impact, setting up for a stable, if unspectacular, year for US real estate.

Businesses are expected to continue to invest in 2019 though likely at a slower pace than 2018's robust increase. Another year of solid growth will create challenges for businesses that are already running up against capacity limits. The Trump administration's corporate tax cut and accelerated depreciation allowance incented companies to spend in 2018 and this is likely to continue in 2019. Lending standards remain accommodative although with the cost of capital rising, slower investment spending is on tap.

### Canada faces challenging 2019

Canada's economy stumbled in the final leg of 2018, weighed down by slumping oil prices and higher interest rates. Consumer spending and real estate had played an outsized role in keeping the economy going but the bite from regulatory changes and higher interest rates saw housing sales drop and spending on durable goods soften. The housing correction has been relatively orderly: sales are down 10% and prices, after posting double-digit increases for two years,



are averaging a less than 3% increase. With interest rates moving higher in 2019, affordability will continue to deteriorate, stifling both sales and prices.

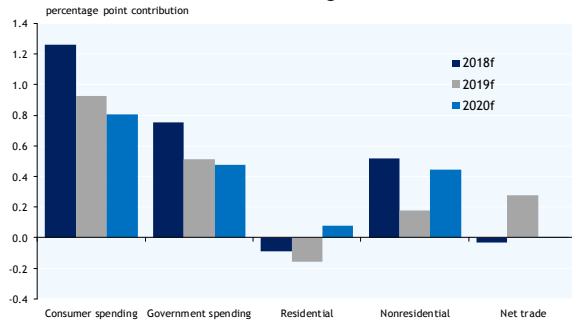
Job creation slowed in 2018 after a very robust increase the prior year and the unemployment rate dipped to its lowest level in more than 40 years. On a positive note, the decline in the rate isn't a reflection of workers leaving the labour market as the demographically adjusted participation rate is high. What's puzzling is that even with these indications of labour-market tightness, wage growth continues to run below the pace traditionally associated with an economy running at full employment. Our work suggests this is in part due to Canada's changing demographics. It also reflects a decline in labour turnover with fewer Canadian workers changing jobs. Against the backdrop of an elevated level of job vacancies, we expect wage growth will accelerate in 2019 as employers compete for increasingly scarce labour.

Rising wages will allow Canadian households to meet higher debt-service costs in 2019 while boosting costs for businesses. Business will also face pressure from tighter financial conditions with oil producers struggling given recent price declines and forced production cutbacks. These factors will likely see investment slow in 2019 though given capacity constraints we still expect companies outside the energy sector to put money to work to keep up with demand. The federal government's decision to allow companies to immediately expense qualifying capital goods investment will underpin some of the pickup in spending activity in 2019. Alongside that tax change, spending on infrastructure will continue to flow in 2019. Investment spending in B.C. will be boosted substantially by the ramp-up of construction of LNG Canada's \$40 billion liquefied natural gas export project.

While policy uncertainty will remain high in 2019, the passage agreement of the USMCA has removed a cloud from the export outlook. Canadian non-energy exports were up more than 4% in the third quarter compared to a year earlier and given our forecast that US industrial production will stay strong in 2019, we expect non-energy exports to benefit. US firms will also benefit from the low Canadian dollar, with neither interest rate differentials nor oil prices expected to lift Canada's currency above 80 US cents next year.

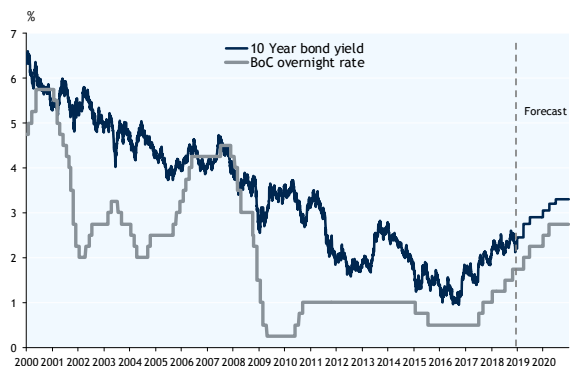
Unlike the clear path for the US Federal Reserve in 2019, the timing of the next Bank of Canada rate hike is being complicated by developments in the oil patch. Transportation bottlenecks and refinery shutdowns left Canadian producers significantly oversupplied, pressuring prices lower and leading the Alberta government to mandate production cuts in that province. These cuts are expected to bring inventories back to more normal levels but at the cost of economic growth in Alberta and to a lesser extent, the overall economy. We shaved the forecast for Alberta by about 1 ppt to 1.5% in 2019, and estimate this will lower national GDP growth by 0.1 to 0.2 ppt. At 1.7%, Canada's economy will be running just shy of its potential which is unlikely to have a material impact on core inflation or the labour market. However with the economy hitting a soft patch, the Bank of Canada is likely to delay the next rate hike until the second quarter of next year. As oil prices recover the weight on the economy will lift, clearing the way for the Bank to resume its plan to return the policy rate closer to neutral. Our forecast assumes the Bank of Canada will raise the overnight rate to 2.25% in 2019.

Contributions to Canadian GDP growth



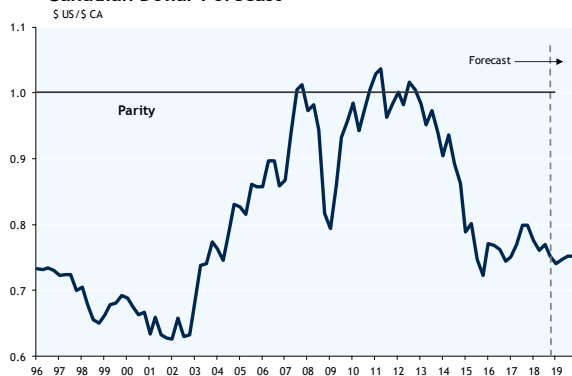
Source: Statistics Canada, RBC Economic Research

Interest rates: Canada



Source: Bank of Canada, RBC Economic Research

Canadian Dollar Forecast



Source: Bank of Canada, RBC Economic Research



## Economic forecast detail – Canada

### Real growth in the economy

Quarter-over-quarter annualized % change unless otherwise indicated

|                                    | Actuals    |            |            | Forecast   |            |            |            |            |            |            |            | Actual                  |            |            |            |            |
|------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------------------|------------|------------|------------|------------|
|                                    | 2018       |            |            | 2019       |            |            |            | 2020       |            |            |            | year-over-year % change |            |            |            |            |
|                                    | Q1         | Q2         | Q3         | Q4         | Q1         | Q2         | Q3         | Q4         | Q1         | Q2         | Q3         | Q4                      | 2017       | 2018       | 2019       | 2020       |
| Household Consumption              | 1.5        | 2.3        | 1.2        | 1.8        | 1.7        | 1.7        | 1.5        | 1.5        | 1.4        | 1.4        | 1.4        | 1.4                     | 3.6        | 2.2        | 1.6        | 1.4        |
| Durables                           | 1.4        | 0.6        | -2.7       | 1.7        | 1.6        | 1.3        | 1.0        | 1.0        | 0.5        | 0.5        | 0.5        | 0.5                     | 7.1        | 1.8        | 0.8        | 0.7        |
| Semi-Durables                      | 0.4        | 2.6        | 5.9        | 1.9        | 1.5        | 1.5        | 1.5        | 1.5        | 1.4        | 1.4        | 1.4        | 1.4                     | 3.1        | 2.0        | 2.2        | 1.4        |
| Non-durables                       | 0.5        | 1.0        | 1.7        | 1.3        | 1.8        | 1.7        | 1.5        | 1.5        | 1.4        | 1.3        | 1.3        | 1.3                     | 2.7        | 1.7        | 1.6        | 1.4        |
| Services                           | 2.0        | 3.3        | 1.4        | 2.0        | 1.8        | 1.8        | 1.7        | 1.6        | 1.6        | 1.6        | 1.6        | 1.6                     | 3.3        | 2.6        | 1.8        | 1.6        |
| NPISH consumption                  | 1.8        | 9.0        | 2.7        | 1.8        | 1.7        | 1.7        | 1.5        | 1.5        | 1.4        | 1.4        | 1.4        | 1.4                     | -0.6       | 2.6        | 2.2        | 1.4        |
| Government expenditures            | 3.3        | 2.7        | 1.8        | 2.5        | 2.0        | 2.0        | 2.0        | 2.0        | 2.0        | 2.0        | 2.0        | 2.0                     | 2.1        | 2.9        | 2.1        | 2.0        |
| Government fixed investment        | -3.0       | -6.5       | 2.5        | 3.5        | 2.8        | 2.0        | 2.0        | 2.0        | 1.6        | 1.4        | 1.1        | 0.9                     | 6.3        | 4.2        | 2.0        | 1.6        |
| Residential investment             | -7.9       | -0.1       | -5.9       | -3.0       | -2.6       | -0.4       | -0.8       | 1.1        | 1.0        | 1.6        | 2.4        | 2.7                     | 2.4        | -1.2       | -2.1       | 1.1        |
| Non-residential investment         | 13.0       | 1.0        | -7.1       | -0.2       | 2.4        | 5.0        | 6.0        | 6.0        | 4.0        | 3.0        | 3.0        | 3.0                     | 2.5        | 4.8        | 1.7        | 4.3        |
| Non-residential structures         | 5.7        | 0.3        | -5.2       | -3.0       | 2.0        | 5.0        | 6.0        | 6.0        | 4.0        | 3.0        | 3.0        | 3.0                     | 1.1        | 2.9        | 1.3        | 4.3        |
| Machinery & equipment              | 25.5       | 2.0        | -9.8       | 4.0        | 3.0        | 5.0        | 6.0        | 6.0        | 4.0        | 3.0        | 3.0        | 3.0                     | 4.7        | 7.9        | 2.4        | 4.3        |
| Intellectual property              | 20.5       | -1.2       | -5.6       | 2.0        | 2.0        | 2.0        | 2.0        | 2.0        | 2.0        | 2.0        | 2.0        | 2.0                     | 1.2        | 3.5        | 0.8        | 2.0        |
| Final domestic demand              | 2.2        | 1.8        | -0.1       | 1.4        | 1.6        | 1.9        | 1.9        | 2.0        | 1.8        | 1.7        | 1.7        | 1.7                     | 3.1        | 2.4        | 1.5        | 1.8        |
| Exports                            | 2.3        | 13.0       | 0.9        | 3.0        | 0.3        | 2.7        | 2.5        | 2.5        | 3.5        | 2.2        | 2.0        | 2.0                     | 1.1        | 3.3        | 2.5        | 2.6        |
| Imports                            | 4.7        | 5.9        | -7.8       | 1.0        | 3.9        | 3.0        | 2.8        | 2.8        | 2.6        | 2.0        | 2.0        | 2.3                     | 4.2        | 3.2        | 1.6        | 2.5        |
| Inventories (change in \$b)        | 16.6       | 13.5       | 6.6        | 1.5        | 6.0        | 8.0        | 8.7        | 7.7        | 7.5        | 7.5        | 7.5        | 7.5                     | 17.6       | 9.6        | 7.6        | 7.5        |
| <b>Real gross domestic product</b> | <b>1.7</b> | <b>2.9</b> | <b>2.0</b> | <b>1.1</b> | <b>1.2</b> | <b>2.2</b> | <b>1.9</b> | <b>1.7</b> | <b>2.0</b> | <b>1.7</b> | <b>1.7</b> | <b>1.6</b>              | <b>3.0</b> | <b>2.0</b> | <b>1.7</b> | <b>1.8</b> |

### Other indicators

Year-over-year % change unless otherwise indicated

|                                    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Business and labour                |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Productivity                       | -0.3  | 0.2   | 0.9   | 0.4   | 0.6   | 0.3   | 0.4   | 1.0   | 1.2   | 1.1   | 1.1   | 1.1   | 1.7   | 0.3   | 0.6   | 1.1   |
| Pre-tax corporate profits          | -1.4  | 2.9   | 8.8   | 5.8   | 4.0   | 2.4   | -1.4  | 1.9   | 4.2   | 3.1   | 2.6   | 1.6   | 20.1  | 4.0   | 1.7   | 2.9   |
| Unemployment rate (%)*             | 5.8   | 5.9   | 5.9   | 5.7   | 5.8   | 5.8   | 5.9   | 5.9   | 5.9   | 5.9   | 6.0   | 6.0   | 6.3   | 5.8   | 5.9   | 6.0   |
| Inflation                          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Headline CPI                       | 2.1   | 2.3   | 2.7   | 1.9   | 1.5   | 1.9   | 1.8   | 2.5   | 2.6   | 2.5   | 2.5   | 2.4   | 1.6   | 2.2   | 1.9   | 2.5   |
| CPI ex. food and energy            | 1.8   | 1.8   | 2.1   | 2.0   | 2.0   | 2.3   | 2.2   | 2.4   | 2.3   | 2.3   | 2.3   | 2.3   | 1.6   | 1.9   | 2.2   | 2.3   |
| External trade                     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Current account balance (\$b)*     | -69.3 | -66.7 | -41.4 | -46.1 | -51.8 | -48.9 | -47.7 | -45.9 | -42.8 | -41.5 | -40.5 | -40.1 | -60.1 | -55.9 | -48.6 | -41.2 |
| % of GDP*                          | -3.2  | -3.0  | -1.8  | -2.0  | -2.3  | -2.1  | -2.1  | -2.0  | -1.8  | -1.7  | -1.7  | -1.6  | -2.8  | -2.5  | -2.2  | -1.8  |
| Housing starts (000s)*             | 225   | 219   | 197   | 207   | 196   | 195   | 193   | 193   | 191   | 191   | 192   | 192   | 220   | 212   | 194   | 192   |
| Motor vehicle sales (mill., saar)* | 2.11  | 2.06  | 2.02  | 1.98  | 1.96  | 1.95  | 1.94  | 1.93  | 1.93  | 1.92  | 1.92  | 1.92  | 2.08  | 2.04  | 1.94  | 1.92  |

\*Period average

Source: Statistics Canada, RBC Economic Research forecasts



## Economic forecast detail – United States

### Real growth in the economy

Quarter-over-quarter annualized % change unless otherwise indicated

|                                    | Actuals    |            |            |            | Forecast   |            |            |            |            |            |            |            | Actual                  |            |            |            |
|------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------------------|------------|------------|------------|
|                                    | 2018       |            |            |            | 2019       |            |            |            | 2020       |            |            |            | year-over-year % change |            |            |            |
|                                    | Q1         | Q2         | Q3         | Q4         | Q1         | Q2         | Q3         | Q4         | Q1         | Q2         | Q3         | Q4         | 2017                    | 2018       | 2019       | 2020       |
| Consumer spending                  | 0.5        | 3.8        | 3.6        | 2.7        | 1.7        | 2.3        | 2.3        | 1.8        | 1.9        | 1.9        | 1.7        | 1.7        | 2.5                     | 2.7        | 2.5        | 2.5        |
| Durables                           | -2.0       | 8.6        | 3.9        | 2.8        | 2.2        | 2.3        | 2.2        | 1.6        | 1.6        | 1.5        | 1.2        | 1.4        | 6.8                     | 5.5        | 2.9        | 2.9        |
| Non-durables                       | 0.1        | 4.0        | 5.3        | 3.5        | 1.9        | 2.5        | 2.4        | 1.8        | 1.8        | 1.8        | 1.5        | 1.5        | 2.1                     | 2.9        | 2.9        | 2.9        |
| Services                           | 1.0        | 3.0        | 3.1        | 2.5        | 1.6        | 2.3        | 2.3        | 1.8        | 2.0        | 2.0        | 1.9        | 1.8        | 2.0                     | 2.1        | 2.3        | 2.3        |
| Government spending                | 1.5        | 2.5        | 2.6        | 2.7        | 2.4        | 2.4        | 2.4        | 2.0        | 1.0        | 0.5        | 0.5        | 0.5        | -0.1                    | 1.7        | 2.5        | 2.5        |
| Residential investment             | -3.4       | -1.4       | -2.6       | -1.0       | 2.0        | 5.1        | 4.1        | 2.2        | 1.7        | 1.2        | 2.0        | 1.5        | 3.3                     | 0.0        | 1.5        | 1.5        |
| Non-residential investment         | 11.5       | 8.7        | 2.5        | 4.8        | 4.0        | 3.6        | 1.6        | 1.6        | 2.1        | 2.5        | 2.3        | 2.0        | 5.3                     | 6.9        | 3.7        | 3.7        |
| Non-residential structures         | 13.9       | 14.5       | -1.7       | 5.2        | 4.0        | 4.0        | 2.0        | 2.0        | 2.5        | 2.5        | 2.3        | 2.0        | 4.6                     | 5.8        | 3.7        | 3.7        |
| Equipment & software               | 8.5        | 4.6        | 3.5        | 4.5        | 3.5        | 3.5        | 0.7        | 0.7        | 1.5        | 2.5        | 2.3        | 2.0        | 6.1                     | 7.3        | 3.2        | 3.2        |
| Intellectual property              | 14.1       | 10.5       | 4.3        | 5.0        | 4.8        | 3.6        | 2.6        | 2.6        | 2.5        | 2.5        | 2.3        | 2.0        | 4.6                     | 7.0        | 4.5        | 4.5        |
| Final domestic demand              | 1.9        | 4.0        | 3.1        | 2.9        | 2.1        | 2.6        | 2.3        | 1.8        | 1.8        | 1.7        | 1.6        | 1.5        | 2.5                     | 2.9        | 2.6        | 2.6        |
| Exports                            | 3.6        | 9.3        | -4.4       | 4.5        | 1.8        | 2.8        | 2.8        | 2.8        | 2.8        | 2.5        | 2.5        | 2.5        | 3.0                     | 4.2        | 2.3        | 2.7        |
| Imports                            | 3.0        | -0.6       | 9.2        | 0.5        | 2.5        | 4.2        | 3.5        | 3.2        | 2.3        | 2.3        | 2.0        | 2.0        | 4.6                     | 4.4        | 3.2        | 2.7        |
| Inventories (change in \$b)        | 30.3       | -36.8      | 86.6       | 50.0       | 40.0       | 42.0       | 42.0       | 47.0       | 48.0       | 52.0       | 52.0       | 48.0       | 22.5                    | 32.5       | 42.8       | 50.0       |
| <b>Real gross domestic product</b> | <b>2.2</b> | <b>4.2</b> | <b>3.5</b> | <b>2.6</b> | <b>1.8</b> | <b>2.4</b> | <b>2.2</b> | <b>1.8</b> | <b>1.8</b> | <b>1.8</b> | <b>1.7</b> | <b>1.5</b> | <b>2.2</b>              | <b>2.9</b> | <b>2.5</b> | <b>1.9</b> |

## Other indicators

Year-over-year % change unless otherwise indicated

### Business and labour

|                                       |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|---------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Productivity                          | 0.9  | 1.4  | 1.2  | 1.8  | 1.8  | 1.2  | 1.1  | 1.0  | 1.1  | 0.8  | 0.8  | 0.8  | 1.1  | 1.3  | 1.3  | 0.9  |
| Pre-tax corporate profits             | 5.9  | 7.3  | 10.3 | 9.0  | 8.1  | 5.7  | 3.1  | 2.6  | 2.5  | 2.1  | 1.7  | 1.2  | 3.2  | 8.2  | 4.8  | 1.9  |
| Unemployment rate (%)*                | 4.1  | 3.9  | 3.8  | 3.7  | 3.7  | 3.6  | 3.6  | 3.6  | 3.6  | 3.6  | 3.6  | 3.7  | 4.4  | 3.9  | 3.6  | 3.6  |
| <b>Inflation</b>                      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Headline CPI                          | 2.2  | 2.7  | 2.6  | 2.2  | 1.8  | 2.0  | 2.1  | 2.3  | 2.4  | 2.3  | 2.3  | 2.2  | 2.1  | 2.4  | 2.1  | 2.3  |
| CPI ex. food and energy               | 1.9  | 2.2  | 2.2  | 2.2  | 2.1  | 2.1  | 2.2  | 2.4  | 2.4  | 2.5  | 2.5  | 2.3  | 1.8  | 2.1  | 2.2  | 2.4  |
| <b>External trade</b>                 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Current account balance (\$b)*        | -487 | -406 | -500 | -473 | -479 | -496 | -509 | -520 | -523 | -527 | -528 | -529 | -449 | -466 | -501 | -527 |
| % of GDP*                             | -2.4 | -2.0 | -2.4 | -2.3 | -2.3 | -2.3 | -2.4 | -2.4 | -2.4 | -2.4 | -2.4 | -2.4 | -2.3 | -2.3 | -2.3 | -2.4 |
| Housing starts (000s)*                | 1317 | 1261 | 1225 | 1275 | 1285 | 1315 | 1325 | 1325 | 1330 | 1330 | 1340 | 1340 | 1208 | 1269 | 1313 | 1335 |
| Motor vehicle sales (millions, saar)* | 17.1 | 17.2 | 16.9 | 17.3 | 17.3 | 17.3 | 17.4 | 17.4 | 17.4 | 17.4 | 17.3 | 17.3 | 17.1 | 17.1 | 17.4 | 17.4 |

\*Period average

Source: Bureau of Economic Analysis, RBC Economics Research forecasts



## Financial market forecast detail

### Interest rates—North America

%, end of period

|                      | Actual |       |       |       |       |       |       |       | Forecast |       |       |       |       |       |       |       | Actual |       | Forecast |       |
|----------------------|--------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|-------|-------|-------|--------|-------|----------|-------|
|                      | 17Q1   | 17Q2  | 17Q3  | 17Q4  | 18Q1  | 18Q2  | 18Q3  | 18Q4  | 19Q1     | 19Q2  | 19Q3  | 19Q4  | 20Q1  | 20Q2  | 20Q3  | 20Q4  | 2017   | 2018  | 2019     | 2020  |
| <b>Canada</b>        |        |       |       |       |       |       |       |       |          |       |       |       |       |       |       |       |        |       |          |       |
| Overnight            | 0.50   | 0.50  | 1.00  | 1.00  | 1.25  | 1.25  | 1.50  | 1.75  | 1.75     | 2.00  | 2.25  | 2.25  | 2.50  | 2.75  | 2.75  | 2.75  | 1.00   | 1.75  | 2.25     | 2.75  |
| Three-month          | 0.52   | 0.71  | 1.00  | 1.06  | 1.10  | 1.26  | 1.59  | 1.65  | 1.65     | 1.95  | 2.15  | 2.20  | 2.45  | 2.70  | 2.70  | 2.75  | 1.06   | 1.65  | 2.20     | 2.75  |
| Two-year             | 0.75   | 1.10  | 1.52  | 1.69  | 1.78  | 1.91  | 2.21  | 2.05  | 2.20     | 2.35  | 2.40  | 2.45  | 2.70  | 2.85  | 2.90  | 3.00  | 1.69   | 2.05  | 2.45     | 3.00  |
| Five-year            | 1.12   | 1.40  | 1.75  | 1.87  | 1.97  | 2.07  | 2.34  | 2.15  | 2.35     | 2.55  | 2.70  | 2.75  | 2.95  | 3.10  | 3.10  | 3.15  | 1.87   | 2.15  | 2.75     | 3.15  |
| 10-year              | 1.62   | 1.76  | 2.10  | 2.04  | 2.09  | 2.17  | 2.43  | 2.20  | 2.45     | 2.75  | 2.90  | 2.90  | 3.05  | 3.20  | 3.30  | 3.30  | 2.04   | 2.20  | 2.90     | 3.30  |
| 30-year              | 2.30   | 2.14  | 2.47  | 2.27  | 2.23  | 2.20  | 2.42  | 2.35  | 2.60     | 2.85  | 2.95  | 2.95  | 3.10  | 3.25  | 3.30  | 3.30  | 2.27   | 2.35  | 2.95     | 3.30  |
| Yield curve (10s-2s) | 87     | 66    | 58    | 35    | 31    | 26    | 22    | 15    | 25       | 40    | 50    | 45    | 35    | 35    | 40    | 30    | 35     | 15    | 45       | 30    |
| <b>United States</b> |        |       |       |       |       |       |       |       |          |       |       |       |       |       |       |       |        |       |          |       |
| Fed funds*           | 1.00   | 1.25  | 1.25  | 1.50  | 1.75  | 2.00  | 2.25  | 2.50  | 2.75     | 3.00  | 3.25  | 3.50  | 3.75  | 4.00  | 4.00  | 4.00  | 1.50   | 2.50  | 3.50     | 4.00  |
| Three-month          | 0.76   | 1.03  | 1.06  | 1.39  | 1.73  | 1.93  | 2.19  | 2.35  | 2.65     | 2.90  | 3.15  | 3.35  | 3.60  | 3.85  | 3.85  | 3.85  | 1.39   | 2.35  | 3.35     | 3.85  |
| Two-year             | 1.27   | 1.38  | 1.47  | 1.89  | 2.27  | 2.52  | 2.81  | 2.90  | 3.10     | 3.25  | 3.40  | 3.60  | 3.80  | 4.00  | 3.95  | 3.90  | 1.89   | 2.90  | 3.60     | 3.90  |
| Five-year            | 1.93   | 1.89  | 1.92  | 2.20  | 2.56  | 2.73  | 2.94  | 3.10  | 3.25     | 3.40  | 3.55  | 3.65  | 3.85  | 4.05  | 4.00  | 3.95  | 2.20   | 3.10  | 3.65     | 3.95  |
| 10-year              | 2.40   | 2.31  | 2.33  | 2.40  | 2.74  | 2.85  | 3.05  | 3.30  | 3.45     | 3.60  | 3.70  | 3.75  | 3.90  | 4.05  | 4.05  | 4.00  | 2.40   | 3.30  | 3.75     | 4.00  |
| 30-year              | 3.02   | 2.84  | 2.86  | 2.74  | 2.97  | 2.98  | 3.19  | 3.50  | 3.65     | 3.75  | 3.80  | 3.85  | 3.95  | 4.05  | 4.05  | 4.00  | 2.74   | 3.50  | 3.85     | 4.00  |
| Yield curve (10s-2s) | 113    | 93    | 86    | 51    | 47    | 33    | 24    | 40    | 35       | 35    | 30    | 15    | 10    | 5     | 10    | 10    | 51     | 40    | 15       | 10    |
| <b>Yield spreads</b> |        |       |       |       |       |       |       |       |          |       |       |       |       |       |       |       |        |       |          |       |
| Three-month T-bills  | -0.24  | -0.32 | -0.06 | -0.33 | -0.63 | -0.67 | -0.60 | -0.70 | -1.00    | -0.95 | -1.00 | -1.15 | -1.15 | -1.15 | -1.15 | -1.10 | -0.33  | -0.70 | -1.15    | -1.10 |
| Two-year             | -0.52  | -0.28 | 0.05  | -0.20 | -0.49 | -0.61 | -0.60 | -0.85 | -0.90    | -0.90 | -1.00 | -1.15 | -1.10 | -1.15 | -1.05 | -0.90 | -0.20  | -0.85 | -1.15    | -0.90 |
| Five-year            | -0.81  | -0.49 | -0.17 | -0.33 | -0.59 | -0.66 | -0.60 | -0.95 | -0.90    | -0.85 | -0.85 | -0.90 | -0.90 | -0.95 | -0.90 | -0.80 | -0.33  | -0.95 | -0.90    | -0.80 |
| 10-year              | -0.78  | -0.55 | -0.23 | -0.36 | -0.65 | -0.68 | -0.62 | -1.10 | -1.00    | -0.85 | -0.80 | -0.85 | -0.85 | -0.85 | -0.75 | -0.70 | -0.36  | -1.10 | -0.85    | -0.70 |
| 30-year              | -0.72  | -0.70 | -0.39 | -0.47 | -0.74 | -0.78 | -0.77 | -1.15 | -1.05    | -0.90 | -0.85 | -0.90 | -0.85 | -0.80 | -0.75 | -0.70 | -0.47  | -1.15 | -0.90    | -0.70 |

Note: Interest Rates are end of period rates. \* Top of 25 basis point range

### Interest rates—International %, end of period

|                       | Actual |       |       |       |       |       |       |       | Forecast |       |       |       |       |      |      |      | Actual |       | Forecast |      |
|-----------------------|--------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|------|------|------|--------|-------|----------|------|
|                       | 17Q1   | 17Q2  | 17Q3  | 17Q4  | 18Q1  | 18Q2  | 18Q3  | 18Q4  | 19Q1     | 19Q2  | 19Q3  | 19Q4  | 20Q1  | 20Q2 | 20Q3 | 20Q4 | 2017   | 2018  | 2019     | 2020 |
| <b>United Kingdom</b> |        |       |       |       |       |       |       |       |          |       |       |       |       |      |      |      |        |       |          |      |
| Repo                  | 0.25   | 0.25  | 0.25  | 0.50  | 0.50  | 0.50  | 0.75  | 0.75  | 1.00     | 1.00  | 1.00  | 1.25  | 1.25  | 1.50 | 1.50 | 1.75 | 0.50   | 0.75  | 1.25     | 1.75 |
| Two-year              | 0.12   | 0.36  | 0.46  | 0.45  | 0.82  | 0.72  | 0.82  | 0.95  | 1.10     | 1.15  | 1.20  | 1.30  | 1.40  | 1.45 | 1.55 | 1.70 | 0.45   | 0.95  | 1.30     | 1.70 |
| 10-year               | 1.14   | 1.26  | 1.38  | 1.19  | 1.34  | 1.28  | 1.57  | 1.75  | 2.00     | 2.10  | 2.20  | 2.30  | 2.40  | 2.50 | 2.60 | 2.70 | 1.19   | 1.75  | 2.30     | 2.70 |
| <b>Euro Area</b>      |        |       |       |       |       |       |       |       |          |       |       |       |       |      |      |      |        |       |          |      |
| Deposit rate          | -0.40  | -0.40 | -0.40 | -0.40 | -0.40 | -0.40 | -0.40 | -0.40 | -0.40    | -0.40 | -0.30 | -0.20 | -0.10 | 0.00 | 0.00 | 0.00 | -0.40  | -0.40 | -0.20    | 0.00 |
| Two-year              | -0.74  | -0.57 | -0.69 | -0.63 | -0.59 | -0.69 | -0.55 | -0.50 | -0.50    | -0.50 | -0.40 | -0.30 | -0.10 | 0.10 | 0.25 | 0.25 | -0.63  | -0.50 | -0.30    | 0.25 |
| 10-year               | 0.33   | 0.47  | 0.47  | 0.43  | 0.50  | 0.31  | 0.47  | 0.65  | 0.80     | 0.85  | 1.05  | 1.10  | 1.20  | 1.25 | 1.25 | 1.25 | 0.43   | 0.65  | 1.10     | 1.25 |
| <b>Australia</b>      |        |       |       |       |       |       |       |       |          |       |       |       |       |      |      |      |        |       |          |      |
| Cash target rate      | 1.50   | 1.50  | 1.50  | 1.50  | 1.50  | 1.50  | 1.50  | 1.50  | 1.50     | 1.50  | 1.50  | 1.75  | 2.00  | 2.00 | 2.00 | 2.00 | 1.50   | 1.50  | 1.75     | 2.00 |
| Two-year swap         | 1.76   | 1.78  | 1.94  | 2.00  | 2.00  | 2.00  | 2.02  | 2.10  | 2.20     | 2.30  | 2.45  | 2.60  | 2.65  | 2.70 | 2.70 | 2.65 | 2.00   | 2.10  | 2.60     | 2.65 |
| 10-year swap          | 2.70   | 2.60  | 2.84  | 2.63  | 2.60  | 2.63  | 2.67  | 2.80  | 2.85     | 3.00  | 3.20  | 3.35  | 3.60  | 3.80 | 3.80 | 3.75 | 2.63   | 2.80  | 3.35     | 3.75 |
| <b>New Zealand</b>    |        |       |       |       |       |       |       |       |          |       |       |       |       |      |      |      |        |       |          |      |
| Cash target rate      | 1.75   | 1.75  | 1.75  | 1.75  | 1.75  | 1.75  | 1.75  | 1.75  | 1.75     | 1.75  | 1.75  | 1.75  | -     | -    | -    | -    | 1.75   | 1.75  | 1.75     | -    |
| Two-year              | 2.31   | 2.32  | 2.19  | 2.20  | 2.21  | 2.14  | 2.02  | 2.25  | 2.30     | 2.35  | 2.40  | 2.55  | -     | -    | -    | -    | 2.20   | 2.25  | 2.55     | -    |
| 10-year               | 3.41   | 3.35  | 3.24  | 3.13  | 3.06  | 3.02  | 2.89  | 3.10  | 3.15     | 3.30  | 3.50  | 3.65  | -     | -    | -    | -    | 3.13   | 3.10  | 3.65     | -    |



## Growth outlook

% change, quarter-over-quarter in real GDP

|                | 18Q1 | 18Q2 | 18Q3 | 18Q4 | 19Q1 | 19Q2 | 19Q3 | 19Q4 | 20Q1 | 20Q2 | 20Q3 | 20Q4 | 2017 | 2018F | 2019F | 2020F |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| Canada*        | 1.7  | 2.9  | 2.0  | 1.1  | 1.2  | 2.2  | 1.9  | 1.7  | 2.0  | 1.7  | 1.7  | 1.6  | 3.0  | 2.0   | 1.7   | 1.8   |
| United States* | 2.2  | 4.2  | 3.5  | 2.6  | 1.8  | 2.4  | 2.2  | 1.8  | 1.8  | 1.8  | 1.7  | 1.5  | 2.2  | 2.9   | 2.5   | 1.9   |
| United Kingdom | 0.1  | 0.4  | 0.6  | 0.3  | 0.3  | 0.4  | 0.4  | 0.4  | 0.4  | 0.4  | 0.4  | 0.3  | 1.7  | 1.3   | 1.5   | 1.6   |
| Euro area      | 0.4  | 0.4  | 0.2  | 0.4  | 0.3  | 0.4  | 0.4  | 0.4  | 0.3  | 0.4  | 0.3  | 0.3  | 2.5  | 1.9   | 1.6   | 1.5   |
| Australia      | 1.0  | 0.9  | 0.3  | 0.8  | 0.8  | 0.6  | 0.7  | 0.6  | 0.6  | 0.7  | 0.7  | 0.7  | 2.4  | 3.0   | 2.8   | 2.6   |
| New Zealand    | 0.5  | 1.0  | 0.9  | 0.8  | 0.8  | 0.8  | 0.8  | 0.8  | -    | -    | -    | -    | 2.8  | 2.8   | 3.3   | -     |

\*Seasonally adjusted annualized rates

## Inflation outlook

% change, year-over-year

|                | 18Q1 | 18Q2 | 18Q3 | 18Q4 | 19Q1 | 19Q2 | 19Q3 | 19Q4 | 20Q1 | 20Q2 | 20Q3 | 20Q4 | 2017 | 2018F | 2019F | 2020F |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| Canada*        | 2.1  | 2.3  | 2.7  | 1.9  | 1.5  | 1.9  | 1.8  | 2.5  | 2.6  | 2.5  | 2.5  | 2.4  | 1.6  | 2.2   | 1.9   | 2.5   |
| United States* | 2.2  | 2.7  | 2.6  | 2.2  | 1.8  | 2.0  | 2.1  | 2.3  | 2.4  | 2.3  | 2.3  | 2.2  | 2.1  | 2.4   | 2.1   | 2.3   |
| United Kingdom | 2.7  | 2.4  | 2.5  | 2.4  | 2.3  | 2.3  | 2.0  | 2.0  | 2.2  | 2.1  | 2.1  | 2.1  | 2.7  | 2.5   | 2.2   | 2.1   |
| Euro area      | 1.3  | 1.7  | 2.1  | 2.1  | 2.0  | 1.9  | 1.7  | 1.5  | 1.5  | 1.5  | 1.6  | 1.6  | 1.5  | 1.8   | 1.8   | 1.6   |
| Australia      | 1.9  | 2.1  | 1.9  | 1.9  | 1.9  | 2.1  | 2.2  | 2.2  | 2.3  | 2.4  | 2.4  | 2.4  | 1.9  | 1.9   | 2.1   | 2.4   |
| New Zealand    | 1.1  | 1.5  | 2.0  | 1.6  | 1.6  | 1.6  | 1.6  | 1.7  | -    | -    | -    | -    | 1.9  | 1.6   | 1.6   | -     |

## Exchange rates

%, end of period

|         | Actual |       |       |       |       |       |       | Forecast |       |       |       |       | Actual | Forecast |       |
|---------|--------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|--------|----------|-------|
|         | 17Q1   | 17Q2  | 17Q3  | 17Q4  | 18Q1  | 18Q2  | 18Q3  | 18Q4     | 19Q1  | 19Q2  | 19Q3  | 19Q4  | 2017   | 2018     | 2019  |
| AUD/USD | 0.76   | 0.77  | 0.78  | 0.78  | 0.77  | 0.74  | 0.72  | 0.72     | 0.68  | 0.67  | 0.67  | 0.67  | 0.78   | 0.72     | 0.67  |
| USD/CAD | 1.33   | 1.30  | 1.25  | 1.26  | 1.29  | 1.31  | 1.29  | 1.33     | 1.35  | 1.34  | 1.33  | 1.33  | 1.26   | 1.33     | 1.33  |
| EUR/USD | 1.07   | 1.14  | 1.18  | 1.20  | 1.23  | 1.17  | 1.16  | 1.13     | 1.10  | 1.10  | 1.13  | 1.16  | 1.20   | 1.13     | 1.16  |
| USD/JPY | 111.4  | 112.4 | 112.5 | 112.7 | 106.3 | 110.8 | 113.7 | 114.0    | 117.0 | 119.0 | 122.0 | 125.0 | 112.7  | 114.0    | 125.0 |
| USD/CNY | 6.88   | 6.77  | 6.63  | 6.51  | 6.29  | 6.62  | 6.87  | 6.90     | 7.10  | 7.25  | 7.40  | 7.50  | 6.51   | 6.90     | 7.50  |
| USD/CHF | 1.00   | 0.96  | 0.97  | 0.97  | 0.95  | 0.99  | 0.98  | 1.00     | 1.04  | 1.05  | 1.04  | 1.03  | 0.97   | 1.00     | 1.03  |
| GBP/USD | 1.26   | 1.30  | 1.34  | 1.35  | 1.40  | 1.32  | 1.30  | 1.27     | 1.24  | 1.22  | 1.24  | 1.25  | 1.35   | 1.27     | 1.25  |

Note: Exchange rates are expressed in units per USD, with the exception of the euro, GBP, AUD, and NZD, which are expressed in USD per local currency unit.

Source: Reuters, RBC Economics Research forecasts

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