

Brace for a ‘bumpy’ landing, Canada

September 12, 2022

A truly ‘soft’ landing for the economy is one where labour markets and broader economic conditions settle to sustainable levels — without a contraction in GDP or unemployment rates rising above ‘full-employment’ levels. This scenario, while ideal, looks increasingly unlikely for the Canadian economy. Labour markets remain exceptionally strong across most advanced economies with unemployment rates still around the lowest levels in decades. But central banks at home and abroad continue to push ahead with aggressive interest rate hikes intended to cool overheating demand and tame inflation pressures. We expect the year ahead to bring recessions for Canada, the United States, the Euro area, and the United Kingdom

That said, we expect the coming downturn in Canada will be ‘moderate’ by historical standards. Our own call is for the unemployment rate to rise 1.7 percentage points from trough to peak over the next year and a half. Compared to previous downturns, that kind of labour pain is relatively mild. Signs are that inflation pressures have peaked, at least in North America as global commodity prices fall from very high levels, supply chain disruptions ease and housing markets correct under the weight of rising mortgage costs. Still, central banks will continue to pump the monetary policy brakes until consumer demand has softened enough to bring inflation rates fully back to target.

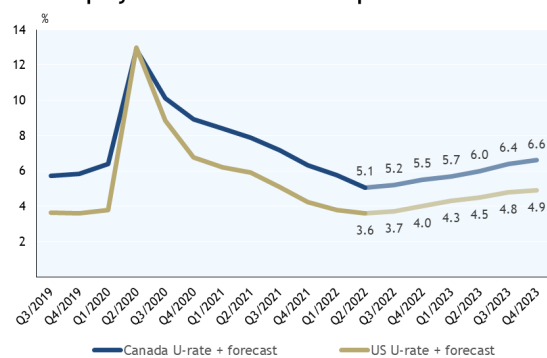
Inflation in North America may have peaked...

Price growth continues to surge in Europe as the war in Ukraine and disruptions to supply lines from Russia keep natural gas prices at record levels. But in North America, lower commodity prices and easing supply chain snarls mean inflation, at least, may be past its peak.

U.S. and Canadian CPI growth edged lower on a year-over-year basis in July as gasoline prices declined (marking the first time this has happened in more than a year in Canada). And average price and wage plans also fell over July and August after a steady climb through the pandemic, according to the Canadian Federation of Independent Business. A similar story is playing out in the U.S., where the University of Michigan’s annual inflation expectation measure for August ticked to 4.6%, more than a full percentage point off of its peak in March. Traders have continued to price lower inflation expectations into bond markets.

Global shipping indicators have continued to show improvement in both time and cost for transporting goods. Growth in the price of industrial outputs in both Canada and the U.S.—which drove early inflation pressures a year ago—are now showing outright declines in July.

Unemployment rates will drift up from historic lows



Source: Haver, RBC Economics Research

Canadian CPI and business wage/price plans peaking



Source: StatCan, CFIB, RBC Economics

...but won't ease fully without softer consumer demand

Still, inflation rates won't be fully back under control until consumer demand slows further. Headline rates were at 7.6% for Canada and 8.5% for the U.S. in July, far above the pace central banks are comfortable with. And just as growth in the price of goods began to moderate, pent-up demand for travel and leisure activities has been pushing services inflation higher. Prices for dining out, trips and tours, and hotels and airfares all surged over the summer, though overall spending flattened out a bit more in August according to our own tracking of debit and credit card transactions.

We expect 'core' price growth (excluding food & energy products) will exceed headline inflation in both Canada and the U.S. by the end of this year as broader inflation pressures remain firm. A larger pullback in consumer demand—driven by higher interest rates — will likely be needed to bring overall inflation rates fully back towards the 2% target rate.

Central banks willing to cause some near-term pain to avoid larger medium-term risks

For central banks, the potential consequences of not acting quickly enough to contain price growth—and possibly, losing all influence over longer-run consumer and business inflation expectations—outweigh the risks of hiking interest rates too much. Unhinged inflation expectations can become a self-fulfilling prophecy, affecting longer run business contracts and causing high inflation rates to become entrenched. Allowing this sentiment to take root now could make the central bank's job of reining in inflation considerably harder, by demanding even higher interest rates, and a much larger downturn in economic activity than we currently expect. Against that backdrop, central banks clearly look willing to cause 'some pain'—in Fed Chair Powell's words—in the near-term to avoid that much larger downside scenario.

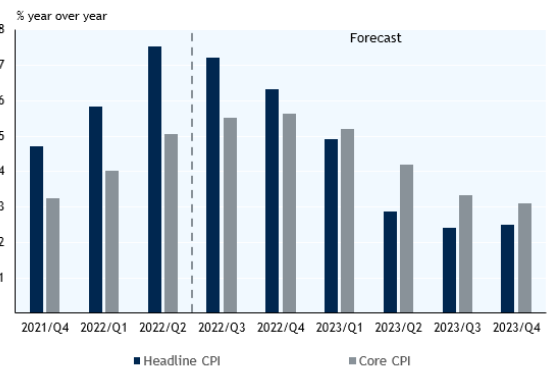
The Bank of Canada already pushed the overnight rate to a 'restrictive' 3.25% in September—and signaled more increases still to come. We now look for the BoC to hike the overnight rate to 4% by the end of this year. South of the border, we look for the U.S. Fed to hike the fed funds target to a 3.75% to 4% range.

That could be it for rate hikes this cycle, provided inflation continues to ease as expected. Interest rate cuts could come as soon as the second half of next year if a recession follows as we expect. But by the same token, risk remains that interest rates could rise further if inflation pressures don't show clear signs of deceleration in coming months.

Pandemic-battered services sector to cushion 2023 downturn

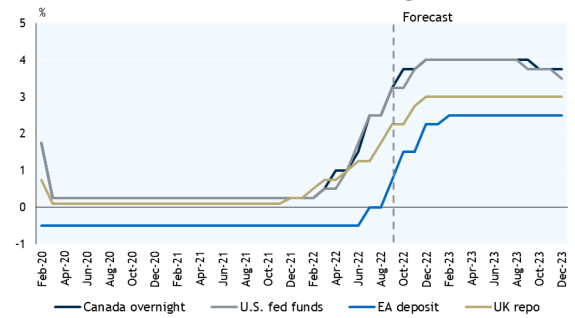
The coming downturn won't hit all sectors equally. And there are reasons to think that the travel and hospitality sector could perform relatively well. These businesses were badly bruised by pandemic restrictions—which isn't typically the case. In each of the 1980s, 1990s, and 2008/09 recessions, the hospitality sector outperformed the manufacturing sector.

Strength in core CPI to outpace headline in 2023



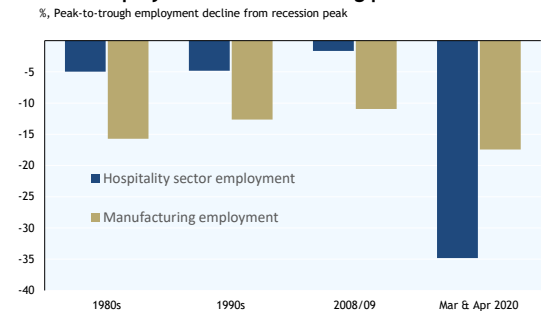
Source: StatCan, RBC Economics

Central banks hike interest rates to fight inflation



Source: Haver, RBC Economics

Canada employment declines during previous recessions



Source: Statistics Canada, RBC Economics Research

As restrictions ease, there are good reasons to expect services to outperform again. Excess savings accumulated during the pandemic are larger for the higher-income households that account for a disproportionate share of non-discretionary purchases. Spending by those households is less-sensitive to higher inflation and interest rates. And pent-up demand for those services has yet to be fully released. Indeed, early signs of a pull-back in consumer demand have largely come from lower purchases of goods as spending rotates back towards services.

Labour market strength will delay, not prevent, a downturn

Labour market conditions still look exceptionally tight. Job vacancies that breached a million in April have kept rising. And though the number of job openings slowed over July, they remained more than 60% above pre-pandemic levels. The high number of job openings means demand for workers can still fall substantially before there is a corresponding increase in unemployment. Still, Canada's unemployment jumped to 5.4% in August and we expect further increases as the broader economic backdrop deteriorates. Layoffs have also edged higher in the United States since the spring.

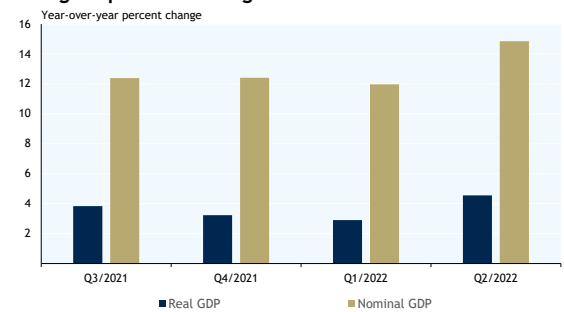
That doesn't mean current labour shortages are a thing of the past. Longer-run demographic challenges tied to an aging population mean [labour market shortages](#) are likely the new normal. They might ease during a recession, but they'll return once the economy and labour markets have recovered.

Silver linings from strong business investment and high commodity prices

Faced with increasing competition for labour input, businesses have been pouring more money into capital investments. In Canada, business investment jumped almost 14% (annualized rate) in Q2 and 8.8% from a year ago. That's a positive development given Canada's lackluster historical track record on labour productivity.

'Nominal' GDP (which includes price impacts) has increased 3 times as quickly as 'real' GDP over the last year. That partly reflects higher consumer price growth, but elevated commodity prices have also pushed export prices up 25% from a year ago. Oil and gas investment spending was up 17% in Q2 2022 alone and drilling activity has continued to rise through the summer. That surge in the value of economic output is increasing cash available for investment. It will also result in higher government tax revenues, particularly in oil producing regions.

Higher prices boosting Canadian nominal GDP



Source: Statistics Canada, RBC Economics Research

Housing market slowdown to sideline excess pandemic savings?

Households are still sitting on more than \$300 billion of extra savings accumulated over the pandemic—the result of fewer options to spend and exceptionally large government supports that propped up household incomes. But housing markets are also shifting from a tailwind to a headwind for consumer spending.

We expect composite house prices to fall more than 14% from peak to trough, a decline that would knock more than a trillion dollars off of household net worth. To be clear, that drop would still only partially retrace the \$2.4 trillion increase in household equity in real estate accumulated over the pandemic. And only a small portion of changes to household wealth typically flow through to actual near-term spending and saving decisions.

Housing and spending slowdown to drive lower growth



Source: StatCan, RBC Projections

But Canadians will feel less wealthy as house prices drop and borrowing costs rise, and will be less likely to spend from their pan-

Economic forecast detail — Canada

Real growth in the economy

Quarter-over-quarter annualized % change unless otherwise indicated

| | Forecast | | | | | | | | | | | | Forecast | | |
|------------------------------------|------------|-------------|------------|------------|------------|------------|------------|------------|------------|-------------|-------------|------------|------------|------------|------------|
| | 2021 | | | | 2022 | | | | 2023 | | | | 2021 | 2022F | 2023F |
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | | | |
| Household Consumption | 0.9 | -0.8 | 20.1 | 1.8 | 2.6 | 9.7 | 2.8 | 2.0 | 0.5 | -0.4 | -0.8 | 0.3 | 5.0 | 5.5 | 1.2 |
| Durables | -9.2 | -7.9 | -1.9 | 1.2 | 8.8 | -12.0 | 2.6 | 1.8 | -2.5 | -1.5 | -1.0 | 0.5 | 7.3 | -0.4 | -1.2 |
| Semi-Durables | 8.0 | -13.9 | 72.7 | -0.1 | 0.8 | 24.4 | -0.5 | 2.0 | 1.5 | -2.0 | -1.5 | 1.0 | 13.9 | 10.6 | 1.5 |
| Non-durables | 1.7 | -6.9 | 2.8 | -1.7 | 2.1 | 4.6 | 2.0 | 2.0 | 1.0 | -1.3 | -1.0 | 0.0 | 1.5 | 1.3 | 0.8 |
| Services | 2.4 | 6.4 | 29.8 | 3.9 | 1.5 | 16.3 | 3.6 | 2.0 | 0.8 | 0.5 | -0.5 | 0.3 | 5.0 | 8.4 | 2.0 |
| NPISH consumption | -9.1 | 1.2 | 7.4 | 7.6 | 1.7 | 8.2 | 2.8 | 2.0 | 0.5 | -0.4 | -0.8 | 0.3 | 5.0 | 4.8 | 1.2 |
| Government expenditures | 8.2 | 3.2 | 1.7 | 2.3 | 2.5 | 0.0 | 1.0 | 0.7 | 1.5 | 2.0 | 1.5 | 1.5 | 5.8 | 1.6 | 1.3 |
| Government fixed investment | 4.7 | -9.8 | 8.3 | 6.6 | 4.5 | -7.9 | 3.0 | 3.0 | 2.5 | 2.0 | 2.5 | 2.5 | 4.4 | 1.7 | 1.9 |
| Residential investment | 43.9 | -12.7 | -30.3 | 12.4 | 7.3 | -27.6 | -10.1 | -4.2 | -3.5 | -2.0 | -1.0 | 0.5 | 15.3 | -8.7 | -5.5 |
| Non-residential investment | -0.6 | 16.8 | 2.3 | 10.2 | 9.0 | 13.9 | 7.0 | 2.3 | 2.8 | -2.5 | -0.4 | 1.5 | 2.3 | 9.0 | 2.4 |
| Non-residential structures | 15.7 | 9.4 | 4.0 | 13.9 | 12.7 | 11.1 | 12.5 | 2.5 | 3.0 | -2.0 | 0.0 | 2.0 | -0.3 | 10.6 | 3.1 |
| Machinery & equipment | -21.6 | 30.5 | -0.5 | 3.8 | 2.5 | 19.3 | -2.7 | 2.0 | 2.5 | -3.5 | -1.0 | 0.5 | 6.6 | 6.2 | 1.0 |
| Intellectual property | 6.3 | 0.5 | -7.8 | -2.2 | -2.3 | 2.3 | 5.0 | 2.5 | 1.0 | 1.0 | 2.5 | 1.0 | 0.6 | -0.8 | 2.0 |
| Final domestic demand | 6.0 | -0.3 | 7.3 | 3.7 | 3.5 | 2.9 | 1.6 | 1.2 | 0.6 | -0.1 | -0.1 | 0.8 | 5.6 | 3.3 | 0.8 |
| Exports | 2.5 | -17.1 | 6.6 | 13.6 | -9.0 | 10.9 | 14.5 | 1.7 | 2.5 | 2.8 | 3.8 | 1.5 | 1.4 | 3.5 | 4.4 |
| Imports | 5.6 | 2.4 | -1.2 | 16.9 | -1.4 | 30.5 | -5.7 | 3.5 | 1.2 | 2.5 | 3.0 | 4.5 | 7.7 | 7.3 | 3.0 |
| Inventories (change in \$b) | -10.4 | 8.6 | -12.9 | 5.3 | 14.7 | 46.2 | 7.5 | 8.5 | 5.0 | 2.5 | -1.5 | 0.5 | -2.4 | 19.2 | 1.6 |
| Real gross domestic product | 4.4 | -3.1 | 5.3 | 6.6 | 3.1 | 3.3 | 1.5 | 0.8 | 0.4 | -0.5 | -0.5 | 0.2 | 4.5 | 3.3 | 0.5 |

Other indicators

Year-over-year % change unless otherwise indicated

| | | | | | | | | | | | | | | | |
|------------------------------------|------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Business and labour | | | | | | | | | | | | | | | |
| Productivity | -1.9 | -12.8 | -5.0 | -3.9 | -2.1 | -1.6 | 0.2 | 0.8 | 1.3 | 1.2 | 0.4 | 0.2 | -6.1 | -0.7 | 0.8 |
| Pre-tax corporate profits | 49.0 | 62.9 | 13.4 | 15.7 | 6.5 | 21.4 | 28.0 | 19.5 | 11.0 | -2.1 | -1.1 | -0.3 | 32.3 | 18.7 | 1.6 |
| Unemployment rate (%)* | 8.4 | 7.9 | 7.2 | 6.3 | 5.8 | 5.1 | 5.2 | 5.5 | 5.7 | 6.0 | 6.4 | 6.6 | 7.4 | 5.4 | 6.2 |
| Inflation | | | | | | | | | | | | | | | |
| Headline CPI | 1.4 | 3.3 | 4.1 | 4.7 | 5.8 | 7.5 | 7.2 | 6.3 | 4.9 | 2.9 | 2.4 | 2.5 | 3.4 | 6.7 | 3.2 |
| CPI ex. food and energy | 1.0 | 2.1 | 3.0 | 3.2 | 4.0 | 5.1 | 5.5 | 5.6 | 5.2 | 4.2 | 3.3 | 3.1 | 2.4 | 5.1 | 4.0 |
| External trade | | | | | | | | | | | | | | | |
| Current account balance (\$b)* | 1.3 | -1.5 | 5.0 | -0.5 | 10.6 | 10.8 | 45.7 | 38.0 | 39.7 | 38.6 | 41.1 | 35.5 | 1.1 | 26.3 | 38.7 |
| % of GDP* | 0.1 | -0.1 | 0.2 | 0.0 | 0.4 | 0.4 | 1.6 | 1.3 | 1.4 | 1.3 | 1.4 | 1.2 | 0.0 | 1.1 | 1.4 |
| Housing starts (000s)* | 304 | 279 | 262 | 261 | 244 | 271 | 274 | 253 | 247 | 243 | 236 | 235 | 271 | 261 | 240 |
| Motor vehicle sales (mill., saar)* | 1.78 | 1.74 | 1.63 | 1.55 | 1.62 | 1.59 | 1.68 | 1.69 | 1.68 | 1.67 | 1.67 | 1.67 | 1.68 | 1.65 | 1.67 |

*Period average

Source: Statistics Canada, RBC Economics

Economic forecast detail — United States

Real growth in the economy

Quarter-over-quarter annualized % change unless otherwise indicated

| | Forecast | | | | | | | | | | | | Forecast | | |
|------------------------------------|------------|------------|------------|------------|-------------|-------------|------------|------------|-------------|-------------|------------|------------|------------|------------|------------|
| | 2021 | | | | 2022 | | | | 2023 | | | | Forecast | | |
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | 2021 | 2022F | 2023F |
| Consumer spending | 11.4 | 12.0 | 2.0 | 2.5 | 1.8 | 1.5 | 0.0 | 1.3 | -1.1 | -1.3 | 0.8 | 1.3 | 7.9 | 2.2 | 0.0 |
| Durables | 50.0 | 11.6 | -24.6 | 2.5 | 5.9 | -0.1 | -3.5 | 2.0 | -3.7 | -4.5 | 0.7 | 0.5 | 18.1 | -1.3 | -1.8 |
| Non-durables | 15.9 | 13.9 | 2.0 | 0.4 | -3.7 | -3.7 | -2.0 | 3.5 | -2.0 | -2.0 | 1.8 | 1.8 | 9.1 | -0.6 | -0.4 |
| Services | 3.9 | 11.5 | 8.2 | 3.3 | 3.0 | 3.6 | 1.2 | 0.5 | -0.3 | -0.5 | 0.5 | 1.2 | 5.8 | 3.9 | 0.4 |
| Government spending | 4.2 | -2.0 | 0.9 | -2.6 | -2.9 | -1.8 | 2.0 | 2.8 | 4.5 | 3.5 | -0.5 | 0.0 | 0.5 | -1.2 | 2.4 |
| Residential investment | 13.3 | -11.7 | -7.7 | 2.1 | 0.5 | -16.2 | -5.6 | -1.6 | -3.5 | -2.5 | -1.5 | -1.5 | 9.2 | -5.2 | -3.7 |
| Non-residential investment | 12.9 | 9.2 | 1.6 | 2.9 | 10.0 | 0.0 | 4.1 | 1.7 | 2.0 | 2.2 | 2.4 | 2.1 | 7.4 | 4.3 | 2.2 |
| Non-residential structures | 5.4 | -3.0 | -4.1 | -8.3 | -0.9 | -13.2 | 7.5 | 2.5 | 3.0 | 4.0 | 3.0 | 4.5 | -8.0 | -4.1 | 2.6 |
| Equipment & software | 14.1 | 12.2 | -2.4 | 2.8 | 14.1 | -2.7 | 4.5 | 1.0 | 1.5 | 1.5 | 2.5 | 1.2 | 13.1 | 4.4 | 1.6 |
| Intellectual property | 15.6 | 12.5 | 9.1 | 8.9 | 11.2 | 10.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 10.0 | 8.6 | 2.5 |
| Final domestic demand | 10.4 | 8.0 | 1.3 | 1.7 | 2.0 | -0.2 | 0.7 | 1.5 | 0.3 | 0.0 | 0.7 | 1.0 | 6.5 | 1.6 | 0.6 |
| Exports | -2.9 | 7.6 | -5.3 | 22.4 | -4.8 | 17.6 | 5.0 | 2.5 | 3.5 | 1.5 | -1.0 | 3.0 | 4.5 | 6.3 | 3.3 |
| Imports | 9.3 | 7.1 | 4.7 | 17.9 | 18.9 | 2.8 | 6.0 | 3.0 | 5.0 | 2.0 | 1.5 | 3.0 | 14.0 | 10.3 | 3.5 |
| Inventories (change in \$b) | -88.3 | -168.5 | -66.8 | 193.2 | 188.5 | 83.9 | 150.0 | 105.0 | 85.0 | 65.0 | 45.0 | 20.0 | -32.6 | 131.9 | 53.8 |
| Real gross domestic product | 6.3 | 6.7 | 2.3 | 6.9 | -1.6 | -0.6 | 1.8 | 0.6 | -0.4 | -0.5 | 0.0 | 0.5 | 5.7 | 1.7 | 0.1 |

Other indicators

Year-over-year % change unless otherwise indicated

| | | | | | | | | | | | | | | | |
|---------------------------------------|------|------|------|------|-------|---------|---------|---------|---------|---------|---------|---------|------|---------|---------|
| Business and labour | | | | | | | | | | | | | | | |
| Productivity | 3.7 | 2.3 | -0.5 | 2.0 | -0.6 | -2.3 | -1.6 | -3.1 | -1.3 | -0.4 | 0.1 | 0.3 | 1.9 | -1.9 | -0.3 |
| Pre-tax corporate profits | 17.6 | 45.1 | 19.7 | 21.0 | 12.6 | 8.1 | 6.5 | 5.8 | 7.9 | 1.3 | -0.8 | -0.8 | 25.0 | 8.1 | 1.8 |
| Unemployment rate (%)* | 6.2 | 5.9 | 5.1 | 4.2 | 3.8 | 3.6 | 3.7 | 4.0 | 4.3 | 4.5 | 4.8 | 4.9 | 5.4 | 3.8 | 4.6 |
| Inflation | | | | | | | | | | | | | | | |
| Headline CPI | 1.9 | 4.8 | 5.3 | 6.7 | 8.0 | 8.6 | 8.0 | 6.3 | 4.5 | 2.4 | 1.8 | 2.1 | 4.7 | 7.7 | 2.7 |
| CPI ex. food and energy | 1.4 | 3.7 | 4.1 | 5.0 | 6.3 | 6.0 | 6.2 | 5.7 | 4.7 | 3.8 | 3.0 | 2.7 | 3.6 | 6.1 | 3.5 |
| External trade | | | | | | | | | | | | | | | |
| Current account balance (\$b)* | -755 | -826 | -906 | -899 | -1166 | -1088 | -1104 | -1111 | -1130 | -1136 | -1153 | -1162 | -846 | -1117 | -1146 |
| % of GDP* | -3.4 | -3.6 | -3.9 | -3.8 | -4.8 | -4371.2 | -4361.4 | -4355.5 | -4408.3 | -4417.2 | -4461.2 | -4469.9 | -3.7 | -4464.3 | -4439.3 |
| Housing starts (000s)* | 1581 | 1591 | 1569 | 1679 | 1720 | 1655 | 1400 | 1375 | 1350 | 1351 | 1352 | 1353 | 1605 | 1538 | 1352 |
| Motor vehicle sales (millions, saar)* | 16.8 | 16.9 | 13.3 | 12.9 | 14.1 | 13.4 | 13.3 | 13.4 | 13.3 | 13.1 | 13.1 | 13.1 | 15.0 | 13.6 | 13.2 |

*Period average

Source: Bureau of Economic Analysis, RBC Economics

Financial market forecast detail

Interest rates—North America

%, end of period

| | <u>21Q1</u> | <u>21Q2</u> | <u>21Q3</u> | <u>21Q4</u> | <u>22Q1</u> | <u>22Q2</u> | <u>22Q3</u> | <u>22Q4</u> | <u>23Q1</u> | <u>23Q2</u> | <u>23Q3</u> | <u>23Q4</u> |
|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Canada | | | | | | | | | | | | |
| Overnight | 0.25 | 0.25 | 0.25 | 0.25 | 0.50 | 1.50 | 3.25 | 4.00 | 4.00 | 4.00 | 4.00 | 3.75 |
| Three-month | 0.09 | 0.15 | 0.12 | 0.16 | 0.60 | 2.08 | 3.30 | 3.90 | 3.90 | 3.90 | 3.90 | 3.45 |
| Two-year | 0.23 | 0.45 | 0.53 | 0.95 | 2.29 | 3.09 | 3.55 | 3.55 | 3.40 | 3.30 | 3.20 | 3.00 |
| Five-year | 0.99 | 0.98 | 1.11 | 1.26 | 2.41 | 3.11 | 3.15 | 3.00 | 2.90 | 2.80 | 2.70 | 2.50 |
| 10-year | 1.56 | 1.39 | 1.51 | 1.43 | 2.40 | 3.23 | 3.00 | 2.85 | 2.80 | 2.70 | 2.65 | 2.55 |
| 30-year | 1.99 | 1.84 | 1.99 | 1.68 | 2.38 | 3.14 | 3.00 | 2.85 | 2.85 | 2.80 | 2.75 | 2.70 |
| Yield curve (10s-2s) | 133 | 94 | 98 | 48 | 11 | 14 | -55 | -70 | -60 | -60 | -55 | -45 |
| United States | | | | | | | | | | | | |
| Fed funds* | 0.13 | 0.13 | 0.13 | 0.13 | 0.38 | 1.63 | 3.13 | 3.88 | 3.88 | 3.88 | 3.63 | 3.38 |
| Three-month | 0.03 | 0.05 | 0.04 | 0.06 | 0.52 | 1.72 | 3.20 | 3.85 | 3.80 | 3.70 | 3.50 | 3.25 |
| Two-year | 0.16 | 0.25 | 0.28 | 0.73 | 2.28 | 2.92 | 3.60 | 3.55 | 3.40 | 3.25 | 3.15 | 3.00 |
| Five-year | 0.92 | 0.87 | 0.98 | 1.26 | 2.42 | 3.01 | 3.45 | 3.40 | 3.20 | 3.00 | 2.90 | 2.80 |
| 10-year | 1.74 | 1.45 | 1.52 | 1.52 | 2.32 | 2.98 | 3.15 | 3.00 | 2.85 | 2.75 | 2.65 | 2.55 |
| 30-year | 2.41 | 2.06 | 2.08 | 1.90 | 2.44 | 3.14 | 3.30 | 3.15 | 2.95 | 2.80 | 2.75 | 2.70 |
| Yield curve (10s-2s) | 158 | 120 | 124 | 79 | 4 | 6 | -45 | -55 | -55 | -50 | -50 | -45 |
| Yield spreads | | | | | | | | | | | | |
| Three-month T-bills | 0.06 | 0.10 | 0.08 | 0.10 | 0.08 | 0.36 | 0.10 | 0.05 | 0.10 | 0.20 | 0.40 | 0.20 |
| Two-year | 0.07 | 0.20 | 0.25 | 0.22 | 0.01 | 0.17 | -0.05 | 0.00 | 0.00 | 0.05 | 0.05 | 0.00 |
| Five-year | 0.07 | 0.11 | 0.13 | 0.00 | -0.01 | 0.10 | -0.30 | -0.40 | -0.30 | -0.20 | -0.20 | -0.30 |
| 10-year | -0.18 | -0.06 | -0.01 | -0.09 | 0.08 | 0.25 | -0.15 | -0.15 | -0.05 | -0.05 | 0.00 | 0.00 |
| 30-year | -0.42 | -0.22 | -0.09 | -0.22 | -0.06 | 0.00 | -0.30 | -0.30 | -0.10 | 0.00 | 0.00 | 0.00 |

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

Interest rates—International

%, end of period

| | <u>21Q1</u> | <u>21Q2</u> | <u>21Q3</u> | <u>21Q4</u> | <u>22Q1</u> | <u>22Q2</u> | <u>22Q3</u> | <u>22Q4</u> | <u>23Q1</u> | <u>23Q2</u> | <u>23Q3</u> | <u>23Q4</u> |
|-----------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| United Kingdom | | | | | | | | | | | | |
| Repo | 0.10 | 0.10 | 0.10 | 0.25 | 0.75 | 1.25 | 2.25 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| Two-year | 0.11 | 0.07 | 0.40 | 0.68 | 1.36 | 1.85 | 3.00 | 3.00 | 3.00 | 2.85 | 2.65 | 2.60 |
| Five-year | 0.40 | 0.33 | 0.62 | 0.82 | 1.40 | 1.88 | 3.00 | 3.00 | 2.80 | 2.60 | 2.50 | 2.40 |
| 10-year | 0.85 | 0.72 | 1.02 | 0.97 | 1.60 | 2.22 | 3.00 | 3.25 | 3.00 | 2.75 | 2.60 | 2.50 |
| 30-year | 1.40 | 1.24 | 1.37 | 1.12 | 1.77 | 2.59 | 3.40 | 3.50 | 3.25 | 3.00 | 2.90 | 2.85 |
| Euro Area | | | | | | | | | | | | |
| Deposit rate | -0.50 | -0.50 | -0.50 | -0.50 | -0.50 | -0.50 | 0.75 | 2.00 | 2.50 | 2.50 | 2.50 | 2.50 |
| Two-year | -0.69 | -0.67 | -0.69 | -0.64 | -0.08 | 0.64 | 1.25 | 1.40 | 1.60 | 1.50 | 1.50 | 1.50 |
| Five-year | -0.62 | -0.59 | -0.56 | -0.45 | 0.37 | 1.09 | 1.50 | 1.70 | 1.60 | 1.60 | 1.55 | 1.50 |
| 10-year | -0.29 | -0.20 | -0.21 | -0.18 | 0.55 | 1.36 | 1.75 | 2.00 | 1.75 | 1.70 | 1.65 | 1.55 |
| 30-year | 0.26 | 0.30 | 0.29 | 0.20 | 0.67 | 1.63 | 1.90 | 2.10 | 1.90 | 1.85 | 1.80 | 1.75 |
| Australia | | | | | | | | | | | | |
| Cash target rate | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.85 | 2.35 | 3.10 | 3.10 | 3.10 | 3.10 | 2.85 |
| Two-year | 0.08 | 0.06 | 0.04 | 0.54 | 1.78 | 2.73 | 2.95 | 2.75 | 2.60 | 2.50 | 2.25 | 2.00 |
| 10-year | 1.74 | 1.49 | 1.49 | 1.67 | 2.84 | 3.66 | 3.50 | 3.20 | 3.15 | 3.15 | 3.05 | 2.80 |
| New Zealand | | | | | | | | | | | | |
| Cash target rate | 0.25 | 0.25 | 0.25 | 0.75 | 1.00 | 2.00 | 3.00 | 3.75 | 3.75 | 3.75 | 3.50 | 3.25 |
| Two-year | 0.46 | 0.78 | 1.39 | 2.16 | 3.27 | 4.06 | 4.10 | 4.00 | 3.75 | 3.50 | 3.25 | 3.00 |
| 10-year | 1.95 | 1.87 | 2.21 | 2.62 | 3.38 | 4.10 | 3.90 | 3.70 | 3.55 | 3.40 | 3.20 | 3.10 |

Outlook

Growth outlook

% change, quarter-over-quarter in real GDP

| | <u>21Q1</u> | <u>21Q2</u> | <u>21Q3</u> | <u>21Q4</u> | <u>22Q1</u> | <u>22Q2</u> | <u>22Q3</u> | <u>22Q4</u> | <u>23Q1</u> | <u>23Q2</u> | <u>23Q3</u> | <u>23Q4</u> |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Canada* | 4.4 | -3.1 | 5.3 | 6.6 | 3.1 | 3.3 | 1.5 | 0.8 | 0.4 | -0.5 | -0.5 | 0.2 |
| United States* | 6.3 | 6.7 | 2.3 | 6.9 | -1.6 | -0.6 | 1.8 | 0.6 | -0.4 | -0.5 | 0.0 | 0.5 |
| United Kingdom | -1.2 | 5.6 | 0.9 | 1.3 | 0.8 | -0.1 | -0.1 | -0.3 | -0.2 | 0.1 | 0.2 | 0.2 |
| Euro Area | -0.1 | 2.0 | 2.2 | 0.5 | 0.7 | 0.8 | -0.2 | -0.5 | -0.3 | 0.1 | 0.2 | 0.2 |
| Australia | 1.9 | 0.6 | -1.8 | 3.9 | 0.7 | 0.9 | 0.5 | 0.6 | 0.3 | 0.3 | 0.2 | 0.2 |

*Seasonally adjusted annualized rates

Inflation outlook

% change, year-over-year

| | <u>21Q1</u> | <u>21Q2</u> | <u>21Q3</u> | <u>21Q4</u> | <u>22Q1</u> | <u>22Q2</u> | <u>22Q3</u> | <u>22Q4</u> | <u>23Q1</u> | <u>23Q2</u> | <u>23Q3</u> | <u>23Q4</u> |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Canada | 1.4 | 3.3 | 4.1 | 4.7 | 5.8 | 7.5 | 7.2 | 6.3 | 4.9 | 2.9 | 2.4 | 2.5 |
| United States | 1.9 | 4.8 | 5.3 | 6.7 | 8.0 | 8.6 | 8.0 | 6.3 | 4.5 | 2.4 | 1.8 | 2.1 |
| United Kingdom | 0.6 | 2.0 | 2.8 | 4.9 | 6.2 | 9.2 | 10.0 | 9.5 | 8.0 | 4.3 | 2.9 | 1.7 |
| Euro Area | 1.1 | 1.8 | 2.8 | 4.6 | 6.1 | 8.0 | 8.5 | 8.6 | 7.1 | 4.3 | 3.8 | 3.3 |
| Australia | 1.1 | 3.8 | 3.0 | 3.5 | 5.1 | 6.1 | 7.0 | 7.7 | 6.7 | 5.9 | 5.3 | 4.3 |

Exchange rates

End of period

| | <u>21Q1</u> | <u>21Q2</u> | <u>21Q3</u> | <u>21Q4</u> | <u>22Q1</u> | <u>22Q2</u> | <u>22Q3</u> | <u>22Q4</u> | <u>23Q1</u> | <u>23Q2</u> | <u>23Q3</u> | <u>23Q4</u> |
|---------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| AUD/USD | 0.76 | 0.75 | 0.72 | 0.73 | 0.75 | 0.69 | 0.67 | 0.66 | 0.66 | 0.67 | 0.67 | 0.68 |
| USD/CAD | 1.26 | 1.24 | 1.27 | 1.26 | 1.25 | 1.29 | 1.32 | 1.31 | 1.32 | 1.33 | 1.34 | 1.34 |
| EUR/USD | 1.17 | 1.19 | 1.16 | 1.14 | 1.11 | 1.05 | 0.99 | 0.97 | 0.95 | 0.98 | 1.02 | 1.05 |
| USD/JPY | 110.7 | 111.1 | 111.3 | 115.1 | 121.7 | 135.7 | 145.0 | 147.0 | 150.0 | 145.0 | 142.0 | 139.0 |
| USD/CHF | 0.94 | 0.93 | 0.93 | 0.91 | 0.92 | 0.96 | 0.98 | 0.99 | 1.00 | 0.96 | 0.91 | 0.88 |
| GBP/USD | 1.38 | 1.38 | 1.35 | 1.35 | 1.31 | 1.22 | 1.13 | 1.08 | 1.04 | 1.08 | 1.13 | 1.17 |

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

Source: Reuters, RBC Economics forecasts

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