

November 8, 2021
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Central banks feeling the pressure

Strong inflation prints, ongoing supply chain bottlenecks, labour shortages, and further increases in commodity prices continued to stoke inflation concerns in October. Short-term yields rose sharply as investors bet central banks will have to raise rates sooner and faster if they are going to be able to rein in inflation. For their part, policymakers stuck to the view that current price pressures will fade over time though they stand ready to act if that doesn't prove to be the case. We think the key question shaping up for 2022 is, can central banks continue to hold rates low until economies fully recover, or will inflation concerns force them to act more conventionally and raise rates in advance?

The BoE certainly appears to be in the latter camp, indicating rate increases are likely in the coming months after a close call not to raise rates in November. We now look for hikes in December and February but think market pricing for Bank Rate to hit 1% by the end of next year looks too high. The BoC has committed to not raising rates until economic slack is absorbed but arguably wavered on that in October when it opened the door to earlier hikes despite downgrading its growth projections. We now look for three rate increases in 2022 beginning in April—again not as aggressive as markets are pricing. The Fed continued to emphasize it wants to achieve maximum employment before raising fed funds but received plenty of questions on how it would handle conflicting inflation and employment objectives.

Markets are pricing in rate hike next year by the ECB and RBA though we don't expect a move from either at this stage as they reduce QE programs in 2022. Markets have easily digested tapering announcements by other central banks with yield curves generally flattening as higher policy rates are seen capping inflation and slowing medium-term growth.

Central bank near-term bias



Despite downgrading its growth forecasts, the BoC opened the door to an earlier rate hike at its October meeting. We now look for interest rate liftoff in April with three hikes seen in 2022, up from two previously.



The Fed will begin tapering asset purchases this month and should wind down QE by mid-2022. That leaves the door open for rate hikes later next year and we look for a 25bp increase in late-2022.



After a close call in November, the BoE looks set to raise rates in December as its QE program ends. We look for another hike in February that will set up for the central bank to begin shrinking its balance sheet.



ECB President Lagarde pushed back against market pricing for 20bps of rate hikes next year. It's near term focus will be on QE with PEPP likely to be phased out in March and other programs (including its ongoing Asset Purchase Program) being evaluated in December.



The RBA abandoned its yield curve control policy and acknowledged it might have to start raising rates in 2023. It wants to see stronger wage growth and we think conditions for a rate hike will be met in early-2023.



Highlights

▲ Lower auto sales subtracted 2.4ppts from annualized US GDP growth in Q3.

▲ Job growth is picking up and wages are accelerating, but labour force participation remains low.

▲ The Fed's tapering schedule should see net QE purchases end in mid-2022.

▲ Markets are pricing in two fed funds hikes next year, ahead of our forecast for one move.

US recovery slowed in Q3 but payrolls picking up

US GDP came in short of expectations in Q3 with a 2% annualized increase marking the slowest pace of growth in the recovery thus far. Consumer spending underwhelmed as a healthy gain on the services side was offset by the largest decline in auto sales in 40 years amid ongoing supply chain bottlenecks in the sector. That pullback is not likely to be repeated (even if chip shortages are slow to be resolved) and services spending is expected to continue to pick up as COVID concerns ease (hospitalizations are down 57% from their late-August peak). We are looking for GDP growth to accelerate to a 4.5% annualized pace in Q4. Robust wage growth and excess savings make for a healthy consumer spending backdrop heading into 2022, even as the expiry of several unemployment programs means less government support for households.

While it was hoped that expiring jobless benefits would prompt more Americans to look for work, labour force participation remains stubbornly low. Some of that has to do with retiring workers that are unlikely to rejoin the job market, but participation among 25-54 year olds also remains below pre-pandemic levels. We expect to see progress on that front as labour shortages force companies to offer higher wages. Average hourly earnings were up nearly 5% year-over-year in October and 11% higher in the leisure and hospitality sector. Employment growth picked up in October with 531,000 jobs added and another 235,000 in upward revisions to the prior two months. Payroll employment is still 4.2 million short of its pre-pandemic level though we don't think all those jobs have to be regained for the Fed to achieve its maximum employment objective. In our view job growth in the 2 million range over the next year alongside a further rebound in prime-age labour force participation will satisfy the central bank's goal, even if labour market conditions aren't quite as tight as pre-pandemic.

Fed finally tapers but pushes back on rate hike timing

The Fed finally decided in November that it had seen enough progress toward its inflation and employment objectives to begin tapering asset purchases. Combined Treasury and MBS monthly purchases of US\$120B will be reduced by US\$15B each month, which barring unexpected changes to the economic outlook would see QE phased out by mid-2022. While that's a more abbreviated taper than in 2014, the Fed carefully laid the groundwork for such a move and markets have digested the policy shift with relative ease. The Fed now holds about 30% of outstanding Treasuries (bonds and notes), above the 24% peak in 2014.

In announcing the tapering decision, Chair Powell continued to emphasize a more stringent test for rate increases. The Fed wants to see maximum employment and inflation at 2% and on track to exceed 2% for some time before beginning to lift the fed funds rate. That messaging appears to have had some success with short-term yields rising less dramatically in the US than in Canada. That said, markets have moved ahead of our forecast for a single fed funds hike in late-2022, with two rate increases now priced in next year. We think that reflects growing concern about inflation, with 5-year market-implied inflation hitting a record high (dating back to 2003) in late-October.

The Fed's policy statement pushed back on that view, saying the factors driving inflation higher are "expected to be transitory" and that vaccines and easing supply constraints should support further economic recovery and a reduction in inflation. However, Chair Powell acknowledged inflation risks are skewed to the upside and said the committee needs to be in a position to act if its inflation and employment objectives are in conflict. With headline inflation expected to slow toward 2% over the course of 2022, we think the Fed can wait until later next year to begin raising rates. But if inflation continues to surprise to the upside and hiring proves sluggish, expect the Fed to field more questions about whether it can continue to hold rates low until maximum employment is achieved.



Canada's GDP and jobs data sending different messages

Canada's GDP recovery has progressed in fits and starts and that appears to have continued with a 'flash' estimate pointing to flat activity in September. If confirmed, that would mean the economy hasn't strung together consecutive monthly gains since the first quarter. StatCan said its early estimate was consistent with 2% annualized growth in Q3, a lacklustre rebound following the previous quarter's 1.1% decline. We see some scope for upward revision when these industry output estimates are reconciled with expenditure data that has looked stronger, particularly on the consumer side with our tracker showing a solid recovery in hospitality and tourism spending. Our 4% forecast for Q3 GDP is still below the BoC's 5.5% projection from late-October.

Labour market data also gives us reason to discount soft GDP figures. Hours worked increased at a nearly 7% annualized pace in Q3 and rose another 1% (non-annualized) in October. Hiring slowed last month with 31,000 jobs added though more modest gains are to be expected with employment having returned to its pre-pandemic level in September. The unemployment rate ticked down to 6.7% in October and with labour force participation remaining healthy we think that figure is an accurate representation of current labour market slack, unlike in the US. The number of unemployed Canadians is now up 130,000 from its pre-pandemic level, nowhere near the 870,000 job vacancies reported as of August. Despite hiring difficulties—the BoC's Business Outlook Survey reported the most intense labour shortages in the survey's history—wage growth in Canada isn't accelerating as it is in the US and UK. StatCan reported average hourly wages have increased at a 2.5% annualized pace over the past two years (controlling for changes in the composition of jobs) which is about in line with headline inflation over that stretch.

BoC's hawkish surprise only added to rate hike bets

As expected, the BoC decided to move on from its QE program in October by shifting to a reinvestment pace of C\$4-5B in bond purchases each month aimed at keeping holdings relatively steady over the next year. We think that pace will be re-evaluated in the second half of 2022 as though any balance sheet shrinking will likely be done through maturities and not outright sales. The tapering process has been gradual and well communicated, and we think a moderate widening in Canada-US bond spreads post-meeting has less to do with QE and more to do with aggressive pricing for BoC hikes.

Indeed, strong inflation and employment data had markets increasingly betting on policy tightening leading into the BoC's October meeting. Investors saw that view at least partially validated when the central bank brought forward its guidance on when economic slack was likely to be absorbed. It effectively opened the door to an earlier rate hike even as it downgraded growth forecasts—a combination that suggests policymakers are becoming more concerned about inflation. Its 2022 headline CPI forecast (annual average) was lifted by a full percentage point to 3.4%, matching the revised projection for 2021. While inflation is expected to moderate over the course of 2022 as supply constraints ease, the bank will be closely watching wage growth and inflation expectations to ensure higher spot inflation isn't becoming more entrenched.

Our forecast assumes the economy will return to full capacity around the middle of 2022, consistent with the BoC's updated guidance. Given inflation concerns and uncertainty about the degree of economic slack, we think the bank will lean toward an earlier rate hike in April. Our call for three rate increases in 2022 is still well short of the four to five hikes priced in by markets. The Canadian dollar has been supported by both hawkish central bank expectations and rising commodity prices. But with BoC pricing looking more stretched than for the Fed, we think interest rate dynamics will work against the loonie in the coming months. With energy prices also expected to provide less of a tailwind, we continue to expect the Canadian dollar will slip back toward 80 US cents by year end and dip modestly below that mark in 2022.

Highlights

▲ We see reason to discount the preliminary estimate (+2% annualized) for Q3 GDP.

▲ Canada's labour market recovery is progressing but wage growth remains sluggish.

▲ The BoC downgraded its growth forecasts but revised output gap and potential growth estimates point to slack being absorbed sooner.

▲ That opened the door to an earlier rate hike and we now expect a move in April.

Highlights

▲ UK GDP growth hit a soft patch in Q3 but jobs numbers remain solid.

▲ The BoE looks set to be the first major central bank to raise rates in December.

▲ The euro area's unemployment rate is being flattered by shortened hours worked schemes.

▲ The RBA was forced to abandon its YCC policy with yields on the Apr-24 bond more than 65bps above target.

BoE opts not to hike in “close call”

UK GDP growth picked up in August after stalling in July, but gains have clearly slowed relative to the early stages of reopening in the spring. We trimmed our Q3 growth forecast to 1.5% (non-annualized) and expect a similar outturn in Q4 with activity being restrained by rising energy costs. Our updated annual GDP forecasts—7% this year and 5% next year—are in line with the BoE's downgraded projections from November. But while growth has disappointed, the labour market picture continues to improve with employment rising at a solid clip and redundancies remaining limited even as furlough support was made less generous. A slight uptick in the unemployment rate is still expected in Q4 with the government's furlough scheme having expired, but that peak is now expected to be lower (less than 5% per the BoE) than previously thought. Tight labour market conditions—abetted by retirements and a Brexit-related slowdown in labour force growth—are pushing wages higher with the ONS estimating the underlying pace of pay growth in the 4-5.5% range.

Weighing those developments, the BoE held its policy rate steady in September in what Governor Bailey said was a close call. The MPC clearly left the door open to a near-term hike, saying that if incoming data was in line with their forecasts it would be necessary to increase Bank Rate “over the coming months.” So long as jobs numbers released in mid-December (the first to cover the post-furlough period) don't dramatically underperform expectations we look for a 25bp rate hike at the BoE's December meeting. We think that will be followed up by a 10bp hike to 0.5% in February, the point at which the central bank said it would begin reducing reinvestment under its QE program. Markets were pricing even more aggressive hikes, but backed off somewhat after Governor Bailey indicated such a rate path would ultimately push inflation below target.

ECB pushes back on rate hike expectations

The euro area economy grew by more than 2% (non-annualized) for a second straight quarter in Q3, bringing GDP within half a percent of its pre-pandemic level. The latest PMI data suggest a cooling in the pace of growth in October and we expect a more modest 1% gain in Q4. Labour markets have continued to improve with the currency bloc's unemployment rate falling back to its pre-pandemic low of 7.4% in September. However, that figure continues to be flattered by shortened hours schemes and aggregate hours worked were still 4% below late-2019 levels as of Q2. That slack has kept a lid on labour costs and is increasing the ECB's confidence that elevated inflation—headline HICP matched a euro-era record at 4.1% in October—won't be sustained and will ultimately fall below its 2% target. The central bank has committed to keep rates low until it sees inflation being sustained at or above 2% over the second half of its forecast horizon. With that criteria still a long way from being met, Lagarde pushed back against market pricing for roughly 20bps of rate hikes in 2022. December's policy meeting is likely to focus more on the future of asset purchases, with the ECB's pandemic-era PEPP program expected to be phased out in March although QE is likely to continue under the existing Asset Purchase Program.

RBA abandons yield curve control

Increasing hawkishness from global central banks, an unexpectedly strong Q3 CPI report, and faster reopening from lockdowns saw markets pricing in much more aggressive hikes by the RBA leading up to its November meeting. That put pressure on the central bank's yield curve control policy which aimed to hold 3-year yields (the Apr-24 bond specifically) at the cash rate of 0.1%. With the yield on that bond rising above 0.75%, the RBA abandoned the policy altogether due to its “diminished” usefulness amid an improving economy and progress toward its inflation target. The RBA will continue its broader QE program at a pace of AS\$4B per week until mid-February, though we now expect a more abbreviated taper to AS\$2B thereafter with purchases likely to end in May. Governor Lowe said in his press conference that it's now plausible the cash rate will rise in 2023 (its previous guidance was that hikes were unlikely before 2024) though the onus is on wage growth to rise above 3%. The RBA doesn't see that happening until late-2023 but with our firmer inflation forecast potentially feeding into faster wage growth, we think rate hikes will begin in early-2023.



Interest rate outlook

%, end of period

| | Actual | | | | | | | Forecast | | | | |
|-----------------------|--------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|
| | 20Q1 | 20Q2 | 20Q3 | 20Q4 | 21Q1 | 21Q2 | 21Q3 | 21Q4 | 22Q1 | 22Q2 | 22Q3 | 22Q4 |
| Canada | | | | | | | | | | | | |
| Overnight | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.50 | 0.75 | 1.00 |
| Three-month | 0.21 | 0.20 | 0.12 | 0.06 | 0.09 | 0.15 | 0.12 | 0.20 | 0.25 | 0.55 | 0.80 | 1.05 |
| Two-year | 0.42 | 0.29 | 0.25 | 0.20 | 0.23 | 0.45 | 0.53 | 0.95 | 1.05 | 1.20 | 1.35 | 1.50 |
| Five-year | 0.59 | 0.37 | 0.36 | 0.39 | 0.99 | 0.98 | 1.11 | 1.25 | 1.35 | 1.45 | 1.55 | 1.65 |
| 10-year | 0.70 | 0.53 | 0.57 | 0.68 | 1.56 | 1.39 | 1.51 | 1.60 | 1.70 | 1.80 | 1.85 | 1.90 |
| 30-year | 1.31 | 0.99 | 1.11 | 1.21 | 1.99 | 1.84 | 1.99 | 2.00 | 2.05 | 2.10 | 2.15 | 2.20 |
| United States | | | | | | | | | | | | |
| Fed funds* | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.38 |
| Three-month | 0.11 | 0.16 | 0.10 | 0.09 | 0.03 | 0.05 | 0.04 | 0.05 | 0.05 | 0.10 | 0.25 | 0.60 |
| Two-year | 0.23 | 0.16 | 0.13 | 0.13 | 0.16 | 0.25 | 0.28 | 0.45 | 0.60 | 0.80 | 1.00 | 1.20 |
| Five-year | 0.37 | 0.29 | 0.28 | 0.36 | 0.92 | 0.87 | 0.98 | 1.20 | 1.30 | 1.45 | 1.60 | 1.80 |
| 10-year | 0.70 | 0.66 | 0.69 | 0.93 | 1.74 | 1.45 | 1.52 | 1.75 | 1.85 | 2.00 | 2.10 | 2.20 |
| 30-year | 1.35 | 1.41 | 1.46 | 1.65 | 2.41 | 2.06 | 2.08 | 2.30 | 2.40 | 2.50 | 2.55 | 2.55 |
| United Kingdom | | | | | | | | | | | | |
| Bank rate | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.35 | 0.50 | 0.50 | 0.75 | 0.75 |
| Two-year | 0.13 | -0.08 | -0.02 | -0.16 | 0.11 | 0.07 | 0.40 | 0.65 | 0.80 | 0.75 | 0.80 | 0.85 |
| Five-year | 0.20 | -0.06 | -0.06 | -0.08 | 0.40 | 0.33 | 0.62 | 0.90 | 1.05 | 1.10 | 1.15 | 1.30 |
| 10-year | 0.34 | 0.17 | 0.23 | 0.20 | 0.85 | 0.72 | 1.02 | 1.20 | 1.35 | 1.45 | 1.55 | 1.70 |
| 30-year | 0.82 | 0.64 | 0.78 | 0.76 | 1.40 | 1.24 | 1.37 | 1.40 | 1.50 | 1.60 | 1.70 | 1.85 |
| Euro area** | | | | | | | | | | | | |
| Deposit Rate | -0.50 | -0.50 | -0.50 | -0.50 | -0.50 | -0.50 | -0.50 | -0.50 | -0.50 | -0.50 | -0.50 | -0.50 |
| Two-year | -0.69 | -0.69 | -0.70 | -0.71 | -0.69 | -0.67 | -0.69 | -0.60 | -0.60 | -0.60 | -0.55 | -0.50 |
| Five-year | -0.65 | -0.70 | -0.71 | -0.74 | -0.62 | -0.59 | -0.56 | -0.50 | -0.50 | -0.45 | -0.40 | -0.30 |
| 10-year | -0.48 | -0.45 | -0.53 | -0.58 | -0.29 | -0.20 | -0.21 | -0.15 | -0.05 | 0.05 | 0.15 | 0.20 |
| 30-year | 0.03 | 0.01 | -0.09 | -0.17 | 0.26 | 0.30 | 0.29 | 0.55 | 0.65 | 0.75 | 0.80 | 0.85 |
| Australia | | | | | | | | | | | | |
| Cash target rate | 0.25 | 0.25 | 0.25 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| Two-year | 0.24 | 0.25 | 0.16 | 0.08 | 0.08 | 0.06 | 0.04 | 0.50 | 0.60 | 0.60 | 0.80 | 0.90 |
| 10-year | 0.77 | 0.87 | 0.84 | 0.97 | 1.74 | 1.49 | 1.49 | 1.90 | 1.95 | 1.95 | 2.00 | 2.20 |
| New Zealand | | | | | | | | | | | | |
| Cash target rate | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.75 | 1.25 | 1.50 | 1.50 | 1.50 |
| Two-year swap | 0.52 | 0.19 | 0.05 | 0.27 | 0.46 | 0.78 | 1.39 | 2.10 | 2.20 | 2.30 | 2.35 | 2.40 |
| 10-year swap | 0.92 | 0.72 | 0.50 | 0.97 | 1.95 | 1.87 | 2.21 | 2.55 | 2.55 | 2.60 | 2.60 | 2.65 |
| Yield curve*** | | | | | | | | | | | | |
| Canada | 28 | 24 | 32 | 48 | 133 | 94 | 98 | 65 | 65 | 60 | 50 | 40 |
| United States | 47 | 50 | 56 | 80 | 158 | 120 | 124 | 130 | 125 | 120 | 110 | 100 |
| United Kingdom | 21 | 25 | 25 | 36 | 74 | 65 | 62 | 55 | 55 | 70 | 75 | 85 |
| Eurozone | 21 | 24 | 17 | 13 | 40 | 47 | 48 | 45 | 55 | 65 | 70 | 70 |
| Australia | 53 | 62 | 68 | 89 | 166 | 143 | 145 | 140 | 135 | 135 | 120 | 130 |
| New Zealand | 40 | 53 | 45 | 70 | 149 | 109 | 82 | 45 | 35 | 30 | 25 | 25 |

*Midpoint of 25 basis point range, **Yields refer to German government bonds, *** Two-year/10-year spread in basis points,

Source: Reuters, RBC Economics



Economic outlook

Growth outlook

% change, quarter-over-quarter in real GDP

| | <u>20Q1</u> | <u>20Q2</u> | <u>20Q3</u> | <u>20Q4</u> | <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>2019</u> | <u>2020</u> | <u>2021F</u> | <u>2022F</u> |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|
| Canada* | -7.9 | -38.0 | 41.7 | 9.3 | 5.5 | -1.1 | 4.0 | 6.5 | 4.0 | 5.0 | 4.5 | 2.5 | 1.9 | -5.3 | 5.1 | 4.3 |
| United States* | -5.1 | -31.2 | 33.8 | 4.5 | 6.3 | 6.7 | 2.0 | 4.5 | 3.5 | 3.0 | 3.0 | 2.5 | 2.3 | -3.4 | 5.5 | 3.5 |
| United Kingdom | -2.7 | -19.6 | 17.4 | 1.1 | -1.4 | 5.5 | 1.5 | 1.3 | 1.0 | 0.7 | 0.4 | 0.4 | 1.7 | -9.7 | 7.1 | 4.9 |
| Euro Area | -3.5 | -11.7 | 12.6 | -0.4 | -0.3 | 2.1 | 2.2 | 1.0 | 0.8 | 0.6 | 0.4 | 0.4 | 1.6 | -6.5 | 5.2 | 4.0 |
| Australia | -0.3 | -7.0 | 3.6 | 3.2 | 1.9 | 0.7 | -3.4 | 1.8 | 2.1 | 1.5 | 1.0 | 0.6 | 1.9 | -2.4 | 3.4 | 3.7 |

*annualized

Inflation outlook

% change, year-over-year

| | <u>20Q1</u> | <u>20Q2</u> | <u>20Q3</u> | <u>20Q4</u> | <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>2019</u> | <u>2020</u> | <u>2021F</u> | <u>2022F</u> |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|
| Canada | 1.8 | 0.0 | 0.3 | 0.8 | 1.4 | 3.3 | 4.1 | 4.4 | 4.2 | 3.8 | 3.0 | 2.5 | 1.9 | 0.7 | 3.3 | 3.4 |
| United States | 2.1 | 0.4 | 1.2 | 1.2 | 1.9 | 4.8 | 5.3 | 5.8 | 5.2 | 3.7 | 2.6 | 2.2 | 1.8 | 1.2 | 4.5 | 3.4 |
| United Kingdom | 1.7 | 0.7 | 0.6 | 0.6 | 0.6 | 2.0 | 2.8 | 3.5 | 3.3 | 2.8 | 2.5 | 2.2 | 1.8 | 0.9 | 2.2 | 2.3 |
| Euro Area | 1.1 | 0.2 | 0.0 | -0.3 | 1.1 | 1.8 | 2.8 | 3.7 | 2.4 | 2.3 | 1.8 | 1.8 | 1.2 | 0.3 | 2.4 | 2.1 |
| Australia | 2.2 | -0.3 | 0.7 | 0.9 | 1.1 | 3.8 | 3.0 | 2.7 | 2.6 | 2.3 | 2.2 | 2.2 | 1.6 | 0.8 | 2.6 | 2.4 |

Source: Statistics Canada, Bureau of Economic Analysis, Bureau of Labor Statistics, Office for National Statistics, Statistical Office of the European Communities, Australian Bureau of Statistics, Statistics New Zealand, RBC Economics

Currency outlook

Level, end of period

| | <u>Actuals</u> | | | | | | | <u>Forecast</u> | | | | |
|---------------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------|-------------|-------------|-------------|-------------|
| | <u>20Q1</u> | <u>20Q2</u> | <u>20Q3</u> | <u>20Q4</u> | <u>21Q1</u> | <u>21Q2</u> | <u>21Q3</u> | <u>21Q4</u> | <u>22Q1</u> | <u>22Q2</u> | <u>22Q3</u> | <u>22Q4</u> |
| Canadian dollar | 1.41 | 1.36 | 1.33 | 1.27 | 1.26 | 1.24 | 1.27 | 1.25 | 1.26 | 1.27 | 1.27 | 1.27 |
| Euro | 1.10 | 1.12 | 1.17 | 1.22 | 1.17 | 1.19 | 1.16 | 1.14 | 1.13 | 1.12 | 1.13 | 1.14 |
| U.K. pound sterling | 1.24 | 1.24 | 1.29 | 1.37 | 1.38 | 1.38 | 1.35 | 1.31 | 1.26 | 1.22 | 1.23 | 1.23 |
| Japanese yen | 108 | 108 | 105 | 103 | 111 | 111 | 111 | 110 | 112 | 113 | 115 | 117 |
| Australian dollar | 0.61 | 0.69 | 0.72 | 0.77 | 0.76 | 0.75 | 0.72 | 0.72 | 0.71 | 0.70 | 0.69 | 0.69 |

Canadian dollar cross-rates

| | <u>20Q1</u> | <u>20Q2</u> | <u>20Q3</u> | <u>20Q4</u> | <u>21Q1</u> | <u>21Q2</u> | <u>21Q3</u> | <u>21Q4</u> | <u>22Q1</u> | <u>22Q2</u> | <u>22Q3</u> | <u>22Q4</u> |
|---------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| EUR/CAD | 1.55 | 1.53 | 1.56 | 1.55 | 1.47 | 1.47 | 1.47 | 1.43 | 1.42 | 1.42 | 1.44 | 1.45 |
| GBP/CAD | 1.75 | 1.68 | 1.72 | 1.74 | 1.73 | 1.71 | 1.71 | 1.64 | 1.58 | 1.55 | 1.56 | 1.56 |
| CAD/JPY | 76 | 80 | 79 | 81 | 88 | 90 | 88 | 88 | 89 | 89 | 91 | 92 |
| AUD/CAD | 0.86 | 0.94 | 0.95 | 0.98 | 0.95 | 0.93 | 0.92 | 0.90 | 0.89 | 0.89 | 0.88 | 0.88 |

Rates are expressed in currency units per US dollar and currency units per Canadian dollar, except the euro, UK pound, Australian dollar, and New Zealand dollar, which are expressed in US dollars per currency unit and Canadian dollars per currency unit.

Source: Bloomberg, RBC Economics

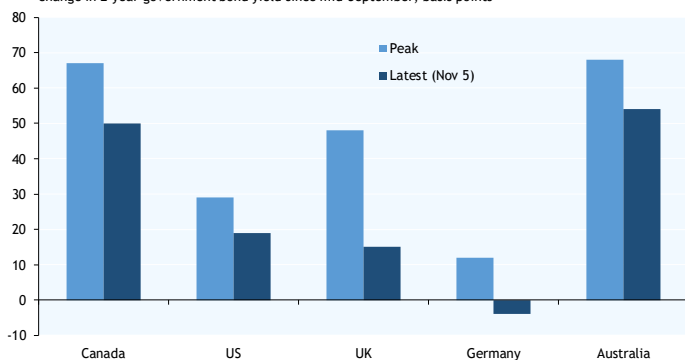
Rate hike expectations impacting yield curves

Inflation concerns have investors expecting central banks will raise rates sooner and faster than previously thought. That put upward pressure on short-term government bond yields, particularly in Canada, Australia and the UK. A bit of pushback from central banks has partially pared those increases.

Rising inflation expectations showed up in market-based inflation measures with 5-year breakevens in the US and Europe hitting multi-year highs. Inflation expectations further out (i.e. five years forward) have been steadier as higher policy rates are eventually seen containing price pressures.

Rate hike bets pushed short-term yields sharply higher

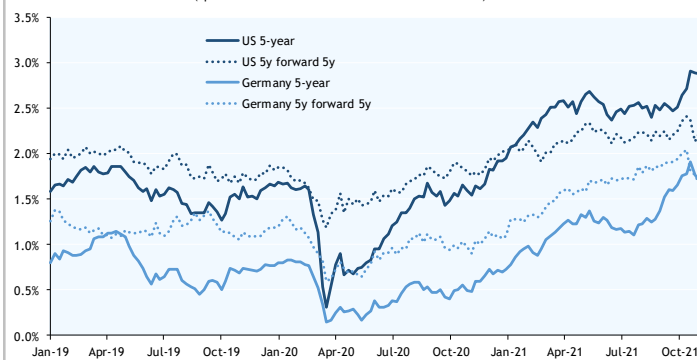
change in 2-year government bond yield since mid-September, basis points



Source: Refinitiv, RBA, RBC Economics

Market-implied inflation on the rise

breakeven inflation rates (spread between nominal and inflation-linked bonds)



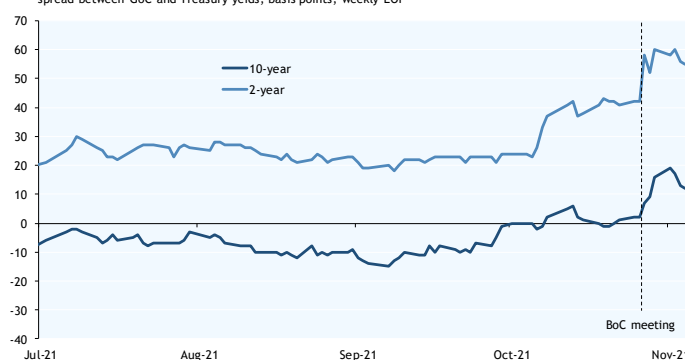
Source: Federal Reserve Board, Deutsche Bundesbank, RBC Economics

Growing expectations for BoC rate hikes drove Canada-US spreads wider and a hawkish BoC meeting accelerated the trend. 2-year spreads are wider than 50bps for the first time since 2014. We think the move is over-done and expect some retracement as BoC expectations normalize. That will be a headwind to C\$.

The BoC is no longer growing its bond holdings and the BoE's purchases will end in December. The Fed's QE program should wind down by mid-2022. Markets have digested these moves well but losing a major buyer of government bonds will put some modest upward pressure on yields.

Canada-US spreads widened after hawkish BoC

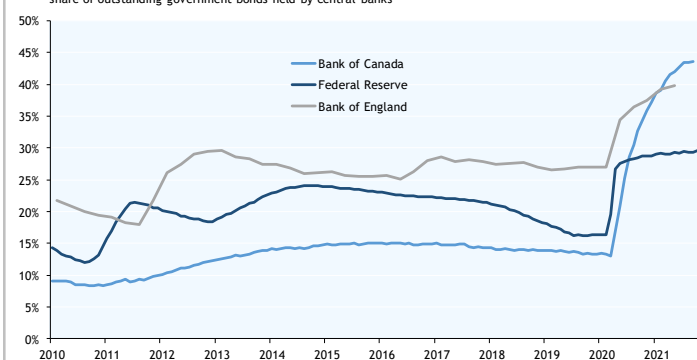
spread between GoC and Treasury yields, basis points, weekly EOP



Source: Refinitiv, RBC Economics

Central banks phasing out massive bond-buying programs

share of outstanding government bonds held by central banks



Source: BoC, Fed, BoE, Treasury, DMO, RBC Economics