Currency Report Card - December 2019

13 December 2019

Forecasts

December 2019

Three month forecast returns

Most bullish	Most bearish
GBP	CHF
CAD	SEK
TRY	ZAR

Source: RBC Capital Markets

12 month forecast returns

Most bullish	Most bearish
NOK	CHF
GBP	NZD
TRY	SEK

Source: RBC Capital Markets

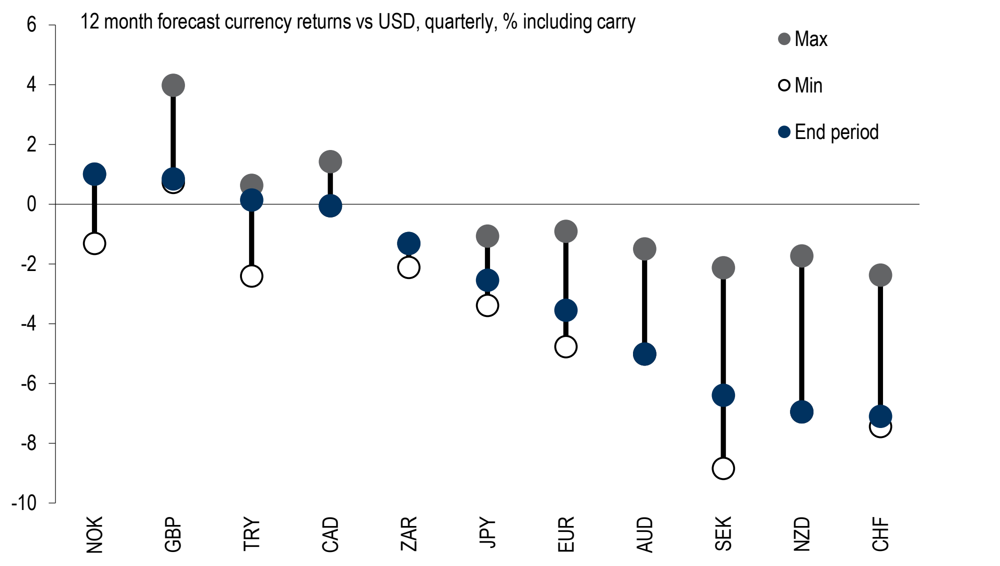
Forecast revisions this month include:

EUR/GBP: Profile revised lower. Q1 2020 now 0.79 (prior 0.86). End-2020 0.83 (0.86).

EUR/SEK: End-2019 now 10.60 (prior 10.80). Long-term profile unchanged.

USD/ZAR: Profile revised lower. Q1 2020 now 15.15 (prior 15.30). End-2020 15.40 (15.60).

NOK & GBP outperformance; CHF, NZD, SEK underperformance



Source: RBC Capital Markets

Global FX Strategy

RBC Europe Limited
Global Head of FX Strategy
Elsa Lignos

Chief Currency Strategist
Adam Cole

RBC Capital Markets LLC
FX Strategy Associate
Daria Parkhomenko, CFA

RBC Dominion Securities Inc.
Technical Strategist
George Davis, CMT

Table of contents

US Dollar

Adam Cole

1-3 Month Outlook – Grinding higher

USD continued to defy the bearish consensus amongst sell-side analysts (down against every G10 currency, on every forecast horizon in Bloomberg's survey) in November, gaining against all G10 currencies in the month. Early December has seen a small reversal, but the story for 2020 as whole remains the same – USD is generally higher against a widespread expectation it would be lower. The reasoning behind the USD-negative consensus circulates between three broad drivers – convergence of monetary policy, diminishing growth outperformance and funding issues driven by the twin deficits (budget and current account). The first is increasingly unconvincing as markets slowly price out expectations of further Fed cuts. Even the 30bp of easing that remains in the forward curve for the next 12 months, however, is beyond both our economists' expectation and the Fed's guidance. The December 11 dot plot had no FOMC member calling for further rate cuts in 2020 or beyond. And contrary to a widely held view, the markets converge to the Fed's guidance as often as the Fed converges to the market view. Whilst it is true that US growth is outperforming other DM by less than in was, historical performance suggests it is absolute (detrended) growth that drives FX returns rather than the rate of convergence or divergence. And on almost all forecasters' views US growth is slightly above trend in 2020 and growth in most other DM is below trend, favouring continued mild USD outperformance. Finally, while the US budget deficit has a large domestic private sector surplus as its counterpart, it will not leak into the current account in the way it did in the early 2000s, when all three sectors were in large deficit. So our forecasts have continued moderate USD outperformance as a theme in the near-term.

6-12 Month Outlook – Deficit-funding & election

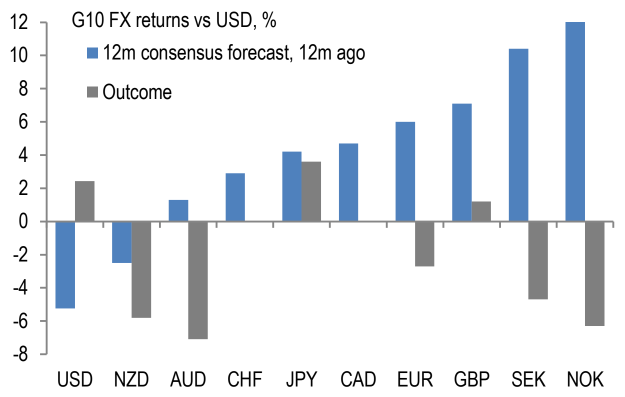
While many of the positives noted above also hold into the medium-term, the wildcard is the 2020 election (48/52% Republican/Democrat victory according to bookies' prices quoted the UK) and what that may mean for fiscal policy/discipline and for US asset markets going forward (Sanders/Warren?) as well as how much more aggressive Trump could turn on China if re-elected. Incorporating these tail risks into a central view is difficult and, in our 2020 thematic trades, we set up a conditional trade that sells USD against EUR if the risk of a market-unfriendly Democrat nomination rises (see more details on pg 4).

Indicators

	Current (Previous)*
Official cash rate	**1.50-1.75% (1.75-2.00%)**
Trend interest rates (10yr average)	1.9%
Bias in interest rate market	Lower
Core PCE Inflation %Y/Y Oct (Sep)	**1.6% (1.7%)**
Inflation target	Price stability
Budget balance % GDP FY17 (FY16)	**-3.4% (-3.1%)**
Budget balance target % GDP	-
GDP Growth % y/y Q3 (Q2)	2.1% (2.3%)
Trend GDP %y/y	2.5%
Purchasing Power Parity Value	**-**
Spot	-
PPP Valuation	-
Current account balance % GDP Q3 (Q2)	**-2.5% (-2.4%)**
Trend current account balance % GDP	-2.6%
Moody's Foreign Currency Rating	**Aaa**
Outlook	Stable

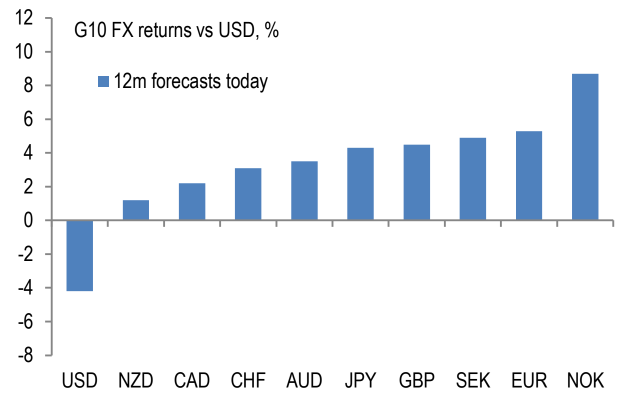
* Current is latest month, quarter or year

1. USD lower was the consensus call for 2019…



Source: RBC Capital Markets; Bloomberg

2. …and it is for 2020 also



Source: RBC Capital Markets; Betfair

Forecasts

	2019				2020			
	Q1	Q2	Q3	Q4f	Q1f	Q2f	Q3f	Q4f
EUR/USD	1.12	1.14	1.09	1.11	1.10	1.08	1.10	1.12
USD/JPY	111	108	108	110	112	111	110	109
USD/CAD	1.33	1.31	1.32	1.31	1.30	1.31	1.32	1.33

Source: RBC Capital Markets estimates

Euro

Elsa Lignos

1-3 Month Outlook – Base case vs. tail risks

We see the 2020 outlook for EUR/USD as similar to USD/JPY (see pg 5 for details). Our base case is a grind lower, but unexpected Fed cuts would upend that. The more interesting risk factor for a big move higher in EUR/USD is any independent negative shock to US equities. For nearly five years, US stocks have consistently outperformed European ones, and after 7+ years of running a c/a surplus, EZ investors have accumulated USD1.9trn of US equities. The US primaries could put that at risk, triggering capital outflows and boosting EUR/USD. The bookies odds of a "market-friendly" candidate winning the nomination have been rising for two months, but it's too soon to call. Currently Sanders and Warren are priced with ~35% likelihood between them. Biden remains the front-runner at 28% (followed by other centrists like Buttigieg at 14%), but with three months to go until the first big primaries a lot could change. In our 2020 thematic trades, we suggested using bookies odds on Sanders/Warren as a trigger to enter long EUR/USD or positioning in options with a ratio call spread (see *Total FX*, 2 Dec 2019).

Outside the upside tail risks, our base case remains range-trading with a bias lower. EUR/USD did well on the UK election results (the perception being rightly that this removes the messiest Brexit outcomes), but the risks to the Euro area outlook are still tilted to the downside. We have heard some speculation that the ECB might bring an end to negative rates by hiking the depo rate back to zero (then leaving it on hold indefinitely), similar to the Riksbank's plans. But in her first press conference, Lagarde appeared to pour cold water on that idea. Euro area data momentum and surprises have improved, but it is a very slow process to generate inflation. We have tweaked our shorter-term EUR/USD forecasts but the narrative remains the same. Technically, EUR/USD is testing the multi-year downtrend, with the descending channel top at 1.1165 functioning as the pivot. A daily close above here would open up 1.1250 and 1.1412. Support is at 1.0989 and 1.0879.

6-12 Month Outlook – Forecasts unchanged

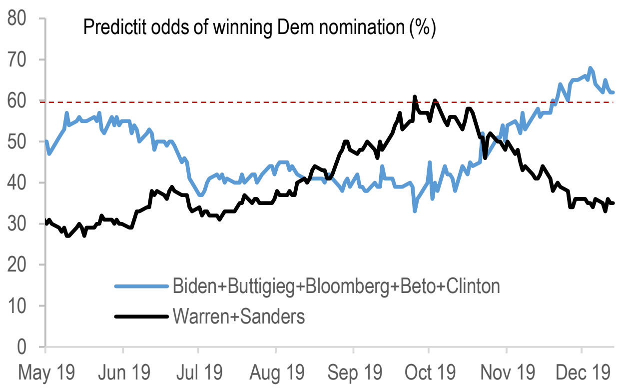
As noted previously, if the US outlook deteriorates to the point where the Fed is bringing rates back to the zero lower bound, we would expect to see EUR/USD trade higher on hedging flows. Otherwise, the ECB's lower for longer stance should limit room for a rally.

Indicators

	Current (Previous)*
Official cash rate	**0.00% (0.05%)**
Trend interest rates 10y average	1.9%
Bias in interest rate market	Flat
HICP core Inflation %Y/Y Nov (Oct)	**1.3% (1.1%)**
Inflation target	Close to but less than 2.0%
Budget balance % GDP FY18 (FY17)	**-0.5% (-0.9%)**
Budget balance target % GDP	3% of GDP-Unless special circumstances
GDP Growth %Y/Y Q3 (Q2)	**1.2% (1.2%)**
Trend GDP %y/y	1.5%
Purchasing Power Parity Value Oct	**1.2671**
Spot end-Nov	1.1018
PPP Valuation	EUR/USD is undervalued
Current account % GDP Q3 (Q2)	2.7% (2.7%)
Trend current account balance % GDP	0.3%
Moody's Foreign Currency Rating	**Aaa (Germany)**
Outlook	Stable

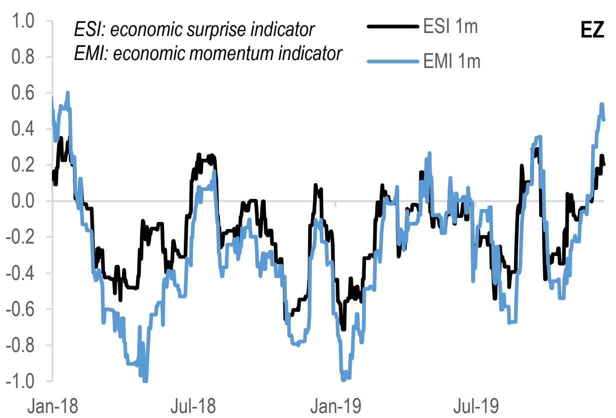
* Current is latest month, quarter or year

1. Left-candidate win in the US is big tail risk for EUR/USD



Source: RBC Capital Markets, Bloomberg

2. Euro area ESIs vs EMIs have improved



Source: RBC Capital Markets; Haver, Bloomberg

Forecasts

	2019				2020			
	Q1	Q2	Q3	Q4f	Q1f	Q2f	Q3f	Q4f
EUR/USD	1.12	1.14	1.09	1.11	1.10	1.08	1.10	1.12
EUR/JPY	124	123	118	122	123	120	121	122
EUR/CAD	1.50	1.49	1.44	1.45	1.43	1.41	1.45	1.49

Source: RBC Capital Markets estimates

Japanese Yen

Adam Cole

1-3 Month Outlook – Hostage to US rates

USD/JPY trended steadily higher through November, briefly hitting a six month high just short of 110 at the beginning of December. JPY weakness reflected a generally risk-positive environment and stable US rate expectations and our expectation is that if this environment continues (our central view), USD/JPY will continue to grind steadily higher into at least H1 2020. Japanese investors demand for foreign bonds remains solid (Figure 1) and net purchases are dominated by US Treasuries, while net flow in European bonds has been negative recently. Given the still punitive cost of hedging USD assets it seems likely that capital outflows are dominated by unhedged purchases, so generating JPY selling. Moreover, the information we have on investment plans from large investors suggests that hedge ratios on existing portfolios are probably still falling and the cost of hedging has not fallen enough to drive them back up (Figure 2). On our economists' view of no change in US rates through 2020 (red line) it seems unlikely that Japanese investors' hedging behaviour will change materially. Forwards still price in one more Fed ease through the course of the year, which also would probably not change the outlook for USD/JPY dramatically (green line). The risk of a much deeper easing cycle (driven by weaker US domestic demand) remains, however, and only a matter of weeks ago, US markets discounted Fed funds falling through 1%. In this scenario, we would expect USD/JPY to collapse as investors (including GPIF for the first time) rush to get hedges back on foreign bond portfolios. So we are still left with a very polarised outlook for USD/JPY. On our central forecast, the recent trend higher continues, but there is a fat tail of risk to the downside. Positioning for this in options remains attractive.

6-12 Month Outlook – Fed still the main driver

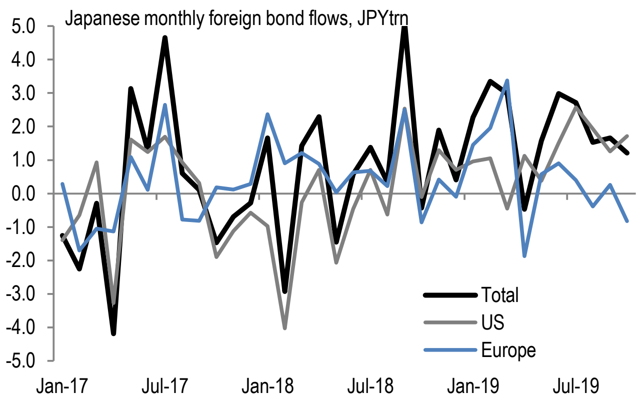
The BoJ took another small step toward easing at its October 31 meeting, revising its forward guidance to recognise the possibility of the policy rate falling further and that risk will likely remain at the upcoming meeting (December 19). Historically, however, BoJ policy has largely worked though overseas investors' positioning and domestic investors are driven more by the Fed. A 10bp shift in domestic short rates changes the investment arithmetic little for JPY-based investors compared to the uncertainty on the outlook for US rates. Growing expectations of further BoJ easing may help USD/JPY longs rebuild, but the behaviour of real money investors in foreign markets is the key driver of USD/JPY and the Fed is the main influence on that.

Indicators

	Current (Previous)*
Official cash rate	**-0.1% (-0.1%)**
Trend interest rates 10y average	0.15%
Bias in interest rate market	Flat
CPI Inflation %Y/Y Oct (Sep)	**0.4% (0.3%)**
Inflation target	2.0%
Budget balance % GDP FY16 (FY15)	**-5.7% (-6.7%)**
Budget balance target % GDP	n/a
GDP Growth %Y/Y Q2 (Q1)	**1.9% (0.8%)**
Trend GDP %Y/Y	1.0%
Purchasing Power Parity Value Oct	**87.93**
Spot end-Nov	109.49
PPP Valuation	USD/JPY is overvalued
Current a/c balance % GDP Q3 (Q2)	3.3% (3.3%)
Trend current account balance % GDP	2.6%
Moody's Foreign Currency Rating	**A1**
Outlook	Stable

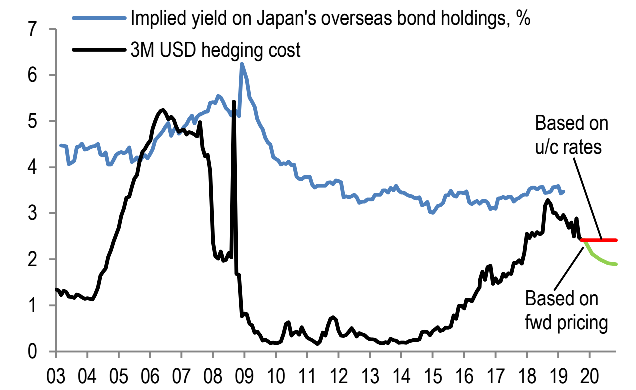
* Current is latest month, quarter or year

1. USTs dominate new investment



Source: RBC Capital Markets, Bloomberg

2. Hedging USD assets still expensive



Source: RBC Capital Markets, Bloomberg

Forecasts

	2019				2020			
	Q1	Q2	Q3	Q4f	Q1f	Q2f	Q3f	Q4f
USD/JPY	111	108	108	110	112	111	110	109
EUR/JPY	124	123	118	122	123	120	121	122
CAD/JPY	83	82	82	84	86	85	83	82

Source: RBC Capital Markets estimates

Sterling

Adam Cole

1-3 Month Outlook – Scope for further gains

The landslide Conservative election victory changes the outlook for GBP beyond just the kneejerk move higher on election night. The ~78 seat majority the party secured (as we go to press, St Ives is yet to declare) is sufficient to marginalise the hard-exit wing of the party and in doing so removes most of the downside tail risk associated with the end of the transition period in December 2020. Had the Conservatives won with a small majority, the leadership would have likely been held to its manifesto commitment not to extend the transition period beyond December 2020. Given the unrealistic prospect of negotiating a full trade deal in 11 months, this left a strong possibility of exit without a trade deal at the end of the transition period. That risk has been all but removed and the scope for flexibility and comprise has risen greatly, but it will take some time for markets to price out the associated risk premium. Of course, the election result also all but blocks the possible paths to a second referendum and Brexit never happening. But proxy measures and our own subjective estimates suggest the probability of Brexit never happening was already low heading into the election.

Having maintained a deliberately neutral central forecast for GBP while the tails risks were so large, we are reverting to a conventional forecast profile this month. Into the early part of 2020 there is scope for further appreciation taking GBP/USD close to 1.40 before attention starts to revert to incoming economic data.

6-12 Month Outlook – Back to watching the data

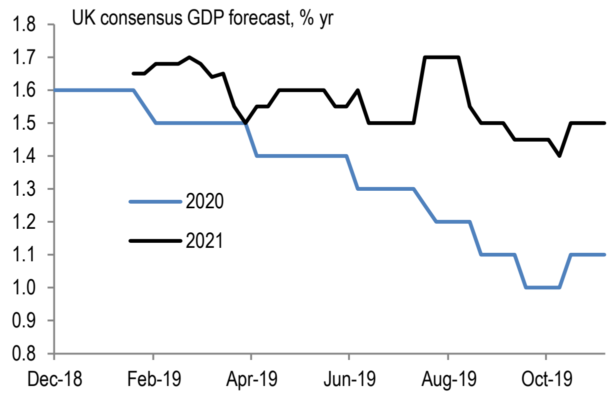
Going forward, economic data and their implications for rates should come back into focus for GBP, having been completely overwhelmed by politics for months. The immediate question will be the extent to which the easing of uncertainty lifts business and consumer confidence and unlocks pent up demand. This is unlikely to be clear before mid-2020, however, keeping the near–term hurdle for rate hikes high. A looser fiscal stance in the Budget in early 2020 would help build the case for higher rates, though stimulus will be moderate compared to what it would have been under a coalition government. Pressure for another Scottish independence vote is a political risk to watch going forward, though we expect this to take time to play out as the Brexit process and the Scottish parliamentary elections in 2021 dominate in the interim.

Indicators

	Current (Previous)*
Official cash rate	**0.75% (0.75%)**
Trend interest rates 10y average	3.3%
Bias in interest rate market	Lower
CPI Inflation %Y/Y OPct (Sep)	**1.5% (1.7%)**
Inflation target (HICP)	2.0%
Budget balance % GDP FY16 (FY15)	**-3.0% (-4.3%)**
Budget balance target % GDP	Budget surplus as soon as possible
GDP Growth %Y/Y Q3 (Q2)	**1.0% (1.4%)**
Trend GDP %Y/Y	1.5%
Purchasing Power Parity Value Oct	**1.4524**
Spot end-Nov	1.2925
PPP Valuation	GBP/USD is undervalued
Current a/c balance % GDP Q2 (Q1)	-5.0% (-5.0%)
Trend current account balance % GDP	-3.9%
Moody's Foreign Currency Rating	**Aa1**
Outlook	Stable

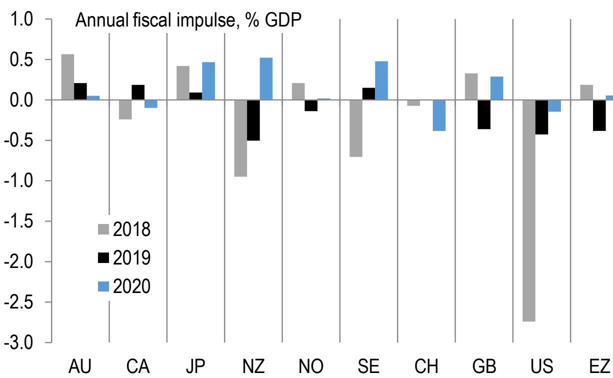
* Current is latest month, quarter or year

1. Consensus growth forecasts still trending down



Source: RBC Capital Markets, Bloomberg

2. Fiscal policy will be looser than this



Source: RBC Capital Markets, OECD

Forecasts

	2019				2020			
	Q1	Q2	Q3	Q4f	Q1f	Q2f	Q3f	Q4f
GBP/USD	1.30	1.27	1.23	1.35	1.39	1.37	1.36	1.35
EUR/GBP	0.86	0.90	0.89	0.83	0.79	0.79	0.81	0.83
GBP/JPY	145	137	133	148	156	152	149	147
GBP/CAD	1.74	1.66	1.63	1.76	1.81	1.79	1.79	1.79

Source: RBC Capital Markets estimates

Swiss Franc

Elsa Lignos

1-3 Month Outlook – A low beta risk proxy

It is hard to get excited by CHF. While it is trading as a haven, its elasticity is too low to cause big moves. Figure 1 shows the correlation/beta of EUR/CHF to S&P returns (we have previously shown the same chart for USD/CHF). In both cases the correlation is significant, but the beta or elasticity (i.e. the size of the move in CHF for a given move in equities) is small. That explains EUR/CHF's 1.08-1.1050 range.

The debate in Switzerland is now focused on whether negative rates are doing more harm than good. In its last quarterly meeting for the year, SNB Chair Jordan was unequivocal in his support for negative rates. He argues without them we would see "marked and rapid" CHF appreciation, further worsening the inflation outlook. The private sector disagrees. With the Riksbank poised to end the experiment (see pg 8), there was some speculation whether this would turn into a broader trend. But both Jordan and Lagarde appear comfortable with the status quo.

Technically, downside risks have increased for USD/CHF after the formation of a triple top at 1.0015. A daily close below nearby congestive support at 0.9844 would confirm this thesis, with the resulting bearish breakout exposing the June/August double bottom at 0.9694 followed by additional support at 0.9542. While initial resistance is now located at 0.9918, a close above 1.0015 is required to nullify the downside risks that are present (would open up 1.0122 thereafter).

6-12 Month Outlook – Hostage to global factors

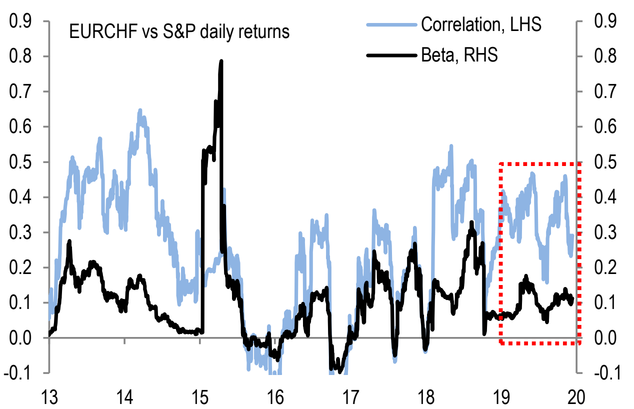
As always, the long-term outlook for CHF will be determined by global not domestic factors. If the world tips into recession, there is little the SNB can do to prevent CHF from strengthening, as others cut rates to SNB-like levels. In any kind of positive, albeit low, global growth environment, CHF should be an underperformer. For the last decade, it has almost consistently been disappointed by realised inflation relative to its forecasts (Figure 2). Its most recent forecasts show average inflation of just 0.5% in 2021 and inflation nowhere near its 2% target, even at the end of the forecast horizon in Q3 2022. That coupled with the SNB's concerns over premature currency strength are likely to keep it on the sidelines for longer than any other G10 central bank.

Indicators

	Current (Previous)*
Official cash rate	**-0.25 to -1.25% (0.25 to -0.75%)**
Trend interest rates 10y average	1.70%
Bias in interest rate market	Flat
CPI Inflation %Y/Y Nov (Oct)	**-0.1% (-0.3%)**
Inflation target	less than 2.0%
Budget balance % GDP FY18 (FY17)	**1.6% (1.3%)**
Budget balance target % GDP	Balanced over the business cycle
GDP Growth %Y/Y Q3 (Q2)	**1.1% (0.2%)**
Trend GDP %Y/Y	1.80%
EUR Purchasing Power Parity Value Oct	**1.1819**
EUR/CHF spot end-Nov	1.1020
EUR/CHF PPP Valuation	EUR/CHF is undervalued
Current a/c balance % GDP Q2 (Q1)	10.7% (10.8%)
Trend current account balance % GDP	8.0%
Moody's Foreign Currency Rating	**Aaa**
Outlook	Stable

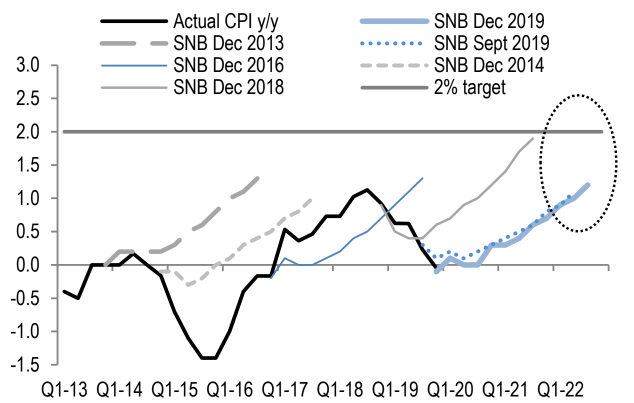
* Current is latest month, quarter or year

1. EUR/CHF: a risk proxy but low beta



Source: RBC Capital Markets; Bloomberg

2. Inflation picking up *extremely* slowly



Source: RBC Capital Markets; Bloomberg, SNB

Forecasts

	2019				2020			
	Q1	Q2	Q3	Q4f	Q1f	Q2f	Q3f	Q4f
USD/CHF	1.00	0.98	1.00	1.00	1.02	1.04	1.03	1.01
EUR/CHF	1.12	1.11	1.09	1.11	1.12	1.12	1.13	1.13
CHF/JPY	111	110	108	110	110	107	107	108
CAD/CHF	0.75	0.75	0.75	0.76	0.78	0.79	0.78	0.76

Source: RBC Capital Markets estimates

Swedish Krona

Elsa Lignos

1-3 Month Outlook – Rates to zero, but then on hold

We were premature last month in thinking that SEK gains had run their course – SEK had a good November and extended gains further in December. Very recent data have been better (GDP, retail sales, even the rise in unemployment was a better story of participation). But overall data are still slowing (Figure 1), and the RIksbank's latest business survey (published Dec 6 with Oct/Nov survey period) shows "increasing signs that the slowdown is continuing". Most trading companies expect lower prices, and manufacturing companies expect "restrained" growth in 2020, not picking up again until 2021. But in the short-term, a December hike is now all but guaranteed – the recent pick-up in inflation has consolidated that view (Figure 2). It's hard to tell right now what forwards are discounting because of the year-end turn but +25bps for December looks priced, with a flat curve after that. That would mean an end to negative rates, but not turning positive for the foreseeable future. There is a perception that SEK should outperform because (1) it is cheap and (2) it will benefit from a recovery in global trade. The former is true but doesn't guarantee a rally; the latter holds for the Swedish economy but with rates on hold, there is no mechanism to be "paid" for that growth. Even after a hike, SEK will retain its position as funding currency. The consensus is not quite as bullish as it used to be, but SEK is still expected to be top 2 in G10 FX, just behind NOK. We are still in a minority looking for SEK lower. The one bright spot for SEK is the technical outlook. Sentiment for EUR/SEK has turned bearish after a series of medium to long-term trend reversals since late September. Valuation-driven retracements to resistance at 10.6626 and 10.7518 are expected to attract selling interest for a test of triple bottom support at 10.4855. A daily close below this level would add to bearish price momentum, exposing 10.3776 and 10.2947. We have revised our forecasts in line with the recent SEK rally but still look for further weakness in 2020 (target 11.00 by end-Q1).

6-12 Month Outlook – Riksbank constrained

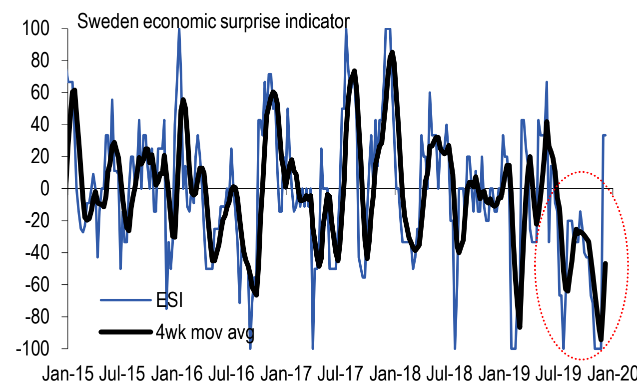
A Riksbank staff paper estimates that the effect of an unexpected hike on household consumption would be twice as large as it would have been in the mid-1990s. This constrains the prospect for tightening monetary policy. Looked at through a broad range of valuation measures (PPPs, long-term REERs, FEERS, etc), SEK is the second most undervalued G10 currency, though experience shows it can stay that way for extended periods.

Indicators

	Current (Previous)*
Official cash rate	**-0.25% (-0.25%)**
Trend interest rates 10y average	3.0%
Bias in interest rate market	Rising
CPIF Inflation %Y/Y Nov (Oct)	**1.7% (1.5%)**
Inflation target (UND1X)	2.0%
Budget balance % GDP FY18 (FY17)	**1.25% (1.55%)**
Budget balance target % GDP	Cyclical average surplus of 1%
GDP Growth %Y/Y Q3 (Q2)	**1.6% (1.0%)**
Trend GDP %Y/Y	2.0%
EUR Purchasing Power Parity Value Oct	**8.9773**
Spot end-Nov	10.5497
PPP Valuation	EUR/SEK is overvalued
Current a/c balance % GDP Q3 (Q2)	4.0% (3.4%)
Trend current account balance % GDP	4.7%
Moody's Foreign Currency Rating	**Aaa**
Outlook	Stable

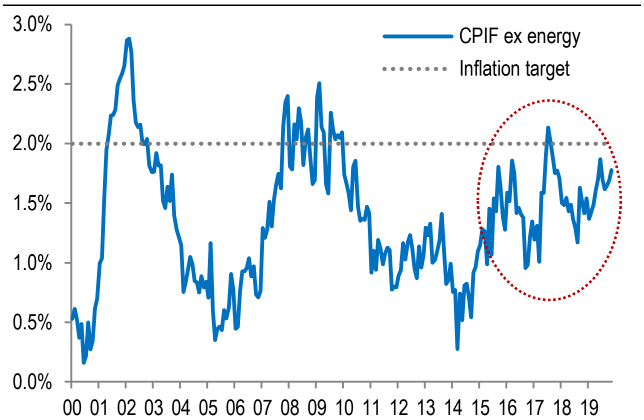
* Current is latest month, quarter or year

1. Swedish data surprises trending lower overall



Source: RBC Capital Markets, Bloomberg

2. Inflation edging back up to target



Source: RBC Capital Markets; Bloomberg

Forecasts

	2019				2020			
	Q1	Q2	Q3	Q4f	Q1f	Q2f	Q3f	Q4f
USD/SEK	9.29	9.28	9.84	9.55	10.00	10.09	9.82	9.55
EUR/SEK	10.42	10.56	10.72	10.60	11.00	10.90	10.80	10.70
NOK/SEK	1.08	1.09	1.08	1.06	1.11	1.10	1.10	1.09
CAD/SEK	6.96	7.09	7.43	7.29	7.69	7.70	7.44	7.18

Source: RBC Capital Markets estimates

Norwegian Krone

Adam Cole

1-3 Month Outlook – Still bearish

EUR/NOK was relatively range-bound in November and early December, as NOK consolidated the big losses seen in October. There was no Norges Bank meeting in November (the next is December 19, the same day as the Riksbank) and domestic activity and inflation data were all close to expectations over the last month. This month's policy announcement will be accompanied by a full Monetary Policy Report (MPR) and is potentially important for NOK sentiment going forward, against a background of analysts remaining extremely bullish on the currency.

At the time of the last MPR in September, Norges Bank's guidance had rates slightly (average 7bp) above the current policy rate throughout the forecast period, indicating the balance of risks favoured another hike in early 2020. Given the fall in the exchange rate since the last update (very similar to the fall between June and September), Norges Bank will likely keep this tightening bias, even if other factors (see Figure 1, taken from the September MPR) suggest revising it away. But the degree of interaction between the currency and domestic policy cannot be overstated. The last rate hike in September was *wholly* a result of previous NOK weakness (green bars in Figure 1). If it had not been for the fall in the currency, the September meeting would have been a close call between a 25bp *cut* and unchanged rates. And this sensitivity will work in both directions, leaving Norges Bank highly intolerant of exchange rate strength and much closer to flipping to an easing bias than it appears from the headline forward guidance. For this reason, any tendency for NOK to appreciate on what is seen as a hawkish statement should be faded. We maintain our view that EUR/NOK will trade around recent highs into early 2020.

6-12 Month Outlook – Only marginal gains

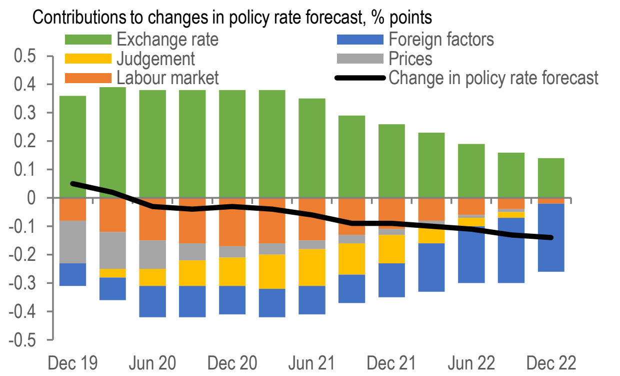
The interaction noted above will constrain NOK gains in the longer-term also, with sustained appreciation met with expectations of easier domestic policy. NOK's relatively high yield (particularly vs EUR) provides something of a buffer, as does Norway's structural budget surplus and potential to use fiscal policy more actively, but we expect only small, grinding gains for NOK over the long-term.

Indicators

	Current (Previous)*
Official cash rate	**1.5% (1.5%)**
Trend interest rates 10y average	3.6%
Bias in interest rate market	Flat
CPI (ex energy and taxes) %Y/Y Oct (Sep)	2.2% (2.2%)
Inflation target %	2.5%
Budget balance % GDP FY16 (FY15)	**5.5% (6.9%)**
Budget balance target % GDP	Structural, non-oil deficit < 4%
GDP Mainland Growth %y/y Q3 (Q2)	**2.9% (2.5%)**
Trend GDP %q/q	0.6%
EUR Purchasing Power Parity Value Oct	**8.9450**
Spot end-Nov	10.1639
PPP Valuation	EUR/NOK is overvalued
Current a/c balance % GDP Q2 (Q1)	4.4% (6.1%)
Trend current account balance % GDP	9.0%
Moody's Foreign Currency Rating	**Aaa**
Outlook	Stable

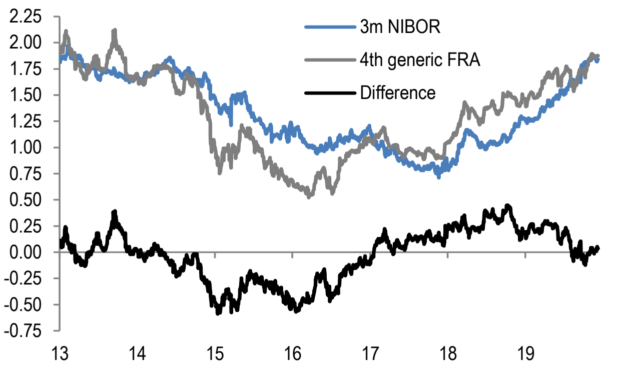
* Current is latest month, quarter or year

1. NOK weakness only reason for last rate hike



Source: RBC Capital Markets, Bloomberg

2. Market rate profile now flat



Source: RBC Capital Markets; Bloomberg

Forecasts

	2019				2020			
	Q1	Q2	Q3	Q4f	Q1f	Q2f	Q3f	Q4f
USD/NOK	8.63	8.53	9.10	9.01	9.05	9.17	8.95	8.75
EUR/NOK	9.68	9.70	9.91	10.00	9.95	9.90	9.85	9.80
NOK/SEK	1.08	1.09	1.08	1.06	1.11	1.10	1.10	1.09
CAD/NOK	6.46	6.52	6.87	6.88	6.96	7.00	6.78	6.58

Source: RBC Capital Markets estimates

Canadian Dollar

George Davis

1-3 Month Outlook – Trade risks persist

USD/CAD traded with a bid tone in November as the residual impact of a dovish tilt at the Bank of Canada's October rate decision nudged the pair from 1.3115 to a peak of 1.3328. More sustained CAD weakness was kept in check by the composition of the Q3 GDP report. Although growth came in at a below-trend rate of 1.3% annualized, the outcome matched the BoC's forecast and the composition was more encouraging due to an unexpected 9.5% rebound in business investment and strong overall final domestic demand growth of 3.2% (Figure 1). In turn, this allowed the BoC to adopt a greater degree of confidence in their October forecasts at the December rate meeting and trim back some of the downside risks that caused them to consider an "insurance" rate cut in October.

Despite Canada, the US and Mexico finally signing off on the revised USMCA trade agreement, the most significant risks to the economic outlook remain tied to global trade tensions as "phase one" of the US-China trade deal is still pending as we go to press, and many other key issues have yet to be addressed. Some may point to the weak November job report (-71.2K) as evidence of such risks, with the 27.5K decline in manufacturing employment representing the second consecutive sharp monthly decline (Figure 2). However, we view this report more as a long overdue correction from unsustainably strong employment growth to a pace that is more consistent with the below-trend Q3 growth that is expected to persist in Q4. Trade risks and the growth dynamic are expected to place a floor under USD/CAD near 1.3000 in Q1 2020.

6-12 Month Outlook – Changing BoC call

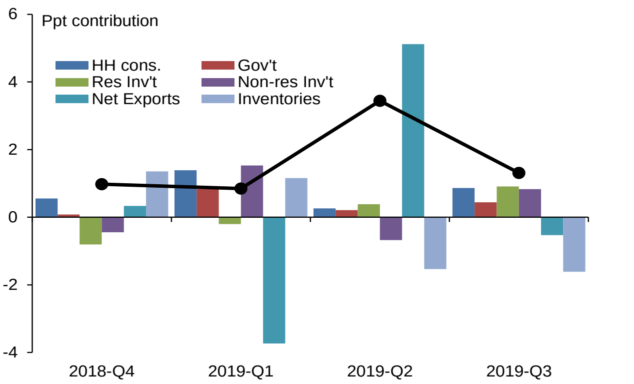
Our economists have pushed their call for a 25bp BoC rate cut to Q2 2020 from Q1 due to the stronger composition of Q3 growth and financial stability concerns around the resurgent housing sector. However, three consecutive quarters of below-trend GDP growth coupled with restrained exports and business investment should keep the idea of a cut on the table, most likely in April. This should erode some of the interest rate support that has propped up CAD in 2019 and lead to a mild uptrend in USD/CAD as 2020 progresses. We do not expect any major policy impact from BoC Governor Poloz stepping down in June.

Indicators

	Current (Previous)*
Official cash rate	**1.75% (1.50%)**
Trend interest rates 10y average	0.95%
Bias in interest rate market	Lower
Core CPI Inflation (Trim) %Y/Y Oct (Sep)	**2.1% (2.1%)**
CPI inflation target range %Y/Y	1-3%
Budget balance % GDP FY18 (FY17)	**-0.9% (-0.9%)**
Budget balance target % GDP	Declining over the business cycle
GDP growth %Q/Q saar Q3 (Q2)	**1.3% (3.5%)**
Trend GDP %Q/Q	2.24%
Purchasing Power Parity value Oct	**1.2436**
Spot end-Nov	1.3282
PPP valuation	USD/CAD is overvalued
Current account balance % GDP Q3 (Q2)	**-2.2% (-2.2%)**
Trend current account balance % GDP	-2.99%
Moody's foreign currency rating	**Aaa**
Outlook	Stable

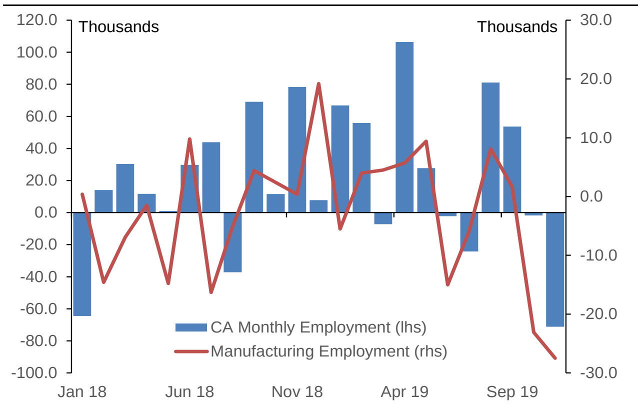
* Current is latest month, quarter or year

1. Q3 GDP growth composition was more encouraging



Source: Statistics Canada, RBC Capital Markets

2. CA employment undergoes a long-awaited correction



Source: Statistics Canada, RBC Capital Markets

Forecasts

	2019				2020			
	Q1	Q2	Q3	Q4f	Q1f	Q2f	Q3f	Q4f
USD/CAD	1.33	1.31	1.32	1.31	1.30	1.31	1.32	1.33
EUR/CAD	1.50	1.49	1.44	1.45	1.43	1.41	1.45	1.49
CAD/JPY	83.0	82.4	81.6	84.0	86.2	84.7	83.3	82.0

Source: RBC Capital Markets estimates

Australian Dollar

Elsa Lignos

1-3 Month Outlook – Range-bound

The stars aligned for AUD in October and it rose more than 2% against USD. As Figure 1 shows, rate spreads moved in AUD's favour, USD weakened broadly, the S&P rallied and perceived China risk fell. Together, these factors explain the bulk of the rise in AUD/USD in the month. Early November has seen a continuation of this positive trend, reinforced by the RBA suggesting it is in no rush to cut rates further and increasingly sees evidence that the 75bp of cuts so far in this cycle are starting to pay dividends. At its November 5 meeting (rates unchanged), the RBA noted "The easing of monetary policy since June is supporting employment and income growth in Australia and a return of inflation to the medium-term target range." The shift to "is supporting" from "will support" is subtle, but important in that it suggests the Bank will need more evidence of weakening activity before it is prepared to sanction further easing. Following the November meeting, RBC economists pushed their expectation for the next RBA cut out to February from December. Domestic rates may provide limited further support for AUD in the near-term as residual expectations for easing this year (~5bp remains in the OIS curve) dissipate. With moderate USD gains broadly offsetting this impact, however, we expect AUD/USD to end the year close to current levels and our forecast profile is unchanged this month.

6-12 Month Outlook – Same longer-term concerns

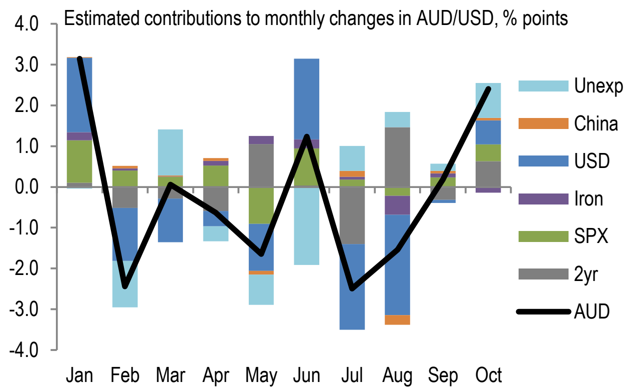
China is a longer-term risk as always. In its latest financial stability review, the RBA noted that AU exports are "disproportionately used in the Chinese domestic economy" rather than in supply chains for Chinese exports – so Australia is somewhat shielded from trade wars "if Chinese growth is maintained". But that is a big if, and China is increasingly re-orienting itself towards domestic production. It is not yet affecting demand for AU imports (latest data show Chinese iron ore imports at near two year highs). But it remains a risk to watch. But on other fronts, Australia has been noticeably improving. Its current account moved into surplus in Q2 for the first time in 45 years, and will probably remain in surplus in Q3, leaving Australia less exposed to a shortage of financing flows (as opposed to Canada where the c/a deficit is large and less productive – see *Total FX*, 22 Feb 2019).

Indicators

	Current (Previous)*
Official cash rate	**0.75% (0.75%)**
Trend interest rates 10y average	2.9%
Bias in interest rate market	Lower
CPI Inflation %Y/Y Q3 (Q2)	**1.7% (1.6%)**
CPI Inflation target range %Y/Y	2.0-3.0%
Budget balance % GDP FY18/17	**-0.01%/-0.8%**
Budget balance target % GDP	Balanced over the business cycle
GDP Growth %Y/Y Q3 (Q2)	**1.7% (1.4%)**
Trend GDP %Y/Y	2.8%
Purchasing Power Parity Value Q2	**0.7374**
Spot end-Nov	0.6765
PPP Valuation	AUD/USD is undervalued
Current account balance % GDP Q3 (Q2)	**0.2% (-0.7%)**
Trend current account balance % GDP	-3.4%
Moody's Foreign Currency Rating	**Aaa**
Outlook	Stable

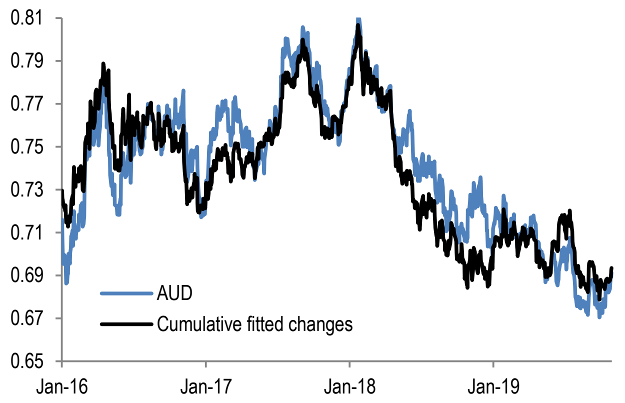
* Current is latest month, quarter or year

1. The stars aligned for AUD in October



Source: RBC Capital Markets, Bloomberg

2. AUD moving in line with normal drivers



Source: RBC Capital Markets, Bloomberg

Forecasts

	2019				2020			
	Q1	Q2	Q3	Q4f	Q1f	Q2f	Q3f	Q4f
AUD/USD	0.71	0.70	0.68	0.68	0.67	0.67	0.66	0.66
EUR/AUD	1.58	1.62	1.61	1.63	1.64	1.61	1.67	1.70
AUD/NZD	1.04	1.04	1.08	1.05	1.05	1.06	1.06	1.06
AUD/CAD	0.95	0.92	0.89	0.89	0.87	0.88	0.87	0.88

Source: RBC Capital Markets estimates

New Zealand Dollar

Adam Cole

1-3 Month Outlook – Stabilising

NZD was amongst the best-performing currencies globally in November. In part, this reflected the risk-on nature of markets in the month, but interest rate dynamics also helped NZD perform as markets priced out most of the risk that RBNZ would ease again in the current cycle. At the November 13 meeting, RBNZ left rates at 1.0% when a significant majority expected a 25bp cut. The statement maintained a readiness to ease, but suggested the central bank is in no rush to move and subsequent news has further reinforced the view that the risk of an early-2020 cut is diminishing. Retail sales volumes jumped 1.6% q/q in Q3 and business and consumer confidence have both rebounded sharply in the latest surveys. NZ's terms of trade improved again in Q3 and the broad range of housing indicators suggest activity and prices have bottomed. The latter was noted in the RBNZ Financial Stability Report alongside warnings that low rates could result in excessively risky lending.

Overall, it is fair to say the RBNZ has moved on from a default position of easing unless the data stops them, to the onus being on a further deterioration in the data flow restarting the easing cycle. Although the consensus amongst economists is still for 1-2 more 25bp cuts early next year, forward rates have priced out most of that risk already (Figure 1). At the same time, NZD/USD has hit our end-year target of 0.65 and without more support from rate repricing, further gains will be harder to come by from here. We therefore expect a relatively range-bound performance in the near-term, with a slight bias to the downside in Q1 as a result of a generally constructive USD view in the near-term.

6-12 Month Outlook – Forecasts unchanged

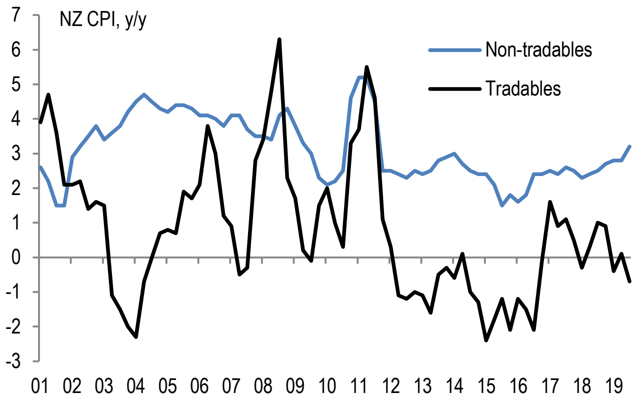
While the trade war uncertainty and manufacturing recession has hit small open economies the most, NZ is less exposed to the fall-out. It has the lowest participation in global value chains than any other OECD country. The majority of its exports are food products, with a small portion in manufactured goods. In 2018, dairy exports accounted for 21% of the total, meat for another 13%, fish, fruit and nuts for a further 8%. A full 58% of exports are edible. NZ also has room on the fiscal side to react to a deeper turndown, though current plans for 2020 are moderately restrictive. Our longer-term forecasts are unchanged.

Indicators

	Current (Previous)*
Official cash rate	**1.0% (1.0%)**
Trend interest rates 10yr average	5.40%
Bias in interest rate market	Falling
CPI Inflation %Y/Y Q3 (Q2)	**1.5% (1.7%)**
Inflation target	1.0-3.0%
Budget balance % GDP FY18/FY17	**1.1%/0.9%**
Budget balance target % GDP	Balanced over business cycle
GDP Growth %Y/Y Q2 (Q1)	**2.1% (2.5%)**
Trend GDP %Y/Y	3.1%
Purchasing Power Parity Value Q2	**0.6685**
NZD/USD end-Feb	0.6440
Valuation	NZD/USD is undervalued
Current account balance % GDP Q2 (Q1)	**-3.6% (-3.6%)**
Trend current account balance % GDP	-3.1%
Moody's Foreign Currency Rating	**Aaa**
Outlook	Stable

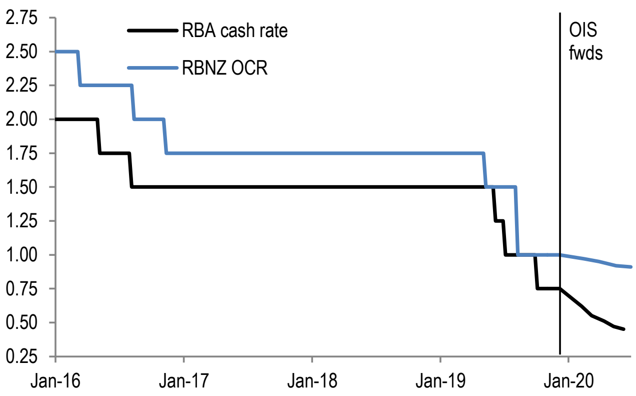
* Current is latest month, quarter or year

1. Domestic inflation trending steadily higher



Source: RBC Capital Markets, Bloomberg

2. NZ forwards now close to flat



Source: RBC Capital Markets; Bloomberg

Forecasts

	2019				2020			
	Q1	Q2	Q3	Q4f	Q1f	Q2f	Q3f	Q4f
NZD/USD	0.68	0.67	0.63	0.65	0.64	0.63	0.62	0.62
EUR/NZD	1.65	1.69	1.74	1.71	1.72	1.71	1.77	1.81
AUD/NZD	1.04	1.04	1.08	1.05	1.05	1.06	1.06	1.06
NZD/CAD	0.91	0.88	0.83	0.85	0.83	0.83	0.82	0.82

Source: RBC Capital Markets estimates

Turkish Lira

Daria Parkhomenko

1-3 Month Outlook – TRY's carry appeal has fallen

Since November, USD/TRY has been range-bound, apart from a temporary break above the double top at 5.7955 for a few days in December. Going forward, we still expect USD/TRY to trend higher given TRY is no longer the highest real yielder and the risk of US sanctions looms.

First, Turkey's policy rate has been an important source of support for TRY this year, but with the CBRT cutting by 200bp in December, the real rate is close to zero (Figure 1). In the December statement, the CBRT struck a slightly more hawkish tone, noting that the "policy stance is considered to be consistent with the projected disinflation path." Although this implies no further easing in the foreseeable future, Turkey's real rate will still turn negative by the end of Q1 2020 on the back of inflation. Moreover, the CBRT will hold 12 meetings in 2020 (compared to 8 as in 2019), leaving plenty of room to resume easing, while political pressure constrains the CBRT from reversing the cuts if inflation surprises to the upside.

Second, we think the risk of CAATSA sanctions has increased. Turkey testing a component of the S-400s in November serves as a reminder that Turkey plans to make the missiles operational in April. The US House of Representatives has already passed a bill that would require the WH administration to impose CAATSA sanctions (For: 403, Against: 16). Meanwhile, the Senate Foreign Relations Committee has approved a similar bill. It will be key to watch whether the Senate votes on it and if the Senate does, then the vote breakdown as well (the bill would be veto-proof if there is a two-thirds majority in the Senate and the House). Given the market is short USD/TRY based on the RBC Positioning Monitor, TRY's initial reaction to a sanctions announcement is likely to be negative. If the sanctions are mild, TRY's decline is likely to be limited as the economic impact would be minimal and we would expect the CBRT to try to cap any TRY depreciation. With more extreme sanctions, using intervention to temper TRY's decline is likely to be much more difficult to achieve if access to external funding becomes limited.

6-12 Month Outlook – USD/TRY at 6.30 at end-H1 2020

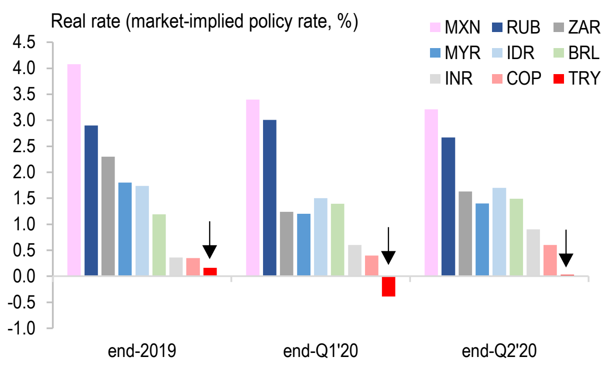
Turkey's low real rate is likely to remain the story for 2020. Meanwhile, the current account (12m rolling sum) is in surplus and this has diminished the need for foreign inflows (Figure 1), but a pick-up in growth in 2020 would pose a downside risk to the surplus. Already, the October data showed the current account falling, with imports y/y outpacing exports y/y.

Indicators

	Current (Previous)*
One-week repo rate (%)	**12.00% (14.00%)**
Trend interest rates (historical average)	9.2
Bias in interest rate market	Neutral
CPI Inflation %Y/Y Nov (Oct)	**10.56 (8.55)**
Inflation target	5.00%
Budget balance % GDP 2018 (2017)	**-2.0 (-1.6)**
Budget balance trend % GDP	-2.0
GDP Growth % y/y Q3 (Q2)	0.9 (-1.6)
Trend GDP %y/y	5.4
Purchasing Power Parity Value Oct	**3.9**
Spot end-Nov	5.7504
PPP Valuation	Overvalued
Current a/c (12m. rolling) %GDP Q3 (Q2)	**0.8 (0.2)**
Trend current account balance % GDP	-5.1
Moody's Foreign Currency Rating	**B1**
Outlook	Negative

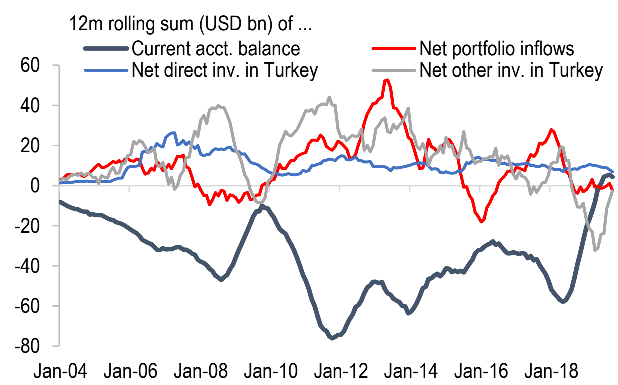
* Current is latest month, quarter or year

1. Turkey is no longer the highest real yielder



Source: RBC Capital Markets, Bloomberg, CBRT

2. A pick-up in growth would pose a risk to the current acct



Source: RBC Capital Markets, Bloomberg, CBRT

Forecasts

	2019				2020			
	Q1	Q2	Q3	Q4f	Q1f	Q2f	Q3f	Q4f
USD/TRY	5.57	5.79	5.65	5.90	6.20	6.30	6.30	6.30
EUR/TRY	6.25	6.59	6.16	6.55	6.82	6.80	6.93	7.06
TRY/JPY	19.9	18.6	19.1	18.6	18.1	17.6	17.5	17.3

Source: RBC Capital Markets estimates

South African Rand

Daria Parkhomenko

1-3 Month Outlook – Budget 2020 = input for Moody's

Since November, ZAR has been the best performer globally. Moody's decision to not downgrade South Africa was the initial catalyst, though a weak Q3 GDP print and Eskom's load-shedding have tempered ZAR's gains.

In the near-term, we see downside risk to ZAR due to the upcoming 2020 Budget and Moody's review, though we think October's disappointing MTBPS has raised the hurdle for significant ZAR losses. Our base case is for Moody's to downgrade South Africa to non-IG in H1 2020 (no date set for the review but likely to happen around April). We think the latest MTBPS showed that the government may not have sufficient political capital to appease the different stakeholders and sufficiently address the deterioration in fiscal dynamics in time for the 2020 Budget in February while Eskom's ongoing load shedding poses a downside risk to growth. We are skeptical that the government will be able to achieve savings of R150bn that were proposed in the MTBPS to stabilize the debt-to-GDP ratio and meet its fiscal target of a main budget primary balance by 2022/23. This is especially if the labour unions are not on board with reducing the public wage bill (~35% of cons. expenditures), which has been rising mainly due to salary increases rather than an increase in employment (Figure 1). On Eskom, the government will need to show progress on unbundling the SOE and revealing a credible and transparent debt restructuring plan for Eskom.

Our base case for a Moody's downgrade in H1 2020 means that South Africa will be excluded from the WGBI. Although this would result in outflows (SARB's Deputy Governor Naidoo estimated outflows of around USD 5bn-8bn from SA bonds if cut to junk), a downgrade is widely expected (it is more a question of *when,* not if) while foreigners' share of local-currency government bonds has been falling since 2018 (Figure 2). Thus, our forecasts imply modest ZAR weakness vs USD.

The other domestic event to watch will be land reform, in particular the circumstances under which land will be allowed to be expropriated (if Section 25 of the Constitution is amended). Externally, ZAR is vulnerable to US-China relations, a slowdown in China's growth, & moves in USD.

6-12 Month Outlook – Reforms, external environment

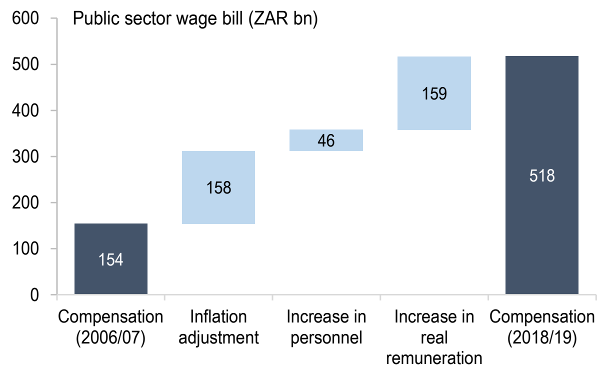
Progress on fiscal consolidation and implementation of reforms is likely to remain slow in 2020. But if 2020 plays out in line with our base case of decent global & US growth and low vol, it should be another decent year for carry and help partly offset South Africa's domestic woes, tempering ZAR's spot decline.

Indicators

	Current (Previous)*
Official cash rate (repo rate)	**6.50 (6.50)**
Trend interest rates (10yr average)	6.1
Bias in interest rate market	Easing
CPI Inflation %Y/Y Nov (Oct)	**3.6 (3.7)**
Inflation target	3.0 to 6.0%
Budget balance % GDP 2018/19 (2017/18)	**-4.2 (-4.0)**
Budget balance trend % GDP	-3.9
GDP Growth % q/q saar Q3 (Q2)	-0.6 (3.2)
Trend GDP %	1.9
Purchasing Power Parity Value Oct	**11.9**
Spot end-November	14.6706
PPP Valuation	Overvalued
Current account % GDP Q3 (Q2)	**-3.7 (-4.1)**
Trend current account balance % GDP	-3.8
Moody's Foreign Currency Rating	**Baa3**
Outlook	Negative

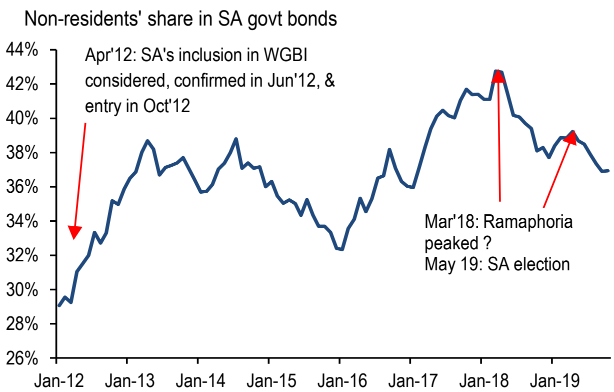
* Current is latest month, quarter or year

1. The government needs to reduce wage increases



Source: National Treasury

2. Foreigners' share of LC govt bonds has been falling



Source: RBC Capital Markets, National Treasury

Forecasts

	2019				2020			
	Q1	Q2	Q3	Q4f	Q1f	Q2f	Q3f	Q4f
USD/ZAR	14.50	14.09	15.14	14.90	15.15	15.30	15.40	15.40
EUR/ZAR	16.27	16.02	16.50	16.54	16.67	16.52	16.94	17.25
ZAR/JPY	7.64	7.66	7.14	7.38	7.39	7.25	7.14	7.08

Source: RBC Capital Markets estimates

Forecasts

Spot forecasts

	2019				2020			
	Q1	Q2	Q3	Q4f	Q1f	Q2f	Q3f	Q4f
EUR/USD	1.12	1.14	1.09	1.11	1.10	1.08	1.10	1.12
USD/JPY	111	108	108	110	112	111	110	109
GBP/USD	1.30	1.27	1.23	1.35	1.39	1.37	1.36	1.35
USD/CHF	1.00	0.98	1.00	1.00	1.02	1.04	1.03	1.01
USD/SEK	9.29	9.28	9.84	9.55	10.00	10.09	9.82	9.55
USD/NOK	8.63	8.53	9.10	9.01	9.05	9.17	8.95	8.75
USD/CAD	1.33	1.31	1.32	1.31	1.30	1.31	1.32	1.33
AUD/USD	0.71	0.70	0.68	0.68	0.67	0.67	0.66	0.66
NZD/USD	0.68	0.67	0.63	0.65	0.64	0.63	0.62	0.62
USD/TRY	5.57	5.79	5.65	5.90	6.20	6.30	6.30	6.30
USD/ZAR	14.50	14.09	15.14	14.90	15.15	15.30	15.40	15.40

Source: RBC Capital Markets estimates

EUR Crosses

	2019				2020			
	Q1	Q2	Q3	Q4f	Q1f	Q2f	Q3f	Q4f
EUR/USD	1.12	1.14	1.09	1.11	1.10	1.08	1.10	1.12
EUR/JPY	124	123	118	122	123	120	121	122
EUR/GBP	0.86	0.90	0.89	0.83	0.79	0.79	0.81	0.83
EUR/CHF	1.12	1.11	1.09	1.11	1.12	1.12	1.13	1.13
EUR/SEK	10.42	10.56	10.72	10.60	11.00	10.90	10.80	10.70
EUR/NOK	9.68	9.70	9.91	10.00	9.95	9.90	9.85	9.80
EUR/CAD	1.50	1.49	1.44	1.45	1.43	1.41	1.45	1.49
EUR/AUD	1.58	1.62	1.61	1.63	1.64	1.61	1.67	1.70
EUR/NZD	1.65	1.69	1.74	1.71	1.72	1.71	1.77	1.81
EUR/TRY	6.25	6.59	6.16	6.55	6.82	6.80	6.93	7.06
EUR/ZAR	16.27	16.02	16.50	16.54	16.67	16.52	16.94	17.25

Source: RBC Capital Markets estimates

Disclaimer

<u>IMPORTANT DISCLOSURE</u>: THIS COMMUNICATION HAS BEEN GENERATED BY AN EMPLOYEE OF RBCCM AND IS BEING CONVEYED TO YOU AS A SOLICITATION (FOR PURPOSES OF 17 CFR §§1.71(a)-(c) AND 23.605) FOR ENTERING INTO A DERIVATIVES TRANSACTION.

This communication has been prepared by RBC Capital Markets ("RBCCM") sales personnel for institutional clients and your information only and is not a research report prepared by the RBCCM Research Department. Unless otherwise specified, the views expressed herein are the author's and may differ from the views of RBCCM's Research Department and from the views of others within RBCCM. The information in the body of this communication is intended to provide general company and/or market commentary, is not intended to provide a sufficient basis for an investment decision and should not be considered a research report. This material may include references to recently published research notes and reports by RBCCM's Research Department. Complete research notes and reports, including important conflicts disclosures, are available at www.rbcinsight.com. **You should assume that trading desks at RBCCM or its affiliates makes markets and/or hold positions, and may have conducted underwriting or other investment banking work in any of the securities referenced herein**. Information contained herein has been compiled by RBCCM from sources believed to be reliable, but no representation or warranty, express or implied, is made as to its accuracy, completeness or correctness. Every province in Canada, state in the U.S., and most countries throughout the world have their own laws regulating the types of securities and other investment products which may be offered to their residents, as well as the process for doing so. As a result, the securities discussed in this communication may not be eligible for sale in some jurisdictions. To the full extent permitted by law neither RBCCM nor any of its affiliates or any other person accepts any liability whatsoever for any direct, or indirect or consequential loss or damage arising from any use of the information contained herein. No matter contained in this communication may be reproduced or copied by any means without the prior consent of RBCCM.

RBC Capital Markets is the global brand name for the capital markets business of Royal Bank of Canada and its affiliates. **United States:** This communication has been approved by RBC Capital Markets, LLC (member FINRA, NYSE, SIPC), which is a U.S. registered broker-dealer and which accepts responsibility for this communication and its dissemination in the United States. Any U.S. recipient of this communication that is not a registered broker-dealer or a bank acting in a broker or dealer capacity and that wishes further information regarding, or to effect any transaction in, any of the securities discussed in this communication, should contact and place orders with RBC Capital Markets, LLC. **This communication is not a research report or a product of RBCCM's Research Department. Canada:** RBC Dominion Securities Inc. (member IIROC and CIPF). **United Kingdom:** This publication has been approved by RBC Europe Limited, which is authorised by the Prudential Regulation Authority ("PRA") and regulated by the Financial Conduct Authority and PRA. **Hong Kong:** Royal Bank of Canada, Hong Kong (regulated by HKMA and SFC. Financial Services provided to Australia: Financial services may be provided in Australia in accordance with applicable law. Financial services provided by the Royal Bank of Canada, Hong Kong Branch are provided pursuant to the Royal Bank of Canada's Australian Financial Services Licence ("AFSL") (No. 246521). **Australia:** Royal Bank of Canada, Sydney Branch (regulated by the Australian Securities & Investments Commission and the Australian Prudential Regulation Authority; AFSL 246521; ABN 86 076 940 880). This document is distributed only to persons who satisfy the definition of wholesale client for the purposes of the Corporations Act 2001 and not intended for distribution to retail clients. **Japan:** Securities business (as defined under the Financial Instruments and Exchange Law) in Japan will be carried out by RBC Capital Markets (Japan) Ltd. in compliance with all applicable laws and regulations. RBC Capital Markets (Japan) Ltd. is a Financial Instrument Dealer registered with the Kanto Financial Bureau (Kinsho #203) and a member of Japan Securities Dealers Association ("JSDA") and the Financial Futures Association of Japan ("FFAJ"). Banking business (as defined under the Banking Law) in Japan will be carried out by Royal Bank of Canada, Tokyo Branch in compliance with applicable laws and regulations. **Singapore:** Royal Bank of Canada, Singapore Branch (regulated by the Monetary Authority of Singapore). The document is distributed only to persons who satisfy the definition of institutional investors as defined in the Securities and Futures Act (Chapter 289 of Singapore).

For non-institutional investors in the U.S., Canada, nothing in this report constitutes legal, accounting or tax advice or individually tailored investment advice. This material is prepared for general circulation to clients and has been prepared without regard to the individual financial circumstances and objectives of persons who receive it. Past performance is not a guide to future performance, future returns are not guaranteed, and a loss of original capital may occur. Interest rates, market conditions, special offers, tax ruling and other investment factors are subject to change. You are advised to seek independent advice from your financial adviser before purchasing any product or if you are in doubt about any of the contents of this document. If you do not obtain independent advice, you should consider whether the product is suitable for you.

To persons receiving this from RBC Wealth Management Asia: This document has been prepared by RBC Capital Markets. It is made available to you by Royal Bank of Canada, Singapore Branch in Singapore, Royal Bank of Canada, Hong Kong Branch in Hong Kong and/or RBC Investment Services (Asia) Limited in Hong Kong ("RBC Wealth Management Asia"). This is not a research report and commentary contained herein should not be considered to be research. This material is not for distribution in Singapore to investors who are not "accredited investors", as defined in the Securities and Futures Act (Cap. 289) of Singapore and in Hong Kong, to investors who are not "professional investors", as defined in the Securities and Futures Ordinance (Cap. 571 of Hong Kong) and any rules made under that Ordinance. This material has been prepared for general circulation and does not take into account the objectives, financial situation, or needs of any recipient. The information and opinions contained in this document has been obtained from sources believed to be reliable and neither RBC Wealth Management Asia nor its related companies or affiliates (collectively, "RBC") make any representation or warranty as to its adequacy, completeness, accuracy or timeliness for any particular purpose. You are advised to seek independent advice from a financial adviser before purchasing any product. Any past performance, projection, forecast or simulation of results is not necessarily indicative of the future or likely performance of any investment. RBC accepts no liability whatsoever for any direct, indirect or consequential losses or damages arising from or in connection with the use or reliance of this material or its contents. The information herein is not intended for distribution to, or use by, any person or entity in any jurisdiction or country where such distribution or use would be contrary to law or regulation. If you are in doubt about any of the contents of this document, you should obtain independent professional advice.

This content relies on tracking technologies to monitor, understand and improve our electronic communication and your online experience, to customize marketing, and to track your usage of RBC content, websites and services. Tracking technology may identify when you visit specific RBC content and may be shared with third parties involved in customizing RBC marketing on RBC or digital channels. RBC does not sell your information to third parties, nor do we track your interaction with a third party website. For more information, see our privacy policy at http://www.rbc.com/privacysecurity/ca/index.html.