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Economics

Finding Fair Value

The Economics of FX in a Trade War

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The Economics of FX in a Trade War

Who is benefiting from "beggar-thy-neighbor" currency weakness, and who is paying a cost in competitiveness from an overvalued exchange rate? As trade tensions mount, that question will be increasingly consequential for politicians, investors, and businesses. In this report, Bloomberg Economics deploys models of fair value for exchange rates, rankings for safe haven currencies, and signals from our FX scorecard to provide the elements of an answer.

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Trade War of Words Risks Collateral Damage for Currencies

By Tom Orlik

Currencies are one of the most potent weapons in a trade war. So far though, aside from a few tweets from President Donald Trump, foreign exchange has not figured largely in the debate. That might change.

A combination of Federal Reserve tightening and tariff-induced overheating could put upward pressure on the dollar – exactly the opposite of what's needed to shrink the U.S. trade deficit.

Fragile market sentiment means even a trade war of words will mean collateral damage for economies with safe-haven currencies.

Currency Manipulator

The major structural forces that distorted the global economy, and bent exchange rates out of shape, have started to shift. In China, the policy of deliberate intervention to maintain an undervalued yuan has come to an end. Indeed, for much of the last two-and-a-half years, China's policy makers have been intervening to prop the yuan up, not hold it down. The latest U.S. Treasury FX report doesn't name China, or anyone else, as a currency manipulator.

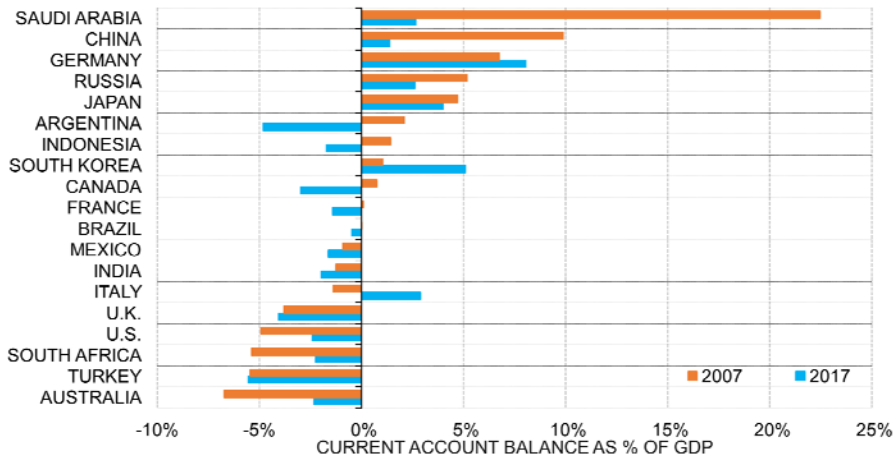
Behind that's a reduction in some of the imbalances that threw the global economy out of whack. China's current account surplus has shrunk from close to 10% of GDP in 2007 to less than 2% in 2017. The U.S. deficit has come down from a record 5.8% of GDP in 2006 to 2.4% in 2017. The flip side of that, the U.S. Treasury purchases that China used to maintain an undervalued yuan have stopped and even swung into reverse, as reserves are sold down to support the currency.

Trade Balances

There's an underlying question about whether exchange rates have retained their effectiveness as a tool in shifting trade balances. Looking at the Group of 20 economies, in the last five years it's difficult to see a relationship. In a world of integrated global value chains, where currency weakness makes exported outputs cheaper but imported inputs more expensive, it makes sense that the pass-through from movements in currencies to trade balances would be weakened.

If exchange rates are so far the trade-war claxon that didn't sound, that doesn't mean they will stay silent forever. Trump is picking a fight with China at a moment when the yuan is overvalued – by some 8%, according to euro-area economist David Powell's fair value model. There has already been chatter about China allowing the yuan to devalue as a response to U.S. tariffs. If the yuan – increasingly an anchor for

G-20 Current Account Balances as a Percentage of GDP



Source: IMF, Bloomberg Economics

Even if tariffs remain more tweeted than implemented, an escalation of the trade war of words has the potential to buffet FX markets

Asian FX – weakens, other regional currencies will follow.

The timing of tariffs also looks ill-conceived from the U.S. perspective. U.S. economist Carl Riccadonna already anticipates a stronger dollar over the course of the year, reflecting widening interest rate differentials, the Fed's balance sheet unwind, and tax reform that incentivizes the repatriation of foreign earnings.

With the U.S. economy already running at full capacity, the impact of tariffs could well show up in overheating and inflation – driving even greater dollar strength on anticipation of accelerated Fed tightening.

The end of an extraordinary process of monetary easing adds an additional uncertainty. Central banks were famously po-faced on the subject of quantitative easing and exchange rates. The reality though, was that with monetary policy ineffective at bolstering demand at home, policy makers hoped that debasing the currency would facilitate borrowing of demand from abroad.

Swing Into Reverse

Now that process is beginning to swing into reverse, but with variations and uncertainty in the pace across the U.S., Europe and Japan.

That's already a significant and unpredictable factor in shaping FX outcomes – with the markets focusing more on expectations the European Central Bank will taper than on the fact that the Fed is actually unwinding. Europe economist Jamie Murray expects the ECB to taper further in September. The Bank of Japan will be last to exit, but a change in language from Governor Haruhiko Kuroda has already marked the beginning of the end.

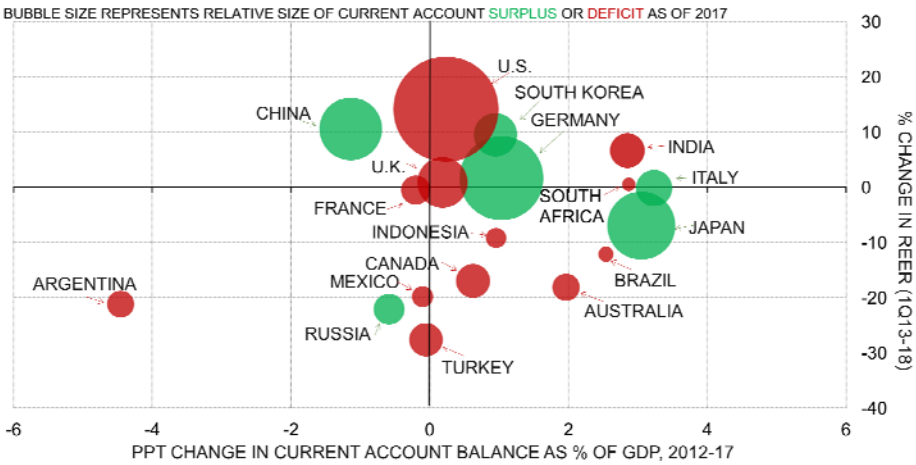
Over the course of 2018 then, currency markets will likely transition from just the Fed, to the Fed and ECB, to the Fed, ECB and BOJ, either unwinding or tapering their stimulus.

More Tweeted

Even if tariffs remain more tweeted than implemented, an escalation of the trade war of words has the potential to buffet FX markets. A 5.9% single-day drop in the Hang Seng China Enterprise Index in February – the biggest fall since China's equity market collapse in July 2015 – was a signal that trade war fears have markets on edge.

Japan economist Yuki Masujima's safe-haven rankings show that the yen, Swiss franc and yuan have the most to gain in risk-off moments. The Canadian dollar, Thai baht, and Australian dollar have the most to lose. ■

G20 Change in REERs, Current Account Balances



Source: Bloomberg Economics , IMF, BIS

Ringgit, Mexico's Peso, Turkish Lira Could Be Targets in Trade War

By David Powell and Dan Hanson

As fair trade moves to the top of the agenda, undervalued currencies risk political ire. Bloomberg Economics' real effective exchange rate (REER) model suggests the currencies of Colombia, Japan, Malaysia, Mexico and Turkey are the most undervalued and those of Australia, the Czech Republic, New Zealand and Switzerland are the most overvalued.

Several under-valued currencies were battered by traders when oil prices collapsed in 2014 and have yet to recover to levels consistent with the economic fundamentals of those countries. The Colombian peso is about 23% below where it should be. The Malaysian ringgit and the Mexican peso were also hit hard by the collapse in crude. They're about 16% and 12% too weak, respectively, according to our model.

Lira Under-Valued

Extremely loose monetary policy has weighed on the other currencies. A dovish central bank – along with political factors – have put the Turkish lira into free fall. It's about 25% below its fair value. Japan, whose central bank continues to expand its balance sheet through a program of quantitative easing, has a currency that should be about 26% higher. (However, a model that focuses on country-specific behavior suggests the yen could be in line with its fair value, according to our Japan economist, Yuki Masujima.)

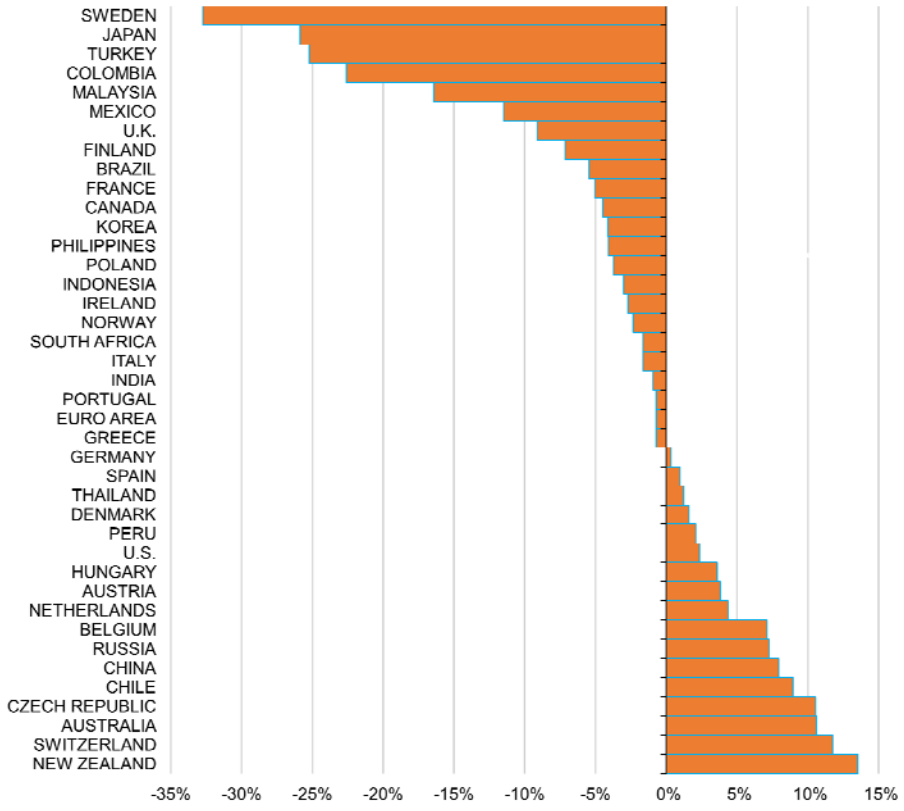
Franc, Koruna Caps

By contrast, some countries that were able to avoid large-scale asset purchase programs have been left with overvalued currencies. Those of Australia and New Zealand are about 11% and 14% too high, respectively. New-found demand from foreign-exchange reserve managers may have contributed to that as well.

Currency caps imposed by central banks have done little to prevent the overvaluation of currencies. The Swiss National Bank imposed one to mitigate safe-haven flows triggered by the global financial crisis. However, it was eventually forced to abandon it and the franc surged higher afterward. The appreciation induced by scrapping the cap has since been reversed but the currency retains the initial overvaluation.

The Czech National Bank has had a similar experience. It gave up on a peg and its currency roared higher, but those gains remain in place. The franc is about 12% above where it should be and the

Currency Misvaluations Persist Worldwide



Source: Bloomberg Economics

koruna is about 11% too high.

Unreliable Signal

The model also points to extreme undervaluation for the Swedish krona. However, this may be one of the least reliable signals. Sweden experienced a credit boom in the late 1980s after a period of financial deregulation and it hyper-charged its currency. The boom turned to bust and sent the krona into a nosedive in the early 1990s before the Riksbank decided to peg it to the European Currency Unit, a precursor to the euro. The elevated starting point leads to a blurred signal in all of the following years. Purchasing power parity models that begin around the same time, which is a popular starting point for currency valuations because global imbalances were relatively low, suffer from the same problem.

Methodology

To obtain these estimates, BE has replicated the International Monetary Fund's REER index model from the External Balance Assessment and extended it to take account of unconventional monetary policies. We have created tickers and added them to the Bloomberg terminal for the fair value estimates for 39 countries and one for the euro area. They can be compared with the actual REERs to determine the extent of misvaluation.

The IMF's model uses a list of variables that explains movements in REERs. They include measures of or proxies for foreign reserve accumulation, government social spending, short-term interest rate differentials, productivity, financial volatility, a currency's reserve status, financial home bias, terms of trade, the openness of an economy, trend growth, population growth and the share of administered prices.

Bloomberg Economics Revises Model Coefficients

Variables	Coefficients
(Change in Reserves)/GDP* K Controls, Instrumented #	−5.97 ***
L. Public Health Spending/GDP #	−0.34
Real Interest Rate Differential Interacted With K Openness #	0.45 **
Demeaned Private Credit/GDP #	0.09 ***
L. Output Per Worker, Relative to Top 3 Economies	0.46 ***
L. Relative Output Per Worker*K Openness	−0.24 **
L. Demeaned VIX*K Openness	−0.11 *
L. Demeaned VIX*K Openness*Share in World Reserves	0.25
Own Currency's Share in World Reserves	0.12 **
L. Financial Home Bias (Share of Domestic Debt Owned by Residents) #	0.04 ***
Log Commodity Terms of Trade	0.24 ***
L. Trade Openness (Avg. Exports + Imports to GDP) #	−0.27 ***
GDP Growth, Forecast in 5 Years #	1.01 **
Population Growth #	0.7
Share of Administered Prices	−2.76 ***
Dummy South Africa Apartheid (Pre−1994)	0.31 ***
Long−Term Government Bond Yield Differential	0.61 ***
Constant	4.29 ***
R−squared	**0.57**
Adjusted R−squared	**0.54**
Observations	**863**
Number of Countries	**39**

* Significant at 10%
** Significant at 5%
*** Significant at 1%
"L." denotes one-year lag
Variables denoted with # are constructed relative to trading partner average

Those variables for 40 countries are used in a panel regression. In the IMF's most recent update, they explain about 60% of the variation in their currencies from 1990 to 2013.

We have added the 10-year government bond yield relative to those of trading partners and it mops up additional variation in the REERs for countries that implemented quantitative easing programs. In addition, unlike the IMF, we have aggregated the data from the countries of the euro area used in the panel regression to obtain an estimate for the monetary union as a whole.

Since the first methodological note was published, we have made some small changes. We added the Czech Republic and instrumented the data on foreign exchange reserves to be more closely aligned with the IMF's model. In addition, BE has re-run the panel regression in order for the estimates of the coefficients to use all the data available from 1989 to 2016. The fit of the model is now slightly higher than before. ■

U.S.

Fed Unwind, Profit Repatriation Flag Comeback for Greenback

By Carl Riccadonna

The tide may be on the cusp of turning for the U.S. dollar, and this changing trajectory could have wide ranging consequences for the global outlook.

The economic significance of currency fluctuations has been greatly under appreciated in the current economic cycle, in part due to the intense scrutiny on unconventional monetary-policy measures, such as quantitative easing. The resurgence of a strong dollar should not be ignored, as it could lead to a repricing of financial markets, reduce the pace of GDP growth and inflame the Trump administration's focus on trade imbalances.

Less Insular

Currency fluctuations matter more for the U.S. outlook than they used to, and not just because of President Donald Trump's scrutiny. The economy has become markedly less insular over the past several decades. Total trade as a share of GDP has tripled since the early 1960s, and this is not just imports – the export share of output has also tripled.

The U.S. remains less dependent on trade relative to many of its developed peers, such as Germany (where exports account for 50% of GDP), China (20%) or Japan (18%). Exports as a share of U.S. GDP are closer to 12% by comparison. However, the increasing importance of trade means U.S. forecasters need to pay closer attention to external factors, such as foreign demand and exchange rates. Furthermore, in an increasingly globalized economy and financial system, currency effects on the economy extend well beyond export-oriented sectors. Domestic producers compete against a readily available supply of imports, and the viability of U.S.-based factors of production – land, labor and capital – often depends on their price competitiveness in international markets.

Great Recession

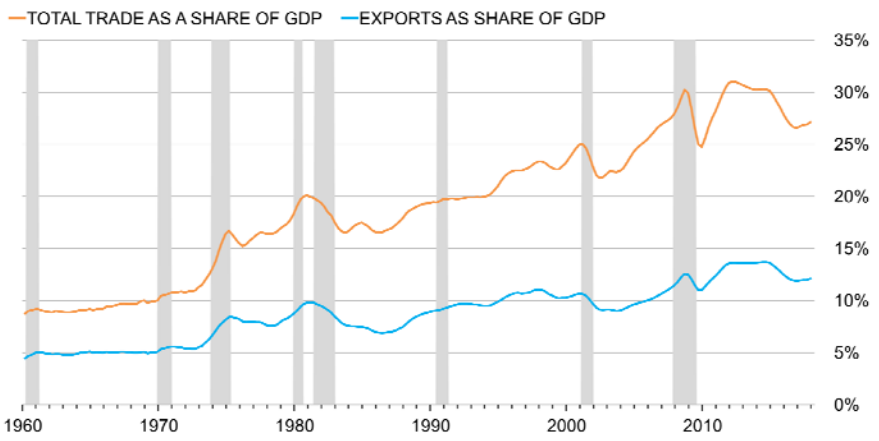
A weak dollar provided crucial support to the U.S. economy as it recovered from the Great Recession. The export sector contributed an out size boost to growth at a time when the remaining components of GDP were too feeble to reduce labor slack and lower the unemployment rate. Eventually, the improvement in labor conditions resulted in a strengthening of consumer spending, which provided a reliable source of domestic demand. Nonetheless, fluctuations in the pace of growth throughout the current cycle – particularly the lulls – coincided with periods of dollar strength and export weakness.

Fiscal Tailwinds

The economy may be better positioned to endure strong-dollar headwinds now that it is fortified by low unemployment and fiscal tailwinds, but currency developments could materially impact the speed of growth relative to trend. As a result, a strengthening dollar would do some of the heavy lifting for policy makers.

The relative strength of a currency is determined by a complex array

U.S. Increasingly Turning to Trade



Source: Bloomberg Economics

The tide may be on the cusp of turning for the U.S. dollar

of factors exerting varying degrees of influence at any particular point in time. These include economic and fiscal health, international trade, capital flows and investor sentiment. For this reason, the level of interest rates — or more specifically the interest-rate differential between two currency pairs — is at the core of what drives foreign-exchange levels. In the era of extensive usage of unconventional monetary -policy tools, such as quantitative easing, the divergence of policy more broadly, not just interest rates, has heavily influenced currency trends.

As the Fed cut interest rates to the lower bound and embarked on balance-sheet expansion, the trade weighted dollar fell to multi -decade lows, providing the economic stimulus noted above. Later in the cycle, as policy makers communicated their intentions to phase out asset purchases and begin raising rates, the reverse occurred and the dollar appreciated sharply. Not coincidentally, the export contribution to GDP faltered and overall economic growth stalled to such an extent — just 1.2% year -on-year — that Fed officials had to reduce the pace of tightening.

A combination of economic, monetary and fiscal factors appears to be priming the markets for another bout of dollar strength. Central bank policy divergence may be slower to abate relative to what is currently anticipated. While central bankers abroad are proceeding tenuously toward the next steps of policy normalization, Fed officials are signaling their intention to layer additional tightening into outlying years in addition to overseeing an accelerating pace of balance-sheet reduction.

Fed Asset Sales

Furthermore, the transfer of assets from the Fed's balance sheet back into publicly-traded markets will invite greater foreign ownership (paid for in dollars), as will the increased Treasury issuance necessary to finance the Trump administration's tax cuts. While rising public debt ordinarily scares off foreign investors, the risk-free status of Treasury securities has historically blunted the correlation. In addition, the incentivized repatriation of foreign earnings included in last year's tax reforms could also create substantial dollar inflows.

Most of the aforementioned strong -dollar factors have only started to materialize; to be sure, faster growth is a forecast, not yet a reality, and the balance-sheet contraction is several months away from reaching full speed. Increasing Treasury issuance is also likely to be an ongoing narrative.

Much Ado About Nothing

Market participants may be making much ado about 3% 10-year Treasury yields at the moment, but the aforementioned factors suggest the risks tilt toward further upside potential in the near-to-medium term. Even so, a slow turn in the dollar appears to be materializing: the Bloomberg Dollar Spot Index is up nearly 3% from its low of the year, and the Fed's broad trade-weighted dollar index has gained 1.5% (annualized) over the past three months compared with a decline of 6% last year.

It may be too soon to call a trend, but potential fallout from currency appreciation warrants careful attention. As the lessons from the past decade attest, dollar fluctuations get considerably more bang for the buck than they used to. ■

From Bloomberg News

Trump Bucks Treasury in Ripping China, Russia as Currency Meddlers

By Katherine Greifield and Saleha Mohsin, Bloomberg News

President Donald Trump accused China and Russia of devaluing their currencies, breaking from his own Treasury chief's view that no major trading partners are currency manipulators.

"Russia and China are playing the Currency Devaluation game as the U.S. keeps raising interest rates. Not acceptable!," Trump wrote on Twitter.

His comments on China contradicted a Treasury Department semi-annual report that refrained from naming any country a currency manipulator based on specific criteria. Russia isn't among the 12 largest trading partners evaluated in the report.

Trump didn't provide any evidence to substantiate his claim.

Russia Criticism

The attack added fuel to the brewing trade dispute between the U.S. and China and drew swift criticism from Russia, which the White House recently sanctioned and clashed with over Syria. The Bloomberg Dollar Index slipped to its lowest level since March 26 following Trump's tweet, while Treasuries fluctuated.

A Treasury spokeswoman referred questions to the White House, which offered little clarification on the apparent contradiction.

China on Watchlist

Treasury has China on its watch-list, and the administration is "constantly monitoring" the issue, White House Press Secretary Sarah Huckabee Sanders said to reporters aboard Air Force One. Treasury Secretary Steven Mnuchin is among the cabinet secretaries who traveled with the president to a tax-policy event in Florida last month.

Trump's comments are "another implicit signal of the administration's desire for a weaker U.S. dollar – especially against major trading partners," said Viraj Patel, a London-based currency strategist at ING Groep NV. "These weak dollar expectations will remain entrenched in currency markets, especially if the administration continues its mercantilist policy focus."

Earlier this year, seemingly off-the-cuff remarks from Mnuchin that a weaker dollar in the short term benefited the economy roiled currency markets, a reiteration of comments he made to the Senate as it prepared to vote on his confirmation more than a year ago.

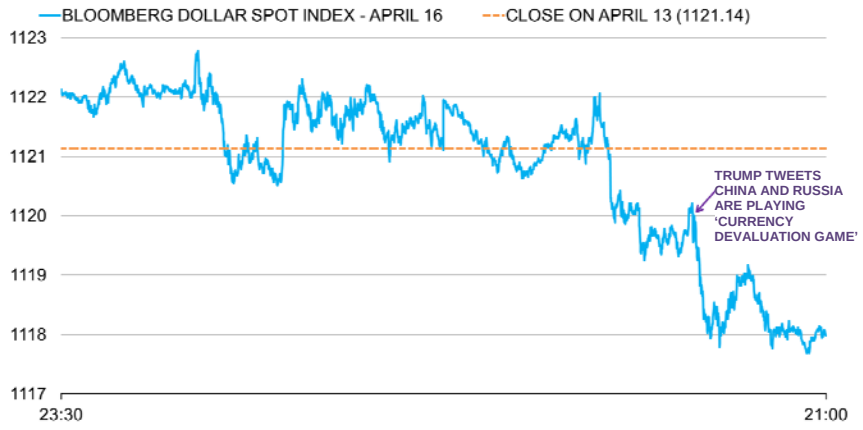
Mnuchin Comments

In January, following Mnuchin's comments about a weak dollar, Trump said: "I don't like talking" about the dollar. "Because frankly, nobody should be talking about it."

Trump has repeatedly blasted Beijing for failing to reduce its trade surplus and open its markets to American investment. China's yuan, though, has gained about 10 % against the dollar over the past 12 months, climbing in March to the strongest level since August 2015.

The ruble has weakened more than 9% against the dollar in the

Dollar Drops After Trump Accuses China, Russia of Devaluation



Source: Bloomberg

Photographer: Zach Gibson/Bloomberg

past year, with much of the decline following the U.S.'s introduction of sanctions on dozens of Russian tycoons, companies and key allies of President Vladimir Putin. The U.S. said it will decide in the near future whether to impose additional sanctions against Russia.

"The basis for this accusation is incomprehensible, and it only elicits a smile, because both business and the government are interested in a stable national currency," Anatoly Aksakov – chairman of the financial markets committee of Russia's lower house of parliament – said in response to Trump's tweet, according to state news service RIA Novosti.

Trump's suggestion that a currency war is on the horizon came as central bankers and finance ministers from around the world prepare to gather in Washington for the spring meetings of the International Monetary Fund.

China's Failure

The Treasury's foreign currency report last month ratcheted up criticism of China's failure to correct its trade imbalance with America and said the increasingly "non-market direction" of China's economy presented a risk to global growth. The Trump administration is increasingly turning to currency policy to combat any trade imbalances. The Treasury has said it is considering adding the number of economies it tracks in its currency policy review.

China is evaluating the impact of a gradual yuan depreciation as the country's leaders weigh their options in the trade spat with the U.S., according to people familiar with the matter. A weaker yuan makes imports from China to the U.S. cheaper, driving up America's trade deficit. The president has repeatedly complained about the U.S. trade shortfall with China, which reached $337 billion in goods and services last year. ■

Asia

Rich Yuan Urges U.S. Tariff Caution, Model Shows

By David Powell and Tom Orlik

A critical variable in any trade conflict between China and the U.S. is what happens to the yuan. Our exchange rate model indicates China's currency is about 8% overvalued relative to fundamentals. That suggests this is not a good moment for the U.S. to be picking a fight.

Even without tariffs, a strong yuan is already weighing on exports and boosting imports – reducing the size of the trade surplus. China's 1Q trade surplus was the smallest since 2014.

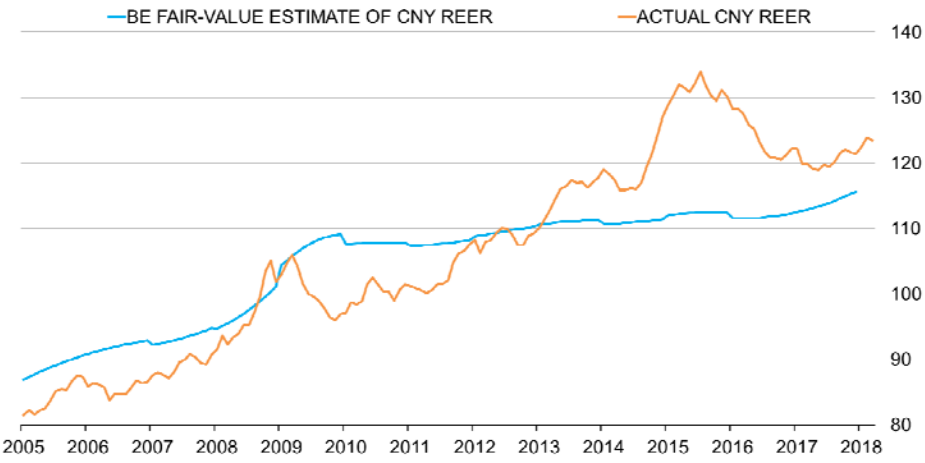
There's speculation that China could respond to U.S. tariffs by engineering a yuan depreciation. We think that's unlikely given the trauma of capital outflows experienced the last time the market thought China's policy makers were engaging in a beggar-thy-neighbor devaluation.

Hands-Off Approach

Even so, as the yuan currently appears overvalued, and U.S. tariffs would likely push the dollar higher, if China's policy makers were to take a hands-off approach, the market could well drive the yuan lower.

Bloomberg Economics calculates the fair value of real effective exchange rates based on 17 variables. In the case of China, the issue is not a drop in the fair value of the yuan – in fact the model suggests that since end-2013 the fair value of China's currency has increased 2.6%. The issue is that the actual yuan has risen at an even faster pace – resulting in the current overvaluation.

Yuan Fair Value REER Estimate Below Actual Level



Source: Bloomberg Economics

Following are the main factors driving movement in our estimate of fair value for the yuan.

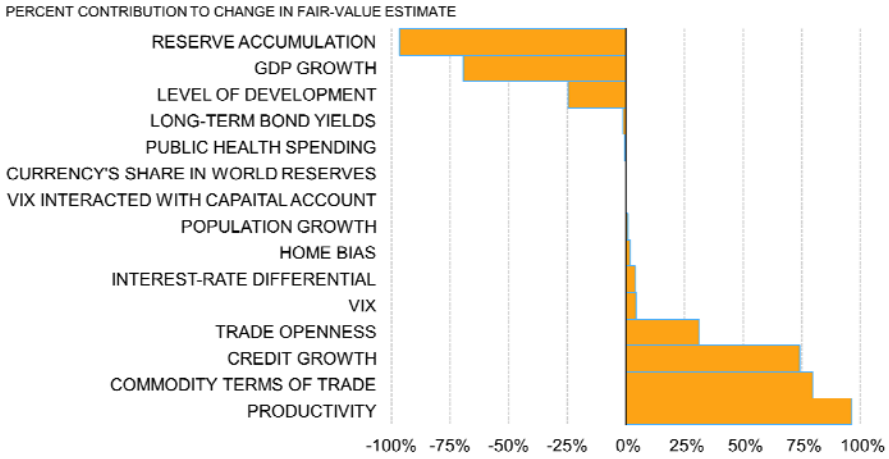
Productivity gains: A rise in output per worker relative to the three most productive economies in the world has pushed up the fair value of the yuan since 2013 by an amount almost equal to the entire rise. This is an example of the Balassa-Samuelson effect. Productivity gains in the external sector result in inflationary wage gains in the non-exporting sector and the real exchange rate rises as a result.

Commodity terms of trade: The improvement in the commodity terms of trade for China contributed an amount equal to 80% of the whole rise in the fair value of the yuan. An improvement in the commodity terms of trade drives a higher fair value because it increases external demand for a country's currency. In China's case, the decline in energy prices has improved that ratio.

Credit growth: Rapid credit growth contributed nearly as much as the improvement in the terms of trade to the increase in the fair value. Faster credit growth drives the estimate higher, because it

For China's trade partners, the current period of yuan strength already looks unlikely to be long lived

Contributions to Increase in Fair Value, 2013-17



Source: Bloomberg Economics

stokes aggregate demand and inflation. In China's case, credit growth has been extremely rapid since the financial crisis, as the government turned to investment stimulus to support growth. The deleveraging campaign is starting to change that.

Foreign currency reserves: In the model, the level of desired reserves is partially determined by the ratio of M2 to GDP – reflecting the use of those currency holdings as a backstop against capital flight. As China's M2 to GDP ratio has been rising at a rapid clip, FX reserves should have been accumulated, pushing the fair value of the yuan down. (An alternative way to think about this is that rapid M2 growth increases the potential for a financial crisis and lowers the fair value.)

GDP growth: This variable also subtracted from the fair value of the yuan. In the model, a decline in the IMF's forecast of GDP growth five years ahead relative to trading partners weighs on the estimate. That figure for China's growth has slowed from 8.1% year on year at the end of 2013 to 5.8% at the start of 2018.

One point to note is our approach takes a more comprehensive approach than the old fundamental equilibrium exchange rate models, which focused on current account balances as the main explanatory variable of fair value. Given that China currently runs only a small current account surplus, FEER models would suggest the yuan's REER is close to fair value – a big change from the pre-crisis years, when the current account balance bulged to 10% of GDP.

Imperfect Model

To be sure, our model produces only estimates of fair value – it's not perfect. The R-squared of the panel regression is 0.57. That means 43% of the variation of these currencies has been driven by factors that aren't captured by the set of 17 variables. In addition, it's global, covering 39 countries. We've attempted to control for country-specific variation with fixed effects, but beyond that the model is `one size fits all.' That means the coefficients for some variables may be overestimated for any given country and underestimated for others.

Another striking takeaway from the model is that several of the factors that support a higher fair value for the yuan are fading in importance. Productivity gains are harder to come by now the surplus rural workforce is used up. Deleveraging is hitting credit growth. Those factors will surely drag GDP growth lower in years ahead. For China's trade partners, the current period of yuan strength already looks unlikely to be long lived. An ill-conceived trade war could hasten its end. ■

Currency Model Points to Limited Upside for Yen

By Yuki Masujima

The yen has little room to rise after gains in 1Q reduced its undervaluation to about 3%, according to Bloomberg Economics' Behavioral Equilibrium Exchange Rate (BEER) model.

The near-term outlook hinges on two key factors – Federal Reserve policy and the yen's tendency to rise in risk-off environments. Anticipated Fed hikes point down, while the threat of trade wars – a market concern – adds upside risk.

The BEERs are estimated by a regression of quarterly real effective exchange rate moves on factors that affect the behavior of currencies – real interest rate differentials, terms of trade, labor productivity, net foreign assets, and sovereign debt – capturing exchange rate misalignment from 1Q94 through 4Q17. The 1Q rate is based on available data at this point.

Tailored Approach

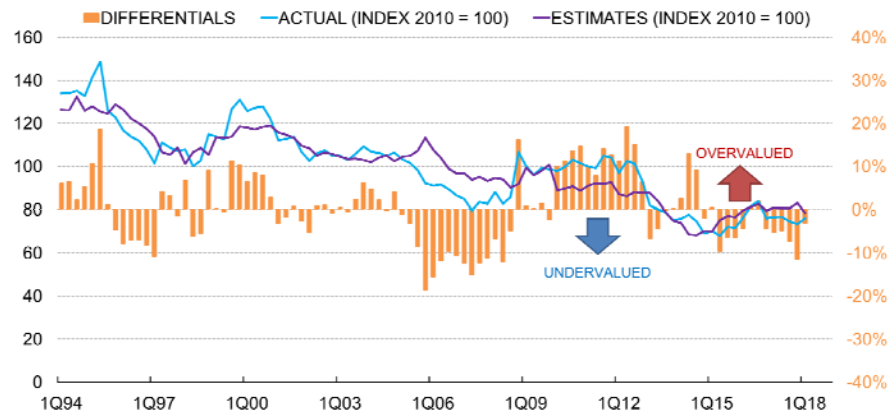
This approach is tailored to capture country-specific factors that affect exchange rates. In contrast, the `fair value' model set out in the Powell and Hanson piece on page 6 takes another approach. It uses a multi-country panel regression, annual estimates and excludes indicators of external sustainability to avoid endogeneity problems. It also indicates the yen is undervalued (though much more so).

Misalignment between the yen's real effective exchange rate and the BEER are the norm, not the exception, and swings can be large – from nearly 20% undervalued in 4Q05 to almost 20% overvaluation in 2Q12.

Rock Bottom Rates

The yen's undervaluation in late 2005 followed a period of rock-bottom rates in Japan – the Bank of Japan ended its zero-interest rate policy in 1Q06. The BOJ's current policy of pinning down the yield curve supports undervaluation in the yen.

Undervalued Yen Is Approaching the Equilibrium Rate



Source: Bloomberg Economics

The yen has little room to rise after gains in 1Q reduced its undervaluation to about 3%, according to our model

The BEERs are based on real effective exchange rates, which are not directly comparable with bilateral nominal exchange rates. That said, contrasting the two can be informative. In 4Q17, when the yen was around 113 per dollar, the spot exchange rate corresponding to the equilibrium rate was probably somewhere around 105. The yen subsequently strengthened, reaching around 105 in March.

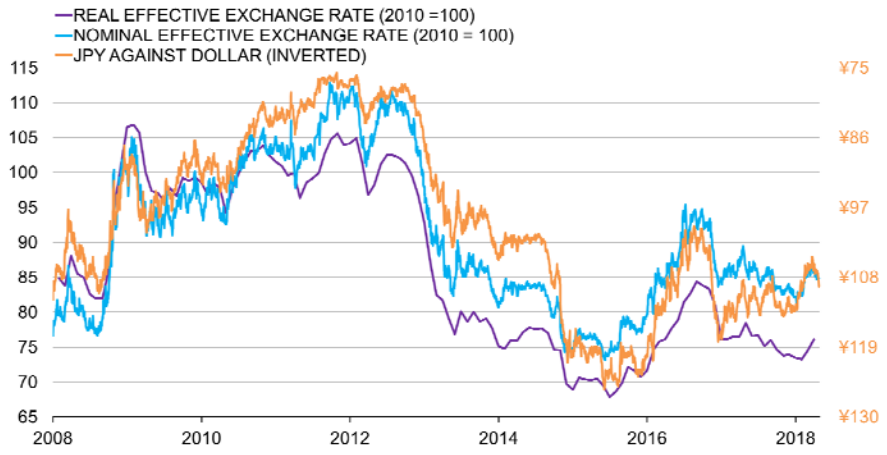
A number of forces were at play in 1Q affecting the yen's BEER. Pushing it down – the Fed's rate hike in March (which widened the interest rate differential with Japan), lower yields on JGBs and higher Japanese inflation.

Pushing it up – a mild pickup in Japan's wage growth (indicative of higher labor productivity). On balance, these forces are likely to gradually push down the yen's BEER in 3Q – implying a weaker spot exchange rate ahead, in our view.

Methodology
We estimated the BEER by conducting a regression of real effective exchange rates (BIS broad index) on real interest rate differentials, CPI/PPI ratio differentials, terms of trade, net foreign asset as a percentage of GDP, and government debt as a percentage of GDP for 31 countries and areas from 1Q94 until 4Q17. Real interest rate differentials and CPI/PPI ratio differentials are trade-weighed. A linear complement or trend method is used if data aren't available at this point.

Sampled countries/economies are:
APAC: Japan, South Korea, China, Hong Kong, Taiwan, Australia, Thailand, Indonesia, Philippines, Singapore, Malaysia, New Zealand, India. *America*: U.S., Canada, Peru, Colombia, Chile, Mexico, Brazil
Europe, MENA: Euro area, U.K., Denmark, Sweden, Norway, South Africa, Turkey, Russia, Poland, Hungary, Switzerland. ■

Yen/Dollar, Nominal and Real Effective Exchange Rates



Source: Bloomberg Economics

Yen Is Safe Haven, Japan a Loser in Trade War

By Yuki Masujima

When the market mood sours, investors seek shelter. The yen, Swiss franc and Chinese yuan are go-to currencies – and most likely to appreciate – when volatility picks up, according to Bloomberg Economics' safe-haven currency rankings. In the context of concerns about trade wars – a major driver of volatility this year – here are a few takeaways.

Japan could take a double hit from a trade war. Beyond the direct impact of any restrictions placed by other countries on its exports, a stronger yen would reduce its competitiveness.

To a much lesser – but still significant – extent than the yen, Swiss franc and yuan, the dollar shows some safe-haven tendencies, especially if there's a liquidity squeeze associated with market volatility.

Safe-Haven Rankings

The safe-haven rankings show the yuan on a journey from risk currency a decade ago to a safe-haven today. That reflects the market's view that China's authorities have the will and resources to stabilize their currency at times of stress. The rankings also show Bitcoin's move in the other direction – with a gold-like safe haven status in 2016 now rapidly deteriorating.

To derive safe-haven rankings, we first determine how sensitive a currency or asset is to changes in broader market volatility, taking into account interest rate differentials. The score of each is then divided by its respective historical volatility of daily returns to allow for comparison.

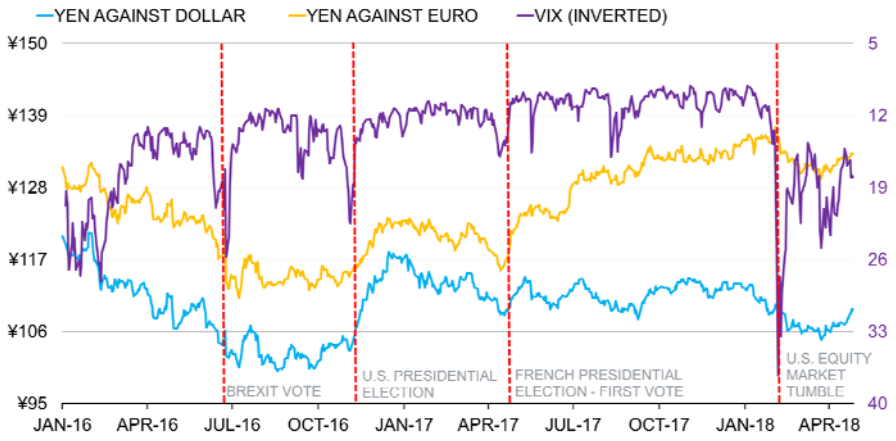
Over the past decade and a half, the constellation of safe-haven currencies has evolved. The nature of the risks that have buffeted markets has also varied, from Middle East tensions, to the global financial crisis and North Korean nuclear provocations.

High-Ranking Yen

One relative constant though – the yen's high ranking. It's stayed in the top spot all the way back to 2008, with the exception of 2011 and 2012 – when Europe's sovereign debt crisis fueled demand for dollars.

The euro ranked highly in the early 2000s just after currency integration, but the sovereign debt

Yen Appreciated When Trade Tensions Escalated



Source: Bloomberg Economics

Bitcoin had climbed our safe-haven rankings, reaching second in 2013 and holding the third spot in 2016

crisis may have damped its safe-haven status.

The British pound's ranking declined in 2016, the year of the Brexit vote. Commodity currencies such as the Australian and Canadian dollars tend to depreciate in risk-off episodes. This reflects the tendency of commodities including crude oil to sell off during an economic shock.

Surging VIX

Asian emerging currencies also tend to be vulnerable to a surge in the VIX. Demand for currencies and assets perceived to be safe is most pronounced during a crisis. In such periods, their prices tend to be associated with the VIX movement more closely.

Gold has traditionally been considered a safe-haven asset. Strong demand for the gold is usually associated with financial crises and elevated geopolitical risks, when investors seek to exit paper assets. Gold's ranking started to rise in 2008 and peaked in 2017.

Methodology

Bloomberg Economics determines the safe haven ranking, based on the normalized safe haven indexes. The indexes are estimated by conducting a rolling regression of the VIX (implied volatility of S&P 500 index options), and the two-year yield differential between two currencies (assuming zero interest rates for gold, Bitcoin and crude oil) on the change in their exchange rates. The indexes were divided by historical volatility – standard deviation of daily exchange rates returns. It runs from the beginning of 2001 (or the earliest available) through March 30, 2018, with a 250 business day window. ■

Safe Haven Rankings

Ranking	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	1Q18
1	CHF	CHF	CHF	THB	CHF	CHF	JPY	JPY	JPY	USD	USD	JPY	JPY	JPY	JPY	JPY	JPY
2	EUR	GOLD	Oil	HKD	THB	JPY	CHF	HKD	USD	JPY	JPY	Bitcoin	CHF	CHF	CHF	GOLD	CHF
3	SGD	EUR	HKD	Oil	GBP	THB	THB	USD	THB	GOLD	GOLD	HKD	Bitcoin	HKD	Bitcoin	CHF	CNY
4	GOLD	THB	EUR	MYR	USD	USD	USD	CNY	CNY	Bitcoin	CNH	USD	CNY	GOLD	EUR	CNY	USD
5	GBP	SGD	GOLD	USD	IDR	HKD	HKD	CHF	Bitcoin	CHF	CNY	IDR	USD	EUR	GOLD	USD	CNH
6	JPY	GBP	GBP	GBP	EUR	Oil	Oil	THB	IDR	CNH	IDR	CNY	GOLD	CNY	USD	CNH	GOLD
7	THB	Oil	THB	CHF	Oil	CNY	CNY	MYR	HKD	CNY	Bitcoin	CNH	EUR	USD	CNY	Bitcoin	Oil
8	USD	JPY	USD	EUR	HKD	EUR	GOLD	GOLD	CNH	THB	HKD	GBP	HKD	GBP	MYR	EUR	IDR
9	HKD	USD	CAD	IDR	AUD	GBP	EUR	IDR	CHF	HKD	CHF	MYR	CNH	CNH	IDR	SGD	HKD
10	AUD	IDR	KRW	AUD	SGD	SGD	KRW	KRW	GOLD	IDR	THB	KRW	IDR	SGD	HKD	MYR	GBP
11	Oil	HKD	SGD	SGD	CAD	CAD	SGD	GBP	MYR	MYR	MYR	THB	GBP	Bitcoin	SGD	GBP	EUR
12	KRW	KRW	IDR	GOLD	CNY	GOLD	GBP	EUR	KRW	Oil	Oil	CHF	Oil	THB	CNH	IDR	Bitcoin
13	CAD	AUD	JPY	JPY	JPY	IDR	MYR	Oil	EUR	GBP	KRW	GOLD	CAD	AUD	GBP	THB	MYR
14		CAD	AUD	CAD	KRW	KRW	IDR	SGD	GBP	EUR	GBP	Oil	THB	IDR	THB	HKD	SGD
15				KRW	MYR	MYR	CAD	CAD	Oil	KRW	EUR	EUR	MYR	KRW	KRW	Oil	KRW
16				CNY	GOLD	AUD	AUD	AUD	SGD	CAD	CAD	SGD	KRW	Oil	Oil	AUD	AUD
17									CAD	SGD	SGD	CAD	SGD	MYR	AUD	KRW	THB
18									AUD	AUD	AUD	AUD	AUD	CAD	CAD	CAD	CAD

Source: Bloomberg Economics

Rising Oil Prices Add Downward Pressure on India's Rupee

By Abhishek Gupta

The rise in crude oil prices is putting pressure on sources of India's macro stability – low inflation, and lower current account and fiscal deficits – and weighing on the rupee. Higher oil could spell more depreciation than we had expected.

Based on our FX forecast model, we estimate that a $5/barrel increase in the price of crude oil leads to a 0.7% depreciation in the rupee against the dollar, all else being equal.

Our forecast for the rupee to weaken to an average 65.7 per dollar in fiscal 2019 from 65-levels in March is based on an average oil price of $65/bbl. With oil having climbed to $74/bbl, the rupee has already fallen beyond that level.

Assuming Oil at $75

Assuming oil at $75/bbl, the model points to a rupee decline to around 66.7 per dollar in fiscal 2019. Taking into account seasonal effects on imports and exports, the rupee could weaken to 67.2 by November, before rebounding mildly to 66.8 by March 2019 as trade seasonality turns favorable.

Our FX forecast model – based on regression analysis of macro and financial variables – can be expressed as below:

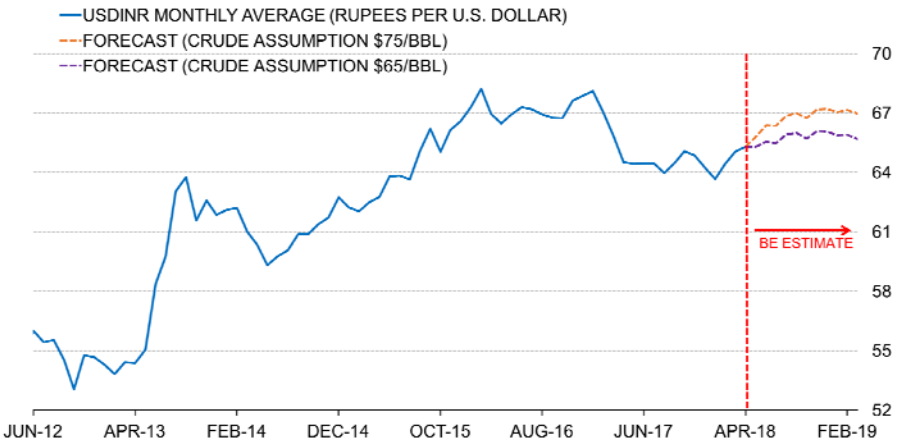
% Change in USD/INR =
- 0.44 * Balance of Payments Surplus ($ billion)
+ 0.31 * Spot FX Intervention by Reserve Bank of India ($ billion)
+ 0.64 * Average CPI Inflation Difference (ppt, India - U.S.)
- 0.59 * GDP Growth Difference (ppt, India - U.S.)
+ 2.14 * Change in Central Bank Interest Rate Differential (ppt, India - U.S.)
+ 0.38 * Nifty Volatility (%)
+ 0.25 * % Change in DXY

We estimate a $5/barrel increase in the price of crude oil increases the value of India's net oil imports by around $8 billion. The impact on the balance of payments is estimated to be lower, at around $5 billion, in part as higher oil prices tend to be associated with increased worker remittances and capital inflows from the Middle East.

Rule of Thumb

Using the coefficients on the balance of payments and FX intervention by the Reserve Bank of India in the equation above gives us our rule-of-thumb

Rising Crude Oil Price to Weaken Rupee



Source: Bloomberg Economics

estimate of the effect of oil prices on the rupee.

The increase in crude oil prices is contributing to higher inflation and puts widening pressure on the budget deficit. Higher market volatility and aggressive dollar purchases by the central bank are also negatives for rupee's outlook in fiscal 2019.

Risk-Off Sentiment

Higher market volatility that reflects risk-off sentiment tends to push down the rupee. Fiscal 2019 is likely to see a return of market volatility due to multiple state elections and general elections next year. Tightening by the Federal Reserve could also add to volatility this year.

We estimate RBI FX purchases are likely to exceed India's balance of payments surplus by around $9 billion. The reason — commercial banks' FX balances that have averaged $22 billion over the last five years are currently at $31 billion. With the domestic liquidity surplus being absorbed post demonetization, we think the RBI will now be able to intervene aggressively to bring that back to average levels in the year ahead. ■

Photographer: Dhiraj Singh/Bloomberg

Europe

`Fair' Value Model Doesn't Make It `Right' for the Euro

By David Powell and Jamie Murray

Buy a euro today and you'll pay a 'fair' price, given the state of the euro -area economy. That doesn't mean the block's imbalances will start to unwind. Stubbornly low wage gains have given Germany a trade advantage that will keep the country in protectionists' crosshairs.

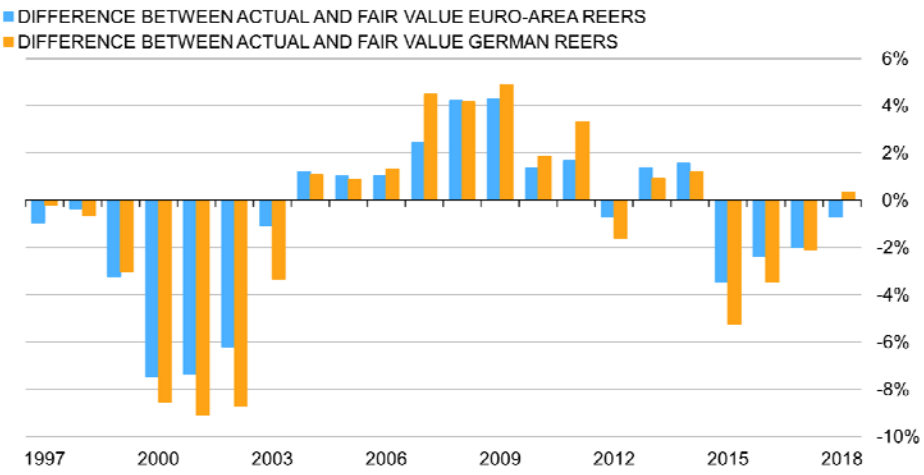
- Germany's competitive edge comes from subdued wage costs, helping to create a decade-old current account surplus.
- Payback for Germany's workers, or an investment splurge, is needed to bring the surplus under control.

Bloomberg Economics' real effective exchange rate (REER) model suggests the euro is less than 1% weaker than can be justified by the region's economic fundamentals. The difference is small, both relative to the early 2000s and more recent years. The story is similar for Germany.

Fair Value

However, a fair value model only tells you whether the valuation of a currency is justified by an economy's fundamentals – and they aren't necessarily fair. For example, wage restraint in Germany contributed to low inflation rates before the crisis years. That boosted the country's competitiveness and is reflected in a lower fair value estimate.

Euro Stands Close to Fair Value



Source: Bloomberg Economics

The European Central Bank's harmonized competitiveness indicators are based on unit labor costs and provide an even clearer picture of that advantage. Our model uses REERs that are deflated by the consumer price index because that inflation data are widely available around the world – it includes 39 countries. Unit labor costs provide a more direct measure of how prices affect a country's competitive position but the data are less widely available.

Primary Imbalance

This increased competitiveness has led to a huge current account surplus in Germany. That's sometimes seen as evidence that demand or jobs are being stolen from abroad. The surplus is now almost 8% of GDP, having risen from close to zero in the early years of the euro. This is the imbalance at the heart of the euro area's structural problems.

To address this imbalance and lift the sustainability of the euro area itself, Germany needs to save less. That could be achieved either by increasing consumption or boosting domestic investment.

The government can encourage more consumption with some

It may finally be time for bigger pay settlements

policies. For example, it could allow more shops to open seven days a week, but that might only have a one-time effect. A significant change could begin if wage growth were to gather some momentum.

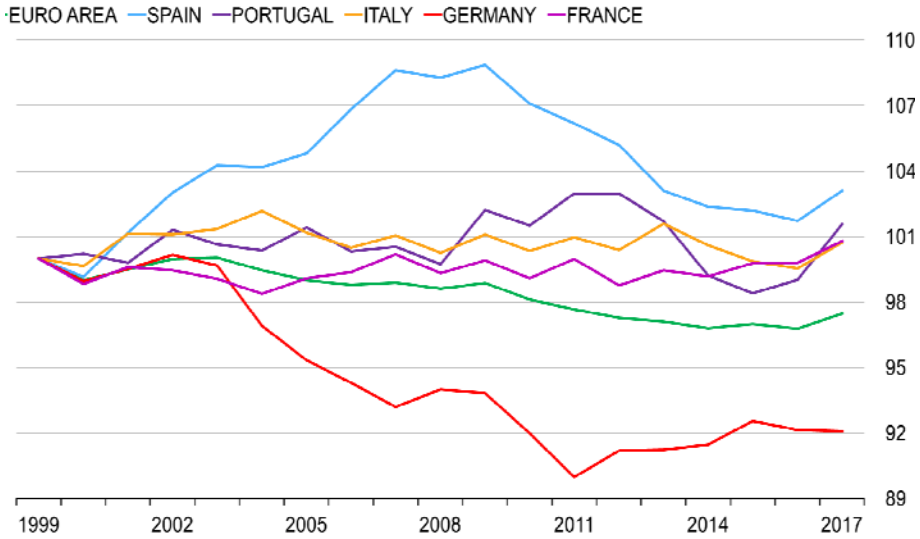
A long-standing and tacit agreement between unions and employers has seen pay gains exchanged for job security as the emergence of Eastern Europe and China as manufacturing behemoths threatened Germany's workforce. That threat is fading as the flow of workers to Chinese cities has slowed and pay gaps with developing Europe narrow. It may finally be time for bigger pay settlements.

IG Metall Deal

There's tentative evidence of this already. Last week, some public sector workers secured a pay rise of about 3% for each of the next two years. That follows a deal between labor union IG Metall and employers on a package of wages and flexible working arrangements that will lift labor costs. But it will take more than this to unwind the competitive advantage gained in the past two decades. We're forecasting only a modest drag on growth from net trade in years to come. The question is whether this is fast enough to prevent foreign intervention.

There's an easy way to head off criticism at the pass – spend more on investment. Gross fixed capital formation is just 19% of Germany's GDP, compared with around 23% when the monetary union was born. A direct boost to public investment would lift the fair value of the currency, reduce the current account surplus, address structural problems in the euro area and do so without disrupting the labor market. ■

Fair Value of Germany's REER Declines



Source: Bloomberg Economics

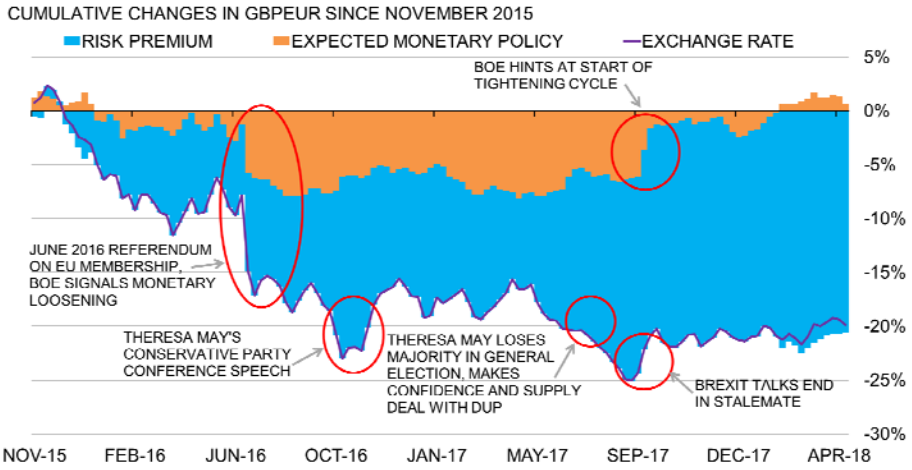
Sterling's `Fair' Value Ignores Brexit Reality

By Dan Hanson and Jamie Murray

The pound has slumped since the Brexit vote as a huge risk premium has been built in to the currency. If the referendum results were reversed, our estimates of fair value suggest a sizable chunk of that depreciation would unwind. Expect abundant volatility in the years to come as the value of sterling reflects ever-changing versions of the final deal.

Sterling has declined to adjust for a significant risk premium since the Brexit vote. That premium will continue to be blown around by shifting perceptions of the deal that will ultimately be forged between the U.K. and EU.

Sterling's Hefty Risk Premium



Source: Bloomberg Economics

Brexit Impact

Our model provides an estimate of where sterling should trade given economic fundamentals. The impact of Brexit on the U.K.'s economy is still in the future, so there's a divergence between the forward-looking anxiety of financial markets, and the upbeat assessment of our model.

Poorer long-term prospects and higher trade costs associated with life outside the trading bloc both argue for a weaker currency, but our estimates of fair value have barely budged over the past two years. Right now they say more about the status quo than the deal the U.K. is likely to forge with the EU and others.

Brexit Outcomes

The contrast between the model and the reaction of the currency market is stark. Investors are already pricing in a view of what Brexit could mean. Given the shape of the final agreement is highly uncertain, the value of sterling reflects the probabilities associated with a range of possible Brexit outcomes – from staying in the customs union all the way to a 'no-deal' scenario.

The euro-sterling exchange rate arguably gives the clearest view of what investors think of Brexit. After all, it's the U.K.'s trading relationship with the euro area that will change most significantly when the U.K. leaves the EU. We have used a scaled back framework, which relates changes in the exchange rate to changes in expected monetary policy – what's left provides a glimpse of the Brexit risk premium.

The 6% appreciation in sterling since late last year can be accounted for by the Bank of England signaling that it planned to start raising interest rates. The first hike came in November. The premium has remained broadly stable since September 2017 at around 20%, despite agreement on a transition deal. The

Photographer: Chris Ratcliffe/Bloomberg

implication is that progress in the negotiations has been seen as a reason for the BOE to make good on its promise to lift rates, rather than as a catalyst to reassess the U.K.'s prospects outside the EU.

Risk Premium

That makes sense — the risk premium related to Brexit can be thought of as the cost investors are associating with the U.K.'s departure from the EU and the magnitude of that won't be known until a trade deal has been finalized. If Brexit is reversed or turns out to be extremely soft, this premium, and others like it, should unwind, pushing the sterling REER closer to our current estimates of fair value. Those estimates currently suggest sterling is undervalued by 10%. And some of the gap will be closed simply as negotiations progress and the worst outcomes get priced out. But a hard or disorderly Brexit could make it even wider.

10%

The amount by which sterling is undervalued based on our real effective exchange rate model.

Bumpy Ride

In the years following Brexit, estimates of fair value, including our own, will come to reflect the U.K.'s new trading reality. But it will take time. The vast majority of the variables used by the model to determine fair value are a snapshot of the structure of the economy today so fail to capture the future changes to the economy.

Until then, financial markets will have to grapple with Brexit using a combination of other tools and gut instinct. One thing is for sure — sterling is in for a bumpy ride. ■

Gulf Pegs Look Intact for This Year, But Vulnerable Beyond

By Ziad Daoud

All currency pegs in the Gulf Cooperation Council are likely to survive 2018. But a lack of significant spending adjustment could threaten some, including the Saudi riyal, within the next four years.

Lower oil prices have permanently reduced incomes and eroded wealth in the GCC. Net foreign assets in Bahrain, Oman and Saudi Arabia will fall below money supply within the next four years at the current spending trajectory, posing a risk to currency pegs.

The medium-term survival of currency pegs in the weaker GCC countries is a bet on higher oil prices not on any vision of diversification.

Vast Wealth

GCC countries accumulated vast wealth during the commodity boom of 2005-14, but the subsequent decline in oil prices has eroded a large chunk of that. Net foreign assets of Saudi Arabia, the largest GCC country, declined by almost a third in only three years after 2014.

The speed of erosion is concerning. If it continues, there may not be enough assets to maintain the credibility of currency pegs, which have been in place for decades. The stakes are high.

Will any GCC country be forced to abandon its peg this year? Unlikely. Even the most fragile, Oman, has secured enough funding to cover its needs for the year. These consist of a $10 billion current account deficit (roughly trade deficit plus outward remittances) and $1.5 billion of debt maturing this year.

Raising the equivalent of 15% of annual GDP may seem formidable. But financial markets have given Oman a lifeline - they lent it $6.5 billion in January, bridging most of the 2018 financing gap. The rest could be covered through a mixture of further debt issuance, central bank reserves, sovereign wealth funds' assets, and support from the rest of the Gulf.

With survival in 2018 likely secured even for the weakest of pegs, how long can they last? That depends on the extent of their net foreign assets. These include foreign exchange reserves at the central bank and foreign assets invested through sovereign wealth funds.

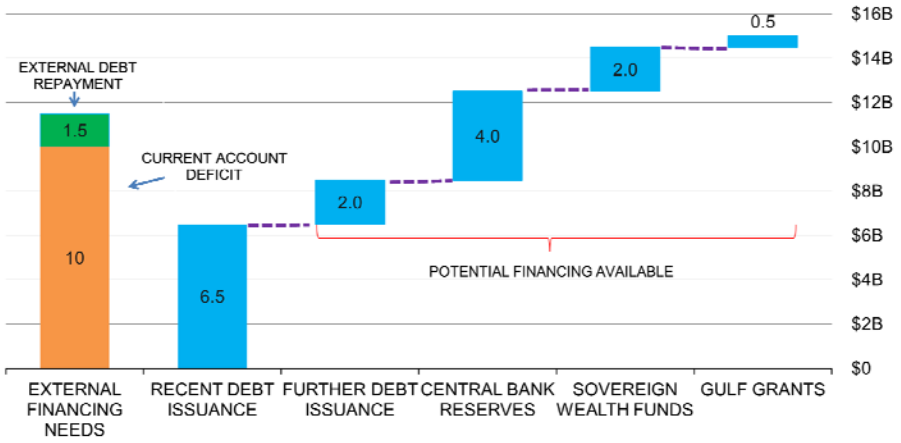
Bullet-Proof Peg

Saudi Arabia, for example, had $545 billion of net foreign assets in 2017. That's substantial – around 80% of GDP. But it can't use all of this to finance deficits; it also needs assets to maintain the peg.

How much exactly does it need to set aside for the peg? A dollar cover for every local currency in circulation and demand deposits, in other words narrow money (M1), would keep the peg bullet-proof. And M1 in Saudi Arabia reached $312 billion at the end of 2017.

This leaves Saudi Arabia with only $233 billion of net foreign assets to finance deficits. And with fiscal

Oman Can Finance Its External Needs in 2018



Source: Government Bond Prospectus, IMF. BE Estimates

Photographer: Charles Crowell/Bloomberg News

deficits running at around $61 billion a year, this amount will last Saudi Arabia for just four years.

The story is similar for Bahrain and Oman. Net foreign assets can last these countries up to three years. But the stronger Gulf countries – Kuwait, Qatar and the United Arab Emirates – have enough in foreign assets to sustain themselves for decades. The weaker Gulf nations don't have much time, and the pace of adjustment has been slow so far. These countries still run fiscal deficits in excess of 9% of GDP. Betting on the survival of their currency pegs in the next five to 10 years is more of a bet on higher crude prices than on any vision of diversifying the economy away from its dependence on oil. ■

GCC Foreign Assets and Deficits (USD Billions)

Country	Net foreign assets (end-2017)	Money supply (M1, end-2017)	Adjusted net foreign assets (end-2017)*	Deficit (2017)	Adjusted net foreign assets (in years of 2017 deficit)
Saudi Arabia	545	312	233	61	4
UAE	583	134	449	7	66
Qatar	349	34	315	3	115
Kuwait	702	34	668	-5 **	infinity
Oman	14	13	1	8	0
Bahrain	22	9	13	5	3
GCC aggregate	**2215**	**536**	**1680**	**80**	**21**

* Adjusted net foreign assets are net foreign assets minus money supply

** Kuwait had a budget surplus in 2017

Sources: International Monetary Fund, Updated and extended version of dataset constructed by Lane and Milesi-Ferretti (2007), Bloomberg Economics estimates

Latin America

Weak Mexican Peso Persists Amid Nafta Uncertainty

By Felipe Hernandez

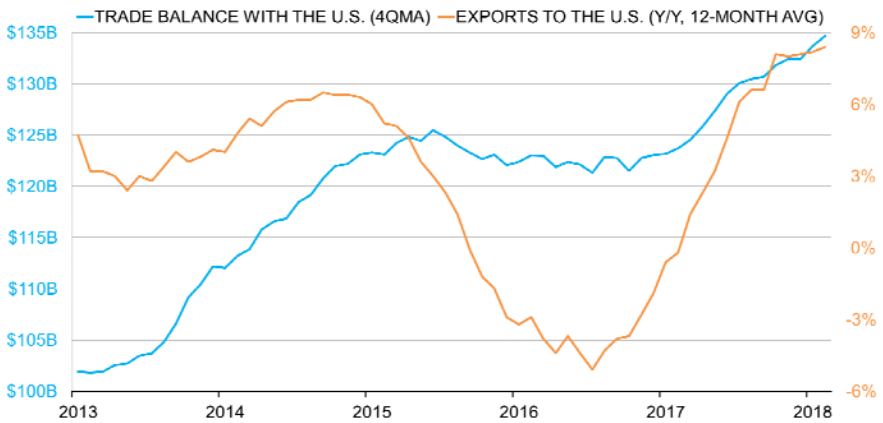
Since President Donald Trump was elected in 2016, escalating U.S. protectionism has not prevented stronger Mexican exports and trade results. Yet the rhetoric has raised uncertainty and resulted in higher exchange-rate risk premiums as well as headwinds for capital inflows and domestic demand that have weighed on the peso.

Bloomberg Economics' real effective exchange rate model suggests that the peso remains weak relative to fundamentals and close to 10% below the estimated fair value.

Free Floating

Mexican policy makers are firmly committed to a free-floating exchange rate and allow the peso to absorb the bulk of external shocks, including those from increasing U.S. protectionism and uncertainty about the future of the North American Free Trade Agreement. Exchange-rate intervention is relatively small and only aimed at preventing disorderly market conditions.

Mexico's Higher Exports and Trade Surplus With U.S.



Source: Bloomberg Economics

While the renegotiation of Nafta began in August, trade rules from the accord have remained in place – and exports and trade results have benefited from stronger external demand. Mexico's trade surplus with the U.S. excluding oil rose to $157 billion in 2017 from $142 billion the year before. Export revenues excluding oil rose 7% to $315 billion, bolstered by higher shipments of manufactured goods.

The uptrend is likely to continue this year, with exports continuing to benefit from strong external demand and potential changes to Nafta unlikely to be implemented before 2019. Tariffs on solar panels and washing machines announced in January are a drawback, but the overall impact is marginal.

Mexico was exempt from the tariffs on steel and aluminum that were announced in March.

Controversial Points

Exports and trade results might not show any significant impact from increasing U.S. protectionism

Our model suggests the peso remains weak relative to fundamentals and close to 10% below estimated fair value

up to this point, but exchange-rate markets continue to anticipate potential changes. Expectations for a Nafta agreement have advanced, as demonstrated by progress in the negotiations and the commitment on display after eight months of talks.

Timing remains unclear given controversial points that are still pending. Mexican general elections in July and U.S. midterm elections in November could also delay negotiations and the approval process. Initial concerns about a worst case scenario — a collapse of Nafta — have moderated, as the average incremental tariff should be manageable and Mexico would continue to benefit from comparative advantages.

Capital Inflows

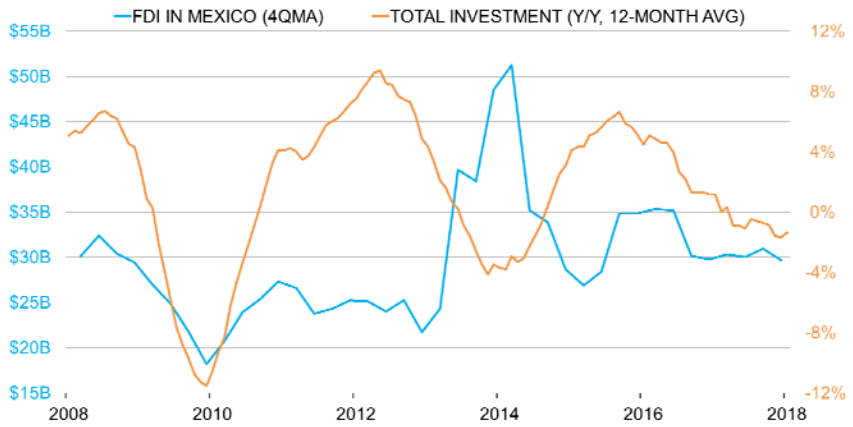
Uncertainty about the future of Nafta has weighted on foreign capital inflows and domestic demand. Total private investment fell 0.6% in 2017 and foreign direct investment in Mexico slipped to $31 billion from $35 billion in 2016. Bloomberg Economics estimates uncertainty about the future of Nafta shaved close to $4 billion, or 0.4% of GDP, from private investment in machinery and transport equipment alone in 2017.

Less Capital Spending

Anecdotal evidence of foreign companies reducing capital spending and delaying or canceling investment projects since Trump's election highlights this. Figures are also consistent with central bank findings about the negative impact from uncertainty about the future of Nafta on foreign direct investment in Mexico.

Lingering uncertainty about Nafta is likely to continue to weigh on the currency. A successful Nafta agreement should help reduce the risk premium and support a stronger currency. The alternative scenario would likely add weakening pressure in the short-term. It would also point to a weaker fair value, which given current valuations, would not necessarily imply additional weakening in the medium term. ■

Mexico FDI and Total Investment



Source: Bloomberg Economics

Strategy

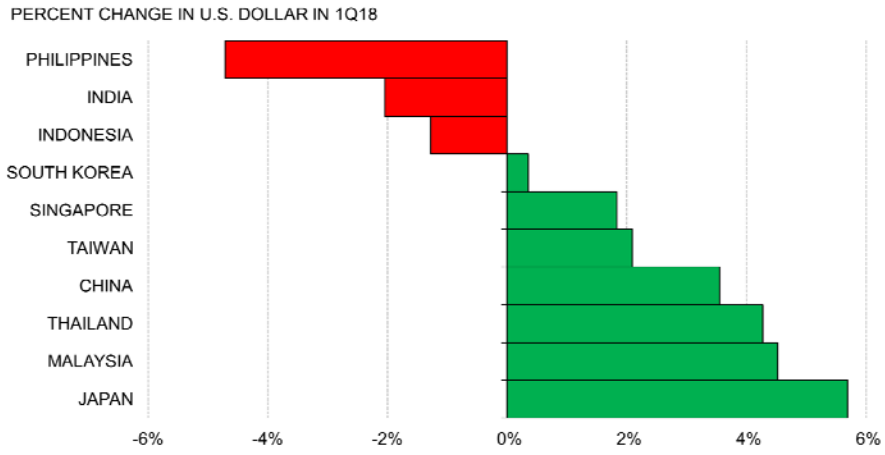
Currency Scorecard Indicates Stronger Headwinds for Kiwi

By Tamara Henderson

The New Zealand dollar stands out in our FX scorecard as the currency with greater scope to underperform Asian peers in coming weeks, amid mixed signals from evolving trade risks. The scorecard provides shorter-term signals for Asia-Pacific currencies based on economic fundamentals, positioning, quantitative factors and technical indicators.

Talk of trade wars and the implied damage to global growth and capital flows have given the safe-haven yen an edge over riskier peers. Even though growth in the Philippines, India and Indonesia is less vulnerable to falling exports, their higher yielding (riskier) currencies underperformed in 1Q.

Open Economy Currencies Outperformed Asia Peers in 1Q



Source: Bloomberg Economics

Trade War Fears

More recently, trade war fears have ebbed with more conciliatory statements from the U.S. and China – supporting risk appetite and capital flows into Asia. It's still unclear though whether punitive tariffs can be avoided, leaving a large question mark for currencies in the interim.

The U.S. dollar remains out of favor by non-commercial accounts – asset managers and hedge funds – according to data from the Commodity Futures Trading Commission's Commitments of Traders report. Short positions in the greenback continue to build and have extended beyond one standard deviation (on a three-year basis). This is large, but not yet extreme. Net long positions in New Zealand dollar futures are approaching 2.5 standard deviations, which is extreme.

Resilient Currencies

The Philippine peso, Indonesian rupiah and Singapore dollar have the highest quantitative rankings in the scorecard, an indication they could be more resilient. Putting some economic context with these quantitative factors though lessens their appeal.

The peso's quantitative ranking is supported by lower implied volatility, less crowded positions, greater yield pickup and lower valuations. These factors outweighed large, negative risk-adjusted carry returns, the weakest in the region despite the large yield pickup. The peso's lower valuations are consistent with the country's weaker economic fundamentals. Inflation is above target and poised to rise further, while the central bank is reluctant to tighten despite firm domestic demand. What's more, the current account swung into deficit in 1Q.

The Indonesian rupiah's higher rank is supported by better yield pickup and valuations. Detracting from its appeal: Risk-adjusted carry returns were negative in 1Q despite its higher yields. The rupiah also has key economics in its favor: growth should accelerate this year in contrast with most Asian peers,

New Zealand dollar stands out in our scorecard as the currency with greater scope to underperform Asian peers in coming weeks

inflation is low, and the current account deficit is manageable and stable. Even so, a new central bank governor in May and the approach of elections in 1H 2019 present significant uncertainty.

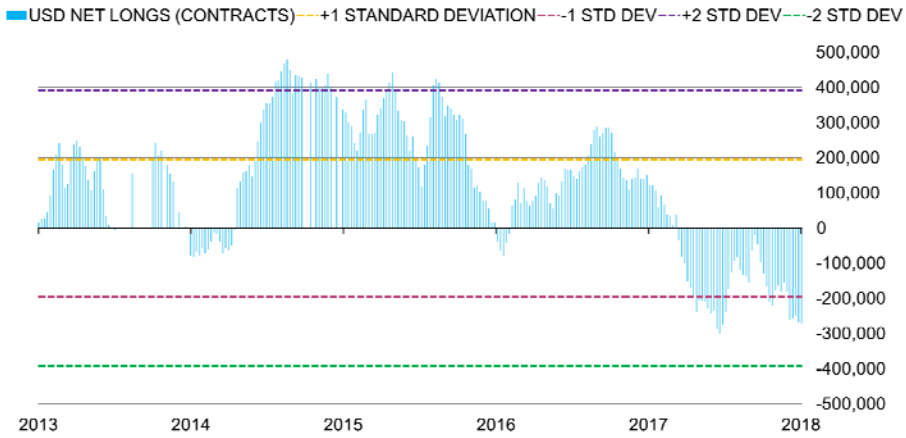
Supporting the Singapore dollar's quantitative appeal are implied positioning (using risk reversals), risk-adjusted returns (which exceed the interbank rate), and valuations. Singapore's economic fundamentals are also relatively strong, barring a painful trade war. Domestic demand is gaining traction and the monetary authority shifted to an appreciation bias in the trade-weighted exchange rate.

Low Ranking Kiwi

At the other end of the spectrum, the New Zealand dollar has the lowest quantitative ranking in the scorecard. This is due to crowded positioning, lower risk-adjusted carry returns and higher equity valuations on a z-score basis. New Zealand's economic fundamentals are also more challenging: slower inward migration and a slump in confidence are hurting domestic demand. What's more, the central bank's upcoming change in leadership and mandate may remove, or delay, current signaling for rate hikes next year.

Technical signals from the more popular trading rules seem to favor the offshore Philippine peso against the Malaysian ringgit and the yen. These are the currencies where Directional Movement Index and Moving Average Convergence -Divergence indicators are in alignment and there are no opposing signals from Bollinger Band, Relative Strength Index or Stochastics trading rules.

Asset Managers, Hedge Funds Shun U.S. Dollar



Source: Bloomberg Economics

Even so, the ringgit is trading just below its 50-day moving average, which has been strong resistance over the past year. The peso is also trading close to its 50-day moving average, but this level has not been much of a barrier (in either direction) in the last 12 months. The DMI is also sending a sell signal for the New Zealand dollar, with no opposing signals from the other major trading rules.

Methodology

The FX scorecard integrates signals from economic fundamentals, broad positioning in the U.S. dollar, quantitative factors and technical trading rules to gauge the strongest short-term pressures on Asia-Pacific currencies.

A sampling of factors referenced by quantitative investors is used to rank the appeal of a currency against its Asian peers. The rank is z-score based, such that 95% of the observations are within two standard deviations of the three-year average.

Separately, a range of technical trading rules are evaluated. Some signals work better for individual currencies and the best rule can shift over time. The scorecard is calibrated to reflect these nuances.

In the overall assessment, conflicting signals among the components are subjectively resolved. Individual investors – reflecting differences in objectives, constraints and time horizons – may resolve these conflicts differently. ■

From Bloomberg Intelligence

European Stocks Face Headwinds From Currency, Trade Tariffs

By Tim Craighead

Europe's significant reach in global trade will be a double-edged sword for corporate earnings in the coming year. On the one hand, a strengthening global economy should spur sales and earnings growth, but on the other hand the appreciation of the euro and the pound over the last year are likely to create a headwind.

In addition, Europe's biggest non-financial sectors have the most to lose from escalating trade tensions, which could threaten already tight profit margins if costs rise and revenue is challenged.

Stoxx 600 Geographic Revenue Breakdown

	Avg Asia Rev %	Avg Americas Rev %	Avg EMEA Rev %
Health Care	12	40	44
Industrials	13	27	56
Materials	21	25	51
Consumer Staples	14	24	60
Technology	21	20	54
Consumer Discretionary	12	20	65
Energy	11	17	70
Utilities	2	11	86
Financials	7	11	81
Telecom	5	8	87
Real Estate	0	0	100
Stoxx 600 Average	**11**	**20**	**66**

Source: Company Filings, BI Estimates

Note: Not all categories add to 100% due to rounding and lack of disclosure

Too Much of a Good Thing?

The crux of the currency challenge is Europe's significant foreign exposure, both in sales and input costs. For example, about 30% of revenue comes from the Americas and Asia for the average Stoxx Europe 600 member. As such, the current 5-10% annualized increase in the euro is hitting revenue growth by several percentage points and earnings even more, subject to hedging and companies' specific cost base. For U.S.-related sales, tax-rate cuts unveiled this year provide something of a timely offset.

The strength of the euro stands as a notable challenge to what is otherwise a largely favorable outlook for European earnings. In fact, the weekly change in Stoxx 600 forward earnings estimates has shown a close correlation (0.7) with a trade weighted index of the single currency for the last five years. With the trade-weighted euro now up about 7% compared with last year, the currency will be a drag for at least two more quarters if it remains at current levels.

U.K. More Exposed

The exposure of U.K. Plc to overseas income is even more important than in the euro-region. For those companies listed on the FTSE 100, almost 60% of average sales come from non-sterling sources. Much of this exposure is euro-based, where the year-on-year relationship is relatively stable, as both currencies are currently strong on a year-on-year basis. But U.S. and Asia sales for U.K. companies are now at just as much risk as their European counterparts. And this is a sharp change from early last year when many were benefiting from a boost in sales from a weak pound. The vast majority of revenue for U.K. health care, materials, energy and technology companies is generated abroad.

Britain's significant foreign exposure means there's a large negative relationship between earnings and sterling. The correlation between MSCI U.K. forward estimated earnings per share and the trade weighted sterling was -.82 in the last year, and still relatively tight at about -.52 over 10 years. The sectors with the highest negative relationship are mostly consistent with international-sales exposure: health care, energy, industrials, consumer and materials.

Even with relatively little overseas sales on average, financial sector earnings are also negatively related to the pound. That's because the largest constituent in most U.K.-oriented benchmarks is HSBC, which reports in dollars that, in turn, have to be translated into sterling indexes.

Trade Tensions

If trade tensions escalate, Europe's global exposure will become even more of a risk factor. Europe's biggest non-financial sectors have the most to lose from an outbreak of tit-for-tat trade tariffs, because it would threaten already relatively low profit margins as the pressure on costs and revenue increases.

For example, if steel and aluminum import tariffs escalate, that will threaten European automakers and industrials as the price of raw materials surge. These are two of Europe's largest industry groups accounting for almost 25% of the euro zone's stock market value. Operating margins for many of these companies are already lagging behind their U.S. peers.

If a full-blown trade war develops, these two industries are likely to attract the most investor attention. Europe's global prowess in the automotive industry – with brands such as Mercedes, BMW, Renault, Atlas Copco, Sandvik, Siemens, Volvo and ABB – creates a critical risk to the region's stock markets if trade tariffs ramp up. The Americas account for more than 25% of the average industrial firm's sales, and more than 20% for the average discretionary company.

Profit Margins

It's also worth remembering that profit margins aren't European companies' strongest suit, so cost pressure or revenue constraints would be especially unwelcome. Labor rules and other structural practices in Germany and France – the region's largest markets – also tend to pull the euro zone's profitability down.

The sector skew toward industrials and discretionary adds a further challenge. Overall, the euro zone's profit margin is about two-thirds that of the U.S., which is bolstered by more efficient production and a super-sized technology sector.

Nonetheless, Europe's significant exposure to global synchronized growth, if combined with relatively stable currencies, should spur an acceleration in earnings next year. That rosy picture could quickly turn nasty if President Donald Trump's blustering on trade tariffs becomes a reality. ■

U.K. Geographic Revenue Breakdown

FTSE 100

Sector	U.K. Rev %	Non-U.K. Rev%
Real Estate	93	8
Utilities	78	20
Financials	64	36
Consumer Discretionary	49	49
Telecom	48	52
Consumer Staples	35	60
Industrials	28	69
Technology	18	79
Energy	17	83
Materials	5	92
Health Care	4	95
FTSE 100 Avg	**40**	**58**

FTSE 250

Sector	U.K. Rev %	Non-U.K. Rev%
Utilities	99	1
Real Estate	85	15
Consumer Discretionary	74	25
Consumer Staples	81	18
Financials	64	30
Telecom	54	46
Industrials	43	56
Technology	42	56
Energy	27	72
Health Care	23	76
Materials	19	79
FTSE 250 Avg	**56**	**44**

Source: Company Filings, BI Estimates

Note: Not all categories add to 100% due to rounding and lack of disclosure

Photographer: Graham Barclay/ Bloomberg News

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