Mature Economies

Quarterly Currency Outlook

MarketQuant Research

2017 Q3

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Content

1. Key elements of background for mature market currencies

Economic outlook

Our key assumptions surrounding mature economies outlook for 2017H2 and 2018 is strongly dependent on the US outlook, with critical time-sequencing:

Robust economic growth until mid-2018. Our global economic outlook is positive in the G4 economies for 2017. We expect a steady or modestly accelerating economic growth in the US (2.2% y/y) in 2017. Our projections for the Eurozone are positive and revised upward (2.2% y/y) given the improvement in confidence and domestic factors. Perspectives are more moderate in Japan and UK but favorable global outlook will spread into Japan activity through external trade (1.5% y/y) but we remain cautious on UK, as the impact of Brexit has only started to materialize (+1.6% y/y).

Expected GDP deceleration in the US from mid-2018. From mid-2018 to end-2019, the risk of reversal in the US is expected to materialize, but the timing and the severity will depend on the fiscal boost, the tightening of financial conditions (monetary policy normalization) and the evolution of wages and profits after tax in the US.

Transmission of this reversal to other mature economies. Economic activity in other mature economies is historically correlated to the real GDP growth in the US, and expected US slowdown will necessarily have implications few quarters later on Europe (despite the positive domestic factors), Japan, UK and other large mature economies.

Given our central scenario of the upcoming US economic adjustment, the key question is on its potential systemic implications and its vulnerability in the US economy. However, **systemic disruptions similar to the 2008-09 crisis appear so far unlikely** given the dynamics and decomposition of aggregate leverage (compared to the rapidly increasing leverage in 2000-2007 and specifically on household segment).

GDP growth projections

	2016	2017	2018
United States	1.6%	2.2%	2.3%
Eurozone	1.7%	2.2%	2.3%
UK	1.8%	1.6%	1.4%
Japan	1.0%	1.3%	1.5%

Source: TAC ECONOMICS

Monetary policy

Transition period from low interest-rate environment to gradual "less dovish" stance. Despite subdued inflation but regarding the positive global economic environment, G4 central bankers (except Japan) have a short-time window of opportunity to adjust its communication and forward guidance towards a "less dovish" monetary policy stance while remaining accommodative for a long-time.

Fed: gradual exit from QE. The US monetary policy is disconnected from "fundamentals", 250bp lower than an estimated Taylor rule. This gap would remain constant over the next 18 months in terms of interest rate hike. But, an "interest-rate equivalent" calculation based on coming Fed's balance sheet management (expected starting in October 2017) translates into an "equivalent" 75-100bp hikes until end-2018. This has to be added to the expected 75bp rises in the Fed Fund rate (through three 25bp hikes), reducing the gap with the Taylor rule. Thus, the Fed strategy is well on track to gradually exit from QE, without destabilizing financial markets through yield curve monitoring.

ECB: cautious but further tapering probable in 2018. While remaining cautious, the ECB is also gradually preparing the path towards a further tapering of asset purchases, probably in 2018, according to the upgraded economic outlook despite subdued current inflation. A hike in the deposit rate close to zero is also plausible (currently at -0.4%) to reduce the negative implications of negative deposit for banking institutions.

BoE: growing dilemma but expected on-hold policy. The Bank of England (BoE) is facing growing dilemma between inflation and economic activity, resulting in diverging opinion among Monetary Policy Committee members. In spite of increasing inflation expectations, the BoE monetary policy should remain on hold as the risk remains titled to the downside on the economic activity. The lower the GBP depreciates further, the greater the likelihood of an interest rate hike.

The transition to a gradual "less dovish" stance means upward risk on government bond yield in 2017/2018. Indeed, **our short-term models signal potential of sell-off episodes in the bond market**, but not sustainable as central bankers remain cautious in their exit strategy.

2. Detailed Currency Outlook

Summary tables

Currency projections in December 2018
(month average)

	Spot July 11, 2017	Sep. 2017	Dec. 2018	Changes from last projections (April 2017)
EUR/USD	1.14	1.13	1.15	Trend appreciation of the Euro towards 1.15, with irregular movements
GBP/EUR	1.14	1.15	1.12	Slight depreciation in the range 1.10-1.15, and high volatility
USD/JPY	114	114	124	Trend depreciation (with irregular movements) of the Yen towards 120-125 against USD

Source: TAC ECONOMICS

Cross-rates in December 2018
(Month Average)

	USD	EUR	GBP	JPY
USD		0.87	0.78	124
EUR	1.15		0.89	142
GBP	1.29	1.12		160
JPY	0.01	0.01	0.01	

Euro & US Dollar

During the first half of 2017, the EUR/USD was supported by a narrowing monetary policy divergence, the positive economic outlook in the Eurozone and the declining political worries after the French elections.

Our models point to a EUR/USD exchange rate range around 1.10-1.15 until end-2018, but highly dependent on time sequences of the US cyclical profile and monetary policy expectations.

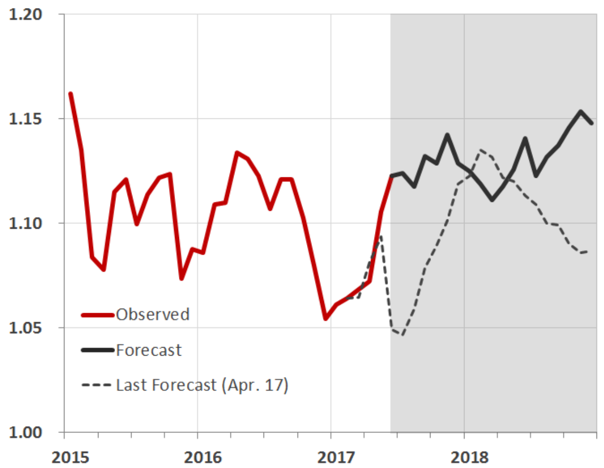
TAC ECONOMICS Projections

	Spot July, 11	Sept. 2017	Jun. 2018	Dec. 2018
EUR/USD	1.14	1.13	1.14	1.15

Econometric Projections

- Positive GDP growth projections (in the range 2.0%-2.5% in 2017-2018) support **an appreciation trend of the Euro**. However, the (uncertain) cyclical profile in the US will induce irregular movements around that trend, depending on the sequence and timing of implementation of US policies, and sequential movements in bond yields.
- **Up to end-2017, our models point to a EUR/USD exchange rate close to 1.15.** The scope for EUR/USD appreciation is induced by positive macro surprises, ECB slow pace of normalization and limited political risks. This however presumes that the Fed balance sheet reduction will have limited effects on US Treasuries compared to a hiking cycle.
- **From end-2017 until mid-2018, a temporary setback toward 1.10 may materialize.** This temporary EUR/USD depreciation is based upon the implementation of the US expansionary fiscal policy (supporting the US economic outlook in the short term) and progressive hike in Fed Funds rates, along with increasing political risks in the Eurozone given the Italian election.
- **Around mid-2018, the EUR/USD appreciation trend should resume** (around 1.15 at the end of 2018) as markets will start to look at the peak of the US cycle and monetary tightening, while the Eurozone would remain in its self-sustained dynamics with expectations of accelerating monetary normalization.

EUR/USD: Projections for 2017/2018



Source: TAC ECONOMICS

Consensus Projections

(end of period values against USD)

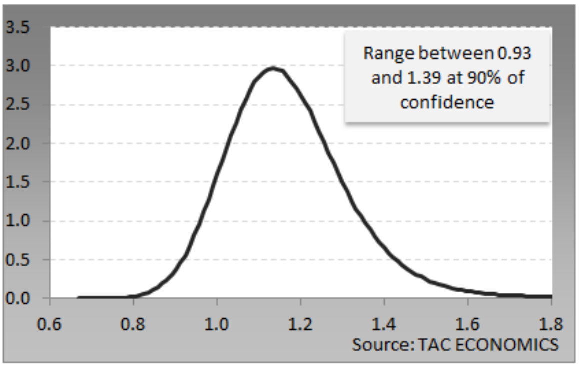
	Mean	Divergence	High	Low
July 2017	1.10	9.2%	1.14	1.04
Sept. 2017	1.10	10.5%	1.16	1.04
Jun. 2018	1.10	19.0%	1.20	0.99
Dec. 2018	1.11			

Source: Consensus Inc.

Monte-Carlo simulations

Monte-Carlo simulations - EUR/USD
Confidence interval at 18 months - December 2018

	75%	90%	95%	99%
High	1.31	1.39	1.46	1.63
Low	0.99	0.93	0.89	0.82



British Pound

As a consequence of the strong adjustment of the currency since the Brexit vote announcement, the GBP is now quite close to our purchasing power parity (PPP) estimate (i.e. close to its fundamental valuation), while it was far above this "equilibrium value" before the Brexit.

The GBP should continue converging with its PPP level, i.e. a steady depreciation towards 1.11-1.13 against EUR at the end of 2018, due to persistent inflationary pressures and GDP deceleration in the UK, but temporary episodes of volatility are very likely.

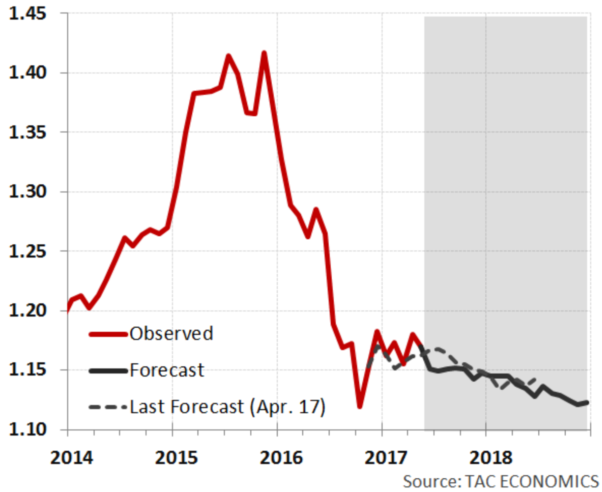
TAC ECONOMICS Projections

	Spot July, 11	Sep. 2017	Jun. 2018	Dec. 2018
GBP/EUR	1.14	1.15	1.13	1.12

Econometric Projections

- Our models point to the **convergence of the GBP/EUR toward its PPP level**, i.e. a steady depreciation towards **1.11-1.13 end-2018**. Stronger depreciation remains so far limited compared to the one observed in 2016 (-14% against EUR). While the elections outcome of a minority government increased the political risk, it reduced the risk of the so-called "hard Brexit scenario".
- This steady GBP/EUR depreciation is explained by the opposition between the GDP deceleration (toward 1.5% end-2018), persistent inflationary pressures (close to 3% in 2017, 2.5%-3.0% end-2018) in the UK and the upward revision of the Eurozone economic scenario (expected GDP growth above 2.0% until end-2018).
- **Volatility movements are very likely**, with uncertainties on Brexit negotiations, weaker government post-elections and vocal opposition within the BoE monetary council suggesting that the rather stable and gentle downward trend shown by our quantitative tools will be interrupted by moments of under and over-shooting.
- **High degree of uncertainty** around the outlook for Sterling remains with the currency strongly sensitive to changing perceptions following Brexit and implications on the economy.

GBP/EUR: Projections for 2017/2018



Consensus Projections

(end of period values against EUR)*

	Mean	Divergence	High	Low
July 2017	1.15	20.9%	1.19	1.10
Sept. 2017	1.15	11.9%	1.20	1.06
Jun. 2018	1.14	21.8%	1.28	1.03
Dec. 2018	1.14			

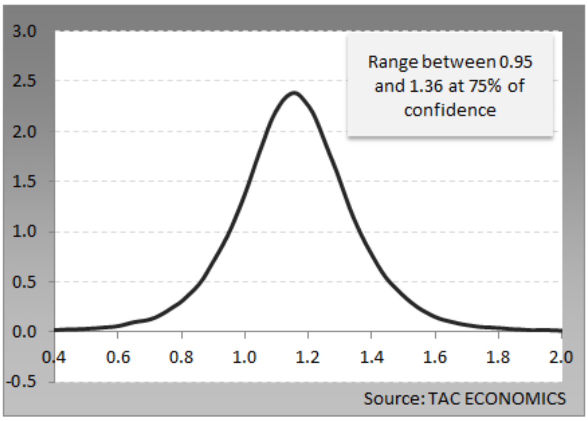
Source: Consensus Inc.

(*) The divergence index does not include divergence on EUR/USD.

Monte-Carlo simulations

Monte-Carlo simulations - GBP/EUR
Confidence interval at 18 months - December 2018

	75%	90%	95%	99%
High	0.95	0.83	0.75	0.51
Low	1.36	1.48	1.57	1.82



Japanese Yen

After a short depreciation period during 2016H2, the Yen has steadily appreciated from 116 against the USD in December 2016 to 110 in June 2017.

Our models suggest a new phase of Yen depreciation in 2017H2 and 2018 towards 120-125 against USD, related to expected widening long-term interest rate differential between the US and Japan.

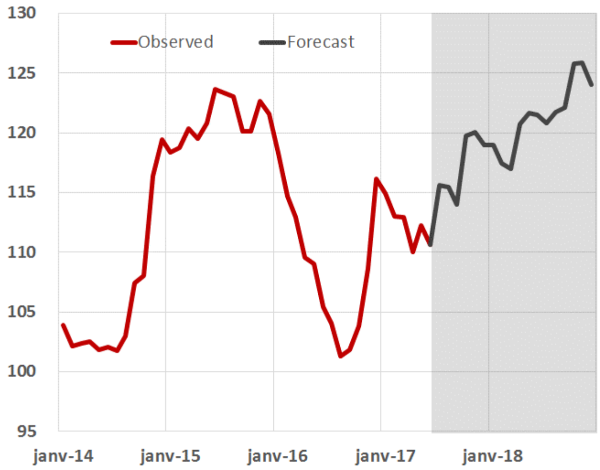
TAC ECONOMICS Projections

	Spot July, 11	Sep. 2017	Jun. 2018	Dec. 2018
USD/JPY	114	114	121	124

Econometric Projections

- Our macro projections remain unchanged with GDP growth projections pointing to a steady 1.5% annual growth in 2017-2018 (but with large oscillation in quarterly performances). Inflation should stabilize in the range 0.0%-0.5%, well below the 2.0% target, limited by the absence of wage inflation.
- In this context, monetary authorities are likely to maintain its policy stance of (unlimited) quantitative easing aiming at keeping a control on the yield curve and 10-year government bond (with an explicit objective kept at 0.0%).
- The USD/JPY remains strongly correlated with global uncertainties ("safe-haven" status) and US 10-year government bond. The latter is expected to gradually increase towards 3.0%-3.5% in 2018 resulting in a widening interest gap between the US and Japan.
- This would directly impact the exchange rage projection, with an irregular move towards 120 against USD at the end of 2017 and in the range 120-125 during 2018.

USD/JPY: Projections for 2017/2018



Source: TAC ECONOMICS

Consensus Projections

(end of period values against EUR) *

	Mean	Divergence	High	Low
July 2017	111.8	11.6%	118.0	105.0
Sept. 2017	112.5	17.8%	123.0	103.0
Jun. 2018	113.9	24.6%	123.0	95.0
Dec. 2018	114.4			

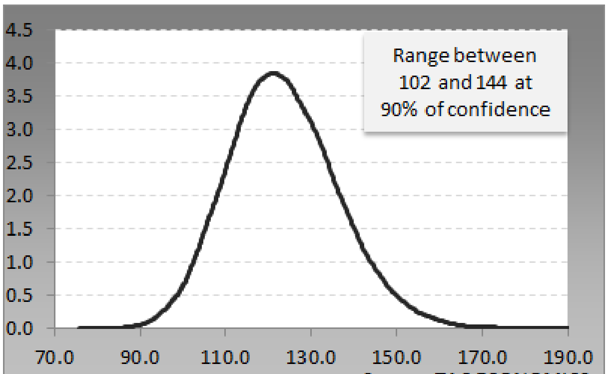
Source: Consensus Inc.

(*) The divergence index does not include divergence on EUR/USD.

Monte-Carlo simulations

Monte-Carlo simulations - USD/JPY
Confidence interval at 18 months - December 2018

	75%	90%	95%	99%
High	136.9	144.1	148.9	158.6
Low	107.8	102.4	99.2	93.2



Source: TAC ECONOMICS

3. Methodology

This document and the analysis on currency projections are based on the combination of different sets of quantitative tools, associated with in-depth qualitative review and process of “challenging the models”.

A first set of quantitative tools based on non-linear datamining models (Random Forest, Recursive Partitioning etc.) and econometric models based on theoretical concepts aims at providing an in-depth analysis and projections for critical macroeconomic variables, usually considered as having a large impact on currencies. They include GDP, inflation, policy rates and long-term interest rates.

A second set of quantitative tools uses traditional econometric equations relating nominal exchange rates (against the USD or EUR). Projections are based on our scenarios on critical variables (included in levels, changes, differentials or gaps with US) in addition to specific variables related to overall risk appetite / aversion, and commodity or oil prices. Estimations are calibrated on a long period (at least early 2000s) in order to capture as best as possible trends and underlying forces.

The robust estimate is afterwards associated with Monte Carlo simulation based on observed ranges for explanatory variables and incorporating covariances across variables. It provides confidence interval at the 18-month ahead horizon.

Finally, the quantitative results are commented, and sometime nuanced, by the more qualitative / policy driven analysis on currency development and outlook.

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