

»» USD/EUR exchange rate: Expectations and risk premiums are main drivers, not yield spread

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Author: Dr Sebastian Wanke, phone +49 69 7431-9784, sebastian.wanke@kfw.de

Since the beginning of 2017, the euro and US dollar yield spread can no longer explain the USD/EUR spot rate. The yield advantage of the US dollar is rising steadily and making the greenback increasingly more interesting for investors but the euro is appreciating in trend – even if it experienced a pronounced weak spot just recently.

In fact, there are indications that other factors have dominated for some time already. Rising exchange rate expectations and falling risk premiums for unexpected euro depreciation were causing the USD/EUR spot rate to rise from the beginning of 2017 to April 2018. The higher exchange rate expectations, in turn, were – during that time – evidently driven by the expectation that the US dollar yield advantage will diminish in future.

The recent euro weakness was, in our view, mainly caused by a change in risk premiums. Over the past weeks, the latter had risen markedly against the backdrop of the unclear political situation in Italy.

When investors' nervousness concerning Italy fades and the ECB confirms its exit from its unconventional monetary policy, the USD/EUR spot rate should rise again significantly. At the same time the enormous yield spread still signals a huge potential for a setback in the USD/EUR spot rate which currently is so heavily driven by expectations.

Yield spread no longer explains USD/EUR rate

The development of yield spreads between two currency areas is often used to explain exchange rate movements, particularly between the currencies of industrialised countries.

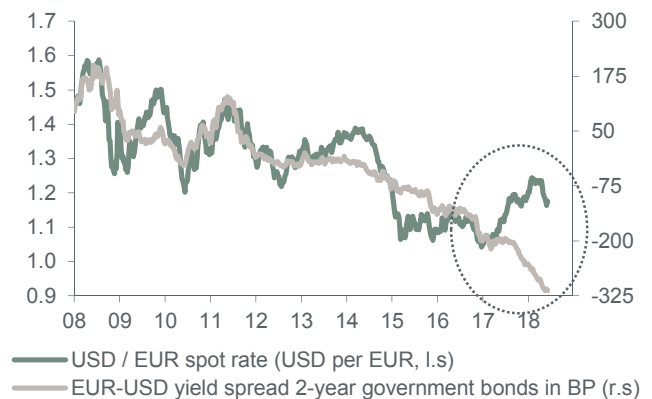
For example, currency analysts regularly assert that rising US interest rates lead to a rise in the value of the US dollar, that is, to a decrease in the USD/EUR rate (the spot rate quoted in US dollar per euro). This is usually the case, since a higher yield advantage makes the dollar more attractive, which should increase demand for it and thus its value (Figure 1).¹

However, an opposite trend has been observable since early 2017. The yield spread of the US dollar is widening while the USD/EUR spot rate is rising at the same time, or in other words, the USD is depreciating! Many market observers are

puzzled by this phenomenon.

Figure 1: Yield spread no longer explains USD/EUR rate

USD per EUR spot rate and yield spread between two-year German and US government bonds in basis points (BP), weekly basis.



Source: Bloomberg, own calculations and presentation.

Interest rate parity as a basis for exchange rate analysis

When foreign exchange market analysts refer to the yield spread as a factor for explaining exchange-rate movements, they implicitly argue on the basis of interest rate parity, the most proven concept for understanding currency developments.

Figure 1: Interest rate parity – spot rate determined by yield spread, exchange-rate expectations and risk premiums

$$i^{USD} + \varphi = i^{EUR} + \frac{E - S}{S} \Rightarrow S = \frac{E}{1 + \frac{i^{USD} - i^{EUR} + \varphi}{E}}$$

The equation is annotated with circled numbers: ① is under the denominator's fraction, ② is under the numerator's E, and ③ is under the denominator's plus sign.

Source: Own graph.

Interest rate parity means that returns earned on a particular currency amount in two currency areas must be identical, assuming (perfect) arbitrage opportunities and provided exchange rate developments are taken into account during the observation period. Under the further assumption that investors are risk-averse, this relation must be corrected by premiums which international investors demand in order to be compensated for the risk of an unexpected exchange-rate fluctuation. If interest rate parity did not exist, investors would shift their portfolios into the currency that earned higher

returns until both currencies became equally attractive again, that is, until interest rate parity was restored.

Figure 1 shows the simplified version of (uncovered) interest rate parity from the perspective of US dollar investors: For a specific period, the risk-free interest rate on USD investments i^{USD} together with the risk premium demanded for unexpected euro appreciations φ is equal to the risk-free interest rate on euro investments i^{EUR} plus the expected euro appreciation, where E represents the expected USD/EUR exchange rate and S the USD/EUR spot rate.

If the equation is dissolved based on the spot rate, its dependencies on (1) the yield spread, (2) the expected exchange rate and (3) the risk premium become apparent. The USD/EUR spot rate rises with the exchange rate expectation (since EUR investments then become more attractive and demand for them rises) and falls when the USD yield spread or risk premium increases (because EUR investments then become less attractive). If the yield spread cannot explain the development of the spot rate, the two other influencing factors – the USD/EUR exchange rate expectation and/or the risk premium – must have acted as the dominant exchange rate drivers.

Exchange rate expectations push USD/EUR spot rate up

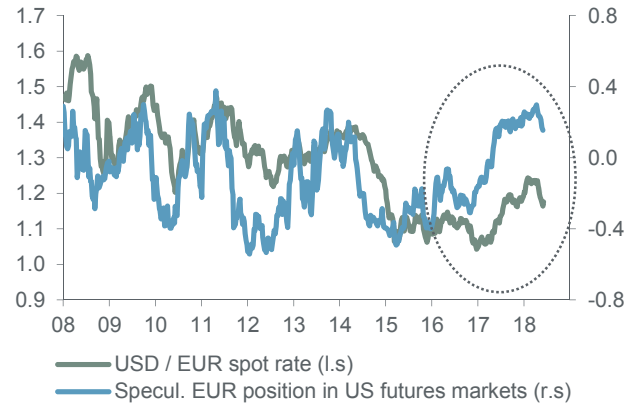
Exchange rate expectations can be measured on the basis of the net positions of the group of euro speculators in the US futures markets. It is published weekly by the US Commodity Futures Trading Commission (CFTC).² The net position is the balance between contracts in euros purchased and such contracts sold. Figure 2a refers to the number of open contracts ('open interest') because this number tends to increase over time and intertemporal comparisons would be distorted without this adjustment.

Theoretically, this net position in the euro should be higher the more the exchange rate is expected to rise. Figure 2a shows that the USD/EUR spot rate is in fact following the net position. At the same time, the speculators' conduct itself is partly generating the observable movement of the spot rate. The reason is that if on balance they purchase euros, they tend to drive up its futures rate, which in turn is directly linked to the spot rate through interest rate parity.

But what is it that drives exchange rate expectations? Since early 2017, it has obviously been the expectations of the future yield spread. More specifically, it is the expected change in the yield spread (of two-year government bonds) between today and in two years that is currently driving the USD/EUR rate expectation and pushing up the spot rate. Although it might sound plausible, this statement is not trivial. Rather the correlation between this expected change in the yield spread and the speculative position fluctuates significantly over time. The same is true of the correlation between the expected change in the yield spread and the USD/EUR spot rate. Only since early 2017 has a consistently positive correlation emerged here (Figures 2b and 2c).

Figure 2a: Speculation in the US futures markets – expectations are pushing up the USD/EUR spot rate

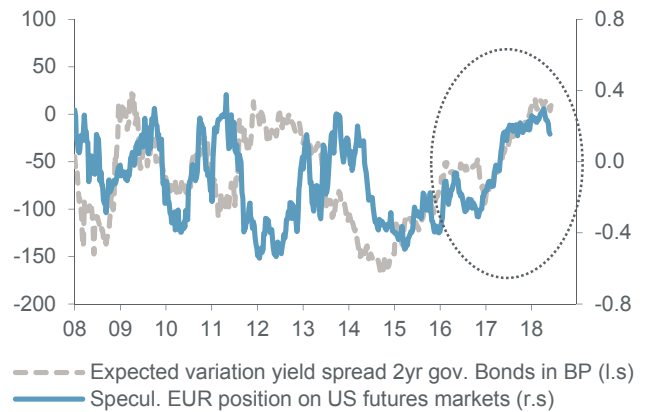
USD/EUR spot rate and net position in euros of speculators in the US futures markets according to the CFTC (in contracts) based on the number of open positions ('open interest') in the euro, weekly basis.



Sources: CFTC, Bloomberg, own calculations and presentation.

Figure 2b: Exchange rate expectations, for their part, are driven by expectations of yield spreads

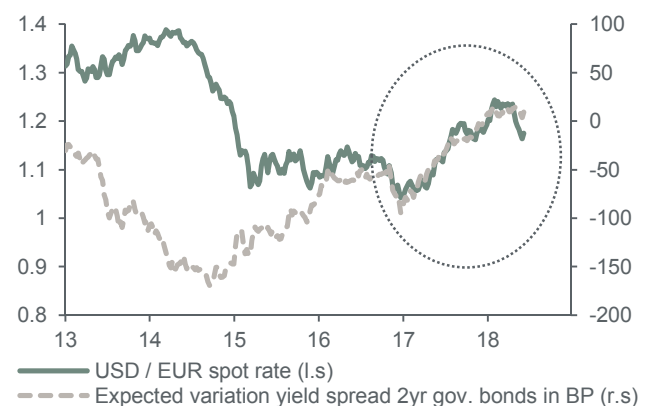
Expected change between today and in two years in the yield spread of two-year German and US government bonds in basis points (BP) and speculators' net position in the euro (see Figure 2a), weekly basis.



Sources: CFTC, Bloomberg, own calculations and presentation.

Figure 2c: Correlation between exchange rate and yield expectations has been high only since early 2017

USD/EUR spot rate and expected change between today and in two years in the yield spread of two-year German and US government bonds in BP, weekly basis.



Source: Bloomberg, own calculations and presentation.

The fact that the correlation has risen strongly since early 2017 and subsequently achieved a record level³ is likely a consequence of monetary policy on both sides of the Atlantic.

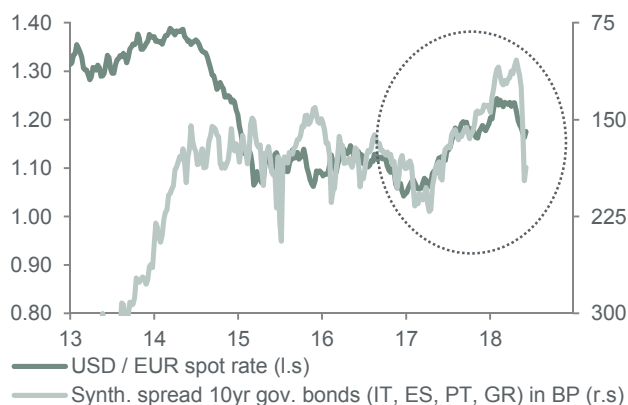
After all, on the one hand the ECB had announced in December 2016 that it would reduce its asset purchases (from EUR 80 billion to EUR 60 billion a month) from March 2017. That was the de-facto beginning of its exit from its unconventional monetary policy which drove initial expectations of key interest rate hikes. On the other hand, investors have for some time now been expecting the US Federal Reserve to end its cycle of raising rates relatively soon. Both taken together suggests a future decline in the USD interest rate advantage and – under the assumption of interest rate parity – a stronger euro against the US dollar in the years to come, meaning a higher USD/EUR exchange rate.

Development of risk premiums has supported the euro until April and has weighed on it since then

It remains to be asked what influence the risk premium demanded for unexpected euro depreciation has. This premium is not observable and can only be estimated using other parameters. As concerns over a breakup of the euro area were very pronounced at times in the past years and were probably the primary driver of fears over incalculable euro depreciation, it is natural to try to identify a measure for those concerns. The sovereign yield spreads over German Federal bonds of bonds issued by euro countries seen to be at risk of exiting the euro are such a measure.

Figure 3: Development of sovereign yield spreads indicates risk premium for euro depreciation is falling

USD/EUR spot rate and synthetic yield spread over German Federal bonds of 10-year government bonds of Italy, Spain, Portugal and Greece (real-GDP-weighted) in basis points, weekly basis.



Source: Bloomberg, own calculations and presentation.

The yield spreads of the countries with the highest yield premiums in the euro area (Italy, Spain, Portugal, Greece) have dropped significantly since the beginning of 2017 until the end of April 2018. The main factors that contributed to this were probably the poor election results of anti-European forces in the Netherlands and France and the general economic rebound. Spreads fell especially sharply after the first round of the French presidential election in April 2017, which pointed to a victory for pro-European Emmanuel Macron. As a consequence, concerns over a euro breakup had diminished and with them the fear of unexpected euro depreciation. This led to a drop in the corresponding risk premium, giving the euro an additional boost.

In May this trend has reversed with the formation of a new Italian government perceived by investors as euro-critical. Spreads of government bonds have risen again strongly. Thus renewed fears of a euro break-up have weighed on the common currency – although to a lesser extent than the movement of spreads would have suggested.

Conclusions and outlook

The trend in yield spreads between EUR and USD no longer explains the development of the USD/EUR spot rate since 2017. However, there are clear indications that expectations for the USD/EUR rate have grown strongly and the risk premium for unexpected euro depreciation has dropped sharply since then. Both combined have apparently outweighed the effect of the dollar’s widening yield advantage and caused the USD/EUR spot rate to rise markedly until early this year.

However, since April first exchange rate expectations have weakened as expectations about the future yield spread had changed. This happened against the backdrop of weaker economic data for the Eurozone. Since May the risk premium for unexpected euro depreciation has risen and put an additional strain on the euro.

Were investors’ nervousness about Italy to fade, the USD/EUR spot rate would rise again markedly. Also, a stronger Euro should result when the economic situation in the Eurozone stabilises and the ECB confirms its exit from its unconventional monetary policy.

At the same time the discrepancy between the yield spread and the USD/EUR rate still signals significant potential for a setback in the spot rate as it is primarily a reflection of high expectations which may quickly revert. ■

¹ Figure 1 shows the yield spread as the difference between two-year German and US government bonds because these are most similar to risk-free investments and because the market for two-year bonds is very liquid and characterised by relatively low term premiums (as opposed to bonds with longer residual maturities).

² Speculators are defined as market participants not classified by the CFTC as commercial traders in futures contracts. Actors in the futures market are classified as commercial traders if they buy or sell futures contracts purely for hedging purposes.

³ The 26-week correlation between the USD/EUR spot rate and the expected change in the yield spread between today and in two years (of two-year German and US government bonds) was 96% between mid-August and mid-October 2017, higher than at any time since the introduction of the euro in 1999. Currently, in early June 2018, it is now lower at only 51% – consequence of a sudden and strong increase in risk premiums when the new Italian government was formed.