U.S. dollar remains structurally overvalued but awaiting cyclical catalyst

Michael Feser, CFA, Portfolio Manager, Multi-Asset Solutions
Thushka Maharaj, DPhil, CFA, Global Strategist, Multi-Asset Solutions
Michael Akinyele, Analyst, Global Strategist, Multi-Asset Solutions

IN BRIEF

Our long-term currency assumptions generally call for a greater appreciation of major currencies vs. the USD than forecasted last year, in both nominal and (by a smaller magnitude) real exchange rate terms, driven by:

• The appreciation of the USD over the past year vs. most currencies
• An increase in the expected inflation differential between the U.S. and most other countries as other central banks undershoot their inflation goals by a wider margin than the Federal Reserve

At present, major currencies’ deviations from fair value, on a trade-weighted basis, are quite limited, with the exception of the USD.

Please note that our long-term capital market assumptions were calculated as of September 30, 2019 and published in November 2019, and thus do not reflect recent extreme price moves in many asset markets resulting from the ongoing COVID-19 disruption. Please reach out to ltcma.inquiries@jpmorgan.com for more information.
THE COURSE OF U.S. MONETARY POLICY CHANGES, AGAIN

Inflationary pressures continued to be largely absent globally over the past year, even as the U.S. economy’s expansion became the longest in the country’s history. Meanwhile, the Federal Reserve (Fed) reversed the course of U.S. monetary policy at a breakneck pace. Until December 2018, it tightened policy rates, moving in a direction that many of the world’s other central banks – operating in environments with generally weaker growth and inflation conditions – followed with limited enthusiasm and a considerable time lag. They adopted the Fed’s course reversal, to easing rates in July 2019, with more enthusiasm and little hesitation.

Compared with the spot exchange rate levels prevailing when we released the 2019 Long-Term Capital Market Assumptions (LTCMAs) last year, most developed market currencies have depreciated relative to the USD. In emerging markets, those currencies that were not impacted by the U.S.-China trade conflict benefited palpably from the Fed’s dovish pivot at the start of the year. In aggregate, however, FX rates are actually not far from fair value. Where material deviations exist, they are almost universally vs. the USD. Non-USD cross-currency rates are generally close to fair value.

As in prior years, we determine today’s fair value exchange rates for developed market (DM) currencies through a relative purchasing power parity (PPP) approach, based on the long-term average of each currency’s real exchange rate. To calculate the fair value for emerging market (EM) currency exchange rates, we take an absolute PPP-based approach that builds on the PPP estimates for actual individual consumption, as calculated by the World Bank and the Organization for Economic Co-operation and Development for their international price comparison program.

To arrive at a given exchange rate projection over our assumption horizon, which we also refer to as future fair value, we adjust today’s fair value exchange rate using the LTCMAs’ underlying macroeconomic assumptions, as follows: For developed market currencies, we reflect the expected change in a country’s terms of trade over the assumptions horizon by adjusting today’s fair value for the projected inflation rate differential between the two countries. For emerging markets, we make an additional adjustment for the expected differential in per capita GDP growth.

LONG-TERM CURRENCY EXCHANGE RATE ASSUMPTIONS

The portion of the future fair value of an exchange rate that is not explained by expected future inflation differentials – adjusted for expected per capita GDP growth differentials, where applicable – is also called the expected change in the real exchange rate. From the perspective of investment returns, the nominal change in exchange rates determines the translation of asset returns between base currencies; however, for a currency’s prevailing over- or undervaluation, the change in the real exchange rate provides a better gauge.

Broad-based USD weakness is required to align exchange rates with fundamental valuations

EXHIBIT 1: ASSUMPTIONS FOR SELECTED CHANGES IN CURRENCY EXCHANGE RATES VS. THE USD, NOMINAL AND REAL

<table>
<thead>
<tr>
<th>Currency</th>
<th>Spot</th>
<th>2020 assumptions</th>
<th>2020 assumptions % change p.a.</th>
<th>2019 assumptions</th>
<th>Change in nominal from 2019 to 2020 assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>EUR</td>
<td>1.09</td>
<td>1.38</td>
<td>Real 1.2%</td>
<td>Growth differential 0.7%</td>
<td>Inflation differential 1.9%</td>
</tr>
<tr>
<td>GBP</td>
<td>1.23</td>
<td>1.48</td>
<td>Real 1.5%</td>
<td>Growth differential 0.0%</td>
<td>Inflation differential 1.50%</td>
</tr>
<tr>
<td>JPY</td>
<td>108</td>
<td>88</td>
<td>Real 0.5%</td>
<td>Growth differential 1.2%</td>
<td>Inflation differential 1.70%</td>
</tr>
<tr>
<td>CHF</td>
<td>1.00</td>
<td>0.83</td>
<td>Real 0.0%</td>
<td>Growth differential 1.5%</td>
<td>Inflation differential 1.50%</td>
</tr>
<tr>
<td>CAD</td>
<td>1.32</td>
<td>1.13</td>
<td>Real 1.1%</td>
<td>Growth differential 0.2%</td>
<td>Inflation differential 1.20%</td>
</tr>
<tr>
<td>AUD</td>
<td>0.67</td>
<td>0.72</td>
<td>Real 0.8%</td>
<td>Growth differential -0.3%</td>
<td>Inflation differential 0.50%</td>
</tr>
<tr>
<td>BRL</td>
<td>4.16</td>
<td>3.86</td>
<td>Real 2.7%</td>
<td>Growth differential 0.4%</td>
<td>Inflation differential -2.5%</td>
</tr>
<tr>
<td>CNY</td>
<td>7.15</td>
<td>5.58</td>
<td>Real 0.1%</td>
<td>Growth differential 2.4%</td>
<td>Inflation differential -0.5%</td>
</tr>
<tr>
<td>MXN</td>
<td>19.74</td>
<td>21.82</td>
<td>Real 1.1%</td>
<td>Growth differential -0.2%</td>
<td>Inflation differential -1.7%</td>
</tr>
</tbody>
</table>


Spot FX rates are quoted using market convention; % changes p.a. are quoted uniformly vs. USD such that a positive number reflects appreciation vs. the USD, and vice versa.
Generally, our projected shifts in the real exchange rate are directionally the same but substantially smaller in magnitude than those in the nominal exchange rate (Exhibit 1). The key driver for this pattern is our expectation for relatively higher levels of inflation in the U.S. than in most other developed markets.

Another way to assess the expected change in a currency’s valuation that is more comprehensive than expected bilateral changes is to look at the expected change in the trade-weighted basket of currencies. This perspective affirms the broad-based nature of USD strength in recent years and the currency’s sizable overvaluation vs. our fair value assumptions (Exhibit 2).

### Broad-based USD strength vs. U.S. trading partners’ currencies increased further after 2017 U.S. tax reform*

**EXHIBIT 2: 2020 LTCMA ASSUMPTION, USD, J.P. MORGAN U.S. CPI-BASED REAL BROAD EFFECTIVE EXCHANGE RATE**

<table>
<thead>
<tr>
<th>Year</th>
<th>USD (J.P. Morgan U.S. CPI-based real broad effective exchange rate)</th>
<th>2020 LTCMA</th>
</tr>
</thead>
<tbody>
<tr>
<td>'93</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>'98</td>
<td>110</td>
<td>110</td>
</tr>
<tr>
<td>'03</td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td>'08</td>
<td>130</td>
<td>130</td>
</tr>
<tr>
<td>'13</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>'18</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Bloomberg, CBRE; data as of September 30, 2019.

* The Tax Cuts and Jobs Act of 2017, U.S. federal legislation, was passed by Congress and signed into law in December 2017.

Using the same trade-weighted valuation measure to look across other major currencies reveals the flip side of broad-based USD strength: Relative valuations between major cross-currency pairs are comparatively close to neutral on a trade-weighted basis. In essence, this means that, in aggregate, FX deviations from fair value are actually quite limited; however, where they do exist they are almost invariably vs. the USD (Exhibit 3). This effect also helps to explain why the current period of USD strength has been able to persist for a considerable stretch of time.

**On a broad, trade-weighted basis, the USD overvaluation stands apart**

**EXHIBIT 3: 2020 LTCMA TRADE-WEIGHTED NOMINAL RETURN ASSUMPTION, USD, EUR, GBP, JPY AND CNY**

<table>
<thead>
<tr>
<th>Trade-weighted basket</th>
<th>Nominal change in % p.a.</th>
</tr>
</thead>
<tbody>
<tr>
<td>USD</td>
<td>-1.32</td>
</tr>
<tr>
<td>EUR</td>
<td>0.76</td>
</tr>
<tr>
<td>GBP</td>
<td>0.02</td>
</tr>
<tr>
<td>JPY</td>
<td>0.31</td>
</tr>
<tr>
<td>CNY</td>
<td>0.86</td>
</tr>
</tbody>
</table>

Source: J.P. Morgan Asset Management; data as of September 30, 2019.

### MAJOR CURRENCY PAIRS

#### The euro

When generating long-term FX assumptions, we put special emphasis on the Fed’s endeavor to maintain the credibility of its inflation target, relative to other central bank targets. Our LTCMA macroeconomic assumptions presume that the Fed will be the most likely of all developed market central banks to meet its inflation goals. As evidence, we point to the Fed’s recent announcement that it will review its policy framework, which suggests that the Federal Open Market Committee is flexible and looking at ways to enhance its ability to achieve its inflation target.

While the challenges that the Fed and European Central Bank (ECB) face in achieving their inflation targets are similar, the institutions’ starting points, increasingly, are not. For example, in the 12 months ended August 2019, U.S. core price inflation breached 2%, while in the euro area core inflation remained range-bound at 1%, despite negative policy rates. In the U.S., inflation is close to target and unemployment remains pinned below the Fed’s estimate of NAIRU, whereas the headwinds working against the euro area make it ever less likely that the ECB will get close to achieving its inflation mandate over our assumptions horizon.

This divergence also fosters a dispersion in the anchoring of the two regions’ inflation expectations, which, in turn, increases the asymmetry in the likely future effectiveness of monetary policy itself. All else being equal, a larger inflation rate differential between the regions, driven by lower inflation in the euro area, implies the need for a commensurately larger offsetting nominal appreciation in the EUR/USD exchange rate. Our upward adjustment to our assumption for

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2 NAIRU is the nonaccelerating inflation rate of unemployment – in theory, the unemployment level below which inflation would be expected to rise.
EUR appreciation vs. the USD, to 1.9% annually (Exhibit 4), directly represents this effect, reflecting each central bank’s relative success in achieving its inflation objectives.

The changing of the guard at two major euro area institutions – ECB President Mario Draghi will be replaced by Christine Lagarde, and European Union Commission President Jean-Claude Juncker will be replaced by Ursula von der Leyen – creates an opportunity to change the prevailing inflation trajectory through a more coordinated fiscal and monetary policy. Given the structural changes that would be needed for this to succeed, however, it is not our current base-case view.

We raise our assumption for EURUSD appreciation to 1.9% annually, reflecting the Fed’s relative success vs. the ECB in achieving its inflation objectives

**EXHIBIT 4: 2020 LTCMA ASSUMPTION, EURO (EUR)**

We forecast the pound sterling appreciating by 1.5% annually as Brexit uncertainty lifts

**EXHIBIT 5: 2020 LTCMA ASSUMPTION, BRITISH POUND (GBP)**

The Japanese yen

Geopolitical risk is not the sole force driving this year’s FX assumptions. In Japan, we continue to project interest rates close to rock bottom but in a fairly steady state, given that the Bank of Japan (BoJ) has already modified the targets of the yield curve control policy it introduced in 2016, leaving limited room for further innovation. In 2019, acknowledging Japan’s stubbornly low rates of inflation, the BoJ modified its yield curve control framework to influence policy expectations over an even longer time horizon and started to tacitly support greater fiscal coordination. Even with these efforts, though, we anticipate inflation will remain below the central bank target and monetary policy to be as easy as is feasible for the duration of our assumptions. This implies further nominal appreciation of the yen while it remains below fair value, given the BoJ’s continued easy monetary policy stance – resulting in a nominal yen appreciation of 1.7% p.a. (Exhibit 6).
Given the BoJ’s continued easy monetary policy, we project further nominal appreciation of the yen and an exchange rate remaining below fair value.

**Exhibit 6: 2020 LTCMA Assumption, Japanese Yen (JPY)**

We raise our appreciation assumption for the world’s last true safe haven currency, which may face fresh demand in an increasingly uncertain world.

**Exhibit 7: 2020 LTCMA Assumption, Swiss Franc (CHF)**

The distinction between nominal and real valuations is particularly meaningful when considering the fortunes of the last true safe haven currency, the Swiss franc. We have raised our spot rate appreciation assumptions by 25 basis points, to 1.5% p.a. (Exhibit 7). While well above average compared with other major currency pairs, the appreciation is almost entirely nominal, reflecting a persistent lack of domestic inflationary pressures, even with the Swiss National Bank anchored to an easy monetary policy. Yet because the Swiss franc is the world’s last true safe haven currency, we expect it may face substantial demand in a world of increasing uncertainty. Therefore, the Swiss franc is more likely to trade above fair value than below, further reducing any inflationary pressures in the economy that might otherwise have been transmitted through the exchange rate.

**Commodity-sensitive currencies: The Aussie and Canadian dollars**

We forecast the Australian dollar appreciating by 0.5% p.a. and the Canadian dollar by 1.25% (Exhibit 8 and Exhibit 9). Australia should experience somewhat lower inflation over our forecast horizon than what we assumed last year, as it reorients away from commodity-intensive growth and toward services. An outright decline in the spot exchange rate since last year, and a relative decline in the level of inflation vs. the U.S., drive this year’s assumptions. Like Australia’s, the Canadian economy also needs to reorient away from commodity-intensive, consumer debt-fueled growth, but despite a currently cheap exchange rate, progress has been unconvincing so far. Both economies are also saddled with very high housing prices and correspondingly high levels of household debt. As such, financial stability remains a risk that may impede both countries’ exchange rates from moving toward fair value in the nearer term of our assumptions time frame.
We forecast the Australian dollar appreciating by 0.5% amid lower inflation as the economy reorients away from commodity-intensive growth.

**EXHIBIT 8: 2020 LTCMA ASSUMPTION, AUSTRALIAN DOLLAR (AUD)**


Our assumptions see the Canadian dollar appreciate by 1.25% from its currently cheap exchange rate.

**EXHIBIT 9: 2020 LTCMA ASSUMPTION, CANADIAN DOLLAR (CAD)**


The Chinese yuan

We cannot overstate the volatility we expect on every currency’s path toward convergence with our forecasted fair value assumptions. This is most pertinent for the Chinese yuan, where our assumptions reflect the progress the Chinese economy is expected to make over our forecast horizon, both in lowering inflation and closing its GDP-per-capita gap with the U.S. Both, however, will take time and therefore have limited impact on exchange rate movements in the near term.

Of more imminent impact will likely be the trade tariff dispute between China and the U.S., which has lifted the CNY exchange rate above 7 to the USD - a psychologically important threshold that has not been crossed since before the 2008 financial crisis.

International markets and investors welcome the prospect of China’s transition to a more balanced growth model. Our path to a fair value of 5.58 assumes an appreciation rate of 2.00% p.a. and that, in time, the impact of the current trade tariff dispute will dissipate; Chinese fundamentals will continue to progress toward the global technology frontier; and capital and FX markets will be increasingly liberalized. On a trade-weighted basis, the appreciation is considerably more muted at 0.86% p.a. (Exhibit 10).

Our forecast assumes the current tariff dispute will dissipate and that China’s fundamentals will continue progressing toward the global frontier.

**EXHIBIT 10: 2020 LTCMA ASSUMPTION, CHINESE YUAN (CNY)**

The Brazilian real and Mexican peso

While the recent fall in inflation has been a success story in Brazil, the structural reforms necessary to improve the economy’s long-term growth outlook remain to be tackled—and their implementation is still daunting. These challenges notwithstanding, we have raised our assumptions for the real, to appreciate by 0.6% p.a., primarily driven by lower starting valuations and an improved inflation outlook (Exhibit 11A). The same is true for the Mexican peso, but in reverse. The recent increase in inflation and a deteriorating inflation outlook lead us to raise our expected peso depreciation to 0.8% p.a. (Exhibit 11B).

For two major Latin American currencies, inflation outlook is key

EXHIBIT 11A: 2020 LTCMA ASSUMPTION, BRAZILIAN REAL (BRL)

EXHIBIT 11B: 2020 LTCMA ASSUMPTION, MEXICAN PESO (MXN)
