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The Drivers of Global Financial Conditions since the UK Referendum

- We update our "sign restriction" models to break down the post-Brexit moves in financial conditions and their components in the UK, Euro area, US, and Japan into domestic growth shocks, policy shocks, and foreign shocks.
- Our model is based on the correlation structure of moves in the bond, equity, and FX markets. For example, a situation in which bond yields rise, equity prices rise, and the currency appreciates is viewed as a positive domestic growth shock.
- We draw three main conclusions. First, investors perceived a large negative domestic growth shock to the UK economy, a moderate negative shock in the Euro area, and no significant domestic growth shift in the US or Japan.
- Second, the deterioration in the UK economic outlook has shown up as a negative foreign shock in all three of the other economies, i.e., the Euro area, the US, and Japan.
- Third, markets have priced a large dovish policy shift in the UK and the US, a smaller and more recent shift in Japan, and no significant shift in the Euro area.
- Market pricing therefore appears broadly in line with our assessment that Brexit is a local shock with moderate international spillovers. The extent of the perceived dovish shift in Fed policy, however, looks excessive to us.

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We update our "sign restriction" models to decompose post-Brexit moves in financial conditions into underlying macro drivers.[1] We use the cross-correlation of equity prices, long-term rates and exchange rates to gauge the relative importance of growth, monetary policy, and foreign shocks. We do so labeling any circumstances in which yields, equities and the exchange rate move in the same direction as "domestic growth shocks"; any circumstances in which yields and the exchange rate move in the same direction but equities move in the other direction as "domestic policy shocks"; and any circumstances in which yields and the exchange rate move in opposite directions as "foreign" shocks. We then use these estimates to provide a decomposition of our financial conditions indices (FCI) into these macro shocks.[2] We estimate these decompositions for the UK, Euro area, US and Japan using daily data since January 2005.

Exhibits 1-4 show our results. The main findings are:

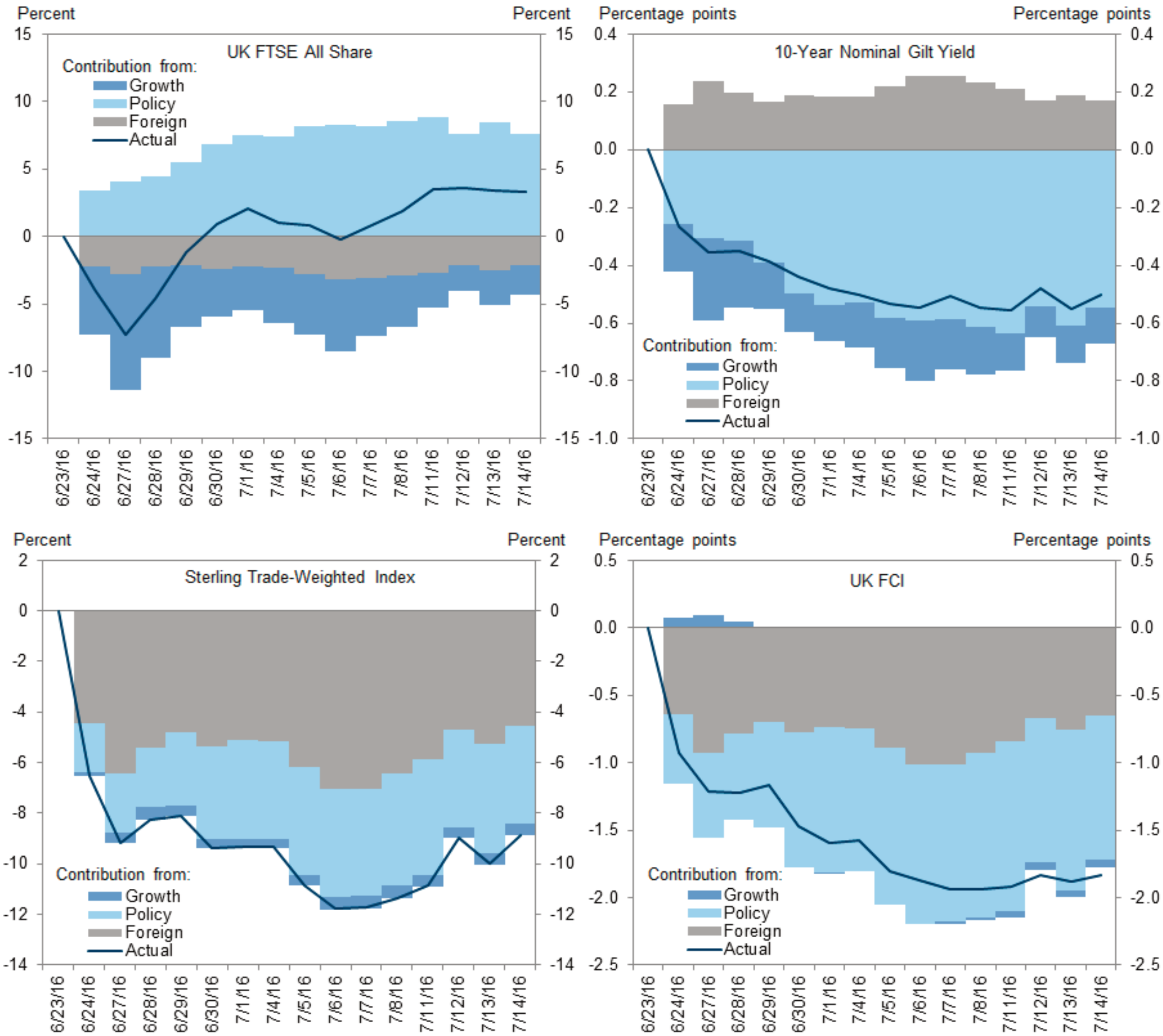
1. UK markets have been pricing a combination of markedly lower UK growth and a dovish shift in monetary policy since the referendum. Equity prices, long-term yields and Sterling all dropped sharply on June 24, pointing to a sharp deterioration in the UK's growth outlook. Markets then priced a large dovish shift in the Bank of England's policy stance as equity prices fully recovered but Gilt yields continued to fall and Sterling continued to weaken. Our results suggest that the perceived growth and policy shocks are similarly large in magnitude, offsetting each other in their effect on equities but reinforcing the decline in long-term yields, the depreciation of Sterling and the easing in financial conditions.

2. Euro area markets have been pricing an adverse foreign shock, some slowdown in domestic growth and little change in ECB policy. The market's reaction to the UK's decision to leave the EU is broadly consistent with an adverse foreign shock, as equities fell, long-term rates declined and the trade-weighted Euro strengthened. The limited appreciation of the Euro, however, suggests that markets also worry about direct contagion into Euro area growth through, for example, heightened uncertainty around future policy and institutional arrangements. Our analysis suggests that investors perceived the ECB's response to be slightly hawkish, possibly due to the limited shift in communication despite the tightening in financial conditions.

1. See Jan Hatzius and Sven Jari Stehn, "Macro Shocks and Financial Conditions," *Global Economics Analyst*, May 14, 2016.

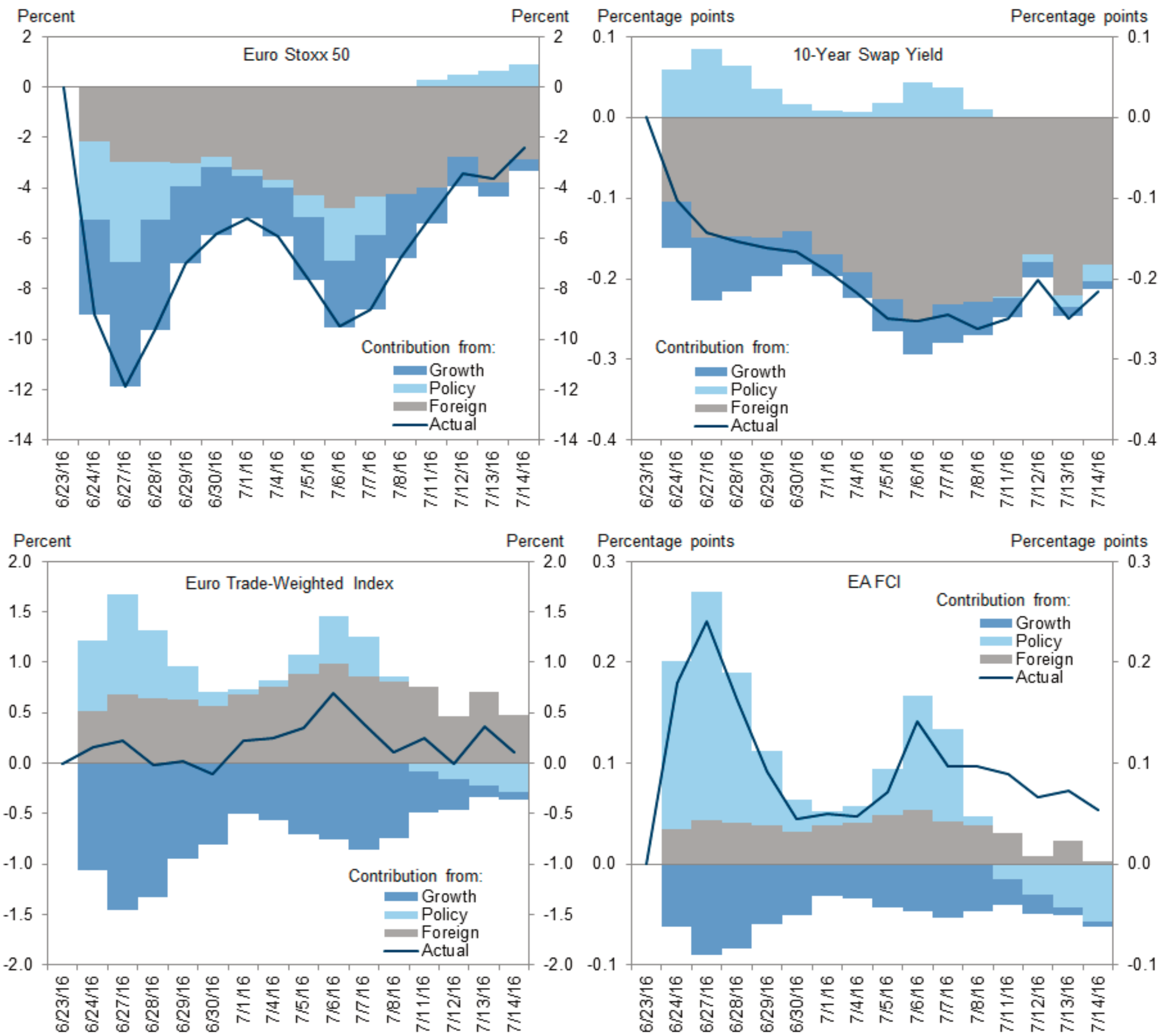
2. We use the 10-year swap rate and the 10-year Gilt yield to measure long-term rates in the Euro area and UK in this analysis (instead of the corporate rates that enter the official financial conditions indices).

Exhibit 1: Negative Growth and Dovish Policy Shocks in the UK



Source: Goldman Sachs Global Investment Research

Exhibit 2: Adverse Foreign and Domestic Growth in the Euro Area

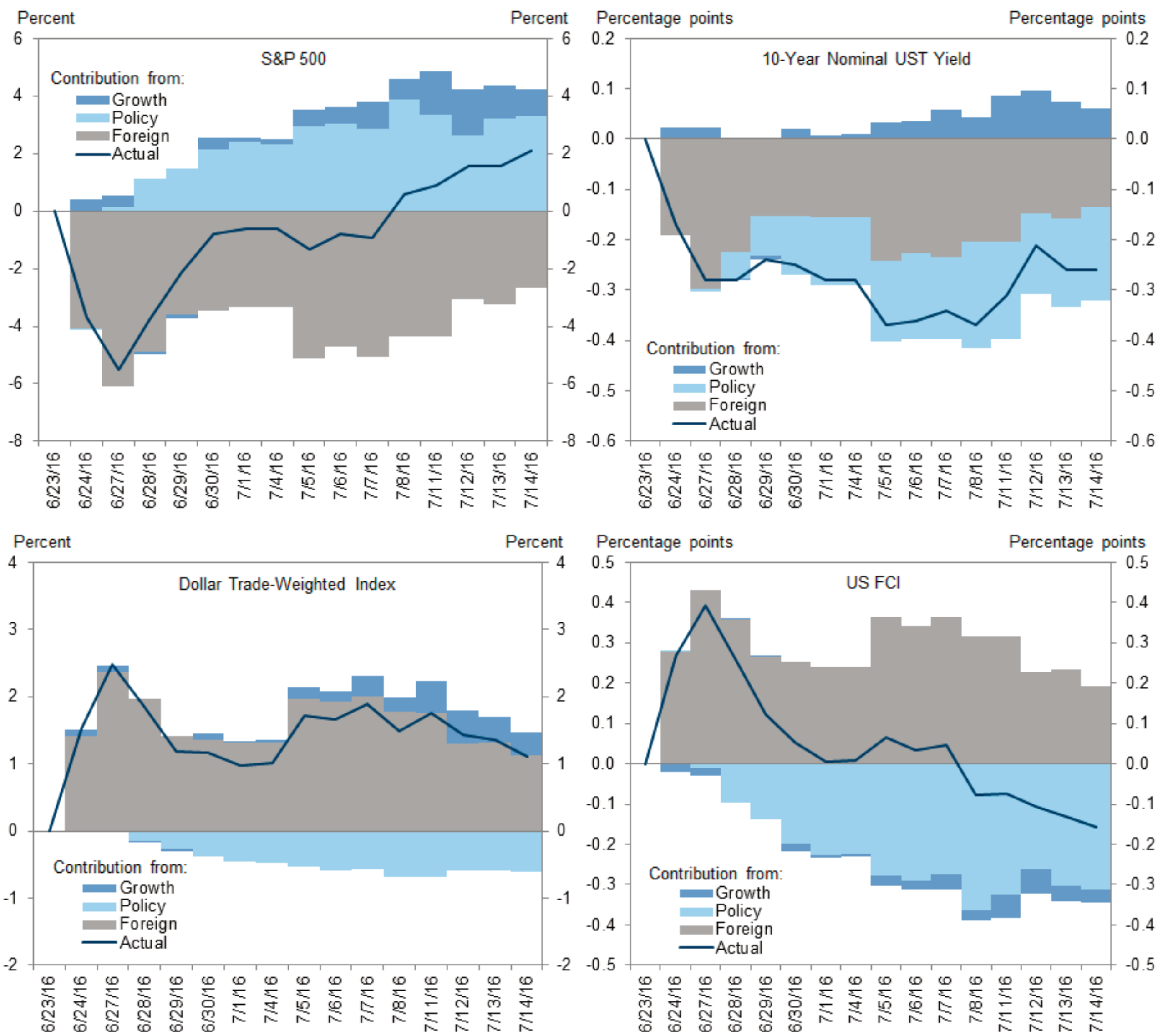


Source: Goldman Sachs Global Investment Research

3. US markets have priced an adverse foreign shock and a dovish shift in Fed policy. The initial market response to the Brexit decision looks clearly like an adverse foreign shock, as the S&P dropped, Treasuries rallied and the trade-weighted dollar strengthened. The subsequent S&P rally, however, has the characteristics of a perceived dovish shift in Fed policy: the S&P bounced back while yields declined further and the dollar gave back some of its appreciation. Our analysis suggests that the perceived adverse growth shock and the dovish shift in policy are roughly similar in magnitude. For example, we find that the bleaker foreign outlook has weighed on the S&P by about 3%, while an expected delay in the next funds rate hike has boosted equities by about the same amount.[3]

3. These results are similar to recent estimates by our US team, see Daan Struyven, "Brexit and the Stock-Bond Divergence," *US Daily*, July 6, 2016. The main difference is that our analysis attributes much of the adverse growth shock to foreign developments using the exchange rate.

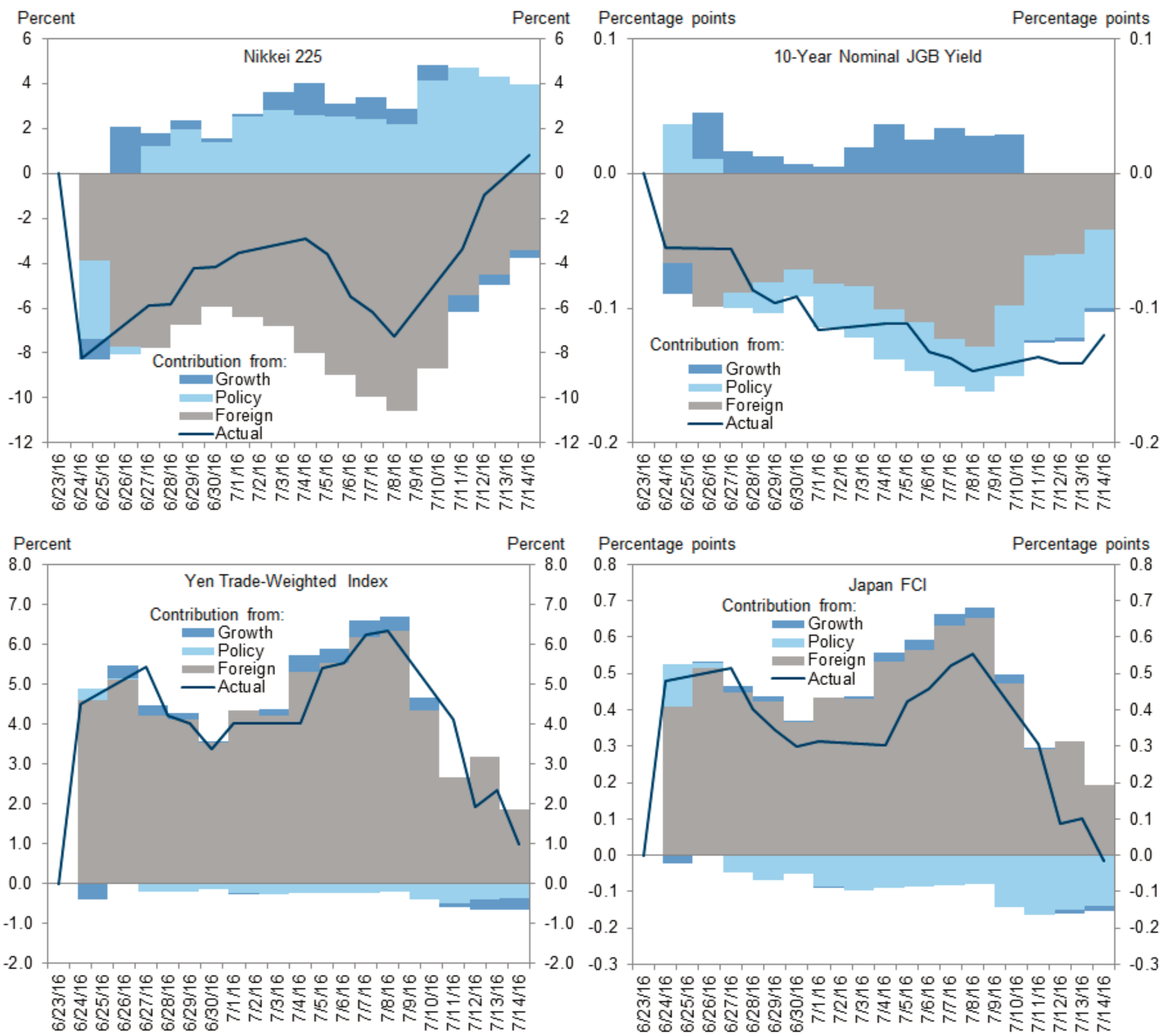
Exhibit 3: Adverse Foreign Growth and Dovish Policy in the US



Source: Goldman Sachs Global Investment Research

4. The Japanese markets' response points to a large negative foreign shock with a dovish shift in BoJ policy but little change in domestic growth. We find that the observed asset price pattern in the immediate aftermath of the Brexit vote—lower equities, lower yields and a stronger Yen—can be well explained with a weaker foreign growth outlook. Similar to the UK and US, the subsequent rebound in equities and continued decline in rates suggests that markets perceived a dovish shift in BoJ policy. We find that markets have priced little change in Japanese growth.

Exhibit 4: Adverse Foreign Shocks and Dovish Policy Shifts in Japan



Source: Goldman Sachs Global Investment Research

The results confirm that the markets view Brexit as a large local shock with moderate international spillovers. The local shock works through channels other than financial conditions, mainly the increase in policy uncertainty that our European economics team has been emphasizing. In fact, the expectation of much looser Bank of England policy has resulted in a sizable *easing* in overall UK financial conditions, The spillovers work through the economic and political linkages with the UK—and therefore show up as a "pure" growth shock—in the case of the Euro area and through the exchange rate in the case of the US and Japan. In the US, the belief that the Federal Reserve will push back the hikes further has entirely offset these spillovers. In Japan, the belief that the BoJ will ease further and the growing expectation of further fiscal stimulus has also offset the spillovers after a rocky period in the first week after the referendum. In the Euro area, however, the perception that the ECB is either unwilling or unable to ease policy in response to the Brexit shock has led to a modest tightening in Euro area financial conditions, which will exacerbate the Brexit shock.

How do these market perceptions relate to our own views? We agree with the market's expectations that the Bank of England will ease monetary policy aggressively and that Japan will ease both monetary and fiscal policy moderately further. We also largely agree with the market's perception that the ECB will find it hard to deliver much additional stimulus, although we do see room for some limited additional easing. The one economy where we disagree with the market's view is the United States, where the shift in Fed expectations looks excessive. This is an economy that is already very close to full employment, still growing at an above-trend pace, and likely to enjoy a growth boost from the waning FCI headwind. In our view, it will need to see tighter, not looser, financial conditions in coming quarters to achieve a soft landing at full employment. For that reason, we expect the FOMC to return to rate hikes sooner than the markets are pricing, either in September or more likely in December.

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Disclosure Appendix

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We, Jan Hatzius, Jari Stehn, Nicholas Fawcett and Karen Reichgott, hereby certify that all of the views expressed in this report accurately reflect our personal views, which have not been influenced by considerations of the firm's business or client relationships.

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