Dollar Depreciation and U.S. Inflation

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Summary

- We estimate the global FAVAR model of Liu, Spiegel, and Tai (2017) to evaluate the implications of the dollar depreciation experienced in the first half of this year for U.S. inflation.

- Our baseline specification predicts that the dollar depreciation observed in the first half of this year will have only a modest impact on core PCEPI inflation going forward, with a peak effect of about 9 basis points expected in September and October of this year. Absent further shocks to the dollar, the effects on inflation effectively vanish by early next year.

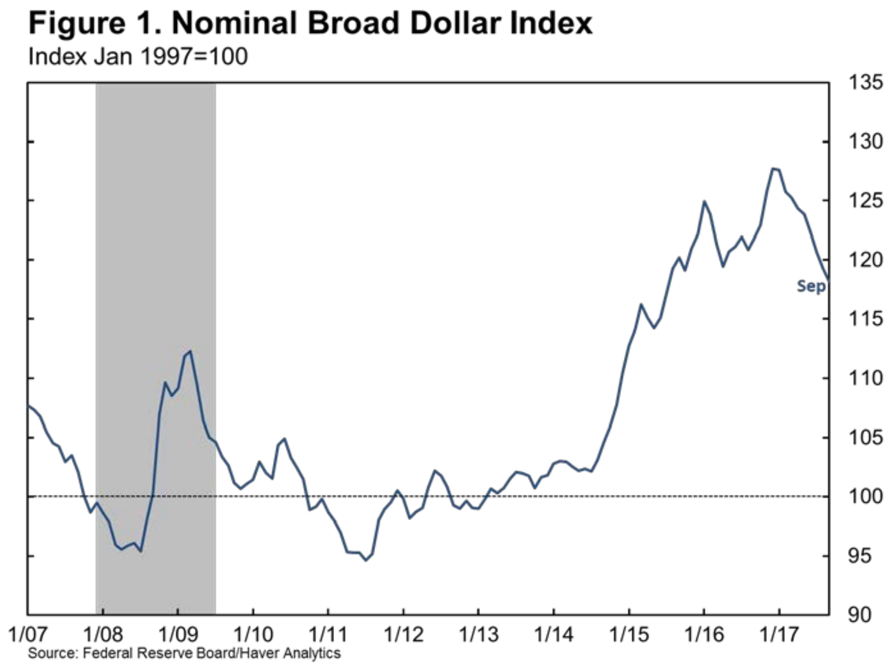
- These results are robust to a wide variety of alternative specifications. Furthermore, our estimated impact of dollar depreciation on the expected path of inflation is in line with that in a recent report by Goldman Sachs (2017).

- Overall, our results suggest that attributing any near-term uptick in inflation to the first half dollar depreciation -- and thereby designating the uptick as likely transitory – is unwarranted.

- Furthermore, consistent with the findings of Ihrig, et al. (2010), but in contrast to Borio and Filardo (2007), our FAVAR evidence suggests that a combination of the relative import prices and the dollar exchange rate accounts for the bulk of explanatory power from external factors for U.S. inflation, whereas shocks to global slack measures, measured below through our global conditions index, provide little additional explanatory power.

1. Introduction

- The dollar depreciated markedly in the first half of this year. Since December 2016, the nominal trade-weighted broad dollar index has fallen 7.5% (see Figure 1).



Note: Nominal trade-weighted broad dollar index from January 2007 to September 2017.

- In this briefing, we use the "global FAVAR" in Liu, Spiegel, and Tai (2017) to evaluate the potential implications of the recent dollar depreciation on the inflation forecast. This global FAVAR includes measures of both local and global economic conditions as control variables. The local conditions index (LCI) is a summary statistic (a latent factor) that represents a broad set of underlying observable economic indicators within the United States. Similarly, the global conditions index (GCI) is a summary statistic that represents a broad set of economic indicators in the major trading partners of the United States, weighted by their bilateral trade shares.

- Dollar depreciation can raise U.S. inflation by raising import prices and by indirect pass-through to the prices of other goods and services.

- Dollar depreciation can also impact on inflation through its effect on aggregate demand. However, this demand effect is ambiguous. By reducing the relative price of U.S. exported goods, dollar depreciation boosts demand for U.S. exports through expenditure-switching (e.g. Mendoza 1995). However, dollar depreciation also improves the terms of trade for U.S. trading partners. If the depreciation is expected to be transitory, foreign households would increase savings to smooth consumption. All else equal, the increase in savings would contribute to an increase in that country's current account balance (e.g. Svensson and Razin 1983). This phenomenon moves against the expenditure-switching effect, leaving the net effect ambiguous.

- The dynamics of inflation following a dollar depreciation may also depend on the source of the dollar movement [e.g., Forbes, Hjortsoe, and Nenova (2015)]. For example, if a dollar depreciation is driven by declines in global demand, then it would likely be associated with a decrease in U.S. inflation. However, if it was caused by increases in risk tolerance (possibly due to reduced uncertainty), then it may be associated with an increase in U.S. aggregate demand and inflation, as uncertainty shocks have been shown to act like aggregate demand shocks [e.g. Leduc and Liu (2016)].[1]

- Empirically, our estimated impulse responses from the global FAVAR show that a dollar depreciation shock would boost both domestic and foreign activities in the short run. The same depreciation shock would also raise U.S. inflation modestly in the short run.

- To assess the quantitative impact of dollar depreciation on the expected path of U.S. inflation, we first obtain an out-of-sample forecast of inflation based on the estimated global FAVAR (i.e., the baseline model) using data from January 1999 through June 2017. This forecast incorporates information from all shocks in the model, including those associated with the dollar depreciation observed in 2017H1. The forecasted core PCE inflation rate from our base FAVAR is about 1.7 percent (annualized) for H2, which is slightly higher than the Tealbook forecast (1.4 percent).

- We then consider a counterfactual exercise by shutting off the exchange rate shocks in 2017H1 and obtain out-of-sample forecast of inflation from this counterfactual model. The difference between the forecasted path of inflation obtained from the baseline FAVAR model and that from the counterfactual model isolates the impact of the dollar depreciation shocks in 2017H1.

- According to our estimation, the dollar depreciation in the first half of the year will have a positive, but small impact on inflation in the second half. The impact on inflation peaks in September and October, with the depreciation in H1 expected to boost inflation by about 9 basis points in each of those two months. The inflation effect diminishes quickly to less than 4 basis points by the end of this year and effectively vanishes in early 2018.

2. The Global FAVAR Model

- The global FAVAR of Liu, Spiegel, and Tai (2017) follows that in Bernanke, Boivin, and Eliasz (2005), who use a FAVAR approach to address imperfections in measures of activity through observable individual time series such as industrial production and the unemployment rate. The

[1] While we do not directly identify the source of this year's dollar depreciation, our estimation suggests that the exchange rate movements during our sample period were primarily driven by orthogonalized shocks to the dollar index, and not much by the other shocks in the model. In a robustness analysis, we add a bond yield spread to control for the dynamics from changes in risk tolerance. The qualitative results are similar to our baseline model.

FAVAR framework also has a parsimony advantage relative to a simple VAR, as activity is summarized through a small number of factors (e.g. Fernald, Spiegel, and Swanson, 2014).

- Our global FAVAR includes two latent indices, a local conditions index (LCI) and a global conditions index (GCI). These indices are estimated as the first principal components of a wide range of observable data series. The LCI is generated from local (U.S.) observable economic indicators, quite similar those included in the latent activity factor used by Bernanke, Boivin and Eliasz (2005) in their FAVAR.

- The GCI is generated from a set of country-specific indicators from 9 major trading partners of the United States as well as a set of global activity indicators that potentially affect all countries (such as oil prices). The 9 top trading partners of the United States include the euro area and eight individual countries, which are Brazil, Canada, China, India, Japan, Korea, Mexico, and the United Kingdom. Trade with this group represents over 80% of the weights used in the dollar broad index.[2] The country-specific indicators are weighted by the bilateral trade shares with the U.S. (See Appendix Table A1 for a list of the series included in LCI and GCI).

- We include these activity indicators along with several observable variables into a VAR and estimate that VAR model using the Bayesian approach of Sims and Zha (1998). For our baseline specification, we include the LCI, the trailing 3-month average of core PCE price inflation, the 3 month Treasury bill rate, the GCI, and the nominal broad dollar index (in that order).[3]

- Figure 2 shows the estimated impulse responses to a reduced-form, one standard deviation dollar *appreciation* shock.[4] The solid lines represent the median impulse responses and the dashed lines show the range of the 68% confidence bands. In our sample, a one standard deviation change in the exchange rate represents about an 8 percent change in the broad dollar index, which happens to be about the magnitude of the 2017 year-to-date dollar depreciation.

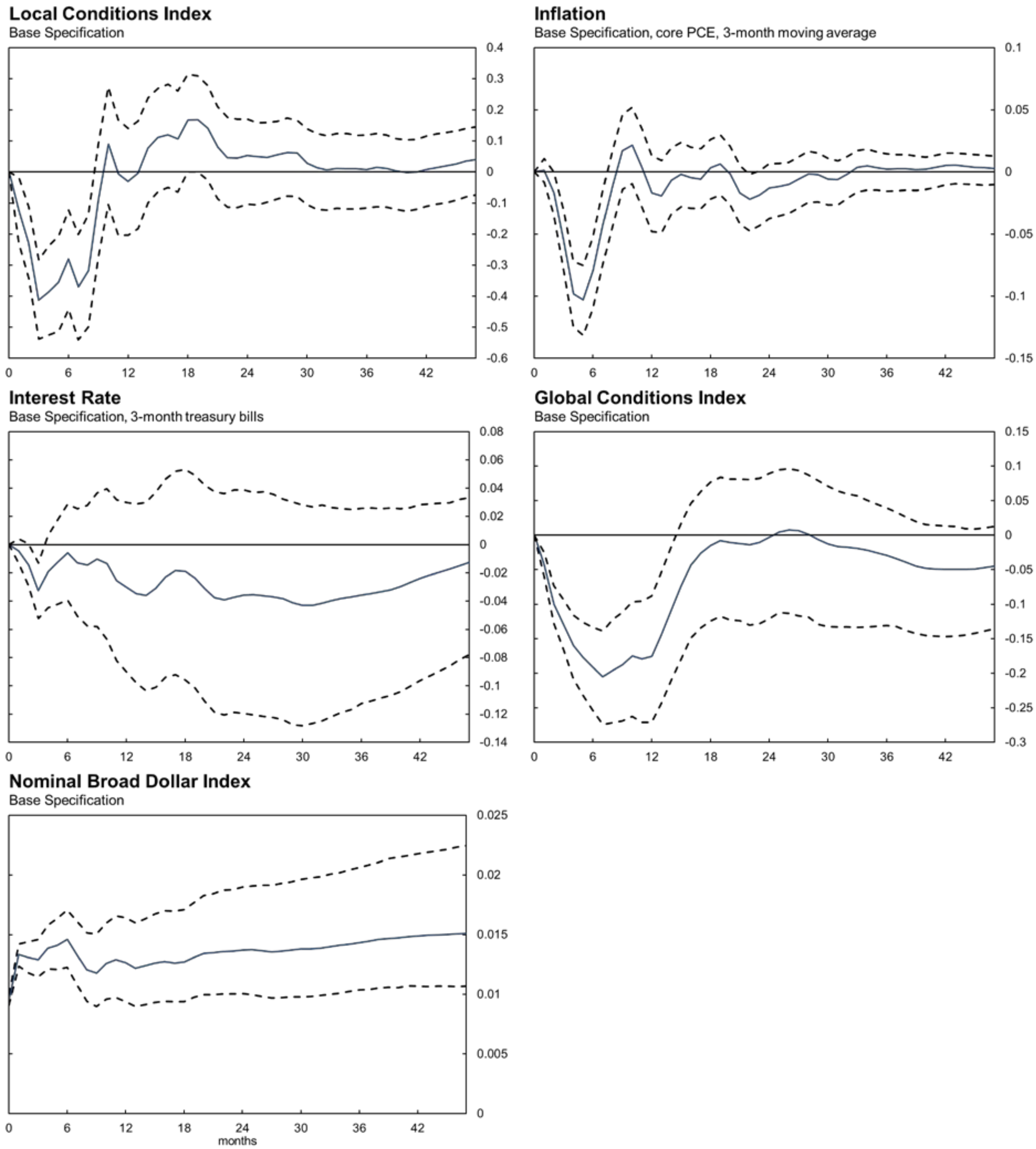
- Dollar appreciation leads to an initial decline in both local activity and inflation. The shock also modestly pushes down the nominal interest rate, although our point estimate of this effect is close to zero. In particular, the estimated impulse responses show that a one standard deviation dollar appreciation shock leads to a decline in core PCE inflation of up to 10 basis points, and the maximum effect is realized with a 6-month lag.

[2] We do not have data of trade weights for June 2017, so our trade weights for that month are extrapolated from the May observations.

[3] The interest rate is measured by monthly averages of daily data, while the exchange rate is measured by the end-of-month values. Since the timing of the measurements can be important for thinking about the ordering of the variables in our FAVAR, we also considered a version of our baseline FAVAR with the interest rate order last, so that we allow it to respond to contemporaneous exchange rate movements. As we discuss below, the results are robust.

[4] By construction, these estimates would be symmetric for a depreciation shock of that magnitude.

Figure 2. Impulse response functions for a one standard deviation shock to the exchange in the baseline global FAVAR



Notes: The solid lines indicate the median impulse responses. The dashed lines indicate the 68% confidence intervals. The sample period ranges from January 1999 to June 2017.

- The dollar appreciation also leads to a notable decline in the GCI, suggesting that the contraction in the U.S. also leads to a contraction in the economic activity of its trading partners. This result suggests that dollar appreciation has adverse spillover effects for the major trading partners as well.

- Our forecast error variance decompositions suggest that orthogonalized shocks to the dollar account for over 70 percent of the forecast variance of the exchange rate. Thus, the dollar movements are largely driven by exogenous shocks to the variable itself. In contrast, the dollar shocks account for only about 13 percent of the forecast error variance of inflation, suggesting that exchange rate shocks are not the primary source of inflation fluctuations (see Table A4).

3. Out-of-sample forecasts in the base FAVAR and in a counterfactual model

- The impulse responses from our baseline FAVAR suggest that an exchange rate shock has a delayed impact on inflation, with the peak effect occurring with a 6-month lag. Thus, the main effects of the observed dollar depreciation earlier this year may not have been realized yet. Furthermore, out of the 7.5 percent year-to-date dollar depreciation, a little over 2 percentage points occurred after the end of our sample in June. Thus, the impulse responses alone, which reflect the average impact of a one standard deviation shock to the exchange rate, may not fully reflect the potential impact of the exchange rate shocks on inflation.

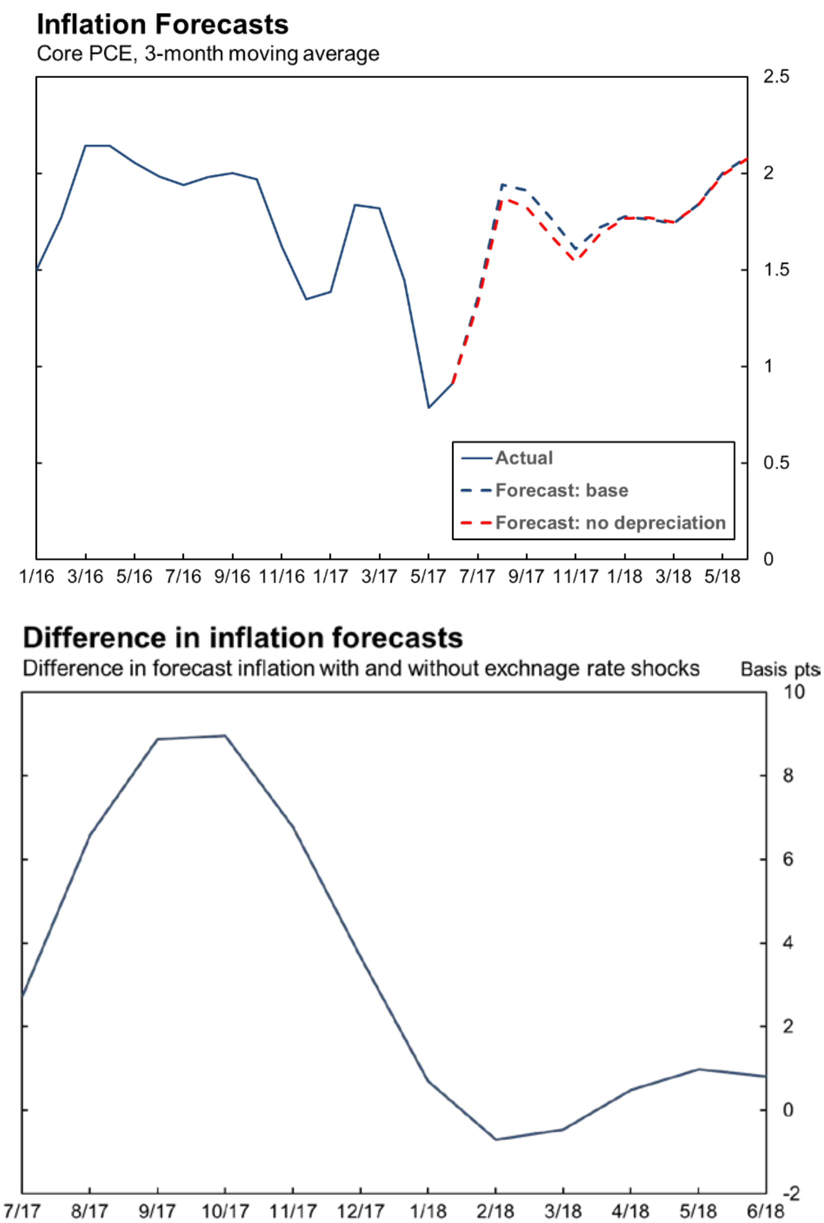
- To assess the potential impact of the dollar depreciation shocks on inflation, we first obtain the unconditional forecasts of inflation from our estimated baseline FAVAR. The forecasted inflation path embodies information from all shocks— including the exchange rate shocks— that have materialized through June 2017.

- We then compute the unconditional forecasts of inflation from a counterfactual model, in which we shut off the exchange rate shocks from January 2017 to June 2017, but keep all the other specifications and shocks in the baseline FAVAR unchanged. The forecasted inflation path from this counterfactual model embodies information from all shocks but the exchange rate shocks observed in 2017H1.

- Finally, we calculate the differences between the forecasted inflation paths from these two models. These differences then reflect the contributions of the observed dollar depreciation shocks in H1 to core PCE inflation expected in H2 and beyond.

- Figure 3 (the top panel) shows the core PCE inflation rate in the actual data up to June 2017 (the solid line), along with the forecasts from the baseline FAVAR (the blue dashed line) and from the counterfactual model (the red dashed line) from July 2017 to June 2018.

Figure 3. Inflation Forecasts: Baseline FAVAR vs. Counterfactual



Note: Forecasts of 3-month moving average core PCE price inflation from the baseline FAVAR and the counterfactual model and the differences in the forecasts between the two models.

- The forecasted inflation from our baseline FAVAR rises slightly more quickly than forecasted inflation in our counterfactual model, suggesting that the actual exchange rate depreciation in 2017H1 has put upward pressure on inflation in 2017H2, with the impact peaking in September and October of this year, and then diminishing quickly thereafter.

- Figure 3 (the bottom panel) shows the difference in the forecasted inflation paths in the base FAVAR and the counterfactual model. The peak impact of the H1 dollar depreciation shocks on inflation reaches about 9 basis points in September and October, then declines to 4 basis points by December, and vanishes in early 2018.

- Our base FAVAR model forecasts that core PCE inflation should rebound fairly quickly from the June level. In particular, inflation is expected to rise from an annualized rate of about 0.9 percent in June to about 1.9 percent by the end of Q3 and 1.7 by the end of Q4. In comparison, the Tealbook forecasts of core PCE inflation rates are 1.3 percent for Q3 and 1.5 percent for Q4. Our model also forecasts that core PCE inflation should rise to about 2 percent by mid-2018.[5]

- In light of our counterfactual exercise, however, it is unlikely that the forecasted increases in core PCE inflation are driven by the dollar depreciation in the first half of the year. As shown in Figure 4, our baseline FAVAR forecasts suggest that the rebound in inflation in 2017H2 is more closely associated with stronger local and global economic conditions, and not so much with a weaker dollar.

4. Robustness

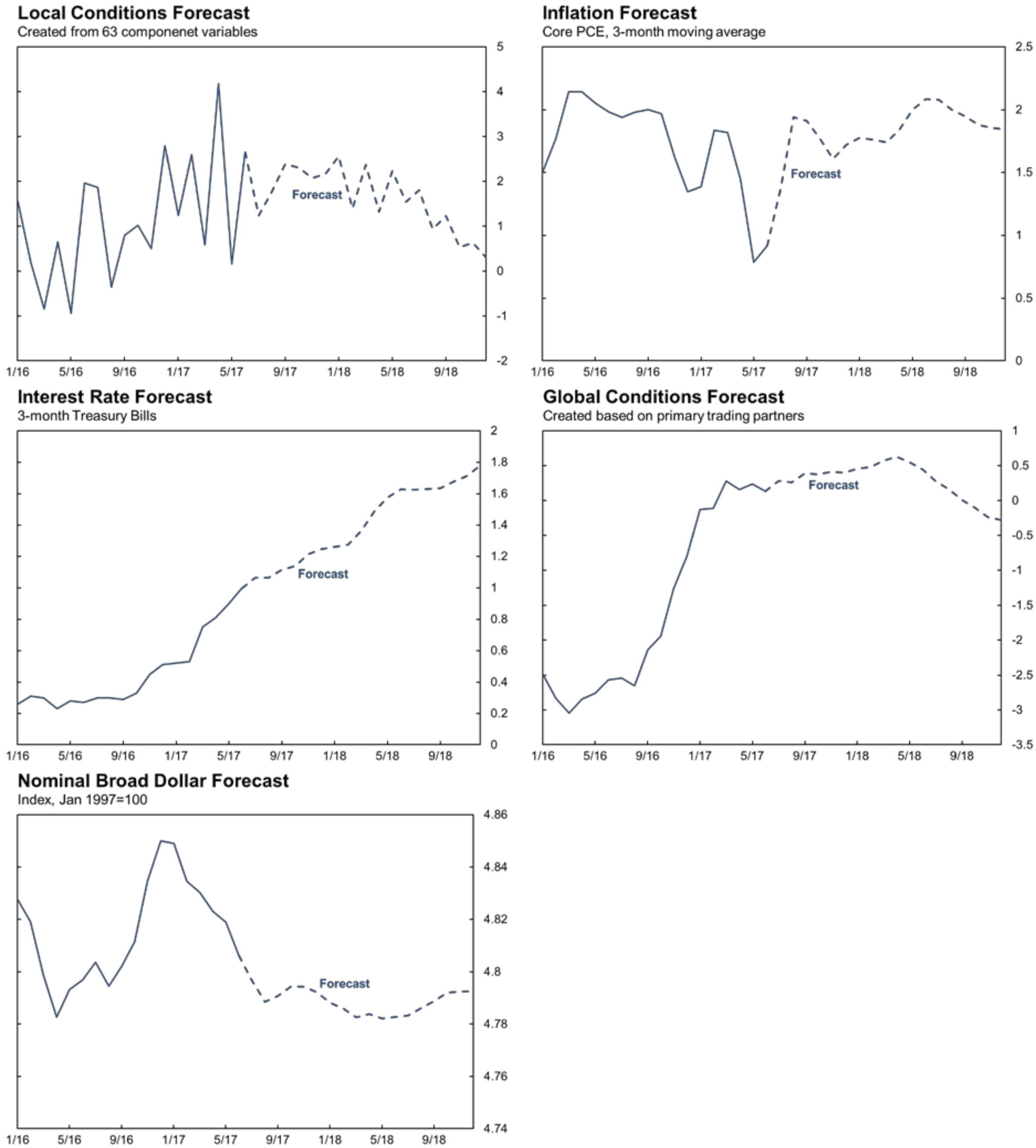
- To examine the robustness of our quantitative results, we also estimate a variety of other model specifications, including a variation of our baseline FAVAR by adding a bond spread measure as a proxy for risk tolerance,[6] a standard FAVAR (i.e., one without the GCI), a reordered version of our baseline FAVAR with the interest rate ordered last to allow it to respond to exchange rate movements, a standard BVAR with industrial production in place of the LCI as a proxy for domestic activity, and a BVAR with data extended to September 2017, with forecasted inflation used for the month of September.

- These alternative model specifications all indicate a small impact of dollar depreciation on inflation going forward. The estimated impulse response functions to a positive dollar shock all exhibit similar dynamics to those in our baseline specifications, as displayed in the Appendix (Figures A1 through A5).

[5] Our model's forecast of core PCE inflation for 2018 (Q4/Q4) is about 1.9 percent, slightly higher than the Tealbook forecast (1.8 percent).

[6] As discussed in Forbes (2015), dollar movements associated with changes in risk aversion are likely to exhibit different dynamics and pass-through than pure dollar shocks.

Figure 4. Unconditional Forecasts from Baseline FAVAR



Note: Inflation forecasts from baseline FAVAR estimated using data from Jan 1999 to June 2017.

- Table 1 shows the average impact of the dollar depreciation shocks in 2017H1 on inflation forecasts for 2017H2. Our base FAVAR implies an average impact of about 6 basis points. The alternative model specifications suggest that the impact may be modestly greater. In particular, the average impact on H2 inflation is about 6.5 basis points in the FAVAR augmented with the risk measure, 5.6 basis points in the FAVAR with the interest rate reordered to the last, 21 basis points in the FAVAR without GCI, 13 basis points in the standard BVAR (with IP in place of LCI), and 17 basis points in the BVAR with data extended to September this year.

- Note that the estimated average impacts of dollar depreciation on H2 inflation are greater in the 3 models (Models 4-6) that are estimated with more recent data, reflecting the "building up" effects of further dollar depreciation that has occurred after June this year, which is the end of the sample for estimating the other 3 models (Models 1-3).

Table 1. Contributions of Dollar Depreciation to Forecasted Inflation in 2017H2

Model 1 Base FAVAR	**Model 2 FAVAR with risk measure**	**Model 3 FAVAR reordered**	**Model 4 FAVAR with no GCI**	**Model 5 BVAR**	**Model 6 BVAR extended sample**
6.3 basis points	6.5 basis points	5.6 basis points	21 basis points[1]	13 basis points[1]	17 basis points[2]

Note: The data samples for estimating Model 1, Model 2, and Model 3 cover the period from Jan. 1999 to June 2017. The samples for Model 4 and Model 5 cover the period from Jan. 1999 to Aug. 2017. The sample for Model 6 covers Jan. 1999 to Sep. 2017. Accordingly, the effects of dollar depreciation on 2017H2 inflation forecasts are calculated based on inflation forecasts for July-Dec 2017 for Models 1-3, Sep-Dec 2017 for Models 4-5, and Oct – Dec 2017 for Model 6.

- Overall, our models indicate that the dollar depreciation this year will only modestly impact current and future inflation. This conclusion is in line with other studies, such as a recent study by Goldman Sachs (2017) that predicts a 10bp contribution from exchange rate depreciation to US inflation in H2 2017.[7]

[7] Goldman Sachs notes that there was also a very modest response to the 25% appreciation in the trade-weighted dollar from 2014 to 2016. This response was far below that predicted by FRBUS (60 bp). As such, Goldman is of the opinion that inflation is less responsive to the dollar than it once was, perhaps due to continuing declines in pass-through of exchange rate changes to US import prices. The Goldman Sachs model is based on estimation only over the last 10 years (2007-2017) to accommodate the secular decline in pass-through rates.

5. What external factors influence U.S. inflation?

- On ongoing debate examines the importance of global economic slack for U.S. inflation. A number of studies [e.g. Borio and Filardo (2007)], suggests that global economic slack provides significant explanatory power for U.S. inflation. However, Ihrig, et al. (2010) argued that the Borio-Filardo results are not robust to alternative measures of global slack.

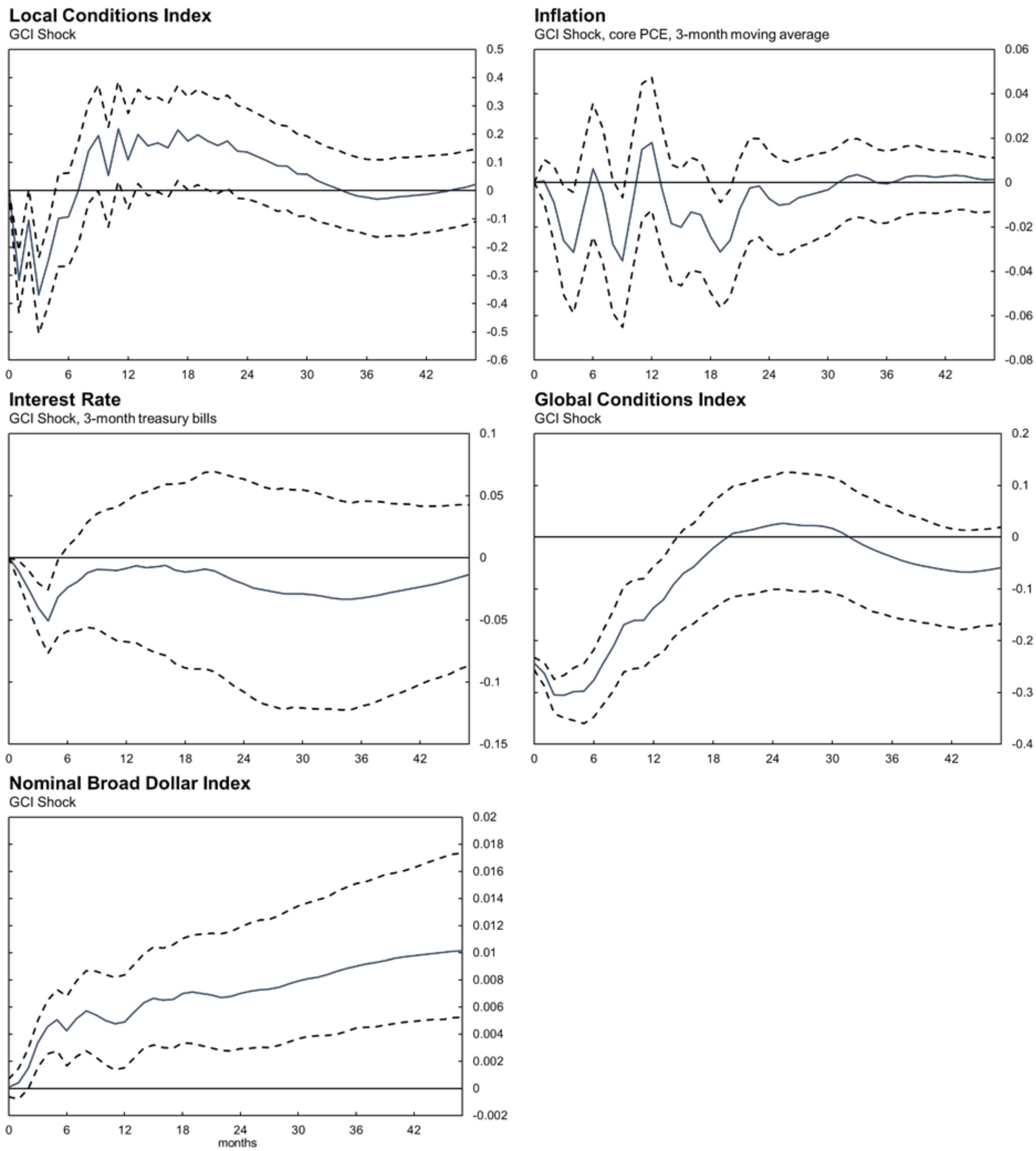
- Our GCI provides a summary statistic that captures a broad set of economic indicators for the major trading partners of the United States. As such, it provides a broad measure of global economic slack from the U.S. perspective.

- The focus of the GCI on activity weighted among U.S. trading partners should be particularly useful in predicting spillovers from external activity to U.S. inflation. We therefore consider the implications of an autonomous shock to our GCI on U.S. inflation within our global FAVAR specification.

- Figure 5 shows the impulse responses in our global FAVAR (Model 1) following an orthorgonalized shock to the GCI. A negative GCI shock lowers domestic U.S. activity (the LCI), and the nominal interest rate declines. The negative GCI shock also leads to a persistent dollar appreciation.

- However, the impact of the GCI shock on U.S. inflation is small and short-lived. Following a one standard deviation decline in GCI, inflation edges down by 3 basis points, with a lag of about 4 months. The impulse responses of inflation are otherwise not significantly differently from zero.

Figure 5. Impulse response functions for a one standard deviation shock to the global conditions index in the baseline global FAVAR



Note: The figure shows the impulse responses to a one standard deviation negative shock to the GCI in the baseline global FAVAR. The sample period ranges from January 1999 to June 2017.

- Our baseline FAVAR does not contain the relative price of imports, which is also a potential factors that might influence U.S. inflation and activity. The import price can be a transmission channel for other external factors (the dollar and the GCI), and shocks to import prices also have direct implications for U.S. inflation.

- To examine the role of import prices for U.S. inflation dynamics, we include the relative price of imports in our baseline FAVAR as an additional variable, and order it second to the last (immediately before the dollar index). The relative import price is defined as the ratio of the import price index to the core PCE price index.

- Figure 6 shows the impulse responses to a positive shock to the dollar index in this FAVAR with import prices added as a control. Similar to the baseline case, a dollar appreciation shock in this augmented FAVAR results in a drop in the LCI and a moderate decline in inflation.

- In the same FAVAR model that includes import prices, we also estimated the impulse responses to a one standard deviation positive shock to the relative price of imports. As shown in Figure 7, we do see a small, but notable, 10 basis point increase in inflation.

- In this FAVAR model with import prices, shocks to the dollar and to the import prices together account for over 20 percent of the forecast error variance of inflation. In contrast, shocks to the GCI account for a much smaller fraction of inflation fluctuations (under five percent). See Table 2 below.

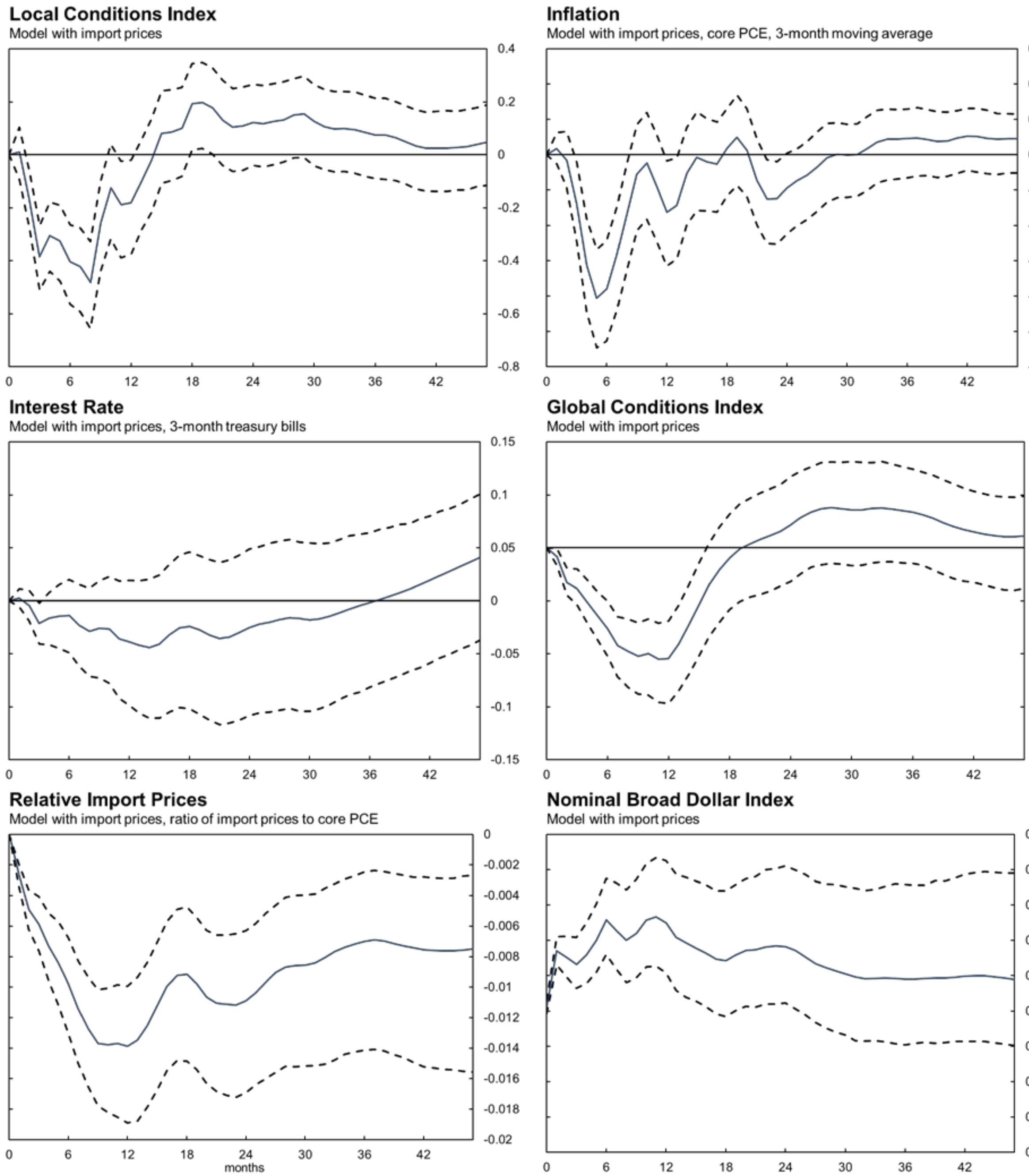
Table 2. Forecast Error Variance Decomposition for Core PCE Inflation

in the global FAVAR extended to include import prices

Forecast horizon	Shocks					
	LCI	Inflation	Interest Rate	GCI	Relative import prices	Dollar
12 months	14.1	56.7	4.5	3.3	11.4	10.0
24 months	14.2	50.5	10.3	4.5	10.5	10.1
36 months	14.3	49.5	10.3	4.5	11.2	10.2
48 months	14.1	48.8	10.8	4.7	11.2	10.4

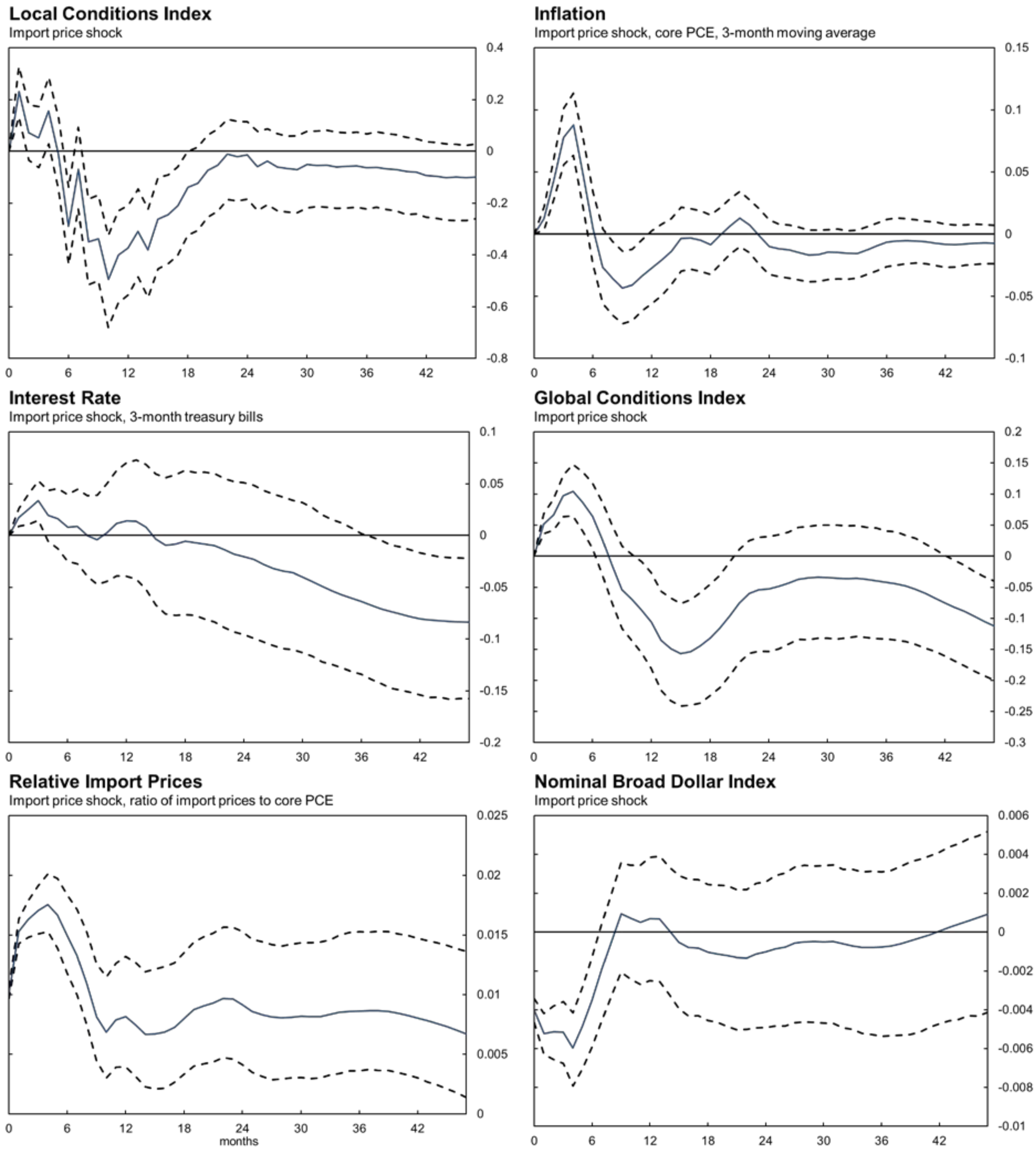
Note: The model is estimated using monthly series from January 1999 to June 2017.

Figure 6. Impulse response functions for a one standard deviation shock to the dollar index in the global FAVAR augmented with import prices



Note: The figure shows the impulse responses to a one standard deviation positive shock to the dollar index in the global FAVAR extended to include the relative price of imports. The sample period ranges from January 1999 to June 2017.

Figure 7. Impulse response functions for a one standard deviation shock to the relative price of imports in the global FAVAR augmented with import prices



Note: The figure shows the impulse responses to a one standard deviation positive shock to the relative price of imports in the global FAVAR extended to include the relative price of imports. The sample period ranges from January 1999 to June 2017.

6. Conclusion

- Our estimated global FAVAR suggests that the dollar depreciation in the first half of the year is likely to have only a modest impact on inflation going forward. We estimate that the dollar depreciation will add a little under 10 basis points to inflation this quarter, and these effects will largely die out by the end of the year.

- These estimation results are robust to a variety of alternative specifications.

- Our findings cast doubt on the contention that any substantive pickup in inflation observed this year or next should be attributed largely to the dollar depreciation experienced in the first half of 2017, and should be considered transitory on that basis.

- Our evidence also suggests that a combination of relative import prices and the dollar exchange rate provides the bulk of explanatory power from external factors for U.S. inflation. In contrast, shocks to global slack measures (such as our GCI) provide relatively little additional explanatory power.

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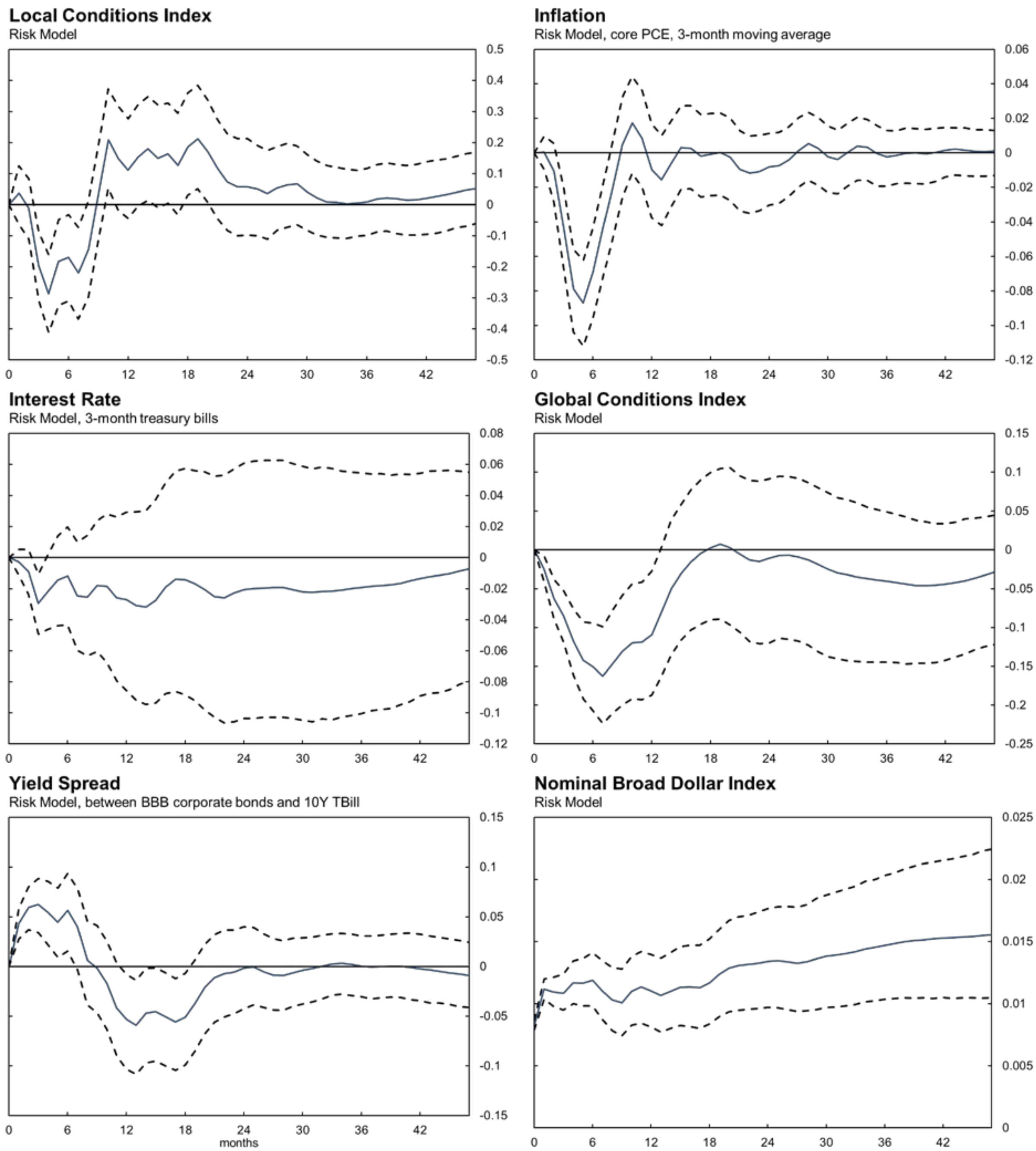
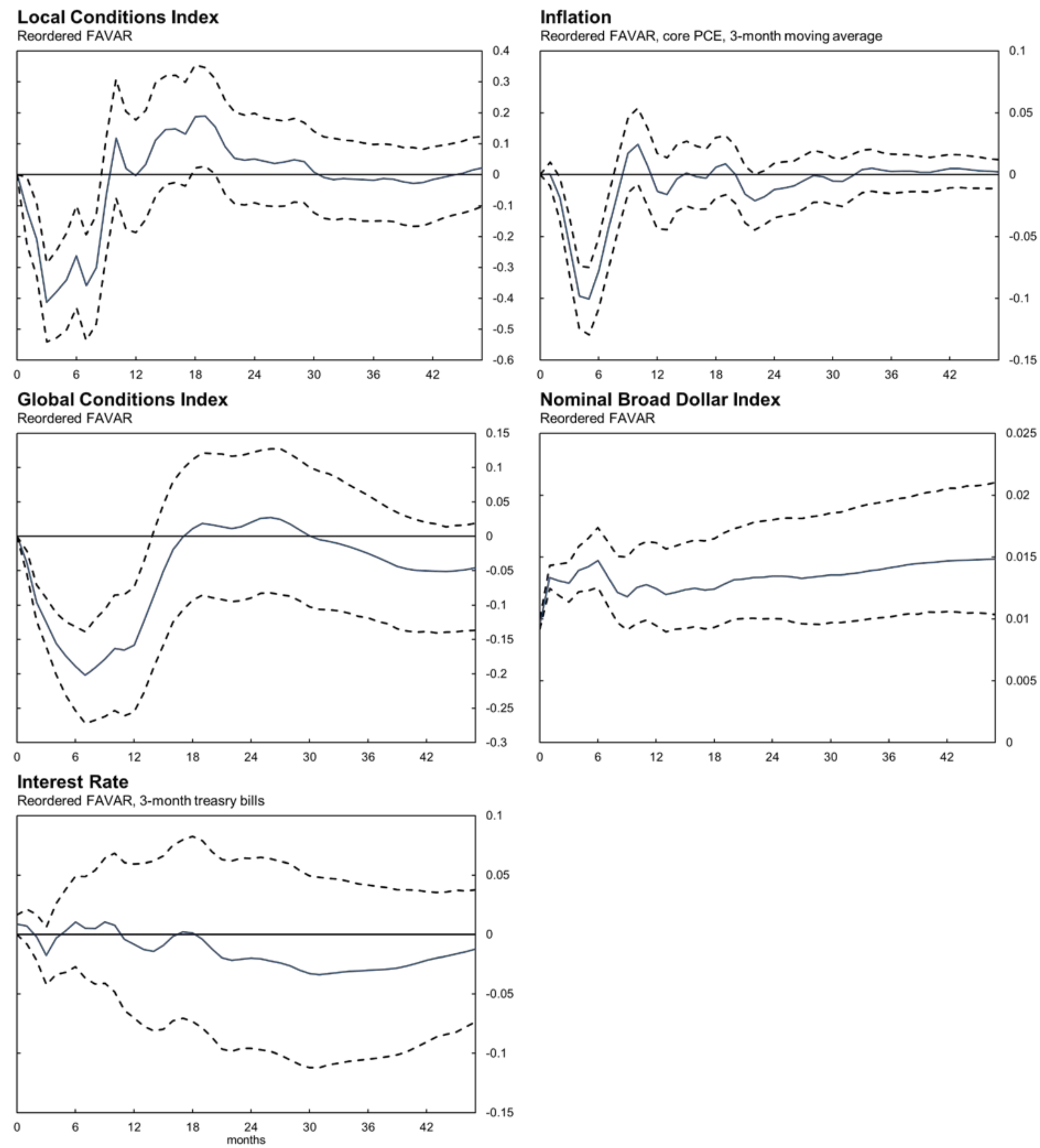
APPENDIX

Figure A1. Impulse responses to a one standard deviation shock to the dollar index in the FAVAR augmented with bond yield spreads



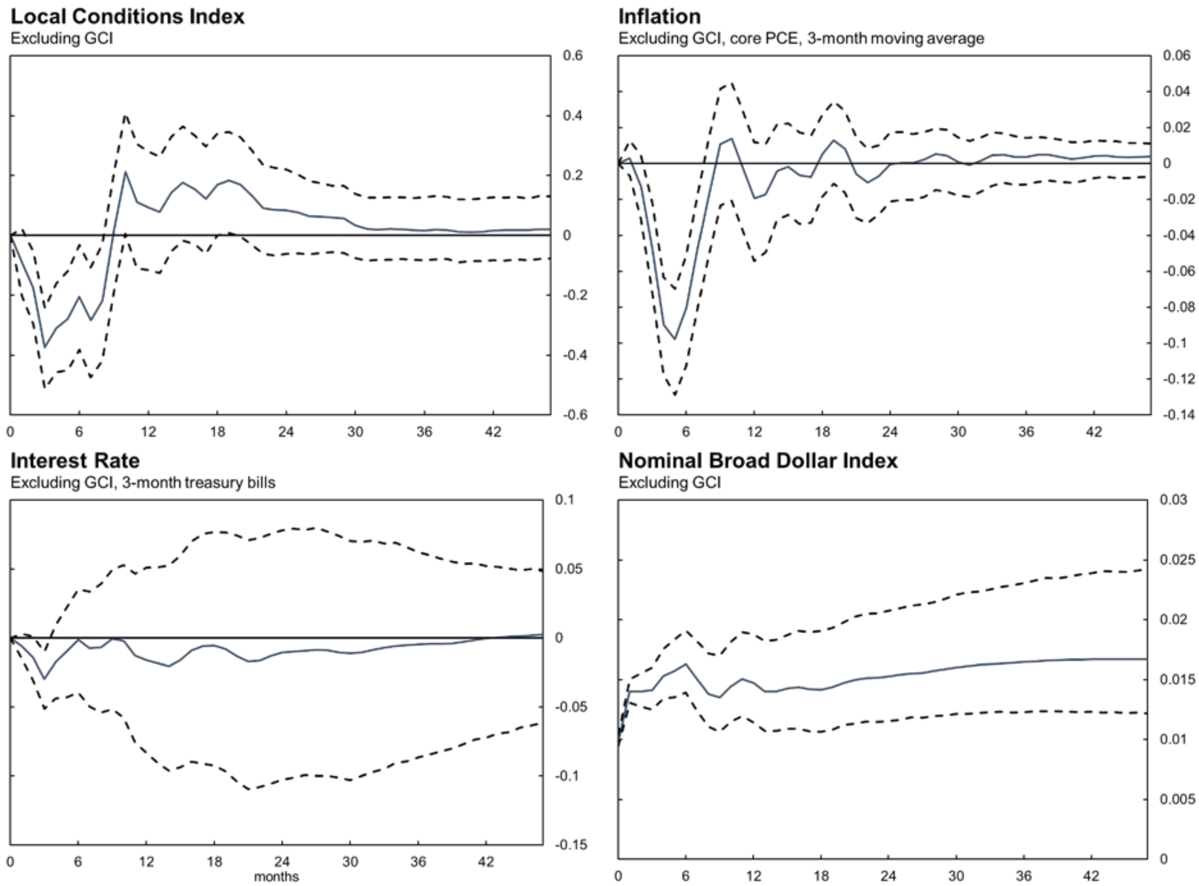
Note: Bond yield spread is the difference between Bank of America Merrill Lynch BBB corporate bond yields and the 10-year Treasury yields. Sample range for estimation: Jan 1999 – June 2017.

Figure A2. Impulse responses to a one standard deviation shock to the dollar index in the FAVAR with Interest rate ordered last



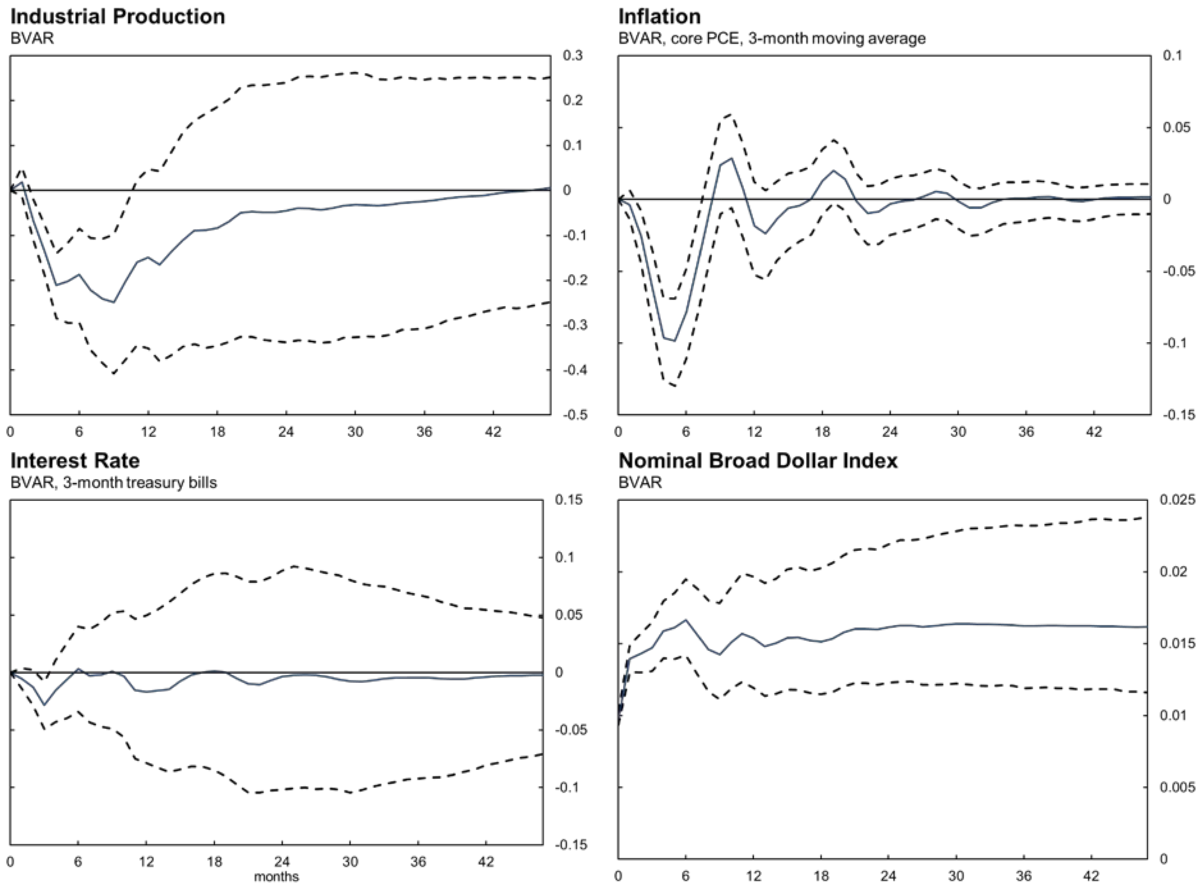
Note: Sample range: Jan 1999 – June 2017.

Figure A3. Impulse responses to a one standard deviation shock to the dollar index (about 8 percent changes) in the FAVAR without GCI



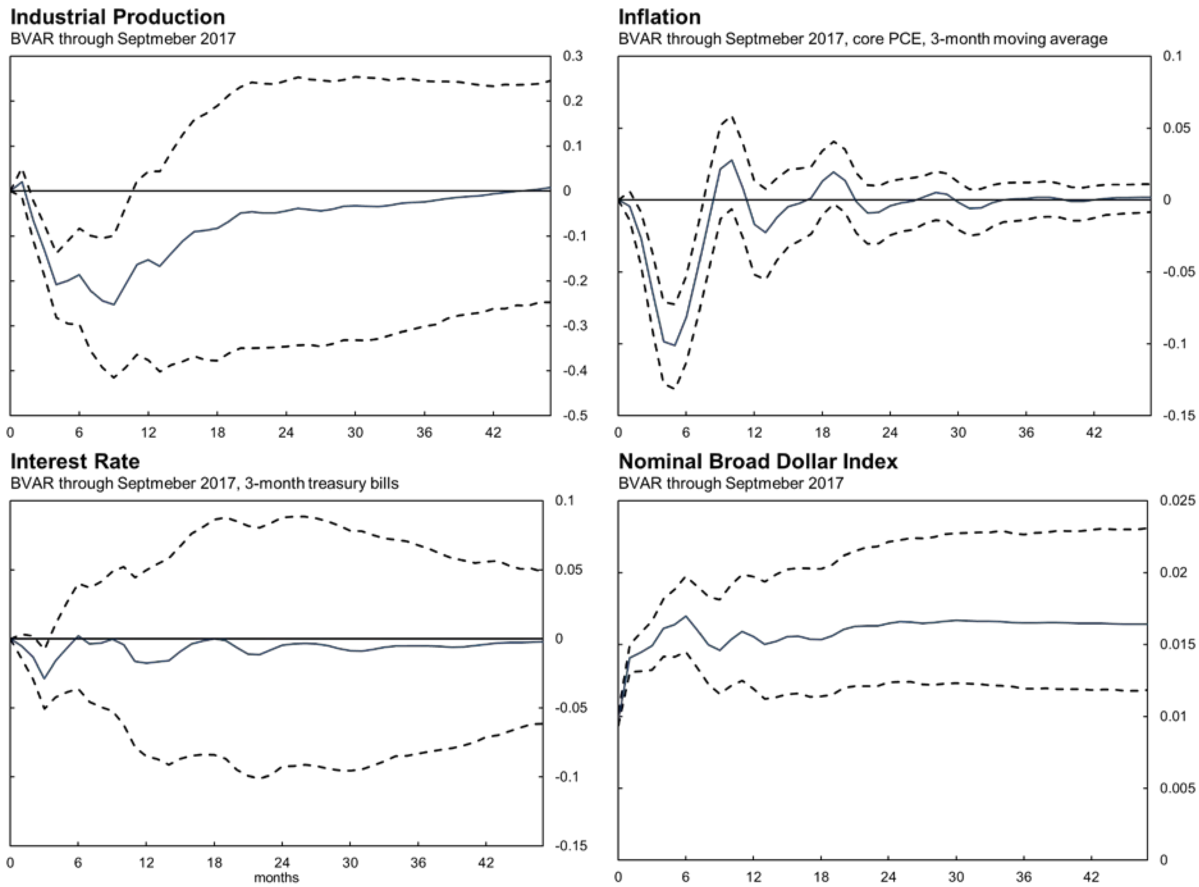
Note: Sample range: Jan. 1999 – Aug. 2017

Figure A4. Impulse responses to a one standard deviation shock to the dollar index in the BVAR specification



Note: Impulse response for BVAR specification, with industrial production substituted for local conditions index, for a one standard deviation (approximately 8 percent) orthogonal positive shock to the exchange rate. Sample range: Jan. 1999 – Aug. 2017.

Figure A5. Impulse responses to a one standard deviation shock to the dollar index in the BVAR specification with data extended to September 2017



Note: Impulse response for BVAR specification, with industrial production substituted for local conditions index, for a one standard deviation (approximately 8 percent) orthogonal positive shock to the exchange rate. Data extended to September, 2017 using FRBSF forecast of 1.4 percent annualized for Q3 2017 core PCE price inflation to fill in missing September value.

Table A1. Underlying Observable Variables for Constructing the LCI

1	Industrial Production: Final Products and Nonindustrial Supplies (SA, 2007=100)
2	Industrial Production: Final Products (SA, 2007=100)
3	Industrial Production: Consumer Goods (SA, 2007=100)
4	Industrial Production: Durable Consumer Goods (SA, 2007=100)
5	Industrial Production: Nondurable Consumer Goods (SA, 2007=100)
6	Industrial Production: Business Equipment (SA, 2007=100)
7	Industrial Production: Materials (SA, 2007=100)
8	Industrial Production: Durable Goods Materials (SA, 2007=100)
9	Industrial Production: Nondurable Goods Materials (SA, 2007=100)
10	Industrial Production: Manufacturing [NAICS] (SA, 2007=100)
11	Industrial Production: Durable Goods [NAICS] (SA, 2007=100)
12	Industrial Production: Nondurable Manufacturing (SA, 2007=100)
13	Industrial Production: Mining (SA, 2007=100)
14	Industrial Production: Electric and Gas Utilities (SA, 2007=100)
15	Industrial Production Index (SA, 2007=100)
16	Civilian Employment: Sixteen Years & Over (SA, Thous)
17	Civilian Employment: Nonagricultural Industries: 16 yr + (SA, Thous)
18	Capacity Utilization: Industry (SA, Percent of Capacity)
19	Civilian Unemployment Rate: 16 yr + (SA, %)
20	Average [Mean] Duration of Unemployment (SA, Weeks)
21	Civilians Unemployed for Less Than 5 Weeks (SA, Thous.)
22	Civilians Unemployed for 5-14 Weeks (SA, Thous.)
23	Civilians Unemployed for 15 Weeks and Over (SA, Thous.)
24	Civilians Unemployed for 15-26 Weeks (SA, Thous.)
25	All Employees: Total Nonfarm (SA, Thous)
26	All Employees: Total Private Industries (SA, Thous)

27	All Employees: Goods-producing Industries (SA, Thous)
28	All Employees: Mining (SA, Thous)
29	All Employees: Construction (SA, Thous)
30	All Employees: Manufacturing (SA, Thous)
31	All Employees: Durable Goods Manufacturing (SA, Thous)
32	All Employees: Nondurable Goods Manufacturing (SA, Thous)
33	All Employees: Private Service-providing Industries (SA, Thous)
34	All Employees: Trade, Transportation & Utilities (SA, Thous)
35	All Employees: Professional & Business Services (SA, Thous)
36	All Employees: Government (SA, Thous)
37	ISM Mfg: Employment Index (SA, 50+ = Econ Expand)
38	Housing Starts (SAAR, Thous.Units)
39	Housing Starts: Northeast (SAAR, Thous.Units)
40	Housing Starts: Midwest (SAAR, Thous.Units)
41	Housing Starts: South (SAAR, Thous.Units)
42	Housing Starts: West (SAAR, Thous.Units)
43	ISM Mfg: Inventories Index (SA, 50+ = Econ Expand)
44	ISM Mfg: New Orders Index (SA, 50+ = Econ Expand)
45	ISM Mfg: Supplier Deliveries Index (SA, 50+ = Slower)
46	Stock Price Index: Standard & Poor's 500 Composite (1941-43=10)
47	Stock Price Index: Standard & Poor's 500 Industrials (1941-43=10)
48	Federal Funds [effective] Rate (% p.a.)
49	3-Month Treasury Bills, Secondary Market (% p.a.)
50	6-Month Treasury Bills, Secondary Market (% p.a.)
51	1-Year Treasury Bill Yield at Constant Maturity (% p.a.)
52	5-Year Treasury Note Yield at Constant Maturity (% p.a.)
53	10-Year Treasury Note Yield at Constant Maturity (% p.a.)

54	Moody's Seasoned Aaa Corporate Bond Yield (% p.a.)
55	Moody's Seasoned Baa Corporate Bond Yield (% p.a.)
56	Money Stock: M1 (SA, Bil.$)
57	Money Stock: M2 (SA, Bil.$)
58	C & I Loans in Bank Credit: All Commercial Banks (SA, Bil.$)
59	Nonrevolving Consumer Credit Outstanding (EOP, SA, Bil.$)
60	PPI: Finished Goods (SA, 1982=100)
61	PPI: Crude Materials for Further Processing (SA, 1982=100)
62	Avg Hourly Earnings: Prod & Nonsupervisory: Construction (SA, $/Hr)
63	Avg Hourly Earnings: Prod & Nonsupervisory: Manufacturing (SA, $/Hr)

Table A2: Underlying country-specific variables for constructing the GCI:

1. CPI
2. 1-year government bond yield
3. 2-year government bond yield
4. 3-month government bond yield
5. Housing starts/permits
6. IP
7. M1
8. M2
9. PPI
10. Stock index
11. Unemployment

Table A3: Underlying global variables for constructing the GCI:

1. Oil Commodity Prices
2. JP Morgan EMBI Global Diversified Sovereign Yield
3. European Commission Economic Sentiment Indicator Eurozone
4. European Commission Economic Sentiment Indicator EU

Table A4: Variance decompositions in the baseline global FAVAR

Panel A. Forecast Error Variance Decomposition for Trade-Weighted Broad Dollar Index

Forecast horizon	Shocks				
	LCI	Inflation	Interest Rate	GCI	Dollar
12 months	9.7	1.6	0.5	8.6	79.7
24 months	5.2	1.2	5.1	13.6	74.9
36 months	3.3	0.9	6.2	17.0	72.7
48 months	2.4	0.7	6.4	20.4	70.1

Panel B. Forecast Error Variance Decomposition for Core PCE Inflation

Forecast horizon	Shocks				
	LCI	Inflation	Interest Rate	GCI	Dollar
12 months	19.8	59.9	3.8	1.9	14.6
24 months	19.4	53.2	11.0	3.2	13.3
36 months	19.9	52.3	11.3	3.2	13.3
48 months	19.9	52.2	11.4	3.3	13.3