Discussion of *Impact of International monetary policy in a FAVAR approach* by Elizabeth Bucacos

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The views expressed here do not necessarily reflect the views of anyone else in the Federal Reserve System.

Overview

- Interesting and Important Question. How does U.S. Monetary Policy Affect Foreign Economies? Here Uruguay is the test case.
- Technically sound work. Includes factors (a FAVAR) to control for other influences.
- Does not find strong effects of U.S. Monetary Policy on Uruguay.

What does U.S. monetary policy do to foreign economies?

U.S. Policy	Tightens	
Trade effects		
U.S. Exchange Rates	Appreciate	Higher Foreign GDP
U.S. domestic demand	Declines	Lowers Foreign GDP
Financial Spillovers		
Prices of risky assets	Fall	
foreign bond yields	Higher	Lowers Foreign GDP
capital inflows	Discouraged	Lowers Foreign GDP

Based on Ammer, De Pooter, Erceg, and Kamin (2016), who.

- Highlight that Foreign monetary policy can offset negative effects.
- Conclude that U.S. monetary policy pushes both foreign and U.S. activity in the same direction.

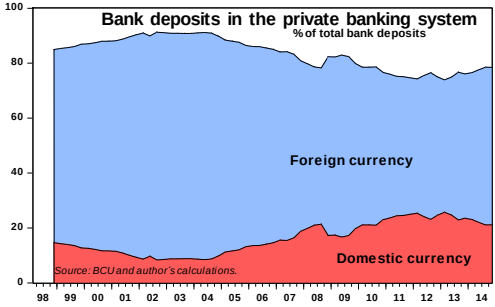
Direct Trade linkages seem small.

An open topical question: Does U.S. monetary policy have an out-sized effect on international trade given the role of the dollar as numeraire (aka vehicle currency) for international trade?

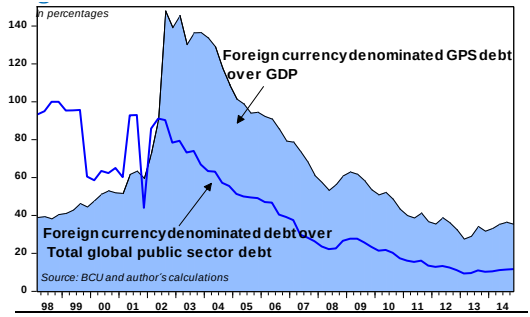
Wide use of the dollar in Uruguay may be an important factor.

Could limit the role of Uruguay's monetary policy to offset effects.

Private



Public



Empirical Specification

Estimates the following VAR over a sample from 1995 to 2014

$$\begin{bmatrix} O_t^* \\ F_t \\ O_t \end{bmatrix} = B(L) \begin{bmatrix} O_{t-1}^* \\ F_{t-1} \\ O_{t-1} \end{bmatrix} + u_t$$

- O_t^* are U.S. interest rates.
- F_t Factors that summarize other variables.
- O_t Uruguayan variables of interest.

Empirical Specification

$$\begin{bmatrix} O_t^* \\ F_t \\ O_t \end{bmatrix} = B(L) \begin{bmatrix} O_{t-1}^* \\ F_{t-1} \\ O_{t-1} \end{bmatrix} + u_t$$

$O_t^* = (FFR_t, T10_t)$

O_t^*	FFR_t	fed funds rate in real terms	$FF_t - \pi_t$	$FF_t^{SR} - \pi_t$
	$T10_t$	10 year treasury bond in real terms		

Empirical Specification

$$\begin{bmatrix} O_t^* \\ F_t \\ O_t \end{bmatrix} = B(L) \begin{bmatrix} O_{t-1}^* \\ F_{t-1} \\ O_{t-1} \end{bmatrix} + u_t$$

$$O_t = \left(rer_t, UBI_t, i_t^p, p_t^h, y_t, pb_t\right)$$

O_t	rer_t	Change in Uruguayan Real Effective Exchange Rate
	UBI_t	Change in Uruguayan country risk indicator
	i_t^p	Uruguayan passive interest rate deflated by domestic inflation
	p_t^h	House prices in pesos
	y_t	Change in Uruguayan GDP
	pb_t	public sector balance

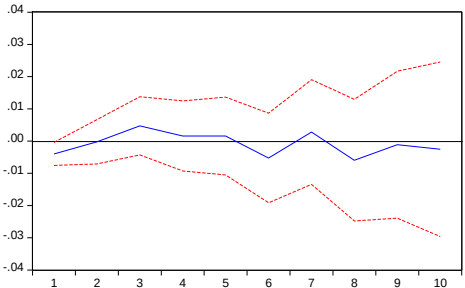
Commodity Prices	Changes in real prices of food, wheat, soybeans, and oil.
Foreign GDP	Argentina, Brazil, China
Foreign GDP	Germany, Italy, Spain, UK and Mexico.
U.S. variables	U.S. GDP and U.S. debt to GDP ratio.
Uruguayan variables	domestic investment to GDP ratios, real domestic wages unemployment, public debt to gdp public assets to GDP, public assets-to GDP ratio total public sector income and expenditures.

Get three factors.

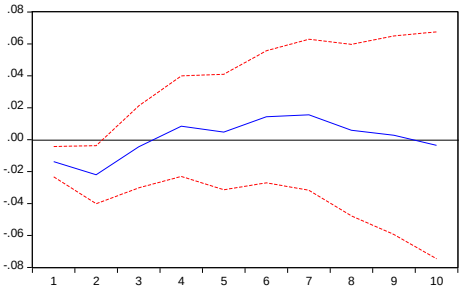
One factor loads on commodity prices, the second on the advanced economies foreign GDPs, and the third on the emerging market GDPs.

Empirical Results

Output Growth



House Price Growth



House prices measured in local currency drop. Are house prices measured in U.S. dollar stable?

Identification

$$u_{R,t} = FFR_t - B_{FFR_t}(L) \begin{bmatrix} O^*_{t-1} \\ F_{t-1} \\ O_{t-1} \end{bmatrix}$$

Any difference between the realized real federal funds rate and that predicted by lagged values of the included variables is a federal funds shock.

$$u_{R,t} = \sigma_{u_{R,t}} e_{R,t}$$

This is the maintained assumption throughout the paper.

Alternative Identification

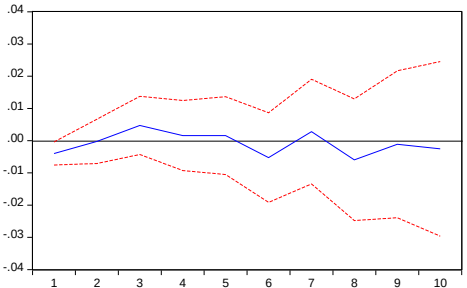
Handbook treatment is to identify monetary policy shocks as being changes in the Federal funds rate that are not predicted from a regression that includes both contemporaneous values of U.S. GDP, inflation. commodity inflation as well as lagged values of these and additional variables. As such, the paper could try

Current **Proposed**

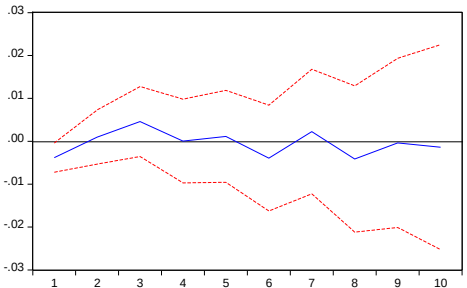
$$O_t^* = \begin{pmatrix} FFR_t \\ T10_t \end{pmatrix} = \begin{pmatrix} FF_t - \pi_t \\ TR10_t - \pi_t \end{pmatrix} \quad O_t^* = \begin{pmatrix} Y_t^{US} \\ \pi_t \\ \pi_t^{com} \\ FF_t \\ TR10_t \end{pmatrix}$$

This may not fix the problem, as Elizabeth did share with me results from a reordered system. $\begin{bmatrix} F_t \\ O_t^* \\ O_t \end{bmatrix}$

Original



Reordered VAR



Similar GDP response, but with a tighter confidence interval.

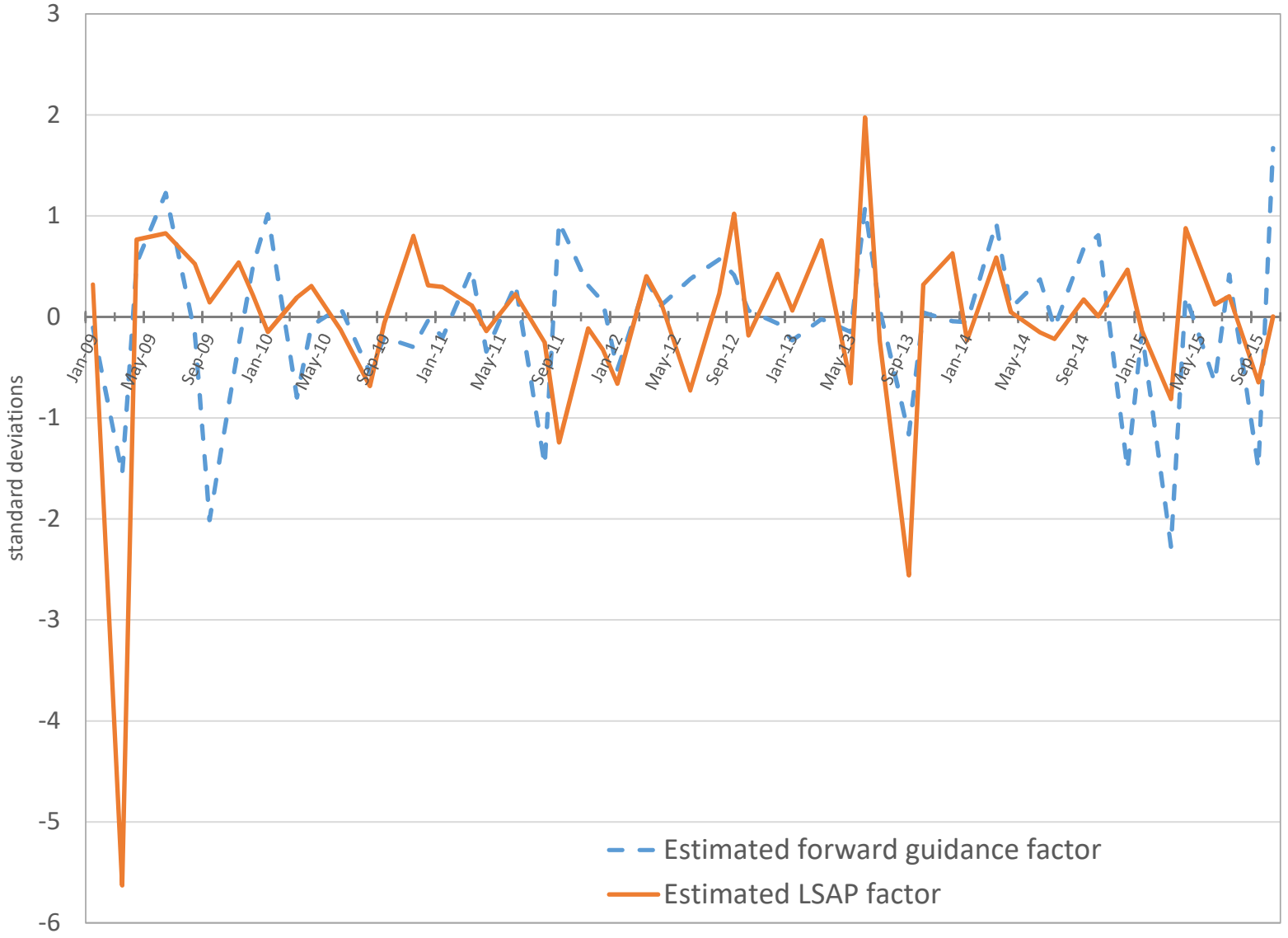
Use high-frequency data

An alternative identification approach arises from using high-frequency data. Identify a monetary policy shock using differences between realized outcomes and market expectations on the day of the FOMC meeting.

- John Rogers Chiara Scotti and Jonathan Wright *Unconventional Monetary Policy and International Risk Premia*
- Eric Swanson: *Measuring the Effects of Federal Reserve Forward Guidance and Asset Purchases on Financial Markets*.

Both of these paper measure monetary policy actions that take place not through the federal funds rate but through quantitative easing.

Forward Guidance and LSAP Factors, 2009–2015

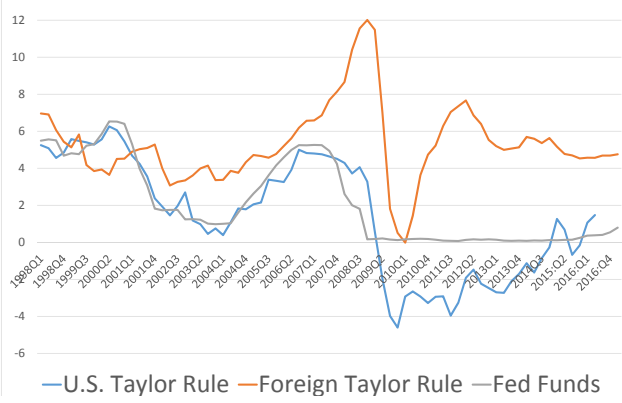


Monetary Policy Divergence.

One issue that is discussed in recent remarks by the vice Chair was the importance of monetary policy divergence. To the extent that the foreign country needs monetary policy similar to the United States, U.S. tightening could be compatible. Foreign economies may be most affected by U.S. policy actions when monetary policy conditions are most divergent. This sensitivity may vary both by country and over time.

Monetary Policy Divergence Measured using a Taylor Rule

$$R_{Taylor} = r^* + \pi^* + 1.5\,(\pi - \pi^*) + 1 * Gap$$



Are we calculating the relevant object?

- Much of the discussion here and in the literature has studied the effects of "all-else-equal" monetary policy actions (i.e. in isolation) .
- But, frequently, monetary policy is reacting to other events.
- As a result, the effects of monetary policy in isolation can be more than offset by the effects of these other events.
- As highlighted, in Ammer, De Pooter, Erceg, and Kamin (2016), the important question is whether monetary policy is stabilizing.