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The Link Between Interest Rates and Inflation in Brazil

By Troy Matheson

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Understanding the relationship between interest rates and inflation can help central banks make the right monetary policy decisions (photo: Ueslei Marcelino/REUTERS/Newscom)

The conventional view among central banks is that lower interest rates will eventually stimulate demand and increase inflation. But the prolonged period of low inflation and low interest rates in advanced economies following the global financial crisis contradicts this view, sparking a debate. Do lower interest rates increase inflation (the conventional view) or do they lead to lower inflation (the so-called Neo-Fisherian view)?

This is a key question because understanding this relationship can help central banks make the right monetary policy decisions. In a recent paper, we test this link for Brazil.

Relationship between nominal and real interest rates

At the heart of the debate is a well-known equation in economics, the Fisher equation, which relates the nominal interest rate R to the real interest rate r and expected inflation π. Taken at face value, and if the real interest rate is fixed, the equation implies that a lower long-run

inflation rate can be achieved by permanently setting the nominal interest rate to a lower level:

$$R \downarrow = r + \pi \downarrow$$

Indeed, supporters of the Neo-Fisherian view often point to the positive relationship between nominal interest rates and inflation seen across many countries as evidence of 'Neo-Fisherian' effects.

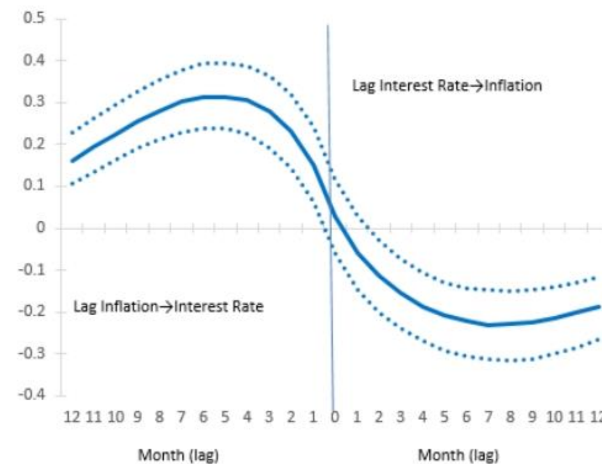
What do Brazilian data tell us?

Our study shows strong evidence in Brazil in favor of the conventional view of monetary policy transmission. In other words, there is a significant negative relationship between changes in the policy interest rate and future inflation in the short term. Specifically:

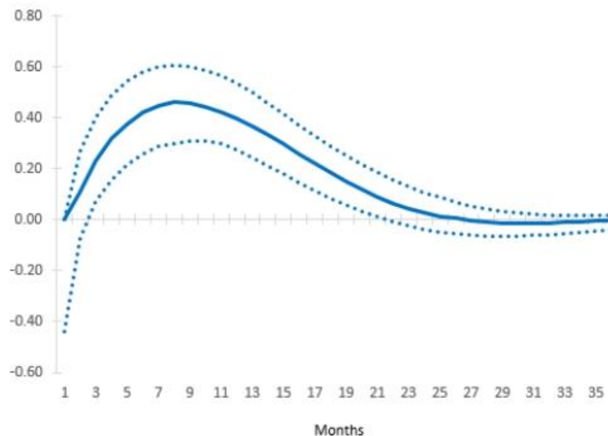
- ***Inflation leads to a higher policy interest rate:*** Since inflation tends to lead the policy interest rate, it appears that Brazil's central bank has historically responded to inflation developments, partly as the result of unanticipated demand and supply shocks (such as food and regulated price shocks, and exchange rate shocks).

- ***A higher policy rate leads to lower inflation.*** If the central bank raises the policy interest rate, inflation tends to decline (this can be seen on the right panel of the first chart). Likewise, a more structural analysis confirms that a surprise 100 basis point cut in the policy interest rate will lead to a rise in inflation (see second chart).

Conventional view
In Brazil, inflation leads to a higher interest rate and a higher interest rate reduces inflation.
(correlation between headline inflation and interest rate, 20th to 80th percentiles)



Source: Staff estimates.



So, how can lower inflation be achieved in the long run?

The previous discussion focused on the short-term relationship between interest rates and inflation. Simulations and cross-country evidence show that lower inflation and lower nominal interest rates can be achieved over the longer term if the central bank commits to a lower inflation target. However, the transition to lower inflation is typically associated with costs in terms of output and employment in the short term.
The central bank of Brazil has recently announced a lower annual inflation target—reducing it from 4.5 percent to 4.25 percent in 2019 and to 4.0 percent in 2020. Key ways to reduce the costs of achieving the new, lower inflation targets include:

- ***Enhancing monetary policy transparency and credibility:*** Enhanced credibility can better anchor inflation expectations, reduce the persistence of inflation, improve the short run tradeoff between inflation and output, and mitigate the cost associated with disinflation. There are several dimensions along which Brazil's inflation targeting framework can be improved to enhance transparency and credibility, including increasing the autonomy of the central bank and changing the inflation target from a range that needs to be met at the end of each year to a longer-term point target.
- ***Improving resource allocation in the financial sector:*** The effectiveness of monetary policy in Brazil could be improved by changing various credit policies that involve earmarking and credit subsidies. The Brazilian authorities have already made a step in this direction by developing plans to gradually reduce the gap between the subsidized

interest rate on long-term lending and the policy interest rate. Linking the long-term lending rate more tightly with the policy interest rate or another market-determined interest rate (such as long-term yields on government inflation-linked debt) would enhance the transmission changes in the policy interest rate, increasing the potency of monetary policy and contributing to lower interest rate volatility over the business cycle. Improving the efficiency of resource allocation in the financial sector could also contribute to a lower long-term real interest rate, with lower nominal interest rates for a given inflation target.

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Troy Matheson is a Senior Economist in the Southern 1 Division of the IMF's Western Hemisphere Department, where he conducts research focused on Brazil. He previously worked in the Research Department. Prior to joining the IMF in 2009, he was an Advisor at the Reserve Bank of New Zealand. His research focuses mainly on macroeconomic modelling and forecasting.