

## How Can Macro-Prudential Policy Control the Impact of Cross-Border Bank Flows on Emerging Market Economies?



Advanced economies (AEs) transmit economic crisis to Emerging Market Economies (EMEs) through cross-border bank flows, impacting their output, credit, and assets prices.



Empirical evidence suggests that the transmission of the crisis from AEs to EMEs is higher in the absence of macro-prudential policy.



A macro-prudential policy in the form of a levy on EMEs' banks, when credit grows faster than deposits, reduces the propagation of AEs' crisis to EMEs: the consumption drop is 12 percent lower, and the reaction of the labor market smoother, so consumers are better off with the policy than without it.

### CONTEXT

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The 2008 U.S. housing sector crisis generated a contagion effect that hit the entire U.S. financial sector and the global economy. One of the main mechanisms that propagated the crisis to EMEs was cross-border bank flows, which decreased abruptly with the contraction of U.S. banks' balance sheets. To overcome the recession, the United States carried out "unconventional" monetary policy, which increased—again abruptly—cross-border bank flows. There are concerns about the impact of these fluctuations in cross-border bank flows on the stability of recipient economies.

### PROJECT

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We study how U.S. banks' shocks are transmitted to EMEs and what can be done to mitigate their undesired consequences. As we show in Figure 1, vector autoregressive models shed light on the propagation mechanisms from the U.S. banking sector to the U.S. real sector and from the U.S. economy to EMEs, and cross-border bank flows play a prominent role. We capture these findings with a dynamic-stochastic general equilibrium (DSGE) model that includes two countries (AE and EME) and financial frictions *à la* Gertler and Kiyotaki. The DSGE model allows us to analyze the effect of implementing a macro-prudential policy on business cycles' fluctuations and households' welfare.



#### Key Concept

#### CROSS-BORDER BANK FLOWS

Resources that go from banks in one country to banks in another country.

## RESULTS

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The study includes both empirical and theoretical approaches. Empirically, besides estimating how a shock in U.S. banks' balance sheets impacts EMEs, we wanted to analyze whether the effect of the shock would be heterogeneous in the absence of macro-prudential policy. Thus, we estimate models for two EMEs: Mexico, which implemented macro-prudential policies in the 1990s, and Turkey, which adopted them after the 2008 crisis. Our empirical models attest that a shock in U.S. banks' balance sheets hits Turkey harder. In particular, Turkey had a deeper fall in net cross-border bank flows (by 3 percentage points), domestic credit (by 0.8 percentage points), and output (by 0.3 percentage points).

Theoretically, we designed a DSGE model with two core features: 1) EMEs' banks can leverage from AE banks, and 2) EMEs' banks can run away with the credit they obtained from AE banks, facing moral hazard (financial friction *à la* Gertler and Kiyotaki). These two features permitted us to replicate the empirical findings, including the heterogeneous impact of the shock between countries.

We simulate a macro-prudential policy on EMEs' banks that targets the ratio between credit growth and deposits growth. When credit grows faster than deposits, EMEs' banks have an excess of cross-border bank flows and pay taxes on them; but when there is a financial crisis, deposits grow faster than credit and EMEs' banks receive a subsidy. The macro-prudential policy reduces the effect of a negative shock in U.S. banks' balance sheet on EMEs' banks, which provokes a lower fall in domestic credit, capital, and consumption.

Finally, we examine the welfare implications of the macro-prudential policy, finding gains for EMEs and small losses for AEs. Specifically, the gains for EMEs are 10 times larger than the losses for AEs, which highlights that, while the policy barely affects AEs, EMEs are better off.

## POLICY IMPLICATIONS

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This research identifies one mechanism through which AEs' crises can be transmitted to EMEs, and proposes an instrument to neutralize it, opening the discussion about measures that policymakers could carry out. In this case, we look at a particular macro-prudential policy: a levy on cross-border bank flows when credit is growing faster than deposits.

Even though there are limitations in the model analyzed in this paper, EME policymakers can consider limiting the volatility of cross-border bank flows to smooth the path of credit that banks supply. It might be difficult to pin down the cause of the credit boom or to choose the exact combinations of parameters for the policy, but the project shows that taking action to curb cross-border bank flows makes domestic consumers better off, especially in comparison with a situation in which policymakers do not intervene.

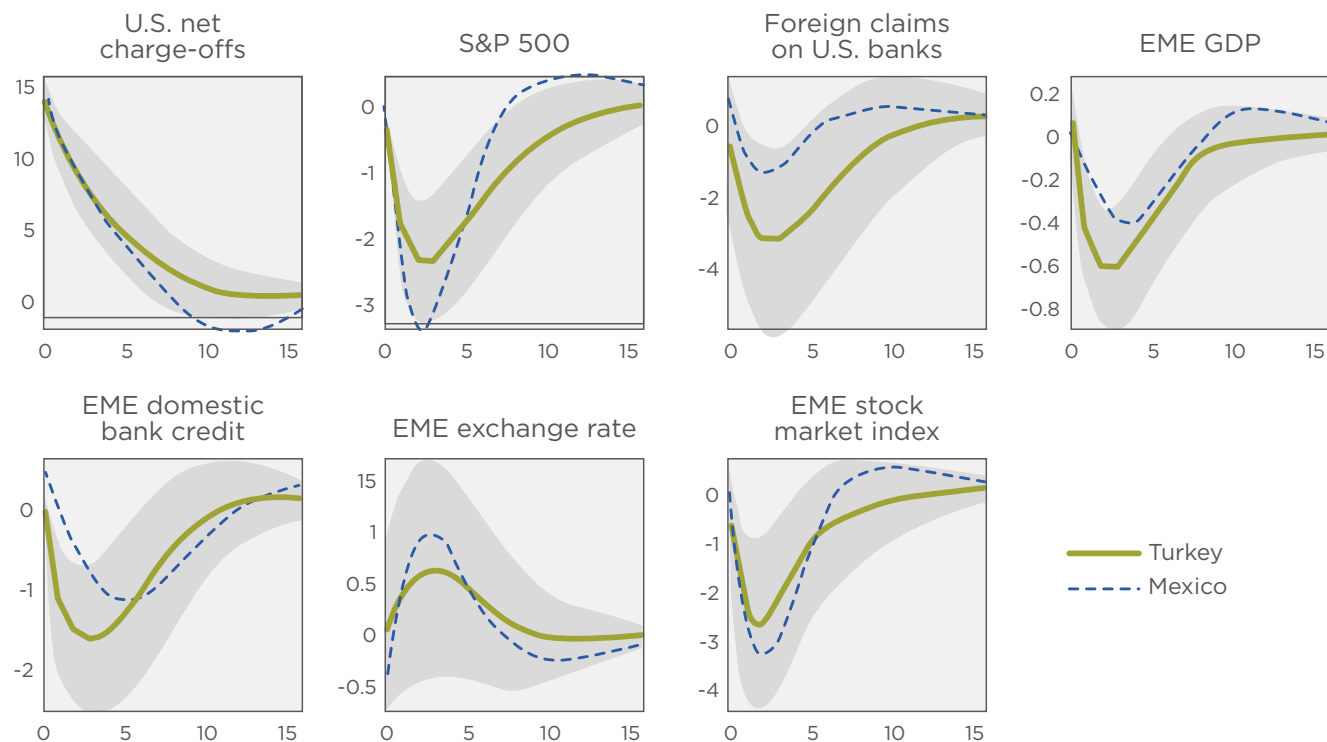
### Key Concept



**MACRO-PRUDENTIAL POLICY**

A policy designed to preserve the stability of the financial system.

**Figure 1. Evidence from Vector Autoregression Models - Impulse Response Functions to a Worsening in U.S. Bank Balance Sheets**



**Key Concept**



**FINANCIAL FRICTIONS**

Imperfect financial markets such that financial institutions are not just a veil—that is, they do not simply collect savings and pass them to firms.



**FULL STUDY**

[Cuadra, Gabriel, and Victoria Nuguer. 2018. "Risky Banks and Macro-Prudential Policy for Emerging Economies." \*Review of Economic Dynamics\* 30 \(October\): 125-44.](#)

**DEPARTMENT OF RESEARCH AND CHIEF ECONOMIST**

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