

Discussion of:
“Banking Limits on Foreign Holdings:
Disentangling the Portfolio Balance Channel”
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Paper Objectives

- Examination of the efficacy of intervention policy (via the portfolio balance channel) in the presence of financial sector regulations (specifically: limits on bank holdings of foreign assets).
- Uses high-frequency data from Colombia to examine how exchange rates react to portfolio shifts when foreign-asset exposure-limits bind for banks compared to episodes in which the limits do not bind.
- Underlying Hypotheses: when financial regulations bind
 - uncovered interest parity (UIP) will no longer hold
 - the portfolio balance channel will be operative
 - sterilized interventions can influence exchange rates

Main Result

- Limits on bank foreign exposure “enable foreign exchange intervention to be effective” via the portfolio balance channel.
- Size of effect?
- Duration? one week
 - Footnote 14: immediate positive effect robust, but duration is sample dependent.

Model Issues

- Model: two-period GE model with a financial-constraint
 - no banks (financial-constraint directly impacts households (HH))
 - financial-constraint: set on the value in pesos of savings in dollars relative to the HH's income
 - critical feature: changes in dollar-peso rate affect whether the financial- constraint binds
 - Government: issues peso debt to finance acquisition of dollar assets
 - No rationale for reserve accumulation: random interventions?
 - Rationale for financial regulation?
 - No role for monetary policy
 - market-clearing assumption: current account is always balanced (combined HH and govt demand for dollar assets equals zero)
 - Key implication: when the financial-constraint binds, UIP breaks down

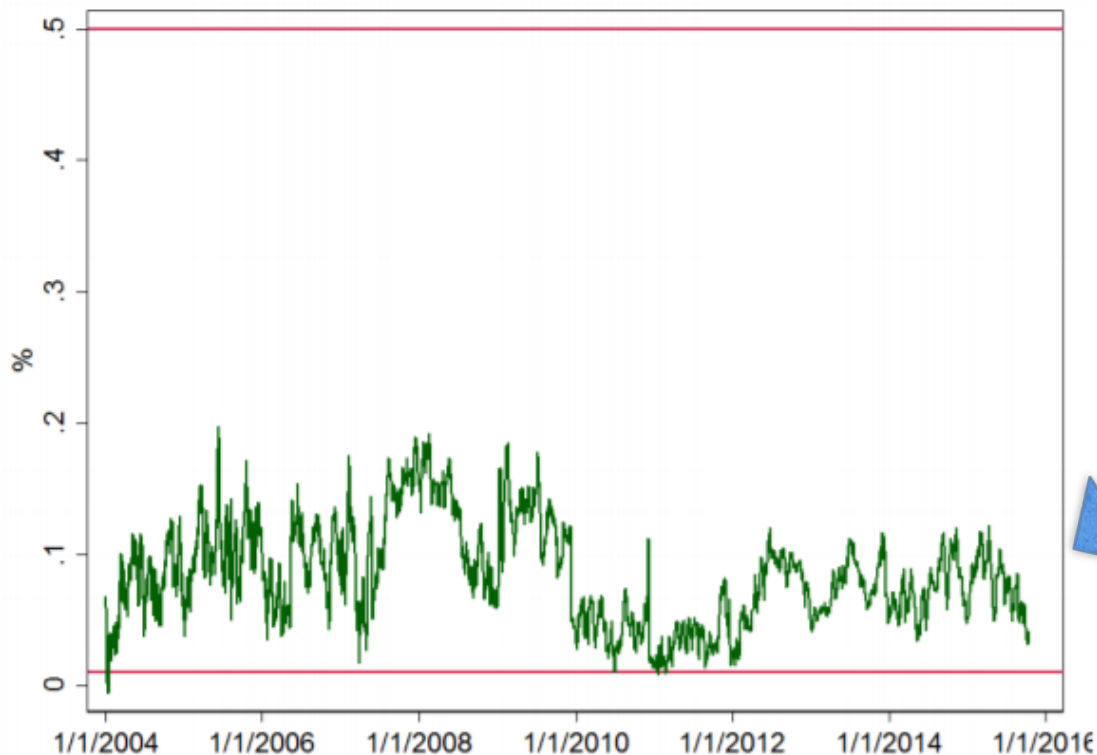
Role of UIP

- When the financial-constraint does not bind, UIP holds, and HHs are indifferent between holding dollar or peso assets.
 - Govt purchases or sales of dollars (changes in reserve accumulation) will have no impact on the exchange rate (intervention is ineffective)
- When the financial-constraint binds, UIP does not hold, HHs are unable to hold the amount of dollar assets they prefer:
 - Govt purchase or sale of dollars will impact the exchange rate
 - Intervention will impact the exchange rate in the same direction as would have been the case if the financial-constraint did not bind
 - Govt purchase/sale of dollars will lead to a peso depreciation/appreciation

Empirical Methodology

- Empirical test: comparison of the effects of a portfolio shift (intervention) on the exchange rate when the financial-constraint binds versus when it does not bind.
- Methodological approach: regression discontinuity design (RDD) using Colombia's financial regulations on foreign asset holdings to create a counterfactual (banks that just missed the regulatory cutoff but are otherwise the same as the constrained banks)
 - Banks with foreign asset holdings at the cutoff are in the “treatment group”
 - Banks with foreign asset holdings that just miss the cutoff are in the “control group”
- Regulation in practice: 3-day average liquid foreign exchange exposure of no more than 50% of total bank capital and a lower limit of 1%.
 - Rationale for the lower limit: to constrain “peso appreciation” speculative positions.
 - Note: cut-off for the lower limit was changed to -20% on 16 Oct 2015.

Colombian Financial System Foreign Exposure as % of Capital



Never
close to
the 50%
cutoff, but
often close
to the lower
limit

Figure 3 in the paper (page 13)

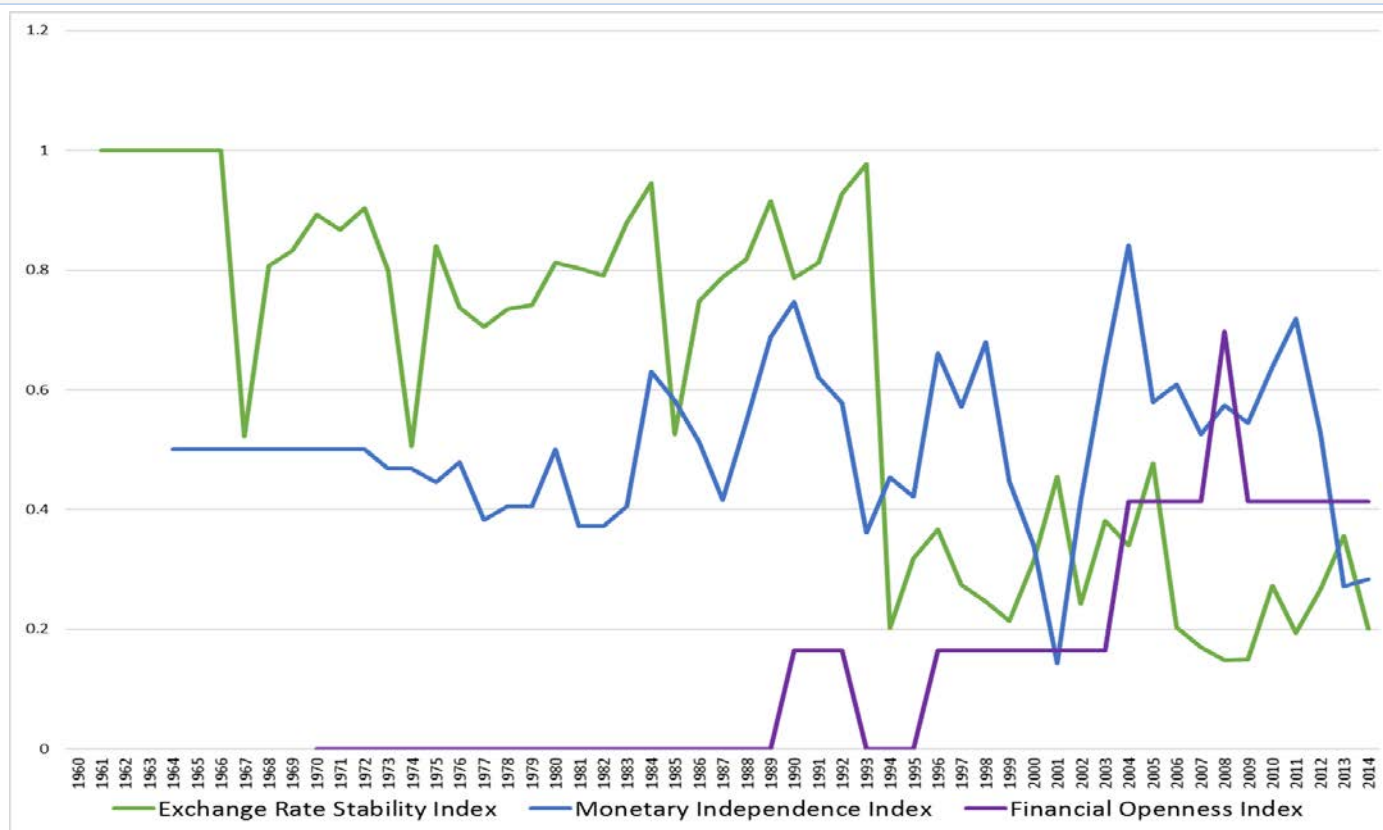
Estimation Results

- Impulse Response Functions (IRF) of exchange rate changes in response to a change in financial constraints
 - Key Results:
 - effects are significant only during the first week
 - effects are significant only in “episodes” of intervention (not clear how this is defined – days of intervention?)
- IRF of portfolio balances (dollar assets minus dollar liabilities as a share of peso assets) in response to a change in financial constraints
 - Key Result:
 - Significant portfolio re-balancing when banking limits bind
- Author’s interpretation: financial regulation impacts the exchange rate via the portfolio re-balancing banks do when they get close to the foreign asset exposure limits.
- Concern: connection between the two sets of IRF evidence is “loose” – other possible drivers? Expectations, other forms of capital controls, other govt policies...

Overview of Colombia's Financial Regulation

- According to the IMF Country Report No. 13/50 :
 - Structural measures, such as the legal limits on loan to value and debt service to income, in effect since the 1999 crisis.
 - Other controls to contain systemic risks include: marginal reserve requirements, changes in provisioning and collateral requirements for consumer credit, limits on the exposure of financial institutions in derivative operations, *limits on net open foreign exchange positions of financial institutions* and a requirement to match the maturity structure of net foreign exchange positions.
- Between December 2004 and June 2006 controls on portfolio inflows of nonresidents requiring one year as a minimum investment period were reintroduced.
- In 2007 an unremunerated reserve requirement (URR) of 40% on both foreign borrowing and portfolio inflows of all maturities which had to be kept at the central bank for 6 months was imposed (URR was also in place during 1993-2000)
 - The URR was reduced to zero in October 2008.

Trilemma Indices for Colombia



Note: The max values are 1, and the min values are 0. Higher values of the index mean more independence.
Source: "The Trilemma Indices," Aizenman, Chinn and Ito; http://web.pdx.edu/~ito/trilemma_indexes.htm

Colombia's Intervention Tools



Banco de la República - Colombia

WE STRIVE TO PRESERVE THE PURCHASING VALUE OF OUR CURRENCY AND ACHIEVE HIGH AND SUSTAINED GROWTH



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Tools for exchange rate intervention

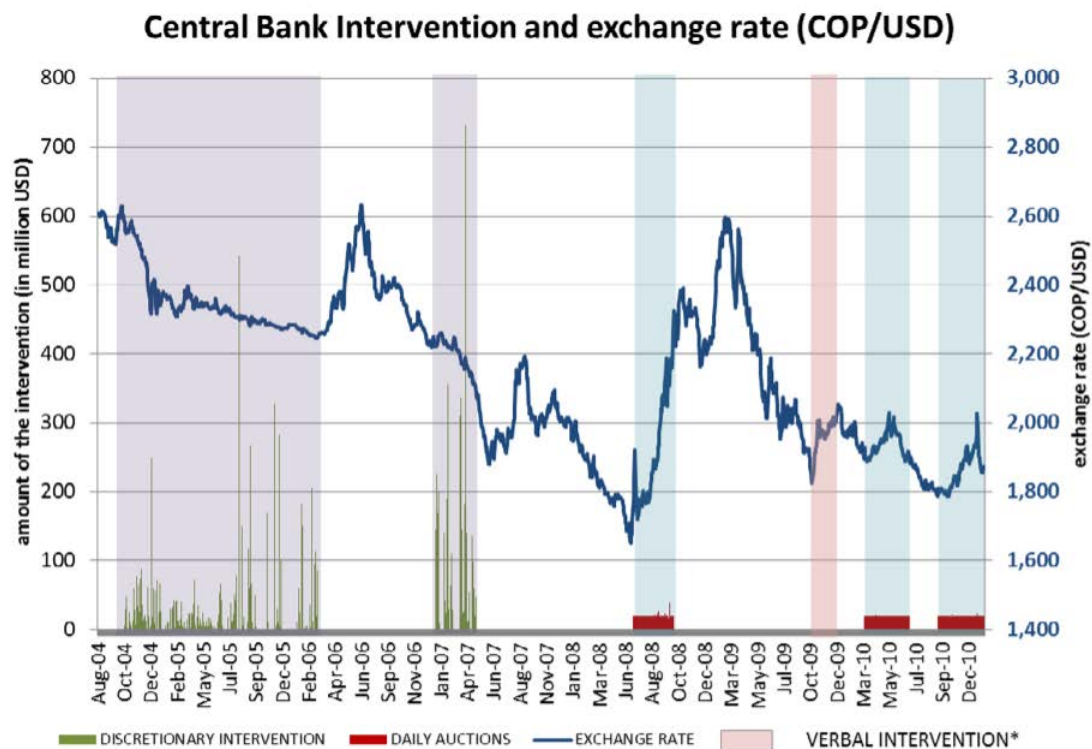


The Banco de la República offers a variety of intervention mechanisms, such as the following:

- Intervention by means of the automatic auction of options, giving the holder the right to sell or buy foreign exchange to or from the central bank, every time the [nominal] exchange rate deviates by 4% over the last 20 working days mobile average.
- The Bank may intervene through option auctions, at its discretion, thereby allowing for the sale of foreign exchange to the Bank in order to accumulate international reserves.
- The Bank may intervene through option auctions, at its discretion, thereby allowing for the purchase of foreign exchange from the Bank in order not to accumulate international reserves.
- The Bank, at its own discretion, may purchase or sell foreign exchange directly on the foreign exchange market
- The Bank may intervene through competitive auctions to purchase foreign exchange in the foreign exchange market.

Source: <http://www.banrep.gov.co/en/node/22752>

Intervention and the peso



*On October 23, 2009 the Central Bank of Colombia announced that most of the monetary expansion for the end of the year would be met by buying dollars and local public debt bonds (TES) for a total of three billion pesos.

Source: H. Vargas, "Monetary policy and the exchange rate in Colombia," BIS Working Paper 57, <http://www.bis.org/publ/bppdf/bispap57i.pdf>

Colombia's Intervention Regimes

- 1999: floating exchange rate regime adopted with an inflation targeting scheme for monetary policy
- November 1999: introduction of an option-based foreign exchange intervention mechanism aimed at accumulating foreign reserves and controlling the volatility of the exchange rate.
- September 2004 – April 2007: direct and discretionary intervention operations
- June 2008 – October 2008: preannounced interventions of \$20 million daily
- March and June 2010: resumed daily purchases of \$20 million (1.7% of the daily size of the Colombian foreign exchange market)
- September 2010 – September 2011: new round of preannounced interventions

Official Foreign Exchange Intervention

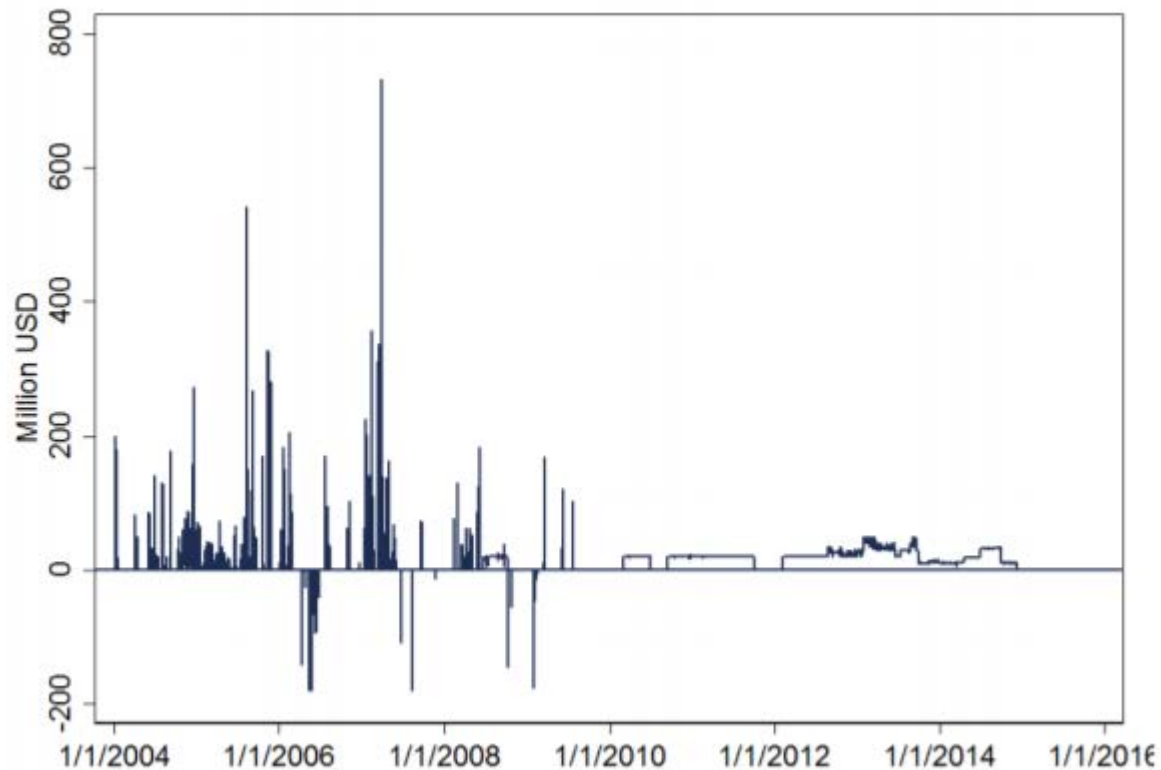
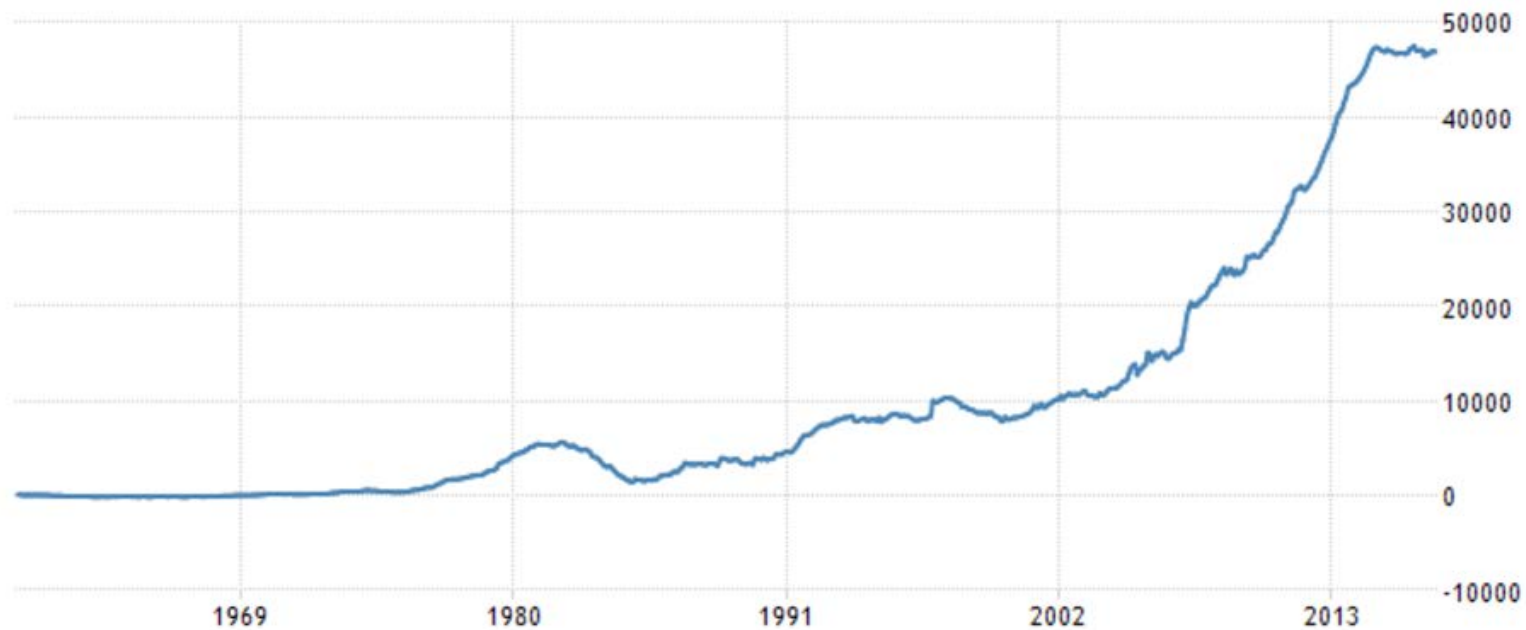


Figure 4 in the paper (page 13)

International Reserve Accumulation

- 20 June 2014: Board of Directors of Banco de la República decided to increase the amount of international reserves purchased during the third quarter of the year and will accumulate up to US2 billion between July and September.
- 9 December 2014: The Board of Directors of Banco de la República decided not to continue buying international reserves “considering the levels reached by several indicators for risk coverage of external liquidity, as well as the recent changes in the conditions of the exchange market”.

Colombia's Foreign Reserves (USD millions)



Concerns

- Role of other policies?
 - Intervention regime?
 - URR removal in 2008?
- Potential (additional) role of expectations/signaling?
- Other reasons for departures from UIP?
- Other reasons for portfolio re-balancing?
- Other (more precise) empirical evidence for size, duration of effects?