Discussion of

Central Bank Intervention in the Peso Dollar Exchange Rate Market

by

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Cartagena
November 30, 2012
Two characteristics of a good paper:

1) The paper teaches you a lot of facts/concepts you did not know or did not understand well.

2) The paper makes you want to learn more

This paper succeeds on both fronts.

- Lots of good institutional details (on the Banxico FX auctions).
- Interesting empirical analysis of the high-frequency intraday impact of FX auctions on the USD-MXN market liquidity.
- Makes the reader (me) think/wonder about FX auctions, how they work, how different they are from “standard” FX interventions.
But the paper is obviously still “under construction,” so let me give some building suggestions:

1) Fix the data issues (in progress or done!).
2) Put the paper in historical context.
3) (The latest results)
4) Probably expand the study to include other types of FX auctions. Use both potential and actual auctions. Discuss/confront endogeneity.
5) Use better, more robust measures of liquidity. Obtain limit order book data.
6) Perhaps ask bigger questions than just the impact on liquidity. FX auctions versus standard interventions. Is it good to be transparent? Comparison to FX trading bands (even to QE buys in US?).
Historical Context

• Lehman bankruptcy just occurred.
• Flight from risky assets is in progress around the globe. Investors are bringing capital home.
• Very sharp depreciation of the Mexican peso.
• Bank of Mexico worried about FX liquidity per se? Probably so, but I don’t think it was at the very top of the list.
• Risk of vicious feedback loop. Flight from Mexican assets $\Rightarrow$ MXN down $\Rightarrow$ even more negative returns for foreign investors $\Rightarrow$ more flight from Mexican assets $\Rightarrow$…
Mexican Pesos per US Dollar 2008-2009
USD-MXN 10-delta Risk Reversals 2008-2009
Mexican Pesos per US Dollar and Two Auction Types 2008-2009

millions of dollars

pesos per dollar

2008 2009

9 10 11 12 13 14 15 16
Mexican Pesos per US Dollar: Extraordinary Auctions 2008

The graph shows the fluctuation of Mexican Pesos per US Dollar from September through November 2008. The x-axis represents the months of the year, while the y-axis represents the value in millions of dollars. The graph indicates a significant increase in the value of Pesos per Dollar in October, peaking at a value of 6000 million dollars. The value subsequently decreases and then increases again through November.
Not as hoped, but perfectly understandable given next slide.
Figure 7

Average Peso Dollar Intraday Bid-Ask Spreads for Different Samples

- Intervention
- Non Intervention
- Non Intervention After May 2008
- Non Intervention Before May 2008
But, accounting for US data releases, the authors obtain this result:

It looks like, taking into account the impact of U.S. data releases, FX auctions are associated with lower bid-ask spreads.
Questions about the new results:

The Figure 8 results (impact with no controls) are not surprising, but may reveal a problem (next slide).

I am not sure I fully understand the Figure 9 results.

\[ S_{t,i+m} = c + \sum m \beta_mD_{t,i+m} + \sum a \sum m \gamma_a,m D_{N_{a,t,i+m}} + \varepsilon_{t,i+m} \]

- U.S. data releases occur at 08:30, 10:00 and 2:15 Eastern time. So an hour earlier in Mexico. Mainly not very close to auction times.
- Even though the authors adjust the regression so that the leads and lags are within the range of interventions, I am not sure about the interaction between news and auctions.
- It is well known that data surprises lead to instant volatility, and that the volatility remains high for a while.
- Bid-ask spreads in FX widen a lot right before data releases, remain a bit high afterwards until volatility goes back to normal. How does this impact these results?
Suggestions on Testing the Impact of Auctions

- It is difficult to limit the study to only FX auctions with a minimum price (2% above yesterday). Impact on FX liquidity over the period also comes from other auctions (“extraordinary” and “no minimum price”). The minimum price auction’s size was first reduced when auction with no minimum came on line, by an offsetting amount. Other auctions, actual or potential, have an impact over the same overall period, including the 5-minute intervals studied.

- The paper counts as an intervention a potential auction (no allotment) as well as an actual auction. Is this the right thing to do? Surely not the only thing to do. There are relatively few days with actual allotment at the minimum price auction (Good!). 13 days in 2008 (out of 55 potential), 15 days in 2009 (out of 250 business days, all potential days). Total actual amounts are fairly small.

- One big problem with using potential auctions: The dummy for intervention is 1 every day $\Rightarrow$ it becomes a dummy for the “treatment” period. This also explains the result that bid-ask spreads are higher in intervention period.
• So one should test the impact of both potential and actual auctions. Also use auction data (tendered versus allotted) for actual auctions, when available, as this provides information on stress level.

• Actual auctions illustrate a problem with endogeneity/simultaneity. Financial stress leads to market volatility (the peso weakens), and volatility then leads to higher bid/ask spreads. But the peso depreciating 2% also leads to actual intervention…

• The problem also exists for potential auctions. Generally speaking, the auction mechanisms are put in place when they are needed (high volatility), withdrawn when no longer needed. Therefore, almost surely bid-ask spreads are higher on average on potential intervention days. The challenge is obviously to figure out whether the bid-ask spreads, while high, are lower than they would have been without the FX auctions. Even if no perfect solution is found, the paper should address/discuss these issues.
Perhaps consider the role of implied volatility and risk reversals, both as evidence of intervention effectiveness and as possible measures (maybe using lagged values) of expected volatility, and therefore of expected bid-ask spreads. It is clear that expected volatility is a major determinant of bid-ask spreads.
Suggestions for Better Measures of Liquidity:

- The bid-ask spread is not a great measure of liquidity in the modern foreign exchange market. It often remains small and constant even as depth (the amount available to trade at the highest bid and lowest ask) varies greatly.

- The Reuters electronic limit-order book is the central site of price discovery for USD-MXN. A wish: Reuters high-frequency historical data should be available to the Bank of Mexico (probably with a bit of gentle moral suasion). Bid, ask, depth at several levels of the order book, volume, order flow.

- Then, besides bid-ask spreads, the study could use other (better) measures of liquidity, including depth and price impact coefficients (from regressions of returns on order flow). The results would likely be stronger and more relevant, and the research more useful to the central bank community and more publishable.
Ask Bigger Questions

- Limiting the study to a feasible, clear project is a virtue. So studying the impact of one type of FX auction on liquidity is a good thing. Finish this first.

- But the data and the institutional details in this paper lead the reader to bigger questions, so the paper (or a successor) may want to be a bit bolder in its questions:

  - What are the differences between FX auctions and “standard” interventions? Role, effectiveness, impact on liquidity versus level, etc…

  - What are the costs/benefits for a central bank to announce ahead of time when it will intervene, and the maximum amount it is prepared to spend? Is this always a good thing to do?
-What happens if the amount offered in an FX auction is not sufficient to calm the market down? Does a central bank need the threat of “extraordinary” intervention to complement FX auctions?

-How do “actual” FX auctions (including all auctions without a minimum price) work? Simply by shifting the supply or demand curve? Is it a little bit like the Fed announcing it will buy $40 billion a month of MBS (QE)?

-Do “potential” FX auctions dampen exchange rate movements, and if so is the mechanism a bit like that of exchange rate bands (like one side of the “snake” in EMU)?