Discussion of ‘Exchange Market Pressure and absorption by international reserves’ by Joshua Aizenman and Michael Hutchison

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The questions

- What was size of the external shock in the global financial crisis for emerging economies?
- How was the shock absorbed through exchange rate depreciation or loss of reserves?
- What determines the choice between allowing exchange rate depreciation and using reserves to prevent depreciation?

Measuring EMP

- Exchange Market Pressure is measured as the sum of the percentage in the exchange rate and the percentage loss of reserves (assumed equal to intervention).
- Depreciation and loss of reserves are both positive elements in this EMP measure.
- 26 emerging economies that constitute the MSCI Emerging Markets index.
- July 2008-Feb 2009

Key findings

1. Emerging economies witnessed EMP of an average 30 percent.
2. If equally distributed between the exchange rate and reserves this would imply a 15 percent depreciation and a 15 percent loss in reserves.
3. However, the exchange rate was allowed to depreciate much more than reserves were used.
4. Countries with low reserve holdings sold less reserves and allowed their currencies to depreciate.

Key finding: 1

Measuring EMP

Country	(July 2008- Feb. 2009)		
	Exchange Rate Depreciation	Reserve Loss	Exchange Market Pressure
Argentina	17.55	0.86	18.41
Brazil	51.59	8.25	59.84
Chile	18.49	-4.80	13.69
China	0.00	-3.63	-3.63
Colombia	42.56	1.55	44.11
Czech Republic	45.05	6.26	51.31
Egypt	5.47	4.84	10.31
India	19.39	19.33	38.72
Indonesia	31.39	17.29	48.68
Israel	19.88	-24.98	-5.10
Jordan	0.00	-13.09	-13.09
Korea	51.55	18.70	70.25
Malaysia	13.19	27.46	40.65
Mexico	48.41	5.93	54.34
Morocco	19.67	20.65	40.32
Pakistan	11.72	10.09	21.81
Peru	15.66	16.29	31.95
Phillipines	7.59	-0.62	6.97
Poland	79.51	28.47	107.98
Russia	52.31	36.95	89.26
South Africa	37.11	4.31	41.42

Key finding: 2

Averages (in percent)

	Mean	Median	Range	
Exchange market pressure	36	40	-5	89
Reserve loss	7	6	-2.5	37
Depreciation	29	20	0	58

Key finding: 3

Explaining use of reserves

Alternative hypothesis about use of reserves and balance sheet exposure:

- Balance sheet exposure = (Short term Dollar debt - International Reserves)/International Reserves

  Positive relation If an economy has a high degree of foreign currency exposure due to dollar denominated debt then the central bank may limit exchange rate depreciation to protect firms.
  High balance sheet exposure -> High use of reserves

  Negative relation If countries had low reserve holdings then they used less reserves.
  High balance sheet exposure -> Small loss in reserves as a share of EMP.

Regression explaining use of reserves

Dependent Variable: Reserve Loss relative to EMP, July 2008- Feb. 2009

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Balance Sheet Exposure	-0.188**	-0.224**	-0.251**	-0.232**	-0.387**	-0.222**	-0.222**	-0.174
	(2.440)	(2.320)	(2.330)	(2.600)	(3.170)	(2.250)	(2.140)	(1.530)
Total Liabilities (% of GDP)		-0.523	-0.610	-0.100	-1.073	-0.467	-0.520	-0.389
		(1.110)	(1.020)	(0.240)	(1.930)	(1.040)	(1.060)	(0.820)
GDP per capita			0.000					
			(0.540)					
Commodity Exports				2.461				
				(1.730)				
Trade Openness					0.003			
					(1.600)			
Capital Acct. Openness						-0.043		
						(1.010)		
Swap Lines							-0.016	
							(0.150)	
OECD Member								-0.134
								(0.940)
Constant	0.228***	0.539*	0.532*	-2.199	0.555*	0.518*	0.539*	0.512*
	(3.080)	(1.880)	(1.890)	(1.530)	(1.940)	(1.850)	(1.830)	(1.810)
Obseravtion	20	20	20	18	18	20	20	20
R-squared	0.127	0.246	0.258	0.331	0.472	0.280	0.246	0.227

Comments

Comment 1: Is EMP correctly measured?

- Mixed composition of reserves
- Movement in the euro/dollar rate led to revaluation of reserves
- Not all changes in reserves are due to intervention

Example: India

	Dollar (US)
Sep'08 Reserves	\$295 bn
Mar'09 Reserves	\$238 bn
RBI Intervention	\$29 bn
Total change in reserves	\$57 bn
Reserve change due to revaluation	\$28 bn

Source: RBI Monthly Bulletins

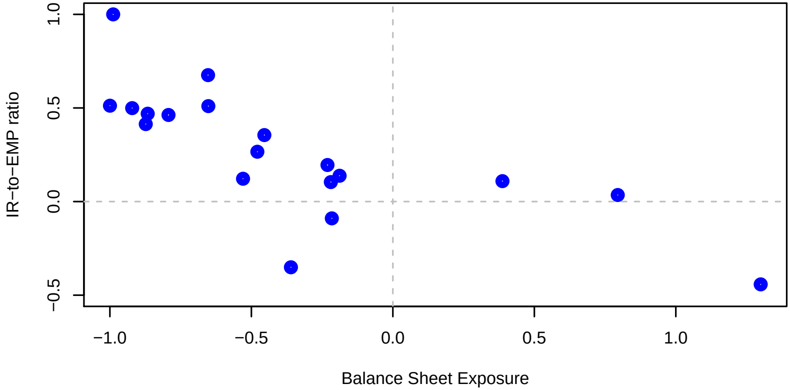
Composition of reserves: Emerging economies

(per cent)

	Dollar	Euro	Pound	Yen
Q3 2008	62.17	28.07	2.18	5.71
Q4 2008	60.67	29.98	1.9	5.44
Q1 2009	61.08	29.72	1.54	5.44

Source: COFER database, IMF

Comment 2: Exposure and IR-to-EMP ratio



Comment 2: Balance sheet exposure

Only 3 emerging economies have reserves < external debt, or positive balance sheet exposure.

- Poland, Mexico, Columbia

For the bulk of the sample reserves were greater than short term dollar debt. The more reserves a country held, the more it used the reserves.

Puzzle

The puzzle is why did the countries with large reserve holdings use only a very small percent of reserves.
Alternative explanations:

- Countries preferred currency depreciation in the recession to help exports.
- Fear of reserve loss.
- Fear of appreciation, not depreciation (Reserves build-up a side effect of exchange rate policy to push export competitiveness).
- Only needed to use a small part of the reserves as a signalling devise to prevent large depreciation.
- Used reserves to ease the sharp fall in trade credit (Especially in the shorter window)

Summary

Summary

- Very nice paper.
- Innovative analysis of EMP and its components.
- Suggestion on data analysis: adjust for revaluation changes.
- Interesting next question: Why was the change in reserves so small for countries with large reserve holdings?

Thank you.