

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** (2.440)	-0.224** (2.320)	-0.251** (2.330)	-0.232** (2.600)	-0.387** (3.170)	-0.222** (2.250)	-0.222** (2.140)	-0.174 (1.530)
Total Liabilities (% of GDP)		-0.523 (1.110)	-0.610 (1.020)	-0.100 (0.240)	-1.073 (1.930)	-0.467 (1.040)	-0.520 (1.060)	-0.389 (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*** (3.080)	0.539* (1.880)	0.532* (1.890)	-2.199 (1.530)	0.555* (1.940)	0.518* (1.850)	0.539* (1.830)	0.512* (1.810)
Observation	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

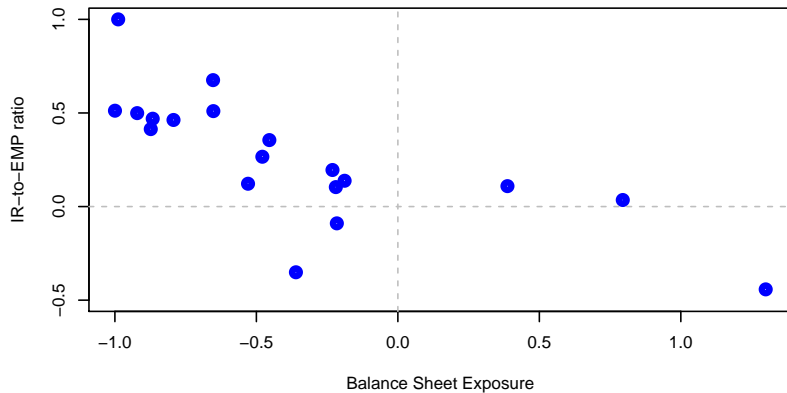
Composition of reserves: Emerging economies

(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 device 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.