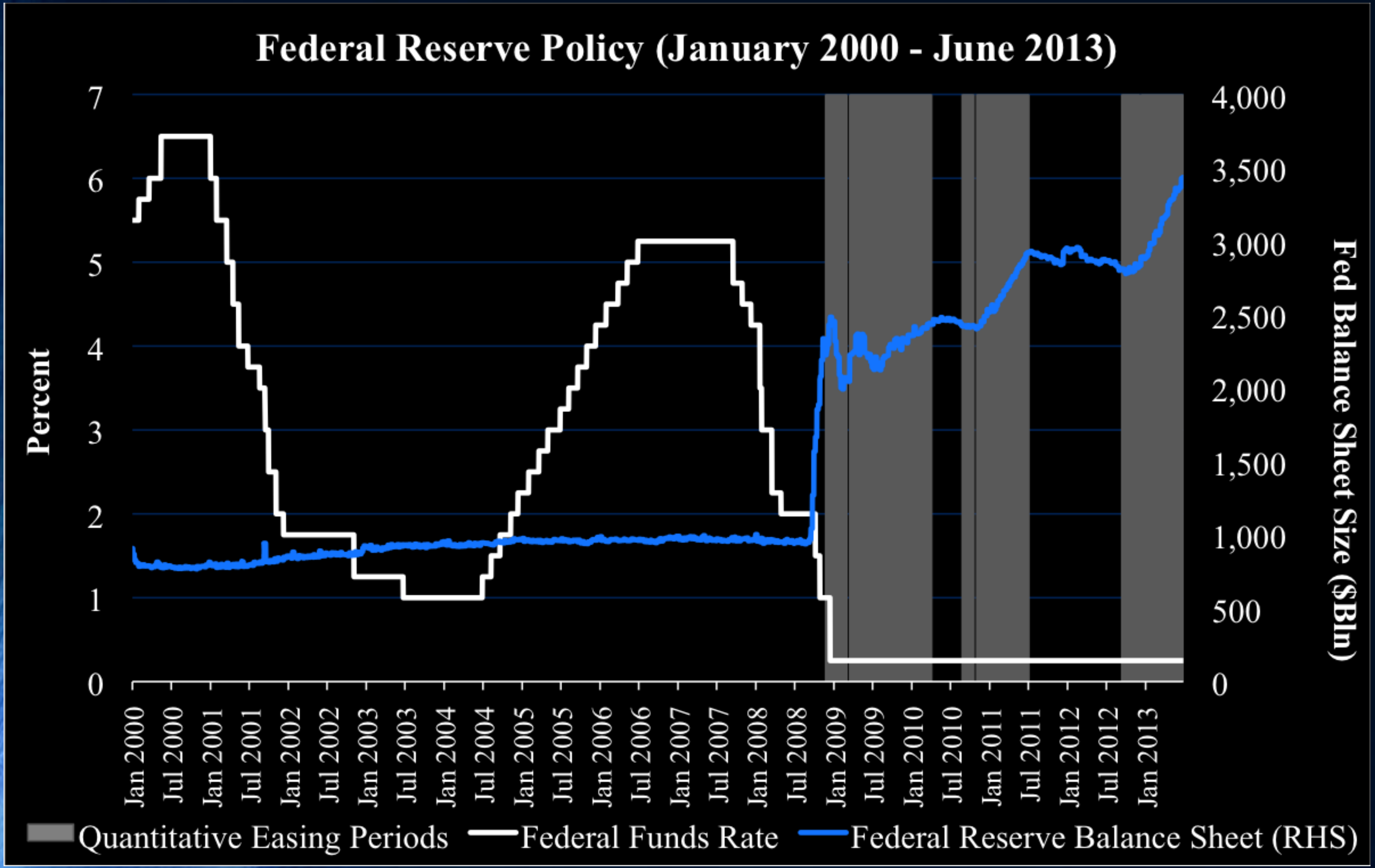
New Tools for a New Era: An Analysis of the Federal Reserve's Influence on Emerging Market Interest Rates Under Varying Risk Regimes

KRISTIN A. VAN GAASBECK
FULBRIGHT SCHOLAR, FACULTY OF ECONOMICS, HÁSKÓLI ÍSLANDS
ASSOCIATE PROFESSOR, CALIFORNIA STATE UNIVERSITY, SACRAMENTO

JACOB TUTTLE
INVESTMENT OFFICER, GLOBAL FIXED INCOME, CALPERS

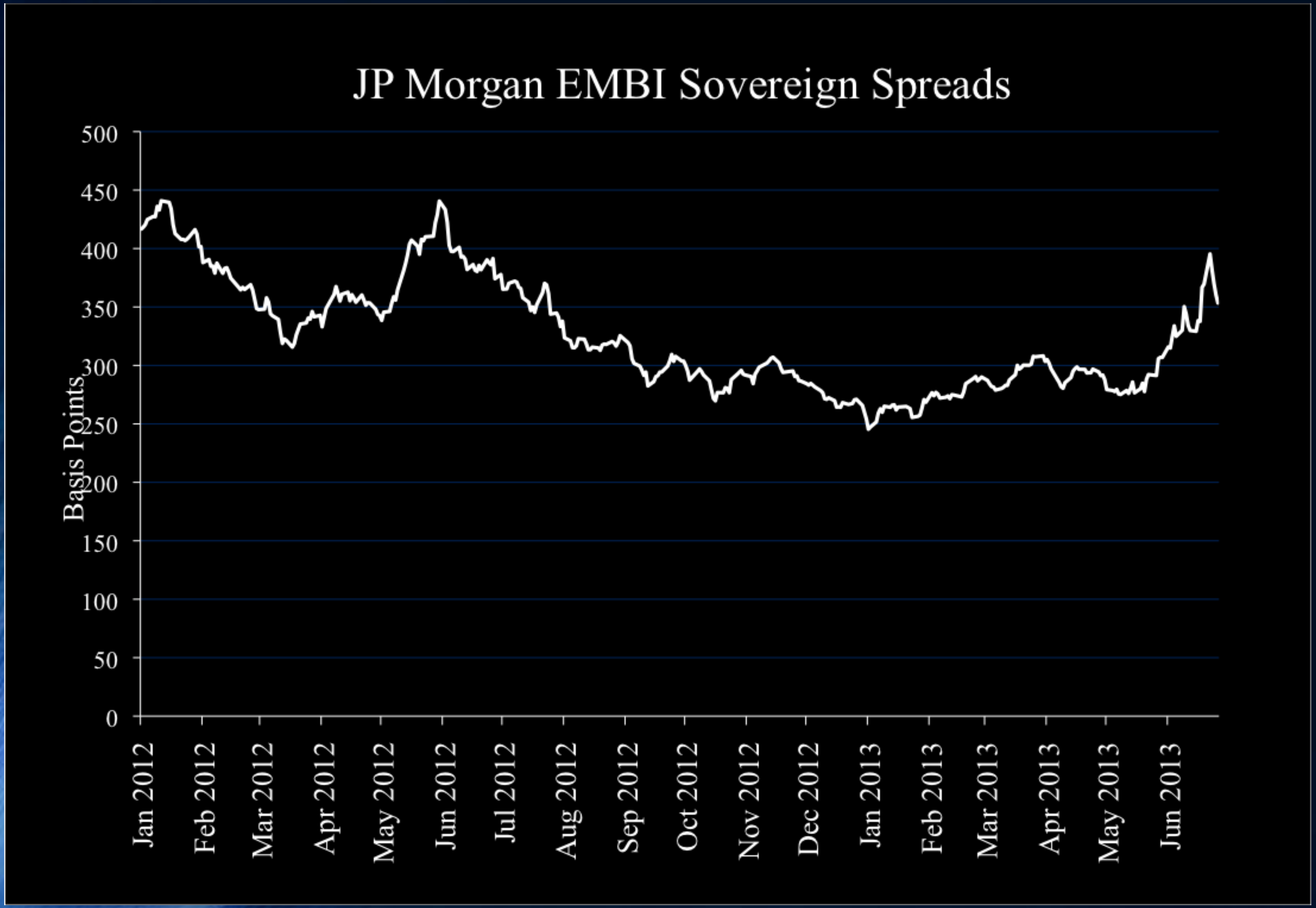
Recent changes in U.S. monetary policy strategy



- Federal funds rate hit its lower bound in Dec. 2008
- Began the so-called "quantitative easing" in late 2008 as well
- The markets expected loose U.S. monetary policy

Federal Reserve policy announcements affect U.S. financial markets

Emerging markets' sovereign spreads tightened to record levels



- Issuance became cheap for emerging markets (EMs) and brought many new names to the market
- How can EMs defend themselves from the effects of the Fed policy?

Capital controls as a means of protection

- Emerging markets use a variety of capital controls to protect themselves from external influences
- During the global financial crisis, the IMF called capital controls “an essential feature of the monetary policy framework.”
  - Limiting market access on inflows (China and India)
  - Placing taxes on foreign investors (Thailand, Chile, and until recently Brazil)
  - Restrictions on settlement process (Russia, prior to this year)
- How effective are these in protecting EMs from external influences such as the Fed?

This study…

- Analyzes the impact of U.S. monetary policy on emerging market interest rates.
  - Robust panel estimation which
    - examines 13 emerging markets,
    - incorporates the period during and following the global financial crisis,
    - proposes a method for measuring recent Federal Reserve policies, and
    - corrects for cross-sectional dependence.
- Examines the role capital controls play in protecting domestic interest rates from external shocks
- Allows for global risk sentiment to vary over the period examined
- Demonstrates the relative equivalence of two different country-specific risk measures

Previous work on the subject of capital controls

- Miniane and Rogers (2007)
  - 26 countries from 1975-1998
  - Capital controls ineffective against external interest rate shocks
- Edwards and Rigobon (2009)
  - Focus on Chilean economy in the 1990s
  - Capital controls helped to depreciate the currency
- Edwards (2012)
  - 7 countries from Latin America and Asia
  - Capital controls are ineffective against shocks from Fed policy

Considering the effect of the global risk environment

- Garcia-Herrero and Ortiz (2006)
  - 8 Latin American countries from 1994-2006
  - Global risk positively related to sovereign spreads
  - Stronger effect after Enron scandal
- Forbes and Warnock (2012)
  - 1985-2010
  - Finds high (low) global risk related to capital outflows (inflows)

A Simple Model of Interest Rate Parity

- In its most basic form:
  - $i_t - i_t^f = E_t\{\Delta e_{t+1}\}$
  - Gains from higher interest rates are eroded by currency depreciation
  - EX: US interest rate = 3%, Brazil interest rate = 10%; investors would expect Brazilian currency to depreciate by 7%.
- Assumptions
  - (1) Freely mobile capital
  - (2) Risk-neutrality (securities are not perfect substitutes)
- Assumptions of the model are generally not valid…

A Simple Model of Interest Rate Parity

- These assumptions are relaxed when specified as follows:
  - $\tilde{\imath}_t = \alpha_0 + \alpha_1 i_t^f + \alpha_2 \delta_t + \alpha_3 \rho_t + \omega_t,$
    - δ_t = Expected currency depreciation
    - ρ_t = Country-risk premium
    - ω_t = Error term
- The model extends easily to panel data with additional regressors:
  - $\tilde{\imath}_{i,t} = \alpha_i + \alpha_1 i_t^f + \alpha_2 \delta_{i,t} + \alpha_3 \rho_{i,t} + \alpha_4 m_{i,t} + \alpha_5 g_t + \alpha_6 (m_{i,t} * g_t) + \alpha_7 Q_t + \omega_i$
    - $m_{i,t}$ = Capital mobility
    - g_t = Global risk
    - Q_t = Quantitative easing periods

Methodology and Data Overview

- Weekly data spanning 643 weeks from January 7, 2000 through April 27, 2012 for 13 emerging markets
- Three periods of analysis:
  - Full Sample Period
  - Pre-Lehman – January 7, 2000 through September 12, 2008
  - Post-Lehman – September 19, 2008 through April 27, 2012
- Period chosen by data availability in the IMF's AREAER
- Fixed effects regressions are appropriate in all but one model

Countries included in the Sample

- Latin America
  - Brazil, Chile, Colombia, Mexico and Peru
- Asia
  - South Korea, Indonesia, the Philippines and Thailand
- Europe
  - Poland, Romania and Turkey
- Africa
  - South Africa
- Data availability limits the sample to 11 in all but the Post-Lehman period

Dependent Variable

- Three-month certificate of deposit (CD) rate
  - Available at a high frequency
  - Money market instrument
  - Stationary in levels

Key Independent Variables

- Federal Reserve (U.S. monetary policy):
  - Effective Federal Funds Rate
  - Fed Balance Sheet Size
- Expected Currency Depreciation
- Capital Mobility
  - Calculated using IMF classification of capital controls
- Country-Specific Risk
  - EMBI and CDS Spreads
- Global Risk
  - VIX (implied volatility in S&P 500)

Descriptive Statistics

Descriptive Statistics for Entity-Constant Variables by Sub-Period	Minimum	Maximum	Mean	Median	St. Dev.
Pre-Lehman Period (454 Observations)					
Official Federal Funds Rate (%)	1.00	6.50	3.35	3.26	1.84
Effective Federal Funds Rate (%)	0.96	6.86	3.35	3.06	1.84
Volatility Index (%)	10.02	42.66	19.69	18.99	6.63
Federal Reserve Balance Sheet ($bln)	768.16	1,002.34	906.90	937.16	69.04
Post-Lehman Period (189 Observations)					
Official Federal Funds Rate (%)	0.25	2.00	0.33	0.25	0.30
Effective Federal Funds Rate (%)	0.04	1.48	0.17	0.15	0.17
Volatility Index (%)	14.47	79.13	27.65	23.95	12.39
Federal Reserve Balance Sheet ($bln)	1,042.28	2,957.62	2,490.72	2,450.40	323.27
Full Period (643 Observations)					
Official Federal Funds Rate (%)	0.25	6.50	2.46	1.75	2.08
Effective Federal Funds Rate (%)	0.04	6.86	2.41	1.74	2.12
Volatility Index (%)	10.02	79.13	22.03	20.13	9.44
Federal Reserve Balance Sheet ($bln)	768.16	2,957.62	1,372.44	959.44	745.24

Methodology and Data Overview

- All specifications are tested for:
  - Autocorrelation using test from Wooldridge (2002)
  - Cross-sectional dependence using Lagrange multiplier proposed by Breusch and Pagan (1980).
  - Heteroskedasticity using test from Greene (2000).
- To be included in the sample, countries must:
  - Be classified as an emerging market by JP Morgan
  - Have a floating exchange rate for the majority of the period
  - Have sufficient data available for estimation

Cross-Sectional Dependence

- Occurs when the cross-sections experience similar shocks
  - Likely in the case of the financial crisis
  - Leads to poorly estimated standard errors
- Driscoll and Kraay (1998) standard error adjustment
  - Similar to Newey-West correction for heteroskedasticity and autocorrelated (HAC) standard errors, but adjusts errors for cross-sectional dependence

Results from the Pre-Lehman Period

- Specifications (1) and (2) replicate Edwards (2012) samples
  - Signs are comparable though significance varies
  - Capital mobility effects vary, but controls are not consistently effective in insulating domestic interest rates against U.S. monetary policy shocks across a broad set of emerging markets.

Specification	(1)	(2)	(3)	(4)
Effective Federal Funds Rate	0.462*	0.715***	0.616***	0.530***
	(0.183)	(0.021)	(-0.066)	(-0.053)
EMBI	0.001	0.006*	0.002**	0.003***
	(0.001)	(0.003)	(-0.001)	(-0.001)
Expected Depreciation	0.219**	0.406**	0.277***	0.564***
	(0.041)	(0.055)	(-0.041)	(-0.037)
Capital Mobility	2.445***	0.353	2.251***	-0.041
	(0.245)	(0.518)	(-0.284)	(-0.232)
EFFR*Capital Mobility	-0.058	-0.109*	-0.095***	0.039***
	(-0.044)	(-0.030)	(-0.024)	(-0.014)
EMBI*Capital Mobility	0.001**	-0.006	0.0008***	0.0008***
	(0.000)	(-0.002)	(0.000)	(0.000)
Depreciation*Capital Mobility	-0.026	-0.041	-0.035***	-0.060***
	(-0.017)	(-0.052)	(-0.012)	(-0.016)
Inflation	0.454**	0.210	0.356***	0.331***
	(0.116)	(0.120)	(-0.036)	(-0.040)
GDP	-0.308**	0.0577	-0.124**	-0.006
	(-0.090)	(0.082)	(-0.049)	(-0.052)
VIX (Logged)	0.864***	-0.111	1.093***	0.306
	(0.088)	(-0.524)	(-0.233)	(-0.267)
VIX*Capital Mobility	-0.780***	0.271	-0.654***	-0.041
	(-0.106)	(0.205)	(-0.078)	(-0.079)
Observations	1,784	1,130	2,914	4,699
Number of Countries	4	3	7	11
R-Squared (Within)	0.759	0.795	0.722	0.859
F-Statistic	109.0	--	135.9	222.9

Results from the Pre-Lehman Period

- Specifications (3) aggregates the two subsamples
  - Capital controls
    - Associated with higher rates
    - Worsen the effects of higher global risk and interest rate differentials
    - Mitigate effect of heightened country-specific risk
    - Help offset currency depreciations

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Results from the Pre-Lehman Period

- Specification (4) includes all countries in the sample
  - Capital controls appear to help weaken the effect of Fed policy and country specific risk
    - Though strengthen the effect of currency expectations and global risk sentiment

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Effective Federal Funds Rate	0.462*	0.715***	0.616***	0.530***
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	(0.088)	(-0.524)	(-0.233)	(-0.267)
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Results from the Full Sample Period (N=11, T=643)

*GDP and QE Binary Variables not reported

- Specification (1) examines Fed balance sheets growth
  - Fed funds rate remains significant
  - Fed balance sheet growth insignificant
  - Capital mobility turns negative
  - Global risk has a negative effect, but capital controls help mitigate

Specification	(1)	(2)	(3)	(4)
Effective Federal Funds Rate	0.568***	0.585***	0.584***	0.450***
	(-0.045)	(-0.060)	(-0.060)	(-0.053)
EMBI	0.003***	0.003***	0.003***	0.003***
	(-0.001)	(-0.001)	(-0.001)	(-0.001)
Expected Depreciation	0.619***	0.622***	0.622***	0.599***
	(-0.036)	(-0.038)	(-0.038)	(-0.038)
Capital Mobility	-0.578**	-0.581**	-0.554**	-0.453**
	(-0.232)	(-0.234)	(-0.232)	(-0.190)
EFFR*Capital Mobility	-0.009	-0.009	-0.009	0.045***
	(-0.015)	(-0.015)	(-0.015)	(-0.016)
EMBI*Capital Mobility	0.0008***	0.0008***	0.0008***	0.0009***
	(0.000)	(0.000)	(0.000)	(0.000)
Depreciation*Capital Mobility	-0.062***	-0.063***	-0.063***	-0.058***
	(-0.013)	(-0.013)	(-0.013)	(-0.012)
Inflation	0.347***	0.346***	0.346***	0.343***
	(-0.039)	(-0.040)	(-0.040)	(-0.040)
VIX (Logged)	-0.652**	-0.711**	-0.686**	0.086
	(-0.264)	(-0.281)	(-0.275)	(-0.236)
VIX*Capital Mobility	0.151**	0.150**	0.140*	0.004
	(-0.074)	(-0.074)	(-0.073)	(-0.068)
Fed Balance Sheet Growth	3.793	4.317*	0.407	2.790
	(-2.304)	(-2.396)	(-1.793)	(-1.983)
QE*Fed Balance Sheet Growth	--	-4.614	-4.864	-7.951*
		(-4.626)	(-4.553)	(-4.296)
Post-Lehman Period (Binary)	--	0.217	0.213	0.332
		(-0.276)	(-0.276)	(-0.430)
Post-Lehman*EMBI	--	--	--	-0.005***
				(-0.001)
Post-Lehman*Cap Mobility	--	--	--	0.360***
				(-0.078)
Balance Sheet Growth*Cap Mob	--	--	1.397***	1.024***
			(-0.354)	(-0.253)
R-Squared (Within)	0.872	0.872	0.872	0.877
F-Statistic	193.6	312.9	321.9	386.8

Results from the Full Sample Period (N=11, T=643)

***GDP and QE Binary Variables not reported**

- Specification (3) adds interaction between Fed balance sheet growth and capital mobility
  - Coefficients stable in the regression
  - Fed balance sheet loses significance
  - But interaction term with capital mobility is positive and significant
    - Capital controls may have helped to limit the effect of Fed policy on domestic interest rates

Specification	(1)	(2)	(3)	(4)
Effective Federal Funds Rate	0.568***	0.585***	0.584***	0.450***
	(-0.045)	(-0.060)	(-0.060)	(-0.053)
EMBI	0.003***	0.003***	0.003***	0.003***
	(-0.001)	(-0.001)	(-0.001)	(-0.001)
Expected Depreciation	0.619***	0.622***	0.622***	0.599***
	(-0.036)	(-0.038)	(-0.038)	(-0.038)
Capital Mobility	-0.578**	-0.581**	-0.554**	-0.453**
	(-0.232)	(-0.234)	(-0.232)	(-0.190)
EFFR*Capital Mobility	-0.009	-0.009	-0.009	0.045***
	(-0.015)	(-0.015)	(-0.015)	(-0.016)
EMBI*Capital Mobility	0.0008***	0.0008***	0.0008***	0.0009***
	(0.000)	(0.000)	(0.000)	(0.000)
Depreciation*Capital Mobility	-0.062***	-0.063***	-0.063***	-0.058***
	(-0.013)	(-0.013)	(-0.013)	(-0.012)
Inflation	0.347***	0.346***	0.346***	0.343***
	(-0.039)	(-0.040)	(-0.040)	(-0.040)
VIX (Logged)	-0.652**	-0.711**	-0.686**	0.086
	(-0.264)	(-0.281)	(-0.275)	(-0.236)
VIX*Capital Mobility	0.151**	0.150**	0.140*	0.004
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	(-2.304)	(-2.396)	(-1.793)	(-1.983)
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		(-0.276)	(-0.276)	(-0.430)
Post-Lehman*EMBI	--	--	--	-0.005***
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Post-Lehman*Cap Mobility	--	--	--	0.360***
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Balance Sheet Growth*Cap Mob	--	--	1.397***	1.024***
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Results from the Full Sample Period (N=11, T=643)

*GDP and QE Binary Variables not reported

- Specification (4) adds additional interaction terms with the global financial crisis binary term
  - Both interactions are significant
    - EMBI spreads were lower in the post-Lehman era
    - Capital controls were more effective in the post-Lehman era

Specification	(1)	(2)	(3)	(4)
Effective Federal Funds Rate	0.568***	0.585***	0.584***	0.450***
	(-0.045)	(-0.060)	(-0.060)	(-0.053)
EMBI	0.003***	0.003***	0.003***	0.003***
	(-0.001)	(-0.001)	(-0.001)	(-0.001)
Expected Depreciation	0.619***	0.622***	0.622***	0.599***
	(-0.036)	(-0.038)	(-0.038)	(-0.038)
Capital Mobility	-0.578**	-0.581**	-0.554**	-0.453**
	(-0.232)	(-0.234)	(-0.232)	(-0.190)
EFFR*Capital Mobility	-0.009	-0.009	-0.009	0.045***
	(-0.015)	(-0.015)	(-0.015)	(-0.016)
EMBI*Capital Mobility	0.0008***	0.0008***	0.0008***	0.0009***
	(0.000)	(0.000)	(0.000)	(0.000)
Depreciation*Capital Mobility	-0.062***	-0.063***	-0.063***	-0.058***
	(-0.013)	(-0.013)	(-0.013)	(-0.012)
Inflation	0.347***	0.346***	0.346***	0.343***
	(-0.039)	(-0.040)	(-0.040)	(-0.040)
VIX (Logged)	-0.652**	-0.711**	-0.686**	0.086
	(-0.264)	(-0.281)	(-0.275)	(-0.236)
VIX*Capital Mobility	0.151**	0.150**	0.140*	0.004
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Fed Balance Sheet Growth	3.793	4.317*	0.407	2.790
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		(-0.276)	(-0.276)	(-0.430)
Post-Lehman*EMBI	--	--	--	-0.005***
				(-0.001)
Post-Lehman*Cap Mobility	--	--	--	0.360***
				(-0.078)
Balance Sheet Growth*Cap Mob	--	--	1.397***	1.024***
			(-0.354)	(-0.253)
R-Squared (Within)	0.872	0.872	0.872	0.877
F-Statistic	193.6	312.9	321.9	386.8

Results from the Post-Lehman Period

- Specifications (1) and (2) compare the EMBI and CDS results
  - Results are strikingly similar using two different measures of country-specific risk
  - Interaction between Fed balance sheet growth and capital mobility is significant and positive
  - More mobile capital no longer helps guard against depreciation effects
  - Capital controls have mixed effects

Specification	(1)	(2)	(3)	(4)
EMBI	0.003***			
	(-0.001)			
CDS		0.003***	0.005***	0.006***
		(-0.001)	(-0.001)	(-0.001)
Capital Mobility	-0.226**	-0.143	-0.725***	-0.732***
	(-0.095)	(-0.089)	(-0.207)	(-0.210)
EMBI*Capital Mobility	0.0005***			
	(-0.000)			
CDS*Capital Mobility		0.0003***	-0.0002	-0.0002
		(-0.000)	(-0.000)	(-0.000)
Expected Depreciation	0.199***	0.181***	0.186***	0.183***
	(-0.050)	(-0.050)	(-0.048)	(-0.049)
Depreciation*Capital Mobility	-0.012	0.006	0.005	0.007
	(-0.008)	(-0.006)	(-0.006)	(-0.006)
Inflation	0.243***	0.278***	0.271***	0.247***
	(-0.056)	(-0.059)	(-0.058)	(-0.052)
GDP	-0.115***	-0.121***	-0.123***	-0.117***
	(-0.019)	(-0.012)	(-0.012)	(-0.011)
Fed Balance Sheet Growth	2.192	2.01	2.955	8.967***
	(-2.912)	(-2.857)	(-3.230)	(-1.624)
Bal Sheet Growth*Capital Mobility	0.898***	1.294***	0.994***	0.919***
	(-0.190)	(-0.190)	(-0.220)	(-0.211)
VIX (Logged)			-0.803***	-1.019***
			(-0.210)	(-0.262)
VIX*Capital Mobility			0.205***	0.200***
			(-0.057)	(-0.057)
Quantitative Easing (Binary)				-0.267
				(-0.777)
QE*Fed Balance Sheet Growth				-16.48***
				(-3.361)
Observations	2,079	2,457	2,457	2,457
Number of Countries	11	13	13	13
R-Squared (Within)	0.657	0.682	0.686	0.696
F-Statistic	123.2	219.3	192.9	216.5

Results from the Post-Lehman Period

- Specification (3) adds in VIX and interaction with capital mobility
  - Results show a stronger negative sign on capital mobility sign
  - Fed balance sheet has a weaker positive sign
  - Both VIX measures are significant; greater mobility makes a nation more susceptible to higher rates in response to higher global risk

Specification	(1)	(2)	(3)	(4)
EMBI	0.003***			
	(-0.001)			
CDS		0.003***	0.005***	0.006***
		(-0.001)	(-0.001)	(-0.001)
Capital Mobility	-0.226**	-0.143	-0.725***	-0.732***
	(-0.095)	(-0.089)	(-0.207)	(-0.210)
EMBI*Capital Mobility	0.0005***			
	(-0.000)			
CDS*Capital Mobility		0.0003***	-0.0002	-0.0002
		(-0.000)	(-0.000)	(-0.000)
Expected Depreciation	0.199***	0.181***	0.186***	0.183***
	(-0.050)	(-0.050)	(-0.048)	(-0.049)
Depreciation*Capital Mobility	-0.012	0.006	0.005	0.007
	(-0.008)	(-0.006)	(-0.006)	(-0.006)
Inflation	0.243***	0.278***	0.271***	0.247***
	(-0.056)	(-0.059)	(-0.058)	(-0.052)
GDP	-0.115***	-0.121***	-0.123***	-0.117***
	(-0.019)	(-0.012)	(-0.012)	(-0.011)
Fed Balance Sheet Growth	2.192	2.01	2.955	8.967***
	(-2.912)	(-2.857)	(-3.230)	(-1.624)
Bal Sheet Growth*Capital Mobility	0.898***	1.294***	0.994***	0.919***
	(-0.190)	(-0.190)	(-0.220)	(-0.211)
VIX (Logged)			-0.803***	-1.019***
			(-0.210)	(-0.262)
VIX*Capital Mobility			0.205***	0.200***
			(-0.057)	(-0.057)
Quantitative Easing (Binary)				-0.267
				(-0.777)
QE*Fed Balance Sheet Growth				-16.48***
				(-3.361)
Observations	2,079	2,457	2,457	2,457
Number of Countries	11	13	13	13
R-Squared (Within)	0.657	0.682	0.686	0.696
F-Statistic	123.2	219.3	192.9	216.5

Conclusions

- The federal funds rate has influenced interest rates in emerging markets.
- Capital controls have varying effects
  - Generally helped to guard against country-specific risk and quantitative easing periods
  - Also, helped weaken the effects of global risk aversion in the post-Lehman period
  - Worsened the effects of expected depreciation in pre-Lehman and full sample periods; no effect post-Lehman era
- EMBI and CDS spreads explain similar variation
- There appears to be a structural break around the crisis
- Quantitative easing pushed down interest rates for EMs

Future Extensions

- Earlier findings regarding capital controls are sensitive to sample selection
- Identify capital control indices that measure the intensity of these policies in emerging markets
- Determine structural breaks endogenously
- Analyze the mechanisms Fed policies flow through to emerging markets

Takk fyrir!

Caveats to the Analysis

- Capital controls need more precise measurement
- Does not necessarily extend to fixed exchange rate regimes
- Sample is limited
- Exogenous break date assumed
- Large degree of non-entity varying variables
- Potential endogeneity

Summary of Variables

Variable Predictions and Definitions				
Variables of Interest	**Measurement**	**Source**	**Expected Sign**	**Stationary?**
Certificate of Deposit Rate	Percentage	Bloomberg	N/A	Yes - Levels
Effective Federal Funds Rate	Percentage	Bloomberg	(+)	Assumed - Levels
EMBI Global	Basis points	Bloomberg	(+)	Yes - Levels
CDS Spread	Basis points	Bloomberg	(+)	Yes - Levels
Expected Depreciation	Percentage	Bloomberg	(+)	Yes - Levels
Capital Mobility	Index value	IMF/Fraser Institute	(o/+)	No - Little variation
Volatility Index	Percentage	Bloomberg	(+)	Yes - Logged
Federal Reserve Balance Sheet	$USD	Bloomberg	(-)	Yes - Logged Diff.
Controls	**Measurement**	**Source**	**Expected Sign**	**Stationary?**
Agricultural Commodity Index	$USD	Bloomberg/JP Morgan	(+)	Yes - Logged Diff.
Energy Commodity Index	$USD	Bloomberg/JP Morgan	(+)	Yes - Logged Diff.
Metals Commodity Index	$USD	Bloomberg/JP Morgan	(+)	Yes - Logged Diff.
Gross Domestic Product	Annualized growth rate	Bloomberg	(+)	Yes - YoY Growth
Inflation	Annualized growth rate	Bloomberg	(+)	Yes - YoY Growth
Primary Budget Balance	Annualized growth rate	Fitch Ratings	(-)	No - Little variation
Government Debt	As a share of GDP	Fitch Ratings	(+)	No - Little variation
Current Account Balance	As a share of GDP	Bloomberg	(-)	No - Little variation

Results from the Full Sample Period (N=11, T=643)

***GDP and QE Binary Variables not reported**

- Specifications (2) adds QE variables and GFC binary
    - Results generally stable to prior specification
    - Fed balance sheet now significant with positive sign

Specification	(1)	(2)	(3)	(4)
Effective Federal Funds Rate	0.568***	0.585***	0.584***	0.450***
	(-0.045)	(-0.060)	(-0.060)	(-0.053)
EMBI	0.003***	0.003***	0.003***	0.003***
	(-0.001)	(-0.001)	(-0.001)	(-0.001)
Expected Depreciation	0.619***	0.622***	0.622***	0.599***
	(-0.036)	(-0.038)	(-0.038)	(-0.038)
Capital Mobility	-0.578**	-0.581**	-0.554**	-0.453**
	(-0.232)	(-0.234)	(-0.232)	(-0.190)
EFFR*Capital Mobility	-0.009	-0.009	-0.009	0.045***
	(-0.015)	(-0.015)	(-0.015)	(-0.016)
EMBI*Capital Mobility	0.0008***	0.0008***	0.0008***	0.0009***
	(0.000)	(0.000)	(0.000)	(0.000)
Depreciation*Capital Mobility	-0.062***	-0.063***	-0.063***	-0.058***
	(-0.013)	(-0.013)	(-0.013)	(-0.012)
Inflation	0.347***	0.346***	0.346***	0.343***
	(-0.039)	(-0.040)	(-0.040)	(-0.040)
VIX (Logged)	-0.652**	-0.711**	-0.686**	0.086
	(-0.264)	(-0.281)	(-0.275)	(-0.236)
VIX*Capital Mobility	0.151**	0.150**	0.140*	0.004
	(-0.074)	(-0.074)	(-0.073)	(-0.068)
Fed Balance Sheet Growth	3.793	4.317*	0.407	2.790
	(-2.304)	(-2.396)	(-1.793)	(-1.983)
QE*Fed Balance Sheet Growth	--	-4.614	-4.864	-7.951*
		(-4.626)	(-4.553)	(-4.296)
Post-Lehman Period (Binary)	--	0.217	0.213	0.332
		(-0.276)	(-0.276)	(-0.430)
Post-Lehman*EMBI	--	--	--	-0.005***
				(-0.001)
Post-Lehman*Cap Mobility	--	--	--	0.360***
				(-0.078)
Balance Sheet Growth*Cap Mob	--	--	1.397***	1.024***
			(-0.354)	(-0.253)
R-Squared (Within)	0.872	0.872	0.872	0.877
F-Statistic	193.6	312.9	321.9	386.8

Results from the Post-Lehman Period

- Specification (4) adds in QE binary measures
    - Previous regression results hold up
    - Evidence that QE policies put downward pressure on emerging market interest rates

Specification	(1)	(2)	(3)	(4)
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	(-0.001)			
CDS		0.003***	0.005***	0.006***
		(-0.001)	(-0.001)	(-0.001)
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