Monetary Policy Spillovers and the Trilemma in the New Normal

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Global Financial Cycles?

- Countries around the globe anxiously await developments in major economies (the U.S., Euro Area, Japan, China)

- Small open economies are particularly sensitive to policy changes in the economic centers (CEs)
  - o "Fragile five"
  - o "Taper tantrum"
 - o Expected lifting of ZIRP by the U.S.

The debate begins

Hélène Rey @ Jackson Hole, 2013:

"***Dilemma not Trilemma****: The Global Financial Cycle and Monetary Policy Independence*"

- "Whenever capital is freely mobile, the global financial cycle constrains national monetary policies *regardless of the exchange rate regime*."
- It is a dilemma between capital mobility and monetary policy independence, not trilemma

The Trilemma

Floating exchange rate regime
e.g., Japan, Canada

Monetary Independence

Financial Openness

Financially closed system
e.g., Bretton Woods
China in the 1980s

Exchange Rate Stability

Monetary Union / Currency Board
e.g. Euro, Gold Stand., Hong Kong

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Floating exchange rate regime
e.g., Japan, Canada

Monetary Independence

Financial Openness

Financially closed system
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Exchange Rate Stability

Monetary Union / Currency Board
e.g. Euro, Gold Stand., 1
Hong Kong

Rey (2013)

Capital Mobility

Monetary Independence

"*irreconcilable duo*"

Rey (2013)

- The CE's monetary policy influences other countries' national MPs through K-flows, credit growth, and bank leverages

- The "trilemma" reduces to an "***irreconcilable duo***" of monetary independence and K mobility

→ The types of exchange rate regime of the non-CEs no longer matter

→ Restricting K-mobility is the only way for non-central countries to retain monetary autonomy

ST-Interest Rates

36 month Rolling correlations

Legend: IDC, China, LDC, EMEs

LT-Interest Rates

Legend: IDC, China, LDC, EMEs
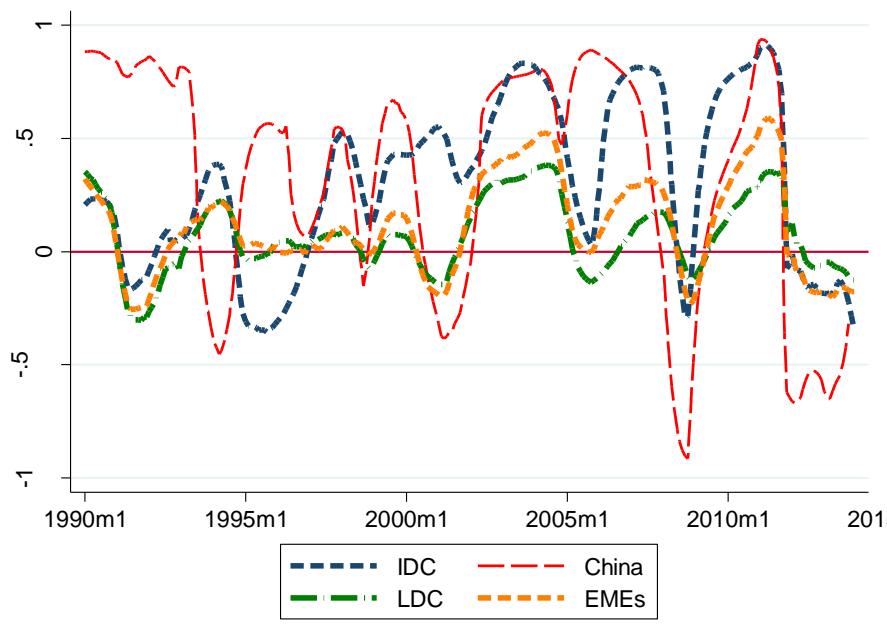
Stock Market Price Indexes
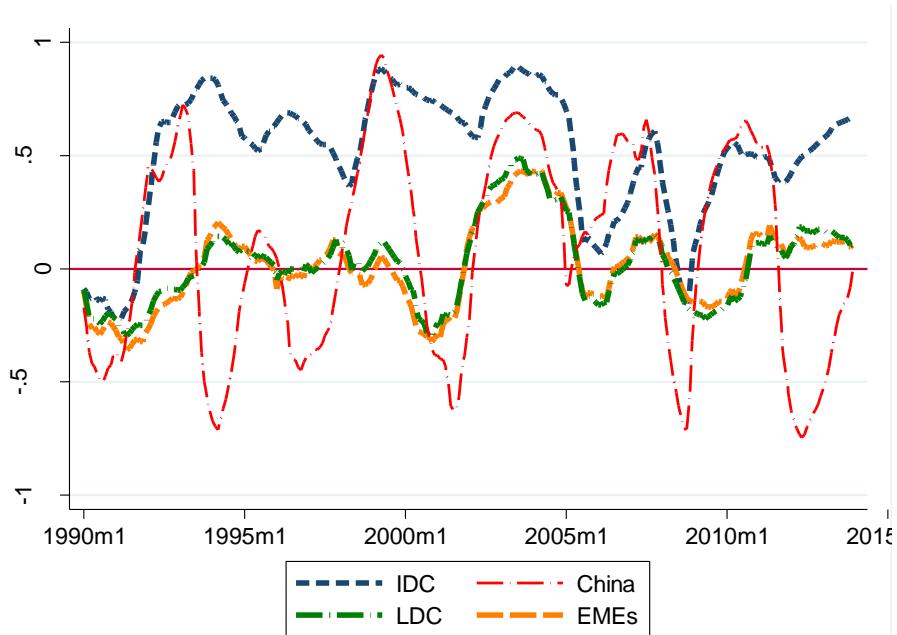
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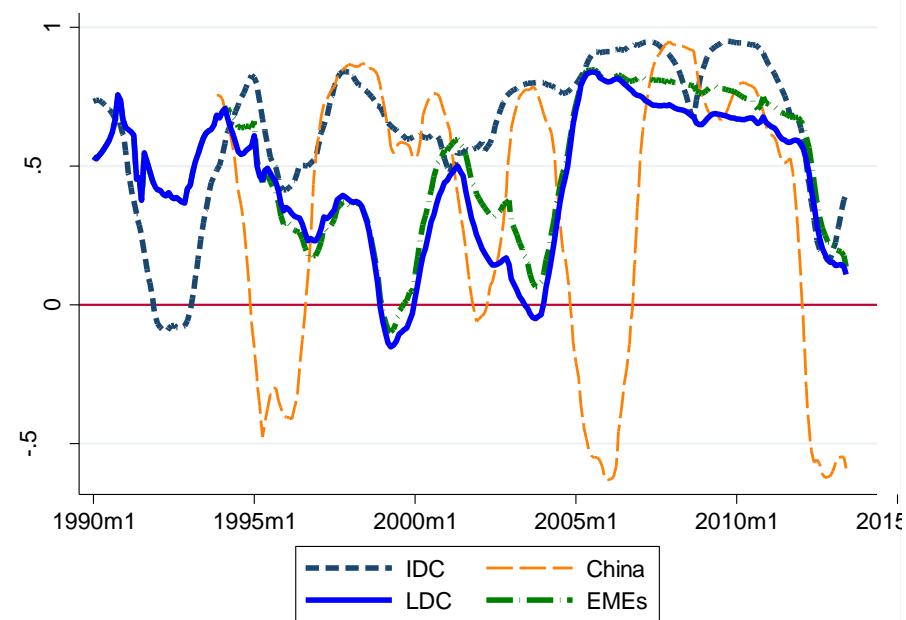
The Bottom Line …

- The extent of sensitivity to core economies' conditions differs across policy regimes and economies w/ different structures
- We investigate:
  - How the sensitivity to the core economies' conditions differs across countries and change over time for different types of financial variables
  - What factors determine the extent to which the financial conditions of the center economies (i.e., the U.S., Japan, the Eurozone, and China) affect those of developing countries and EMEs

Two-Step Approach to Measuring Impact

Step 1: Estimate sensitivities

$$R_{it}^F = \alpha_{Fit} + \sum_{g=1}^{G} \beta_{Fit}^G Z_{it}^G + \sum_{c=1}^{C} \gamma_{Fit}^C X_{it}^C + \phi_{Fit} Y_{it} + \varepsilon_{it}. \qquad (1)$$

Step 2: Relate sensitivities to macro variables

$$\hat{\gamma}_{Fit}^C = \theta_0 + \theta_1 OMP_{Fit} + \theta_2 MC_{Fit} + \theta_3 LINK_{Fit}$$
$$+ \theta_4 INST_{Fit} + \theta_5 CRISIS_{Fit} + u_{Fit}. \qquad (2)$$

Step 1 – estimate γ's

$$R_{it}^F = \alpha_{Fit} + \sum_{g=1}^{G} \beta_{Fit}^G Z_{it}^G + \sum_{c=1}^{C} \gamma_{Fit}^C X_{it}^C + \phi_{Fit} Y_{it} + \varepsilon_{it}. \qquad (1)$$

- R^F : a return in local country

  Policy ST interest rates, sovereign bond term spread, changes in stock market price indexes, and changes in the REER

- X^c : a vector of corresponding returns of the "center economies"

- Z^G : global factors

  – **Real**: PC of the U.S., ECB, and BOJ policy rates, oil, commodity

  – **Financial**: VIX, Ted-spread

- Y : local factor (y/y IP growth)

- Rolling estimation w/ 36-month windows, <u>each</u> of 100 countries

- Model w/ and w/out China as one of the CEs

Step 2 – Relate γ's to Policies, Conditions, Institutions

$$\hat{\gamma}^C_{Fit} = \theta_0 + \theta_1\, OMP_{Fit} + \theta_2\, MC_{Fit} + \theta_3\, LINK_{Fit}$$
$$+ \theta_4\, INST_{Fit} + \theta_5\, CRISIS_{Fit} + u_{Fit}. \qquad (2)$$

- **OMP**: Open Macro Policies – Exchange rate stability, financial openness (Chinn-Ito), Int'l reserve accumulation
- **MC**: Macro conditions – infl. volatility, CA balances, public finances (budget balance or gov't gross debt)
- **LINK**: Import Demand by CEs, bank lending by CEs, FDI provided by CEs, degree of trade competition w/r/t CEs
- **INST**: LEGAL (PC of BQ, LAO, Anti-corrupt), Fin. Dev.
- **CRISIS**: currency and banking
- 1986-2012, 3-yr panels, about 60 countries
- (i x 3 x t) γ's

Proportion of Significant F-Tests
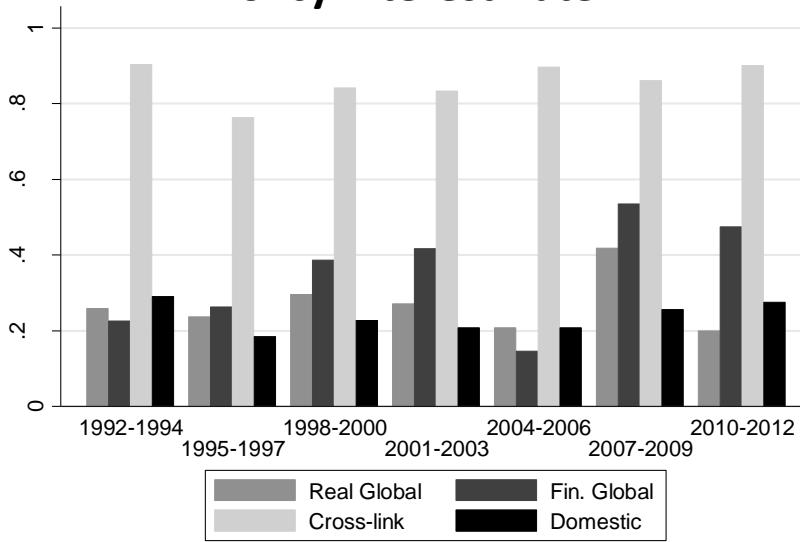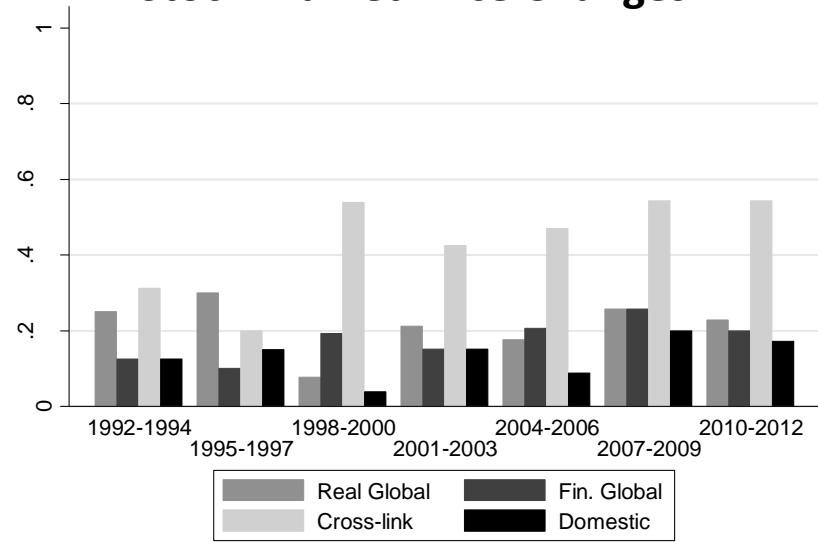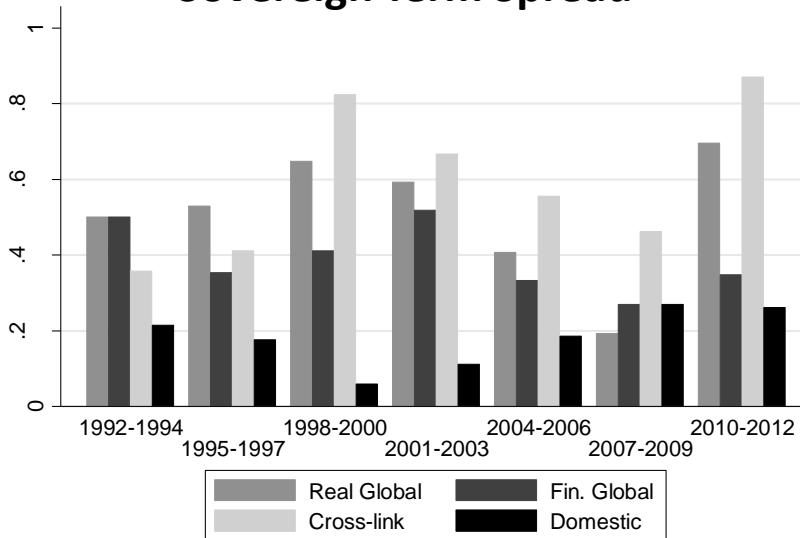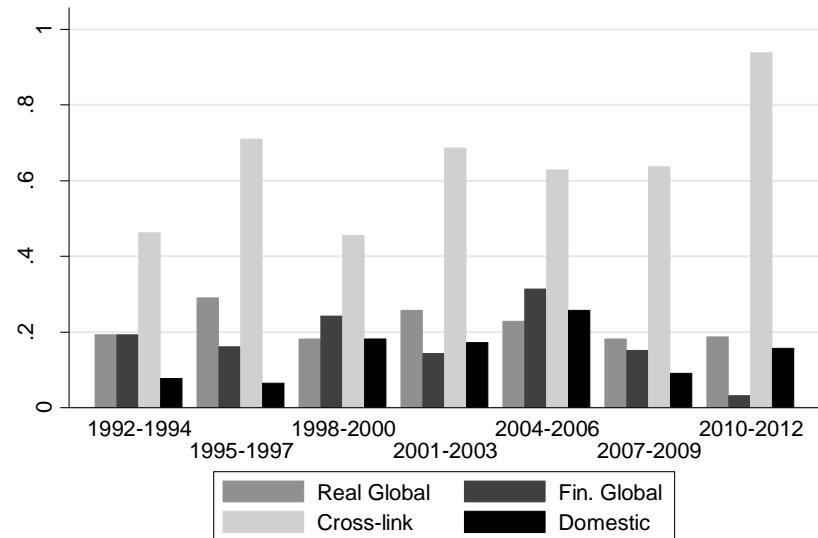
First-Step Estimates: Summary

- The link with the CEs has been dominant for developing and emerging market economies in the last two decades

- The movements of policy interest rate and term spreads are more sensitive to global financial shocks in the late 1990s through early 2000s and since 2008

- China does not exert substantial influence in financial markets

Table 1-1: Factors Affecting Policy Interest Rate Sensitivity, 1986-2012

		LDC (5)	LDC (6)	EMG (7)	EMG (8)
Open Macro Policy (OMP)	Exchange rate stability	4.862 (2.693)*	3.392 (2.447)	3.657 (2.448)	3.098 (2.268)
	Financial openness	5.455 (2.403)**	5.777 (2.259)**	7.930 (2.245)***	7.491 (2.154)***
	IR Holding	-13.803 (7.342)*	-11.343 (6.541)*	-12.400 (6.254)**	-13.557 (5.820)**
Macro. Conditions (MC)	CA balance (%)	19.282 (9.666)**	24.284 (10.541)**	41.092 (10.507)***	39.017 (10.451)***
	Inflation Vol.	19.270 (34.312)	23.910 (15.012)	9.839 (28.624)	10.727 (12.515)
	Gross debt (%)	-0.963 (1.592)		-1.420 (1.289)	
	Budget balance (%)		-2.145 (15.342)		22.313 (16.492)
External Link (LINK)	Trade competition	-4.540 (9.166)	-6.454 (7.550)	-11.187 (7.868)	-11.246 (6.633)*
	Trade demand	6.868 (11.125)	8.340 (10.116)	11.068 (9.170)	11.898 (8.609)
	FDI from CEs	49.264 (16.003)***	44.044 (15.113)***	42.633 (13.001)***	41.347 (12.732)***
Institutional Dev. (INST)	Fin. Dev.	9.570 (2.500)***	7.651 (2.427)***	8.137 (2.207)***	7.931 (2.168)***
	Legal Dev.	-4.831 (6.555)	-5.933 (5.974)	-7.132 (5.530)	-7.115 (5.199)
Crises (CRISIS)	Currency crisis	-3.589 (2.595)	-2.712 (2.178)	-3.212 (2.167)	-3.422 (1.872)*
	Banking crisis	0.544 (2.096)	1.410 (1.838)	0.766 (1.870)	1.292 (1.676)
	N	386	432	327	371
	Adj. R2	0.09	0.08	0.12	0.13
	# of countries	41	41	31	31

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	Inflation Vol.	19.270 (34.312)	23.910 (15.012)	9.839 (28.624)	10.727 (12.515)
	Gross debt (%)	-0.963 (1.592)		-1.420 (1.289)	
	Budget balance (%)		-2.145 (15.342)		22.313 (16.492)
External Link *(LINK)*	Trade competition	-4.540 (9.166)	-6.454 (7.550)	-11.187 (7.868)	-11.246 (6.633)*
	Trade demand	6.868 (11.125)	8.340 (10.116)	11.068 (9.170)	11.898 (8.609)
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Institutional Dev. *(INST)*	Fin. Dev.	9.570 (2.500)***	7.651 (2.427)***	8.137 (2.207)***	7.931 (2.168)***
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	N	386	432	327	371
	Adj. R2	0.09	0.08	0.12	0.13
	# of countries	41	41	31	31

Table 1-2: Factors Affecting Stock Market Sensitivity, 1986-2012

		LDC (5)	LDC (6)	EMG (7)	EMG (8)
Open Macro Policy (OMP)	Exchange rate stability	-0.291 (0.124)**	-0.189 (0.125)	-0.318 (0.139)**	-0.220 (0.139)
	Financial openness	-0.207 (0.101)**	-0.101 (0.113)	-0.089 (0.116)	0.013 (0.126)
	IR Holding	0.133 (0.302)	-0.027 (0.326)	0.216 (0.330)	0.057 (0.368)
Macro. Conditions (MC)	CA balance (%)	-0.104 (0.384)	0.341 (0.475)	-0.047 (0.545)	0.381 (0.585)
	Inflation Vol.	2.111 (1.618)	1.341 (0.695)*	1.400 (1.691)	1.111 (0.716)
	Gross debt (%)	0.171 (0.066)***		0.175 (0.068)**	
	Budget balance (%)		-0.714 (0.703)		-0.840 (0.963)
External Link (LINK)	Trade competition	0.692 (0.368)*	0.712 (0.399)*	0.441 (0.404)	0.490 (0.434)
	Trade demand	-0.038 (0.452)	-0.003 (0.477)	0.178 (0.473)	0.198 (0.503)
	FDI from CEs	-1.040 (0.606)*	-0.431 (0.651)	-1.270 (0.626)**	-0.626 (0.676)
Institutional Dev. (INST)	Fin. Dev.	-0.202 (0.101)**	-0.154 (0.112)	-0.154 (0.110)	-0.108 (0.120)
	Legal Dev.	0.008 (0.265)	-0.282 (0.276)	-0.015 (0.276)	-0.329 (0.287)
Crises (CRISIS)	Currency crisis	-0.052 (0.115)	-0.032 (0.109)	-0.058 (0.118)	-0.038 (0.112)
	Banking crisis	0.008 (0.083)	-0.002 (0.085)	-0.003 (0.092)	-0.023 (0.094)
	N	325	357	290	322
	Adj. R2	0.05	0.03	0.03	0.01
	# of countries	31	31	26	26

Table 1-3: Factors Affecting REER Sensitivity, 1986-2012

		LDC (5)	LDC (6)	EMG (7)	EMG (8)
Open Macro Policy (OMP)	Exchange rate stability	0.718 (0.132)***	0.807 (0.121)***	0.725 (0.135)***	0.760 (0.123)***
	Financial openness	0.377 (0.126)***	0.311 (0.121)**	0.157 (0.137)	0.074 (0.132)
	IR Holding	1.038 (0.334)***	0.919 (0.320)***	0.761 (0.331)**	0.606 (0.314)*
Macro. Conditions (MC)	CA balance (%)	0.921 (0.545)*	0.459 (0.536)	1.360 (0.563)**	0.684 (0.553)
	Inflation Vol.	2.824 (1.674)*	-0.840 (0.671)	2.706 (1.672)	-0.868 (0.634)
	Gross debt (%)	-0.072 (0.078)		-0.138 (0.075)*	
	Budget balance (%)		1.018 (0.963)		2.366 (0.956)**
External Link (LINK)	Trade competition	-1.625 (0.427)***	-1.262 (0.372)***	-1.275 (0.429)***	-0.866 (0.374)**
	Trade demand	1.763 (0.483)***	1.877 (0.460)***	2.022 (0.463)***	2.151 (0.439)***
	FDI from CEs	-0.335 (0.673)	-0.372 (0.668)	-0.110 (0.643)	-0.272 (0.639)
Institutional Dev. (INST)	Fin. Dev.	-0.171 (0.119)	-0.211 (0.117)*	-0.076 (0.119)	-0.125 (0.117)
	Legal Dev.	-0.007 (0.296)	-0.212 (0.290)	0.076 (0.296)	-0.234 (0.289)
Crises (CRISIS)	Currency crisis	0.282 (0.127)**	0.165 (0.113)	0.349 (0.120)***	0.207 (0.108)*
	Banking crisis	0.001 (0.096)	-0.108 (0.087)	-0.092 (0.102)	-0.204 (0.091)**
	N	294	332	254	290
	Adj. R2	0.22	0.23	0.27	0.28
	# of countries	30	30	23	23

Table 1-3: Factors Affecting REER Sensitivity, 1986-2012

		LDC (5)	LDC (6)	EMG (7)	EMG (8)
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	N	294	332	254	290
	Adj. R2	0.22	0.23	0.27	0.28
	# of countries	30	30	23	23

Summary

- An economy that pursues greater exchange rate stability and financial openness would face a stronger link with the center economies through policy interest rates and real effective exchange rate movements

Table 2-1: Interactive Effects and Interest Rate Sensitivity

	LDC (4)	LDC (5)	LDC (6)	EMG (7)	EMG (8)	EMG (9)
Exchange rate stability	5.309	-7.884	-11.771	5.130	-5.971	-3.383
	(2.751)*	(7.206)	(8.226)	(2.570)**	(5.128)	(5.496)
Financial openness	-1.269	6.516	5.335	0.974	9.544	3.303
	(5.169)	(3.105)**	(7.412)	(4.436)	(2.450)***	(4.863)
IR Holding	-12.865	-13.232	-10.147	-10.817	-9.973	-9.538
	(7.555)*	(9.713)	(10.706)	(6.644)	(7.006)	(7.298)
CA balance (%)	28.248	41.970	63.029	19.791	32.486	21.459
	(23.271)	(29.384)	(39.890)	(20.440)	(22.619)	(26.431)
Gross debt (%)	0.497	-0.544	1.770	-0.799	-0.481	0.318
	(3.049)	(4.196)	(5.395)	(2.508)	(2.829)	(3.406)
Trade demand	-4.779	-56.321	-100.895	-2.923	-23.766	-37.035
	(23.448)	(26.507)**	(40.442)**	(19.569)	(18.546)	(26.549)
Fin. Dev.	17.031	30.152	30.181	17.133	19.735	23.187
	(4.719)***	(5.726)***	(7.591)***	(3.992)***	(3.985)***	(4.896)***
KAO x CAB	-8.557		-35.884	41.950		32.968
	(31.196)		(44.266)	(28.319)		(31.667)
KAO x Debt	-2.212		-6.466	-1.060		-1.710
	(5.014)		(7.066)	(4.206)		(4.516)
KAO x Trade Demand	16.625		43.098	31.202		33.056
	(29.872)		(41.279)	(25.211)		(26.674)
KAO x FD.	-15.549		18.749	-17.676		-11.610
	(6.714)**		(9.583)*	(5.954)***		(6.511)*
ERS x CAB		-49.790	-52.504		7.265	-2.590
		(43.898)	(49.343)		(35.144)	(37.970)
ERS x Debt		-3.001	-1.671		-2.863	-2.430
		(7.163)	(7.990)		(4.841)	(5.062)
ERS x Trade Demand		123.275	148.706		67.204	62.633
		(48.777)**	(53.871)***		(35.799)*	(36.936)*
ERS x FD.		-30.529	-43.333		-21.751	-16.831
		(9.015)***	(10.280)***		(6.665)***	(7.173)**
N	386	386	386	327	327	327
Adj. R2	0.09	0.15	0.18	0.16	0.15	0.16
# of countries	41	41	41	31	31	31

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	(2.751)*	(7.206)	(8.226)	(2.570)**	(5.128)	(5.496)
Financial openness	-1.269	6.516	5.335	0.974	9.544	3.303
	(5.169)	(3.105)**	(7.412)	(4.436)	(2.450)***	(4.863)
IR Holding	-12.865	-13.232	-10.147	-10.817	-9.973	-9.538
	(7.555)*	(9.713)	(10.706)	(6.644)	(7.006)	(7.298)
CA balance (%)	28.248	41.970	63.029	19.791	32.486	21.459
	(23.271)	(29.384)	(39.890)	(20.440)	(22.619)	(26.431)
Gross debt (%)	0.497	-0.544	1.770	-0.799	-0.481	0.318
	(3.049)	(4.196)	(5.395)	(2.508)	(2.829)	(3.406)
Trade demand	-4.779	-56.321	-100.895	-2.923	-23.766	-37.035
	(23.448)	(26.507)**	(40.442)**	(19.569)	(18.546)	(26.549)
Fin. Dev.	17.031	30.152	30.181	17.133	19.735	23.187
	(4.719)***	(5.726)***	(7.591)***	(3.992)***	(3.985)***	(4.896)***
KAO x CAB	-8.557		-35.884	41.950		32.968
	(31.196)		(44.266)	(28.319)		(31.667)
KAO x Debt	-2.212		-6.466	-1.060		-1.710
	(5.014)		(7.066)	(4.206)		(4.516)
KAO x Trade Demand	16.625		43.098	31.202		33.056
	(29.872)		(41.279)	(25.211)		(26.674)
KAO x FD.	-15.549		18.749	-17.676		-11.610
	(6.714)**		(9.583)*	(5.954)***		(6.511)*
ERS x CAB		-49.790	-52.504		7.265	-2.590
		(43.898)	(49.343)		(35.144)	(37.970)
ERS x Debt		-3.001	-1.671		-2.863	-2.430
		(7.163)	(7.990)		(4.841)	(5.062)
ERS x Trade Demand		123.275	148.706		67.204	62.633
		(48.777)**	(53.871)***		(35.799)*	(36.936)*
ERS x FD.		-30.529	-43.333		-21.751	-16.831
		(9.015)***	(10.280)***		(6.665)***	(7.173)**
N	386	386	386	327	327	327
Adj. R2	0.09	0.15	0.18	0.16	0.15	0.16
# of countries	41	41	41	31	31	31

Table 2-3: Interactive Effects and REER Sensitivity

	LDC (4)	LDC (5)	LDC (6)	EMG (7)	EMG (8)	EMG (9)
Exchange rate stability	0.735	0.552	0.566	0.743	0.520	0.528
	(0.134)***	(0.327)*	(0.331)*	(0.136)***	(0.329)	(0.335)
Financial openness	0.523	0.431	0.537	0.381	0.188	0.392
	(0.277)*	(0.122)***	(0.266)**	(0.269)	(0.131)	(0.255)
IR Holding	1.042	1.682	1.668	0.717	1.188	1.131
	(0.344)***	(0.333)***	(0.342)***	(0.342)**	(0.326)***	(0.339)***
CA balance (%)	-0.139	-2.651	-2.966	0.110	-0.849	-1.175
	(1.056)	(1.024)**	(1.285)**	(1.044)	(1.036)	(1.217)
Gross debt (%)	-0.215	-0.435	-0.525	-0.278	-0.464	-0.541
	(0.155)	(0.155)***	(0.195)***	(0.146)*	(0.147)***	(0.184)***
Trade demand	1.920	1.135	1.200	2.404	1.030	1.072
	(1.019)*	(0.879)	(1.286)	(0.972)**	(0.843)	(1.212)
Fin. Dev.	-0.253	0.461	0.371	-0.260	0.475	0.276
	(0.217)	(0.195)**	(0.256)	(0.213)	(0.186)**	(0.239)
KAO x CAB	1.426		0.535	1.873		0.533
	(1.424)		(1.383)	(1.487)		(1.463)
KAO x Debt	0.258		0.182	0.247		0.151
	(0.249)		(0.242)	(0.237)		(0.226)
KAO x Trade Demand	-0.052		0.052	-0.291		0.032
	(1.340)		(1.292)	(1.279)		(1.215)
KAO x FD.	0.087		0.078	0.271		0.388
	(0.330)		(0.318)	(0.337)		(0.324)
ERS x CAB		4.950	4.834		2.873	2.722
		(1.640)***	(1.672)***		(1.634)*	(1.713)
ERS x Debt		0.727	0.714		0.638	0.631
		(0.281)**	(0.284)**		(0.273)**	(0.277)**
ERS x Trade Demand		0.759	0.748		1.893	1.809
		(1.750)	(1.782)		(1.734)	(1.761)
ERS x FD.		-1.326	-1.280		-1.217	-1.263
		(0.348)***	(0.354)***		(0.341)***	(0.354)***
N	294	294	294	254	254	254
Adj. R2	0.21	0.32	0.31	0.27	0.37	0.36
# of countries	30	30	30	23	23	23

Table 2-3: Interactive Effects and REER Sensitivity

	LDC (4)	LDC (5)	LDC (6)	EMG (7)	EMG (8)	EMG (9)
Exchange rate stability	0.735	0.552	0.566	0.743	0.520	0.528
	(0.134)***	(0.327)*	(0.331)*	(0.136)***	(0.329)	(0.335)
Financial openness	0.523	0.431	0.537	0.381	0.188	0.392
	(0.277)*	(0.122)***	(0.266)**	(0.269)	(0.131)	(0.255)
IR Holding	1.042	1.682	1.668	0.717	1.188	1.131
	(0.344)***	(0.333)***	(0.342)***	(0.342)**	(0.326)***	(0.339)***
CA balance (%)	-0.139	-2.651	-2.966	0.110	-0.849	-1.175
	(1.056)	(1.024)**	(1.285)**	(1.044)	(1.036)	(1.217)
Gross debt (%)	-0.215	-0.435	-0.525	-0.278	-0.464	-0.541
	(0.155)	(0.155)***	(0.195)***	(0.146)*	(0.147)***	(0.184)***
Trade demand	1.920	1.135	1.200	2.404	1.030	1.072
	(1.019)*	(0.879)	(1.286)	(0.972)**	(0.843)	(1.212)
Fin. Dev.	-0.253	0.461	0.371	-0.260	0.475	0.276
	(0.217)	(0.195)**	(0.256)	(0.213)	(0.186)**	(0.239)
KAO x CAB	1.426		0.535	1.873		0.533
	(1.424)		(1.383)	(1.487)		(1.463)
KAO x Debt	0.258		0.182	0.247		0.151
	(0.249)		(0.242)	(0.237)		(0.226)
KAO x Trade Demand	-0.052		0.052	-0.291		0.032
	(1.340)		(1.292)	(1.279)		(1.215)
KAO x FD.	0.087		0.078	0.271		0.388
	(0.330)		(0.318)	(0.337)		(0.324)
ERS x CAB		4.950	4.834		2.873	2.722
		(1.640)***	(1.672)***		(1.634)*	(1.713)
ERS x Debt		0.727	0.714		0.638	0.631
		(0.281)**	(0.284)**		(0.273)**	(0.277)**
ERS x Trade Demand		0.759	0.748		1.893	1.809
		(1.750)	(1.782)		(1.734)	(1.761)
ERS x FD.		-1.326	-1.280		-1.217	-1.263
		(0.348)***	(0.354)***		(0.341)***	(0.354)***
N	294	294	294	254	254	254
Adj. R2	0.21	0.32	0.31	0.27	0.37	0.36
# of countries	30	30	30	23	23	23

$$(\beta_0 + \beta_1 ERS + \beta_2 KAOPEN)\Delta X$$

MM-MM Estimation

(a) Effect of <u>Financial Development</u> (+10 ppt)

		KAOPEN*		
		0.00	0.50	1.00
ERS*	0.00	3.02	3.96	4.89
	0.50	0.85	1.79	2.73
	1.00	-1.32	-0.38	0.56

(b) Effect of <u>Trade Demand</u> (+5 ppt)

		KAOPEN		
		0.00	0.50	1.00
ERS*	0.00	-5.04	-3.97	-2.89
	0.50	-1.33	-0.25	0.83
	1.00	2.39	3.47	4.55

SMT-SMT Estimation

(c) Effect of <u>Trade Demand</u> (+5 ppt)

		KAOPEN		
		0.00	0.50	1.00
ERS*	0.00	-0.07	-0.07	-0.08
	0.50	0.01	0.01	0.00
	1.00	0.10	0.09	0.09

REER-REER Estimation

(e) Effect of <u>CAB</u> *Deterioration* (–2 ppt)

		KAOPEN		
		0.00	0.50	1.00
ERS*	0.00	0.06	0.05	0.05
	0.50	0.01	0.01	0.00
	1.00	-0.04	-0.04	-0.05

(f) Effect of <u>Gross Debt</u> (+10 ppt)

		KAOPEN		
		0.00	0.50	1.00
ERS*	0.00	-0.05	-0.04	-0.03
	0.50	-0.02	-0.01	0.00
	1.00	0.02	0.03	0.04

(g) Effect of <u>Financial Development</u> (+10 ppt)

		KAOPEN		
		0.00	0.50	1.00
ERS*	0.00	0.04	0.04	0.04
	0.50	-0.03	-0.02	-0.02
	1.00	-0.09	-0.09	-0.08

Summary

- Greater import demand for a developing country increases policy interest rate or stock market price correlations when the exchange rate stability is greater

- Greater exchange rate stability also amplifies the impact of greater gross debt on the REER link

What about the link between

- Country *i*'s **Exchange Market Pressure (EMP)** and

- The CE's financial variables, i.e.,
  - policy interest rates
  - REER
  - EMP

- We repeat the two-step approach
- **The gamma now refers to the correlation between the EMP and the CE's financial variables**
- The CE's REER matters more than policy interest rates

Table 5: Exchange Market Pressure Sensitivity to Core Economies' Conditions, 1986-2012

	Corr. b/w CE's MM and Countries' EMP			Corr. b/w CE's REER and Countries' EMP			Corr. b/w CE's EMP and Countries' EMP		
	FULL (1)	LDC (2)	EMG (3)	FULL (4)	LDC (5)	EMG (6)	FULL (7)	LDC (8)	EMG (9)
Exchange rate stability	-186.31	-84.62	-161.73	8.351	19.587	18.713	-0.277	0.402	0.439
	(171.16)	(371.54)	(314.44)	(6.225)	(6.890)***	(7.407)**	(0.220)	(0.302)	(0.322)
Financial openness	51.15	-258.35	-262.67	-10.296	-21.161	-17.558	-0.204	0.097	0.118
	(153.17)	(331.24)	(272.59)	(5.571)*	(6.143)***	(6.421)***	(0.197)	(0.269)	(0.280)
IR Holding	561.50	1,090.15	888.59	-20.095	-14.726	-6.901	0.460	-0.058	-0.087
	(245.98)**	(487.00)**	(427.27)**	(8.947)**	(9.031)	(10.064)	(0.317)	(0.395)	(0.438)
CA balance (%)	-593.36	-2,641.66	-652.60	59.261	67.269	28.283	1.191	0.973	2.029
	(1,051.28)	(1,780.93)	(1,482.22)	(38.237)	(33.026)**	(34.914)	(1.353)	(1.446)	(1.520)
Gross debt (%)	-156.83	-313.78	-240.79	-5.544	-2.352	-0.804	-0.029	-0.281	-0.357
	(131.08)	(241.32)	(191.05)	(4.768)	(4.475)	(4.500)	(0.169)	(0.196)	(0.196)*
Trade demand	-537.11	-1,027.42	-2,726.26	39.433	8.589	14.270	-2.600	-3.573	-3.522
	(992.73)	(1,784.10)	(1,478.31)*	(36.107)	(33.085)	(34.822)	(1.278)**	(1.448)**	(1.516)**
Fin. Dev.	-250.45	-500.85	-276.97	-11.077	-10.351	-12.094	0.827	0.495	0.240
	(202.33)	(342.08)	(280.57)	(7.359)	(6.344)	(6.609)*	(0.260)***	(0.278)*	(0.288)
KAO x CAB	-1,912.78	-2,522.00	-817.90	-54.082	-24.893	-68.213	-3.164	-3.496	-2.907
	(1,103.96)*	(1,990.26)	(1,803.57)	(40.153)	(36.908)	(42.483)	(1.421)**	(1.616)**	(1.849)
KAO x Debt	-122.31	-129.68	-39.58	5.922	-7.144	-5.077	-0.108	-0.170	-0.198
	(147.74)	(312.96)	(251.57)	(5.373)	(5.804)	(5.926)	(0.190)	(0.254)	(0.258)
KAO x Trade Demand	-32.80	748.99	984.54	-21.672	18.136	-0.896	4.677	5.619	5.333
	(1,022.77)	(1,834.10)	(1,487.89)	(37.200)	(34.012)	(35.047)	(1.317)***	(1.489)***	(1.526)***
KAO x FD.	514.79	56.77	-304.72	-8.619	-16.551	-19.001	-0.635	-0.326	-0.243
	(216.95)**	(427.73)	(364.40)	(7.891)	(7.932)**	(8.584)**	(0.279)**	(0.347)	(0.374)
ERS x CAB	4,295.00	6,439.94	2,488.60	-65.220	-108.129	-1.265	3.797	4.131	1.684
	(1,219.04)***	(2,204.84)***	(2,141.21)	(44.338)	(40.888)***	(50.437)	(1.569)**	(1.790)**	(2.196)
ERS x Debt	269.16	508.41	298.50	6.127	10.041	6.626	-0.013	0.313	0.431
	(188.07)	(358.44)	(286.88)	(6.840)	(6.647)	(6.758)	(0.242)	(0.291)	(0.294)
ERS x Trade Demand	2,276.38	3,485.31	4,992.84	-75.257	-90.629	-89.484	-1.263	-2.984	-2.035
	(1,168.05)*	(2,392.58)	(2,099.68)**	(42.484)*	(44.369)**	(49.458)*	(1.504)	(1.942)	(2.153)
ERS x FD.	-783.07	-502.29	97.01	17.335	26.167	32.941	-0.510	-0.038	0.225
	(254.94)***	(471.76)	(426.71)	(9.273)*	(8.749)***	(10.051)***	(0.328)	(0.383)	(0.438)
N	625	382	321	625	382	320	625	382	321
Adj. R2	0.23	0.22	0.13	0.16	0.18	0.16	0.22	0.31	0.32
# of countries	59	40	30	59	40	30	59	40	30

Summary

- The greater exchange rate stability or less of financial openness a country pursues, the more **financial development** makes its economy's **EMP** levels more sensitive to changes in the center economies' **REER**

- If a non-center economy runs a **current account** *deficit,* its **EMP** sensitivity to the **REER** of the CEs rises esp. when it pursues greater exchange rate stability

- A **CA deficit** country finds its **EMP** more positively correlated with the **EMP** of the CEs if it pursues greater financial openness and greater exchange rate *flexibility*

- Having greater **trade linkages** with the CE contributes to more positive **EMP-EMP** linkages if a country pursues greater financial openness.

Concluding Remarks

- The link with the CEs has been dominant for developing and emerging market economies

- China does not exert substantial influence in financial markets (so far)

- Exchange rate regime and financial openness have *direct* influences on the sensitivity to the CEs.
  - An economy with greater exchange rate stability and financial openness would face a stronger link with the CEs through policy interest rates and REER movements.

- And *interactive* effects with CAB, gross nat'l debt, trade demand, and financial development.
  - A PH with stronger trade ties with the CEs and with greater exchange rate stability and financial openness would face stronger sensitivity through policy interest rates or stock market price movements.
  - Such a policy arrangement would also make the impact of having greater gross debt on the PH-CE REER link bigger.

Concluding Remarks

- The EMP of the PHs is sensitive to the movements of the CEs' REER and EMP during the GFC and the following period.

- A PH with higher levels of financial development can mitigate the effect of changes in the center economies' policy interest rates on the level of EMP it faces.

- The real appreciation of the CEs could lead to higher EMP of the PHs

- Higher levels of financial development, greater financial openness, strong trade ties with the CEs, and more stable inflation would help reduce the EMP sensitivity to CEs' REER.

- There are interaction effects b/w open macro policies and macroeconomic and institutional conditions.

Concluding Remarks

- Open macro policy choice is *"still"* dictated by the trilemma hypothesis.
- The types of exchange rate regimes do affect the extent of sensitivity to changes in CEs' financial conditions or policies.