Do Implicit Barriers Matter for Globalization ?

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IGIDR, Mumbai, December, 2010

PLAN

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Introduction

The Critical Element

- Market integration is central to EM Finance-It impacts and is impacted by Valuation, C.O.C., Liberalization, Performance, Governance

- Asset valuation & degree of market integration at the heart of most EM studies.

- Need to understand what drives Integration

Measuring Market Integration

- Integration is a fundamental characteristic of world market structure

  the degree of integration and expected returns are co-determined and hence must be endogenous to any model.

- IAPMs clearly define/endogenize concept of market integration based on fundamentals.
- Studies that attempt to measure market integration otherwise are difficult to interpret.

Investable Indices

- Last two decades characterized by world-wide push toward liberalization in financial markets
- Investable market indices of IFCI & MSCI are legally and practically available to foreign investors
  - Account for limits on foreign investor holdings
  - Minimum market cap and liquidity filters

We use IFCI for our natural experiment

Our Focus

1. How globalized are investable securities?
   - Conduct asset pricing tests to gauge the statistical and economic relevance of competing factors

2. What is the extent of departure from full integration?
   - We use the model based integration measure

3. Do implicit barriers play an important role in the globalization process ?
   - We relate our integration index to institutional, governance and informational factors

Our Expectation

- Theoretical models under prohibitive capital inflow controls suggest that fully investable assets should be globally priced.
- Non-investability can arise from explicit & implicit barriers
- Available investable indices largely ignore implicit barriers & hence are not fully investable.
- The local premium should significantly contribute to total risk premium.
- Given the significant reduction in explicit barriers during our sample period, we would expect implicit barriers to capture the extent of departure from full integration.

Our Results

- Both global and local risk are important pricing factors for the investable indices
- Average degree of Integration is 0.63, with a standard deviation of .20 - there is wide variation among EMs
- The degree of integration is statistically and economically related to implicit barriers
  - better institutions, stronger corporate governance and more transparent markets jointly [moving from 25th percentile to the 75th percentile] would contribute to a higher degree of integration by about 30%.

The Models

Errunza and Losq (1985)

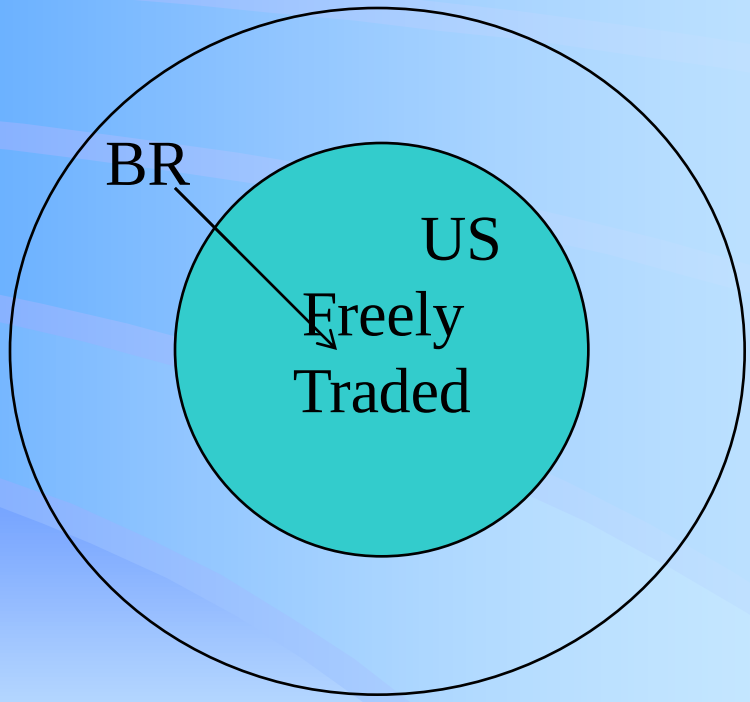
$$E(R_i) = R_f + AMCov\ R_i, R_W + A_u - A\ M_I Cov\ R_i, R_I \mid \underline{R_e}$$

- a global risk premium
- a super risk premium which is conditional on the availability of substitute assets
- Diversification Portfolio of freely traded securities is most highly correlated with the market portfolio of EM securities
- EM securities that have perfect substitutes in the world market will not command super risk premium
- Global investors can not hold EMs and hence use DP as the best proxy supplied by EM investors.

MILD SEGMENTATION

Limiting Case of Stulz (1981) Yields a closed-form solution for the equilibrium Risk-Return trade-off

Lends itself to analysis of a continuum of market structures



The E-L Integration Index

- The index is an aggregate measure of spanning of the set of EM securities by the freely traded segment of the world market

$$\Pi = 1 - \frac{\text{var}(R_I \mid R_e)}{\text{var}(R_I)}$$

- The two polar cases
  - Complete integration

$$\Pi = 1 \text{ when } \text{var}(R_I \mid R_e) = 0$$

  - Complete segmentation

$$\Pi = 0 \text{ when } \text{var}(R_I \mid R_e) = \text{var}(R_I)$$

Empirical Model and Methodology

- A system for simultaneous estimation of global and local risk **premia** for each country estimated by QMLE

$$r_{I,t} = \delta_{W,t-1} h_{I,W,t} + \lambda_{I,t-1} h_{I,t} \left(1 - \frac{h^2_{I,DP,t}}{h_{I,t} h_{DP,t}}\right) + \varepsilon_{I,t}$$

$$r_{DP,t} = \delta_{W,t-1} h_{DP,W,t} + \varepsilon_{DP,t}$$

$$r_{W,t} = \delta_{W,t-1} h_{W,t} + \varepsilon_{W,t}$$

$$\varepsilon_t \mid \Im_{t-1} \sim N(0, H_t)$$

$$H_t = H_0 * (\iota\iota' - aa' - bb') + aa' * \varepsilon_{t-1}\varepsilon_{t-1}' + bb' * H_{t-1}$$

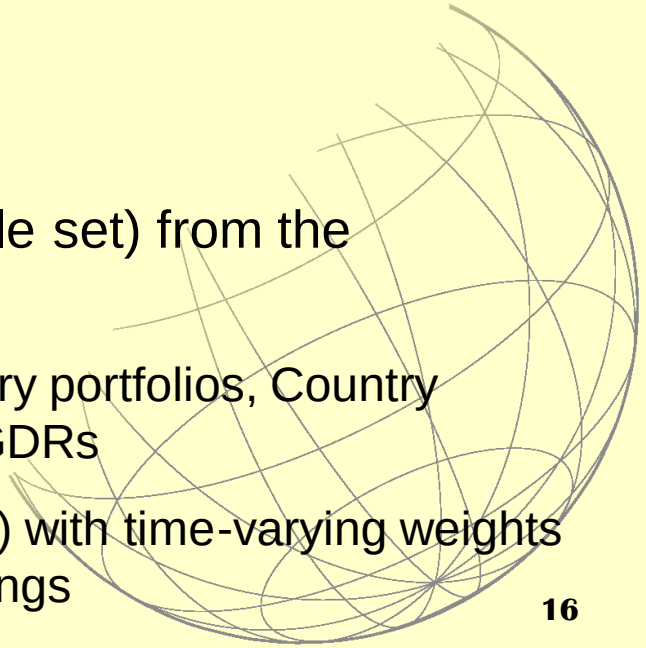
$$\delta_{W,t-1} = (k_W^{'} \; Z_{W,t-1})^2$$

$$\lambda_{i,t-1} = (k_{i,t-1}^{'} Z_{i,t-1})^2 \qquad i = 1, \ldots, I$$

Empirical Results

DATA
for asset pricing and indices

- Monthly, Jan 1989 - Dec 2006
- IFCI indices of 22 EMs
  - Argentina, Brazil, Chile, Colombia, Mexico and Peru from Latin America; China, India, Korea, Malaysia, Philippines, Taiwan and Thailand from Asia. Checz Rep, Hungary, Jordan, Poland South Africa and Turkey from rest of the world
  - MSCI world market index
  - Two sets of global and local instruments
- Diversification Portfolios (part of the eligible set) from the projection of the IFCI indices on
  - MSCI World index, DataStream global industry portfolios, Country Funds traded in the US and UK, ADRs and GDRs
  - Following Carrieri, Errunza and Hogan (2007) with time-varying weights depending on the availability of overseas listings



What is the extent of departure from globalization?

From the estimated time-varying integration indices

	Mean	Before 1995	After 2001	Std. Dev.
ARGENTINA	0.599	0.391	0.687	0.265
BRAZIL	0.748	0.547	0.923	0.194
CHILE	0.661	0.584	0.744	0.095
CHINA	0.769	0.775	0.740	0.090
COLOMBIA	0.419	0.387	0.480	0.098
CZECH REPUBLIC	0.386	0.191	0.449	0.145
HUNGARY	0.774	0.721	0.827	0.073
INDIA	0.664	0.436	0.773	0.162
INDONESIA	0.707	0.606	0.768	0.101
ISRAEL	0.821	0.833	0.825	0.034
JORDAN	**0.056**	0.056	0.066	0.045
KOREA	0.741	0.643	0.818	0.102
MALAYSIA	0.628	0.641	0.589	0.080
MEXICO	**0.835**	0.829	0.840	0.013
PAKISTAN	0.357	0.345	0.182	0.199
PERU	0.466	0.366	0.495	0.089
PHILIPPINES	0.742	0.698	0.737	0.093
POLAND	0.428	0.229	0.556	0.161
SOUTH AFRICA	0.820	0.816	0.823	0.012
TAIWAN	0.784	0.776	0.790	0.013
THAILAND	0.780	0.733	0.790	0.079
TURKEY	0.583	0.395	0.739	0.185
Country pool	0.626	0.545	0.666	0.198

lowest

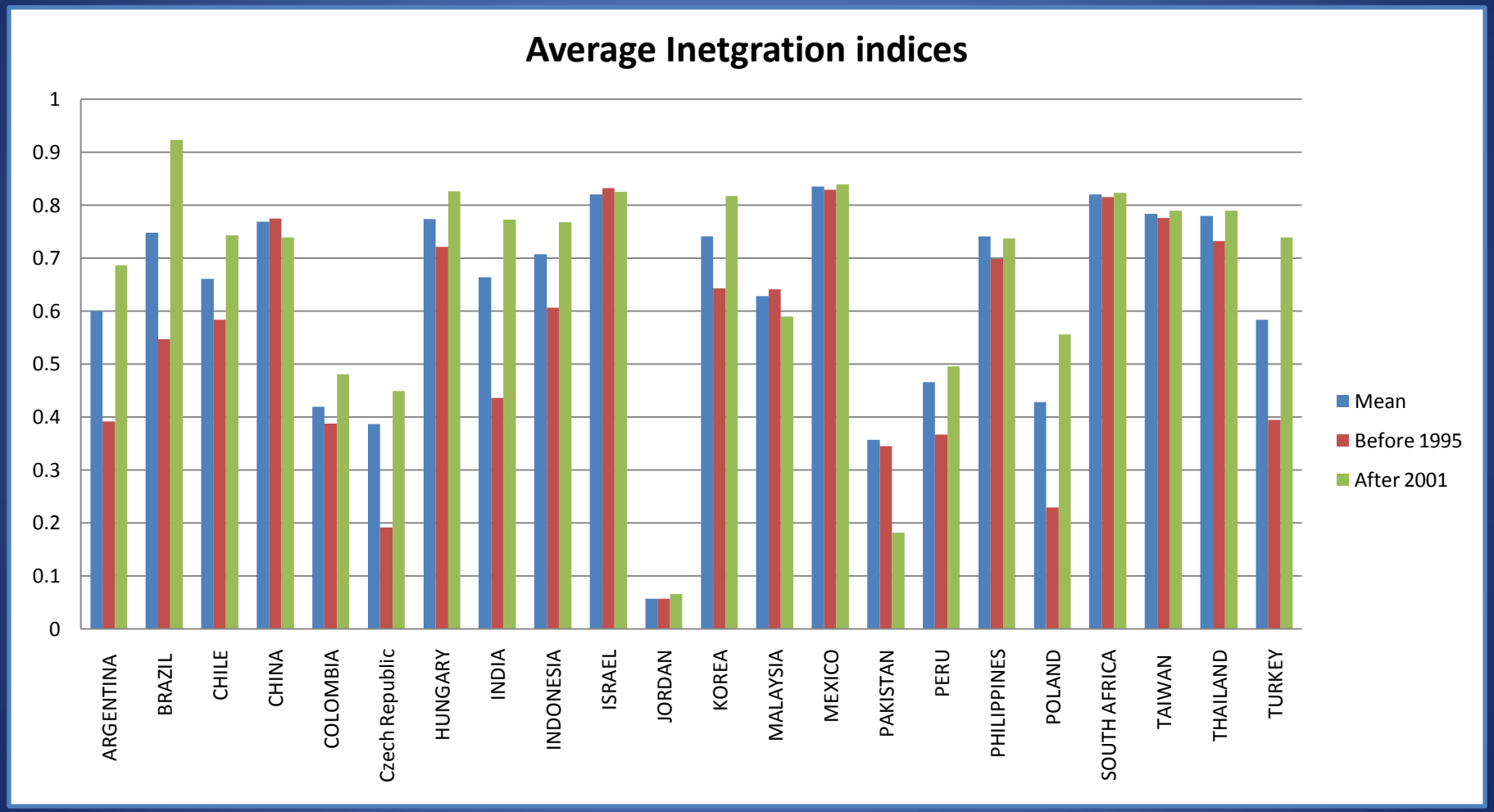
highest

Highest after 2001

reversals

What is the extent of departure from globalization?

From the estimated time-varying integration indices



Integration Indices

Leaders show lower implicit barriers than Laggards
in cross-section and time dimension

Figure 1
Estimated Integration Indices

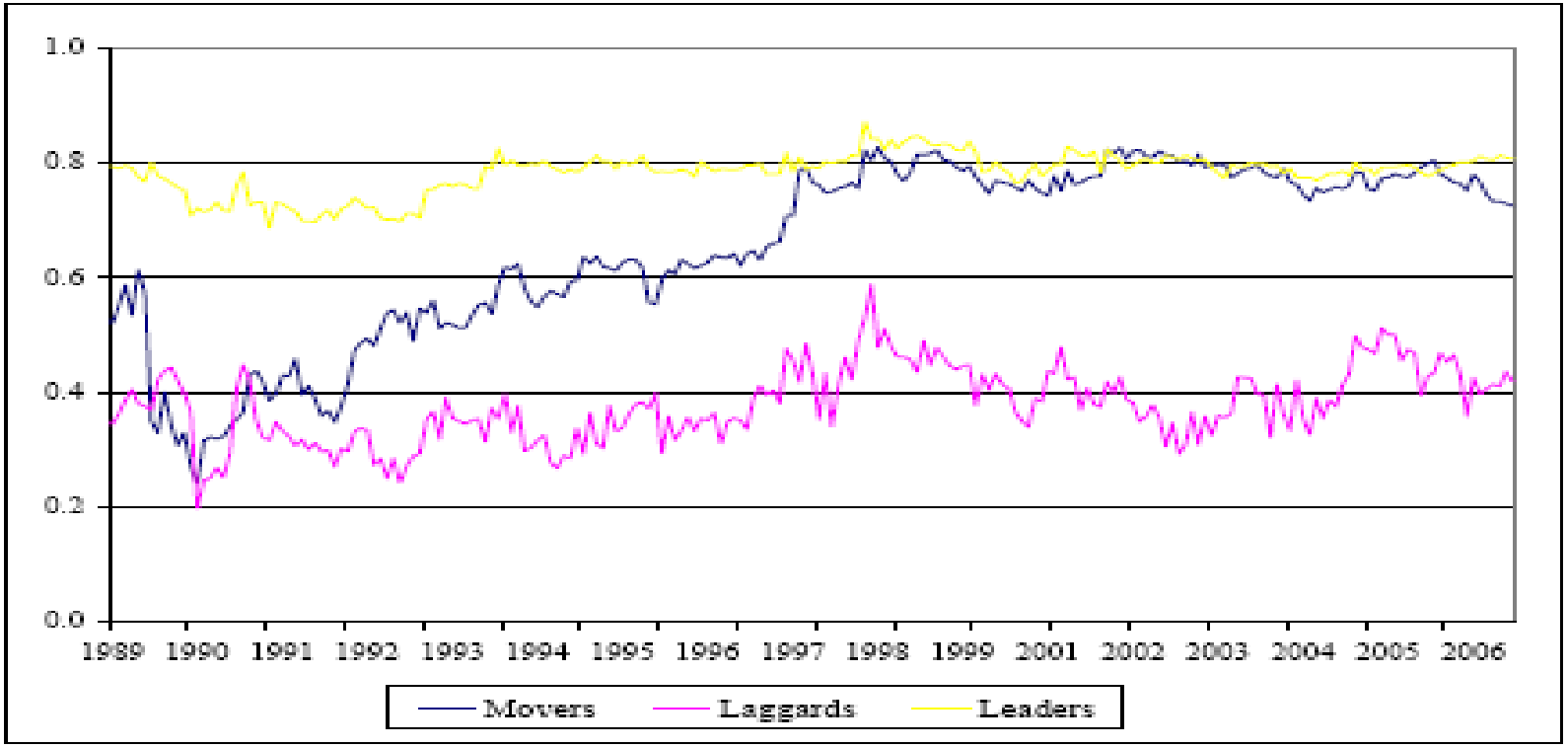


Figure 1: Equally weighted averages at each point in time of the estimated integration indices from the EL model presented in table 2. The countries are grouped based on the median of the whole sample. Leaders are those countries always above the median. Laggards are those always below the median. Movers are those countries that move from below the median to above the median in the first to the last subsample.

How globalized are investable securities?
The statistical significance of competing factors

Null hypothesis	for insignificant world market risk		for constant world market risk		for insignificant local market risk		for constant local market risk	
	d.f.	p-value	d.f.	p-value	d.f.	p-value	d.f.	p-value
ARGENTINA	4	0.000	3	0.005	4	0.377	3	0.253
BRAZIL	4	0.000	3	0.029	4	0.000	3	0.000
CHILE	4	0.000	3	0.371	4	0.002	3	0.004
CHINA	4	0.000	3	0.049	4	0.000	3	0.000
COLOMBIA	4	0.000	3	0.375	4	0.891	3	0.993
CZECH REPUBLIC	4	0.000	3	0.033	4	0.000	3	0.000
HUNGARY	4	0.008	3	0.839	4	0.049	3	0.033
INDIA	4	0.000	3	0.008	4	0.041	3	0.071
INDONESIA	4	0.000	3	0.267	4	0.000	3	0.000
ISRAEL	4	0.000	3	0.299	4	0.001	3	0.001
JORDAN	4	0.000	3	0.034	4	0.000	3	0.000
KOREA	4	0.000	3	0.489	4	0.025	3	0.018
MALAYSIA	4	0.000	3	0.023	4	0.005	3	0.002
MEXICO	4	0.000	3	0.376	4	0.000	3	0.000
PAKISTAN	4	0.000	3	0.594	4	0.000	3	0.000
PERU	4	0.000	3	0.712	4	0.000	3	0.000
PHILIPPINES	4	0.000	3	0.034	4	0.000	3	0.002
POLAND	4	0.001	3	0.442	4	0.879	3	0.756
SOUTH AFRICA	4	0.000	3	0.345	4	0.560	3	0.571
TAIWAN	4	0.000	3	0.006	4	0.358	3	0.338
THAILAND	4	0.000	3	0.014	4	0.094	3	0.082
TURKEY	4	0.000	3	0.003	4	0.397	3	0.305

Results summary

- Price of world market risk is significant in all cases
- Constant world price is rejected for half the sample
  - Average estimate of 3.0 is economically significant.

- Price of local risk is significant in all but 6 cases
- Constant local price is rejected in 16 cases

- Both risks are still statistically important for the pricing of investable securities

- From the integration indices, average degree is 0.63, with a standard deviation of 0.20 there is wide cross-sectional variation and sizeable time variation
  - Minimum is 0.06 (Jordan) maximum 0.84 (Mexico)

Implicit barriers and Integration

Institutional, governance and information environment should play a major role in the globalization process

- The twin agency problem (expropriation by the state and by the insiders) limits globalization - Stulz (2005)
- Prevalence of closely-held shares helps explain the home bias in portfolio holdings of US investors [Dahlquist et al. 2003, Kho, Stulz, and Warnock, 2009]
- Information and monitoring costs discourage foreign investors [Leuz, Lins and Warnock, 2008]
- Better information disclosure helps investors recognition and improves risk sharing [Merton, 1987]

What type of barriers?

- Institutional environment
  - Elements captured by ICRG political risk index, transparency & fairness of political & legal institutions; POL
  - Legal origin, common law better protects individual rights; CIVIL
- Governance environment
  - Investors protection, anti-self-dealing index focuses on enforcement and anti-director index focuses on minority shareholder protection; ASD and A-DIR
  - Ownership concentration, closely held shares and ownership concentration ; CHELD and OWC
- Information environment
  - Dissemination of information, mean # of analysts following each firm & proportion of firms covered over total listings; AN-F and AN-D
  - Accounting standards, transparency and quality of information; ACC and DISC
  - Information asymmetry, cross-listing activity; CL-MC and CL-N

Appendix B - Variable definition

Variable	Description	Sources
Political risk POL	Political risk ratings based on the sum of 12 weighted variables covering both political and social attributes. The index has 100 points, with higher scores indicating lower risk. Frequency: annual.	International Country Risk Guide
Closely Held CHELD	Value weighted average fraction of firm stock market capitalization held by insiders i.e. corporate officers, directors, immediate family members, by individual shareholder holdings representing more than 5%, by other corporations (except shares held in fiduciary capacity by financial institutions), and by pension/ benefit plans and trusts. Frequency: annual.	WorldScope and authors calculations
Ownership concentration OWC	Average percentage of common shares owned by the top three shareholders in the ten largest non-financial, privately-owned domestic firms in a given country	La Porta et al. (2006)
Anti-directors rights index A-DIR	Aggregate index of shareholder rights. The index ranges from 0 to 6 and it is formed by summing: (1) vote by mail; (2) shares not blocked or deposited; (3) cumulative voting; (4) oppressed minority; (5) pre-emptive rights; and (6) capital.	Djankov et al. (2008)
Anti-self-dealing index ASD	Average of ex-ante and ex-post private control of self-dealing. The index ranges from 0 to 1. It measures approval by disinterested shareholders, ex-ante disclosure, disclosure in periodic filings and ease of proving wrongdoing.	Djankov et al. (2008)

Analyst coverage AN-F	Mean number of analysts providing a forecast for a specific firm in a given calendar year. Frequency: annual.	I/B/E/S and authors calculations
Analyst diffusion AN-D	Proportion of firms with analyst coverage in a given calendar year, or number of firms included in IBES/number of listed companies in the domestic market. Frequency: annual.	I/B/E/S, EMDB of S&P and authors calculations
Disclosure DISC	Intensity of financial disclosure created by examining and rating companies' 1995 annual reports on their inclusion or omission of R&D, capital expenditures, subsidiary data and accounting methods.	Bushman, Piotroski, and Smith (2004). International accounting and auditing trends, Center for International Financial Analysis and Research (CIFAR).
Accounting standards ACC	Index created by examining and rating companies' 1995 annual reports on their inclusion or omission of 90 items. These items fall into seven categories (general information, income statements, balance sheets, funds flow statement, accounting standard, stock data, and special items).	Bushman, Piotroski, and Smith (2004). International accounting and auditing trends, Center for International Financial Analysis and Research (CIFAR).
Cross-listing activity CL-MC	Proportion of market capitalization for firms that are cross-listed on US markets in a given calendar year, or combined market capitalization of cross-listed firms/total market capitalization of the domestic market. Frequency: annual.	Authors calculations from Citibank, JP Morgan, the Bank of New York Mellon, Deutsche Bank, NYSE, AMEX and NASDAQ for the cross-listings, Datastream, Compustat, EMDB of S&P for the market capitalization
Cross-listing activity CL-N	Proportion of firms that are cross-listed around the world, or number of world-wide cross-listed firms/number of listed companies in the domestic market. Frequency: annual.	Data on world-wide cross-listings kindly provided by Sergei Sarkissian, EMDB of S&P and authors calculations

Trade to GDP **TR/GDP**	Sum of exports and imports of goods and services measured as a share of gross domestic product. Frequency: Annual.	World Bank Development Indicators.
Mcap to GDP **MC/GDP**	Equity market capitalization divided by gross domestic product. Frequency: Annual.	$&P/IFC emerging market and World Bank
Value traded to GDP **VT/GDP**	Ratio of equity market value traded to GDP. Frequency: Annual.	Standard and Poor's/International Finance Corporation's Emerging Stock Markets Factbook & World Bank Development Indicators.
Intensity of Capital Controls **ICC**	ICC = (1-Investability) where investability is defined as the ratio of the market capitalization of the IFCI index over the market capitalization of the IFCG index. Frequency: Annual from monthly data.	Standard and Poor's/International Finance Corporation's Emerging Stock Markets Factbook and authors calculations
Zero returns **Z-RET**	Proportion of zero daily returns observed over the relevant year for each equity market, used as measure of transaction cost. Frequency: annual.	Kindly provided by Christian Lundblad as used in Bekaert, Harvey and Lundblad (2007)

Expectations –sign and significance of variables

$$II_{it} = a_0 + b_0 \times \text{trend} + b_1 \times \text{institutional environment proxies}_{it} + b_2 \times \text{governance environment proxies}_{it} + b_3 \times \text{information environment proxies}_{it} + cX_{it} + \varepsilon_{it},$$

where X_{it}: control variables

Institutional environment	
POL	+
CIVIL	-
Governance environment	
C-HELD	-
ASD	+
Information environment	
CL-MC	+
AN-F	+
ACC	+
Control variables	
ICC	insignificant
Z-RET	-
TR/GDP	+
MC/GDP	+
VT/GDP	+

Are limits to full integration related to implicit barriers?

Panel A of Table 6 – Full cross-section

	dependent variable	II						
	predicted sign	Baseline model	(1a)	(2a)	(3a)	(4a)	(5a)	(6a)
POL	+		0.542			-0.008	0.065	0.034
			(0.406)			(0.224)	(0.271)	(0.240)
CIVIL	-		-0.107			0.004	-0.004	-0.002
			(0.112)			(0.050)	(0.049)	(0.049)
C-HELD	-			**-0.373**[a]		**-0.282**[a]	**-0.344**[a]	**-0.347**[a]
				(0.138)		(0.109)	(0.087)	(0.088)
ASD	+			0.170		0.167	0.193	0.200
				(0.178)		(0.067)	(0.124)	(0.133)
CL-MC	+				**0.432**[a]	**0.432**[a]	**0.374**[a]	**0.352**[a]
					(0.110)	(0.099)	(0.097)	(0.099)
AN-F	+				**0.023**[a]	**0.020**[a]	**0.024**[a]	**0.023**[a]
					(0.007)	(0.006)	(0.007)	(0.007)
ICC	insignif.	-0.181						-0.040
		(0.142)						(0.077)
Trend	+	0.007[b]	0.009[b]	0.009[b]	0.004	0.005[b]	0.008[a]	0.007[a]
		(0.003)	(0.003)	(0.003)	(0.003)	(0.002)	(0.003)	(0.003)
Controls		no	yes	yes	yes	no	yes	yes
Nobs		348	347	307	277	269	269	269
Adj. R^2		9.9%	11.1%	11.6%	35.4%	40.9%	**42.1%**	42.2%

Panel B of Table 6 - Small cross-section (at most 14 countries included)

			dependent variable = II						
	predicted sign	Benchmark model	(1b)	(2b)	(3b)	(4b)	(5b)	(6b)	(7)
POL	+		0.613[c]			0.414[b]	0.434[c]	0.436[c]	0.389[c]
			(0.343)			(0.179)	(0.224)	(0.225)	(0.221)
CIVIL	-		-0.072			-0.157[b]	-0.095	-0.096	-0.075
			(0.057)			(0.074)	(0.086)	(0.087)	(0.092)
C-HELD	-			-0.212[a]		-0.164[a]	-0.114[b]	-0.113[a]	-0.131[a]
				(0.066)		(0.043)	(0.047)	(0.042)	(0.050)
ASD	+			-0.203		-0.345[b]	-0.203	-0.204	-0.210
				(0.137)		(0.142)	(0.155)	(0.157)	(0.155)
CL-MC	+				0.317[a]	0.264[a]	0.221[b]	0.225[b]	0.175[c]
					(0.096)	(0.082)	(0.086)	(0.089)	(0.092)
AN-F	+				0.016[a]	0.006	0.012[a]	0.012[a]	0.01[b]
					(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
ACC	+				1.304[a]	0.479[b]	0.893[a]	0.891[a]	0.779[a]
					(0.157)	(0.221)	(0.172)	(0.181)	(0.275)
ICC	insignif.	-0.000						0.004	
		(0.087)						(0.055)	
Z-RET	-								-0.195
									(0.133)
Trend	+	0.012[a]	0.011[a]	0.010[a]	0.013[a]	0.007[a]	0.010[a]	0.010[a]	0.008[b]
		(0.004)	(0.004)	0.004	(0.003)	(0.002)	(0.003)	(0.003)	(0.003)
Controls			yes	yes	yes	no	yes	yes	yes
Nobs		245	230	218	194	187	187	187	177
Adj. R^2		10.1%	24.3%	20.8%	57.5%	53.4%	56.8%	49.3%	52.3%

Integration & implicit barriers

Baseline Model: II not related to explicit barriers

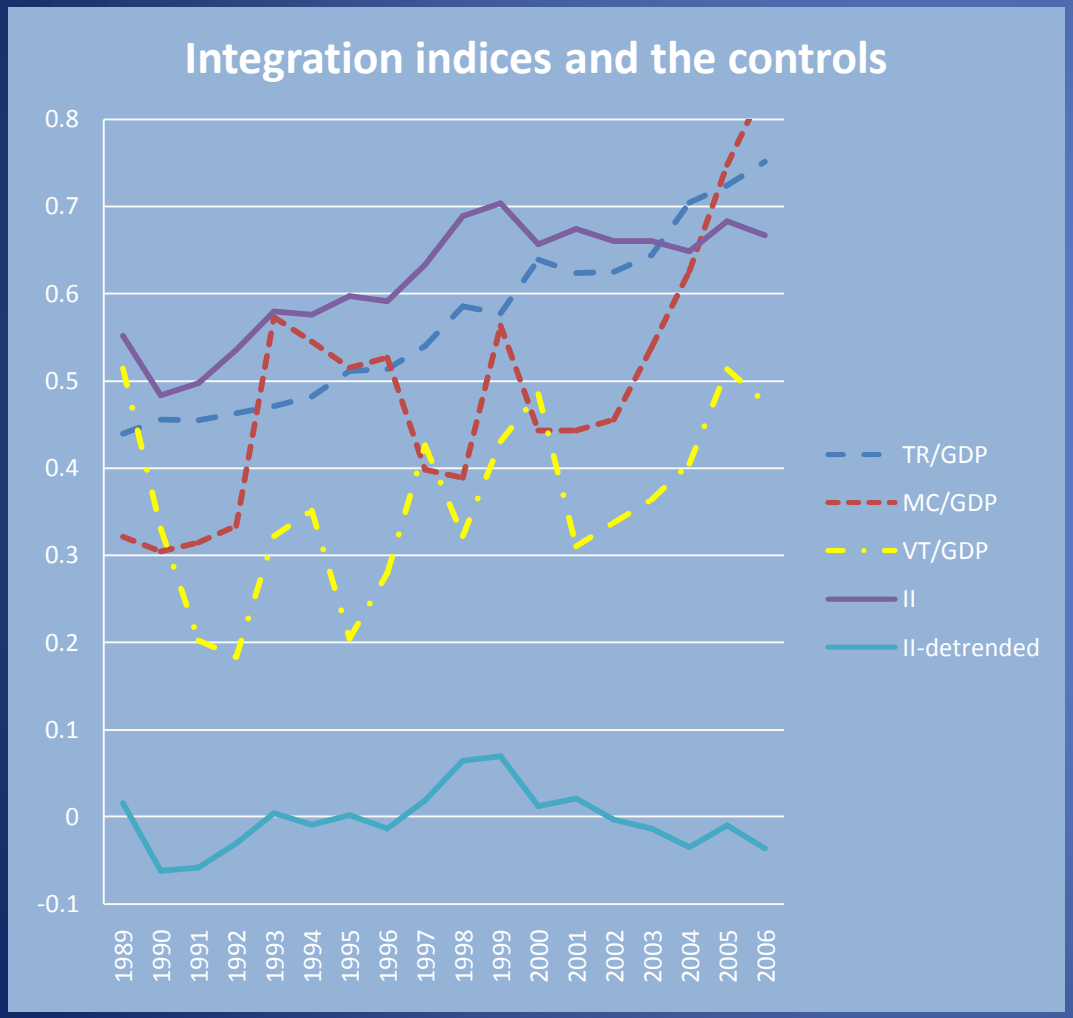
Main Models

- Some correlations among variables-within and across environments-are high. Hence we assess impact of each environment separately. POL significant when Poland, Czech or Indonesia removed. CIVIL significant when Pakistan is removed. C-HELD, CL-MC, ACC, AN-F are all significant. Trend significant except with CL-MC or CL-N which are both trending.
- Multivariate regressions suggest that countries with sound institutions and from common law origin, with less concentrated ownership, with a more transparent information environment and less information asymmetry are those that are more integrated with the world. Controls do not affect results.

Statistical Upper Bound: Regress II on country dummies and period fixed effects. Adj. R square is 77% (63%) compared to 42% (57%) in full (small) cross-section.

- Country characteristics used as proxy for implicit barriers substantially dominate market and economic development proxies in explaining the variation in the integration index measure.

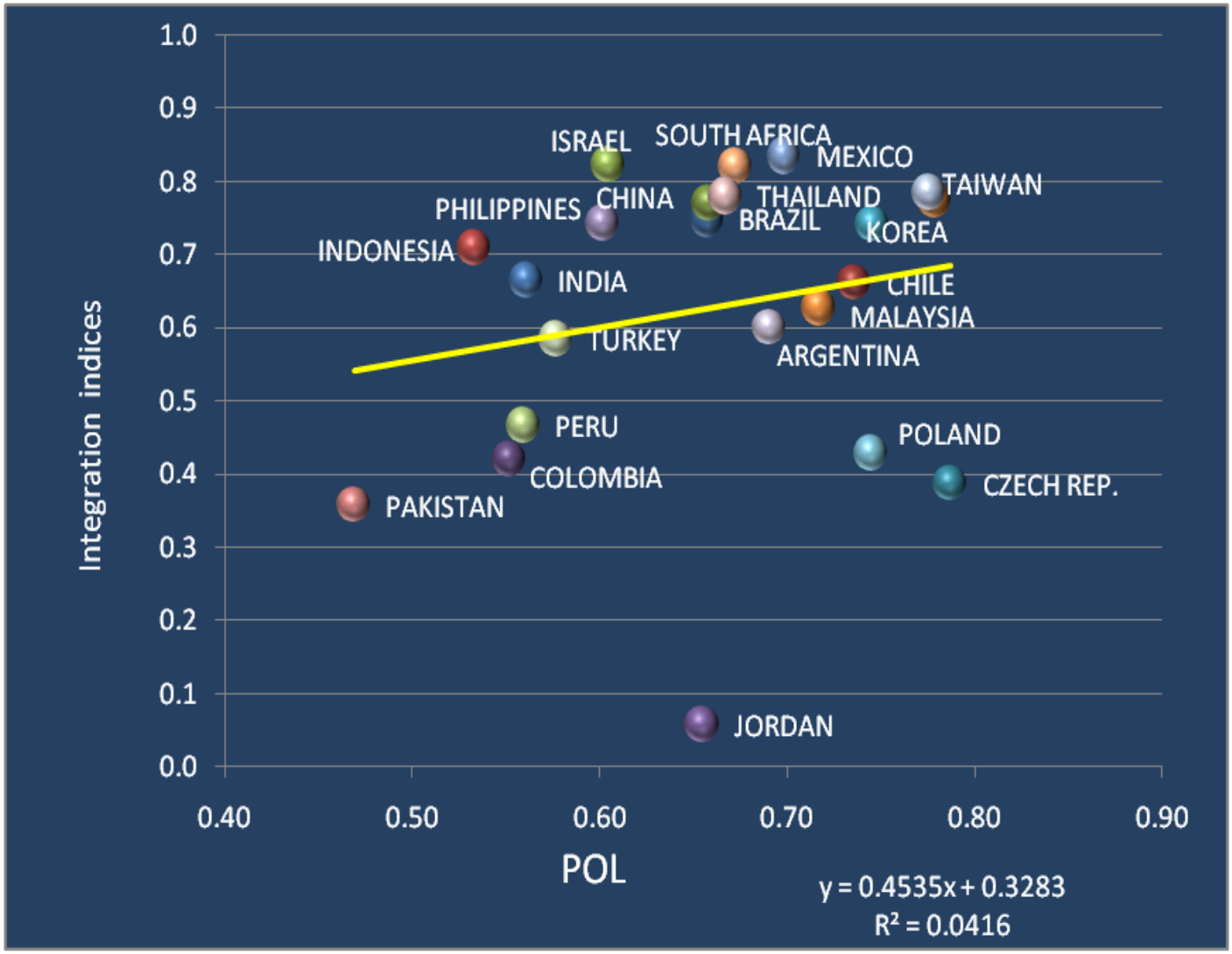
Investigating the insignificant relationship with the controls



Pairwise Correlations between the integration indices (II and II - detrended) and the control variables

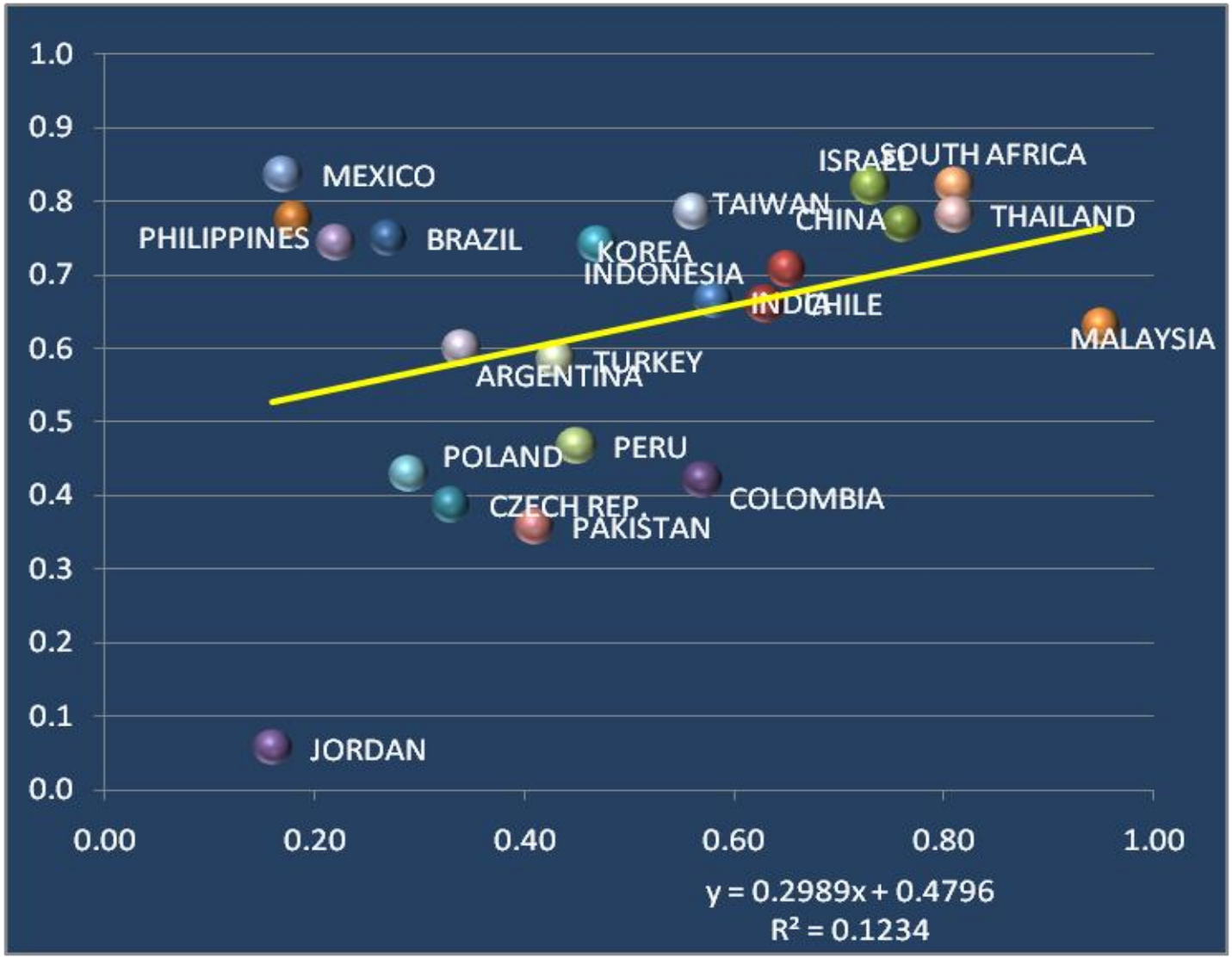
	II	II-detrended
TR/GDP	0.81	0.08
MC/GDP	0.57	-0.02
VT/GDP	0.49	0.26

Integration indices and Political risk



High score of ICRG country rating → low risk

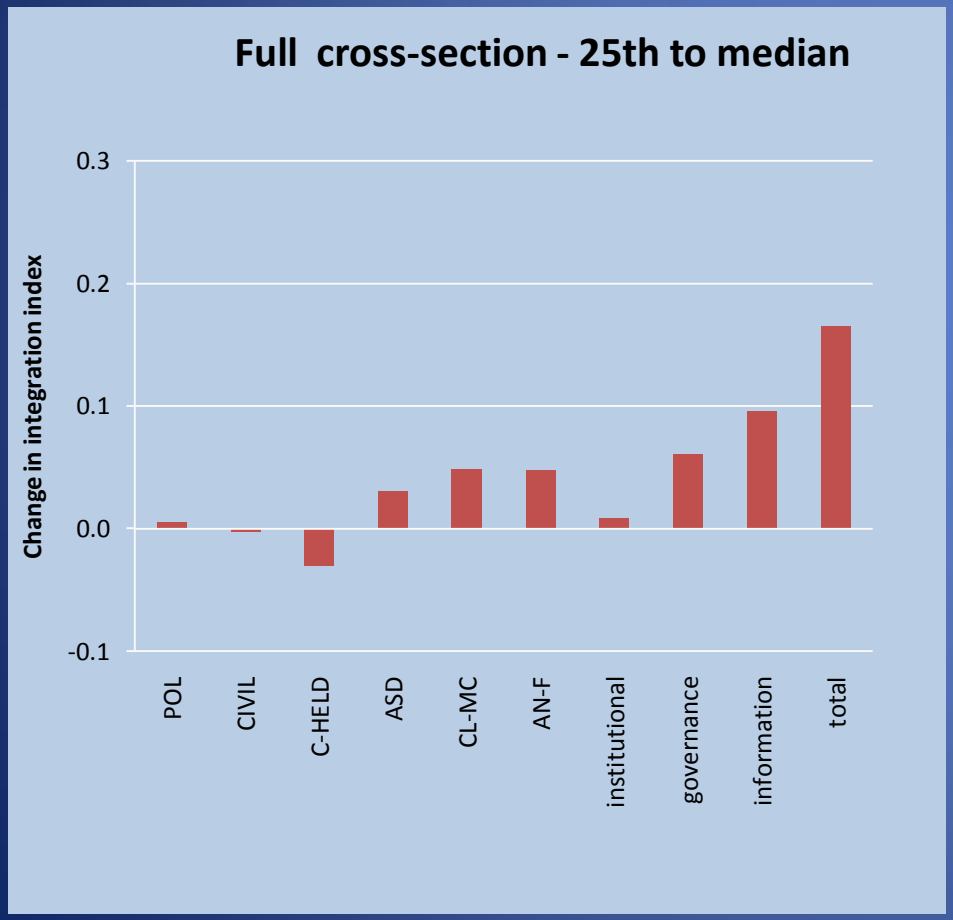
Integration indices and Investor Protection

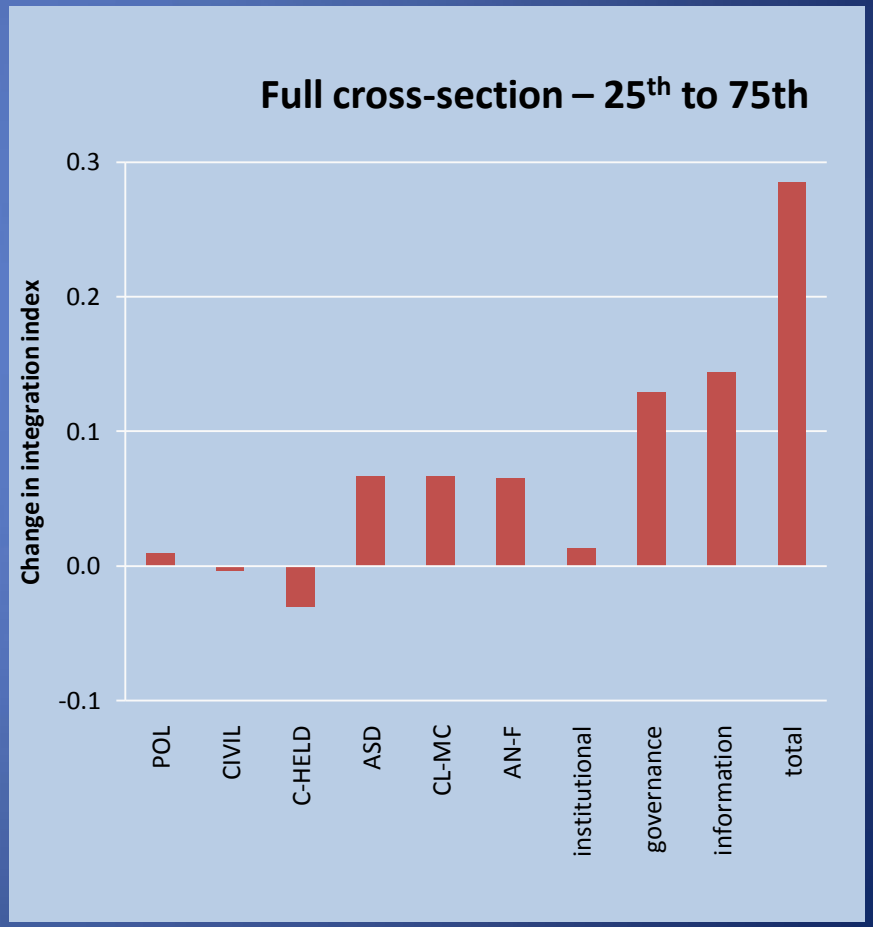


High score of ASD index → better investor protection

Economic significance

A country move from the 25th percentile to the 75th percentile increases integration index by about 30% as a result of joint reduction in all implicit barriers.





Extensions

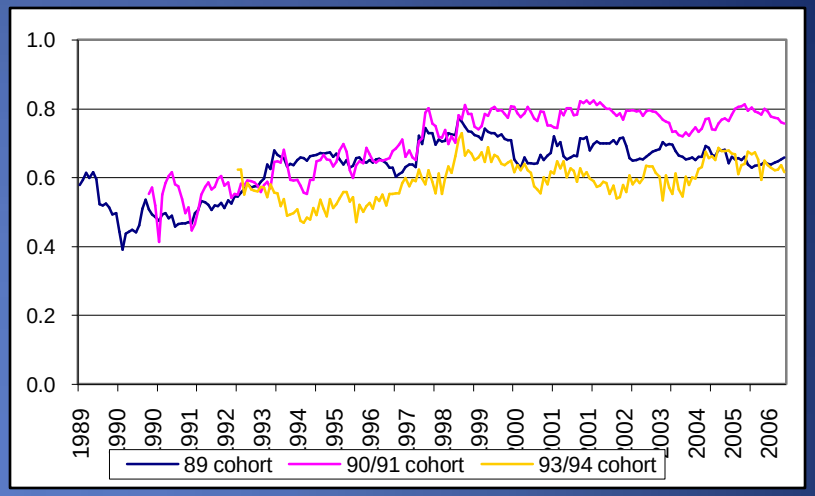
- Concern that some of our proxies for implicit barriers might be strongly linked to the liberalization process. We include intensity of capital controls (ICC) as a proxy for explicit barriers. It is still insignificant as in the baseline model.
- High transaction costs are another potential obstacle for investing in EMs. We find that markets with lower transaction costs have higher level of integration; however the coefficient is not significant.
- Insider trading law enforcement is associated with a significant decrease in the country-level cost of equity. We find that integration is larger in countries in which insider trading law is enforced. However, the coefficient is insignificant,
- It might be the case that some of our explanatory variables are significant only because they are determined by the legal tradition. We find that the interaction effects for the legal origin with all our other proxies of implicit barriers are insignificant. Thus each variable provides information on importance of different environments that is independent of legal origin.
- In all cases, the evidence on main effect of all our variables is unaffected

Robustness - Choice of the eligible set

Lack of significance due to lower cross-sectional variation in benchmark II from exclusion of substitute assets

Panel A of Table 6 – Full cross-section

	dependent variable	II	benchmark II
	predicted sign	(5a)	(8)
POL	+	0.065	0.144
		(0.271)	(0.267)
CIVIL	-	-0.004	0.049
		(0.049)	(0.066)
C-HELD	-	**-0.344[a]**	**-0.205[c]**
		(0.087)	(0.111)
ASD	+	0.193	**0.289[b]**
		(0.124)	(0.139)
CL-MC	+	**0.374[a]**	0.128
		(0.097)	(0.107)
AN-F	+	**0.024[a]**	0.010
		(0.007)	(0.007)
Trend	+	0.008[a]	0.006[c]
		(0.003)	(0.003)
Controls		yes	yes
Nobs		269	269
Adj. R^2		**42.1%**	28.3%



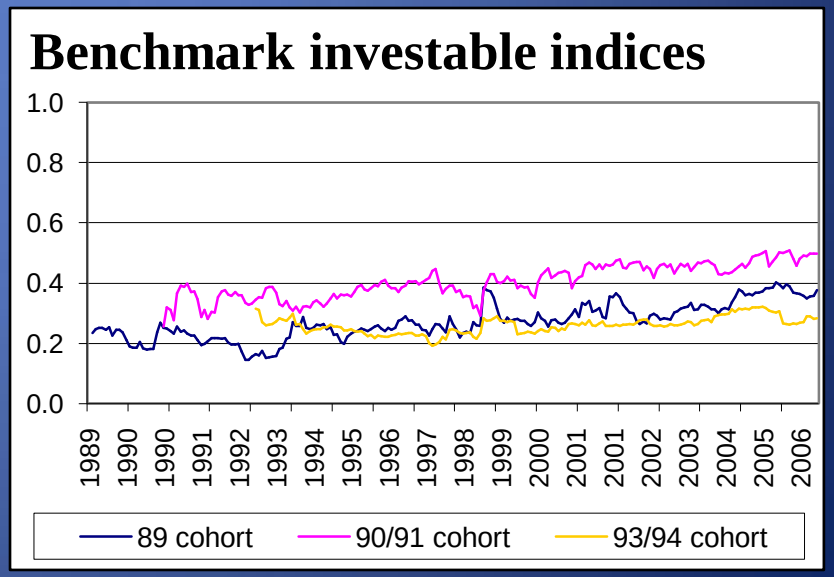


Table II- Panel B

Panel B - Benchmark Integration Index

	Mean	Before 1995	After 2001	Std. Dev.	Obs.
ARGENTINA	0.221	0.139	0.294	0.111	18
BRAZIL	0.364	0.189	0.539	0.171	18
CHILE	0.242	0.161	0.329	0.101	18
CHINA	0.551	0.607	0.543	0.090	14
COLOMBIA	0.202	0.180	0.201	0.034	14
CZECH REPUBLIC	0.273	0.186	0.351	0.099	13
HUNGARY	0.353	0.341	0.359	0.047	14
INDIA	0.256	0.197	0.393	0.133	14
INDONESIA	0.392	0.406	0.390	0.052	17
ISRAEL	0.525	0.459	0.554	0.090	14
JORDAN	0.059	0.059	0.078	0.056	18
KOREA	0.513	0.361	0.597	0.113	15
MALAYSIA	0.454	0.482	0.462	0.089	18
MEXICO	0.366	0.279	0.490	0.115	18
PAKISTAN	0.078	0.087	0.081	0.025	14
PERU	0.206	0.205	0.215	0.025	14
PHILIPPINES	0.452	0.448	0.412	0.056	18
POLAND	0.315	0.179	0.415	0.125	13
SOUTH AFRICA	0.618	0.600	0.625	0.022	14
TAIWAN	0.483	0.480	0.479	0.057	16
THAILAND	0.467	0.441	0.468	0.085	18
TURKEY	0.249	0.176	0.391	0.114	18
Country pool	0.347	0.303	0.394	0.151	348

Other Robustness Checks

Our results are robust to:

- Different specifications and alternate independent variables confirm our main results
- Other specifications of time dynamics of the panel – Time dummies for break significant for 1997 &1998. No significant interaction between time dummies & implicit variables.
- we are implicitly assuming that the countries are similar in all aspects other than those captured by the variables being considered. Rerun excluding some regions e.g. countries that joined EU, Latin America or Asia and sub sample of CIVIL law countries.
- Our results indicate associations rather than causality

Panel A of Table 7 – Robustness (alternate variables)

	Predicted sign	*dependent variable = II*				
		(1)	**(2)**	**(3)**	**(4)**	**(5)**
RISK-EXP	+	**0.11[c]**				
		(0.059)				
RULE-LAW	+		**0.062[b]**			
			(0.031)			
CIVIL	-	-0.033	-0.088			
		(0.088)	(0.110)			
C-HELD	-			**-0.349[b]**		
				(0.136)		
OWC	-				0.381	0.252
					0.359	(0.415)
A-DIR	+			0.027	**0.117[a]**	
				(0.036)	(0.042)	
ASD	+					0.349
						(0.332)
Trend	+	0.011[a]	0.013[a]	0.008[b]	0.008[b]	0.010[b]
		(0.003)	(0.004)	(0.003)	(0.004)	(0.004)
Controls		yes	yes	yes	yes	yes
Nobs		293	293	322	293	293
Adj. R^2		23.2%	20.1%	10.8%	32.8%	13.8%

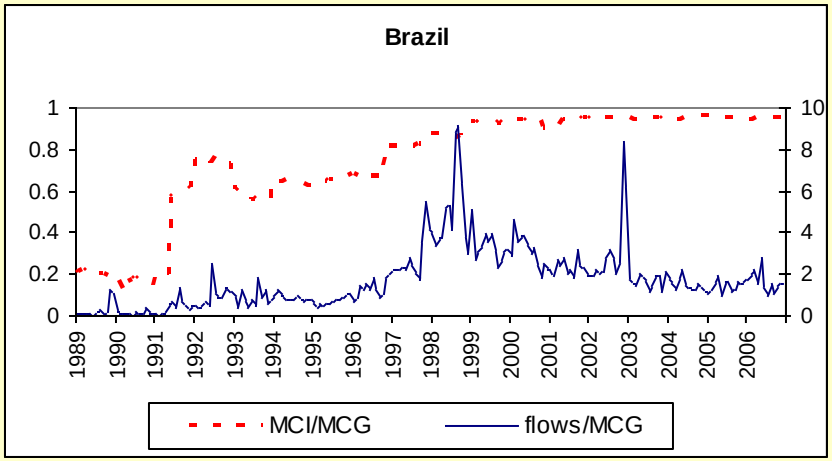
Panel B of Table 7 - Robustness (alternate variables) – Small cross-section

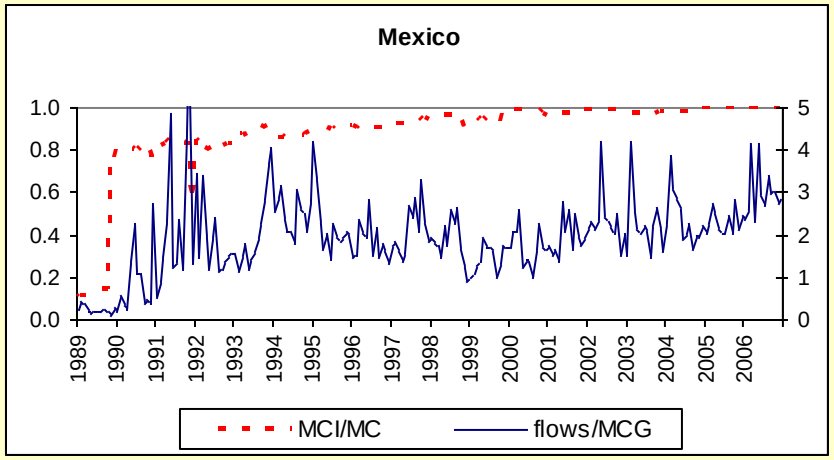
	Predicted sign	dependent variable = II						
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
AN-F	+	0.023[a]	0.024[a]	0.019[a]				
		(0.006)	(0.007)	(0.005)				
AN-D	+				0.247[a]	0.257[a]	0.375[a]	0.377[a]
					(0.053)	(0.062)	(0.053)	(0.057)
ACC	+			1.115[a]	1.289[a]	1.169[a]		
				(0.211)	(0.144)	(0.188)		
DISC	+	0.042	0.041				0.171	0.212
		(0.172)	(0.166)				(0.133)	(0.124)
CL-MC	+	0.362[a]			0.340[a]		0.334[b]	
		(0.122)			(0.077)		(0.130)	
CL-N	+		1.089[a]	0.653[a]		0.543[a]		0.738[c]
			(0.345)	(0.223)		(0.207)		(0.390)
Trend	+	0.0055	0.0018	0.010[a]	0.014[a]	0.015[a]	0.010[a]	0.010[c]
		(0.004)	(0.005)	(0.003)	(0.003)	(0.004)	(0.004)	(0.006)
Controls		yes	yes	yes	yes	yes	yes	yes
Nobs		208	223	209	194	209	208	223
Adj. R^2		41.6%	40.0%	52.4%	61.1%	51.6%	44.9%	41.1%

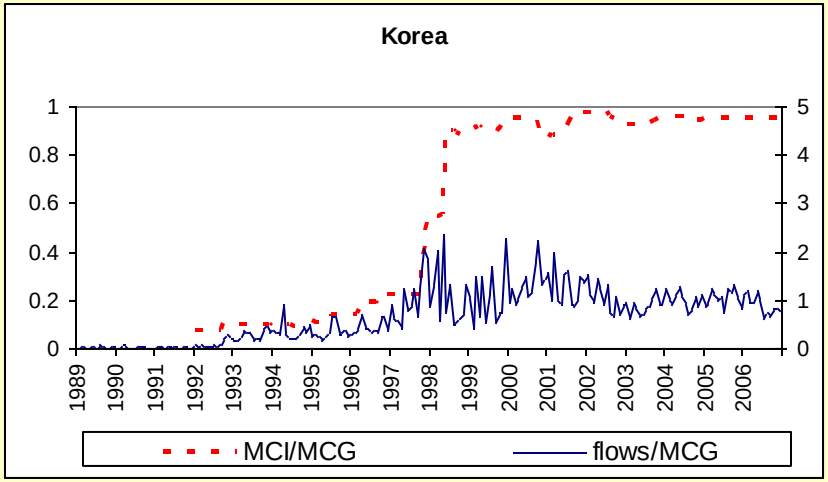
Conclusion

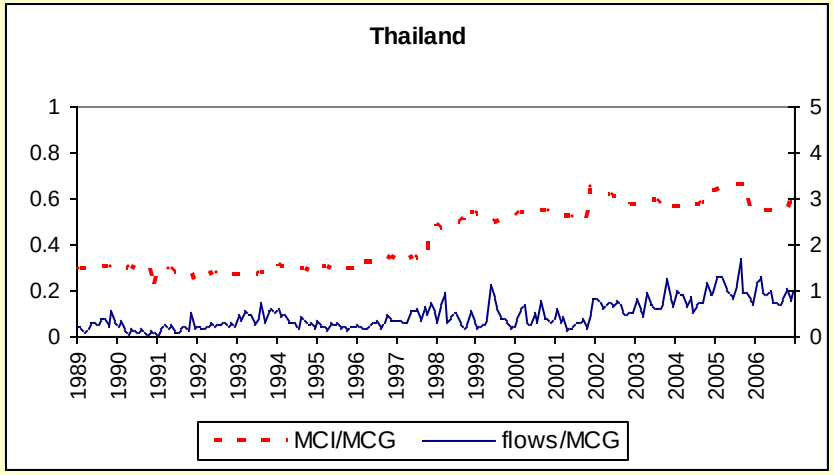
- ***Both*** global and local risk are important pricing factors
- Average degree of Integration is 0.63, with a standard deviation of .20 - there is wide variation among EMs
- Reduction in explicit barriers in conjunction with market liberalization does not lead to global pricing of investable indices → market segmentation due to implicit barriers
- Institutional environment, corporate governance and quality of information play a major role in financial globalization
- Policy and portfolio implications

Investability and portfolio investment flows

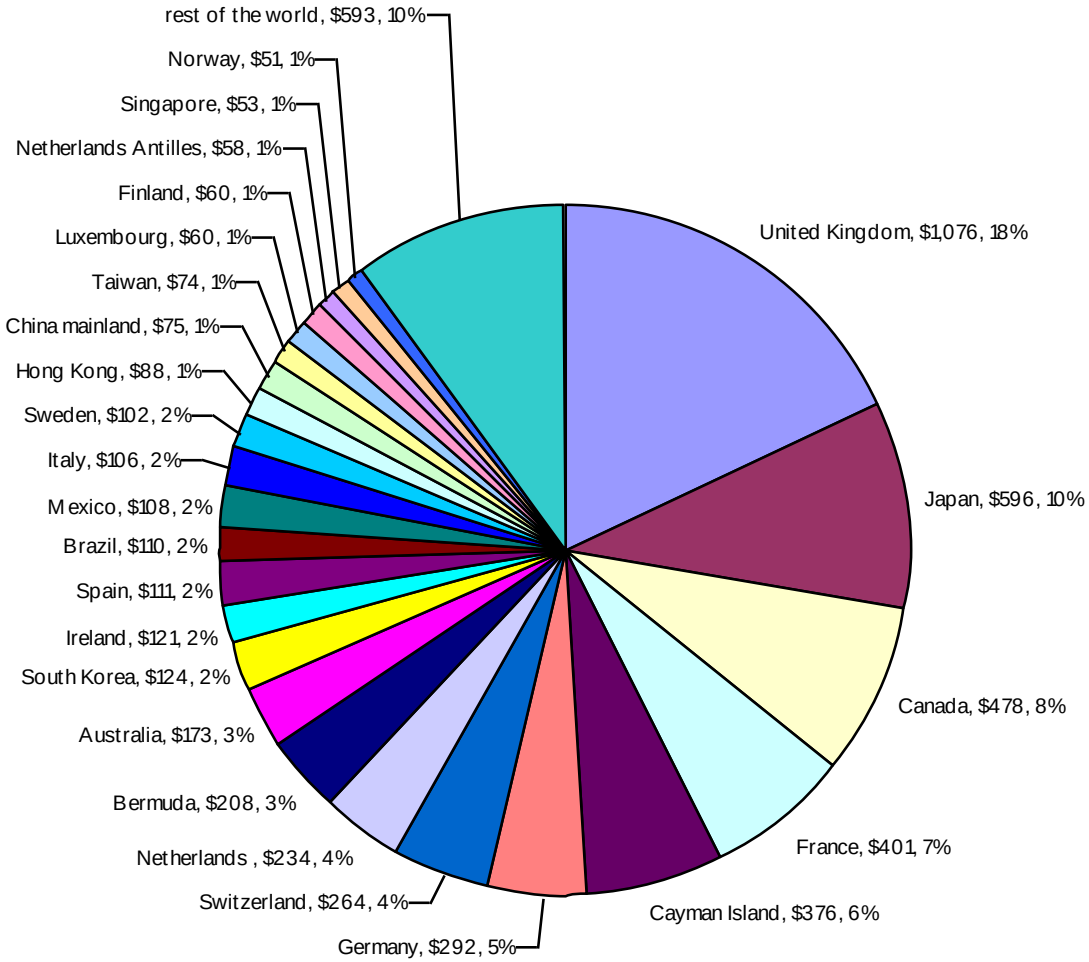








US Treasury Survey of Foreign Portfolio Holdings



2006

Total holdings: $5.9 trillion

EM as % of top 25: 8.5%