

Whither Latin American Capital Markets?

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Structure of Presentation

1. Motivation and Approach of Study
2. Stock Market Development
3. Bond Market Development
4. Open Questions in Capital Markets

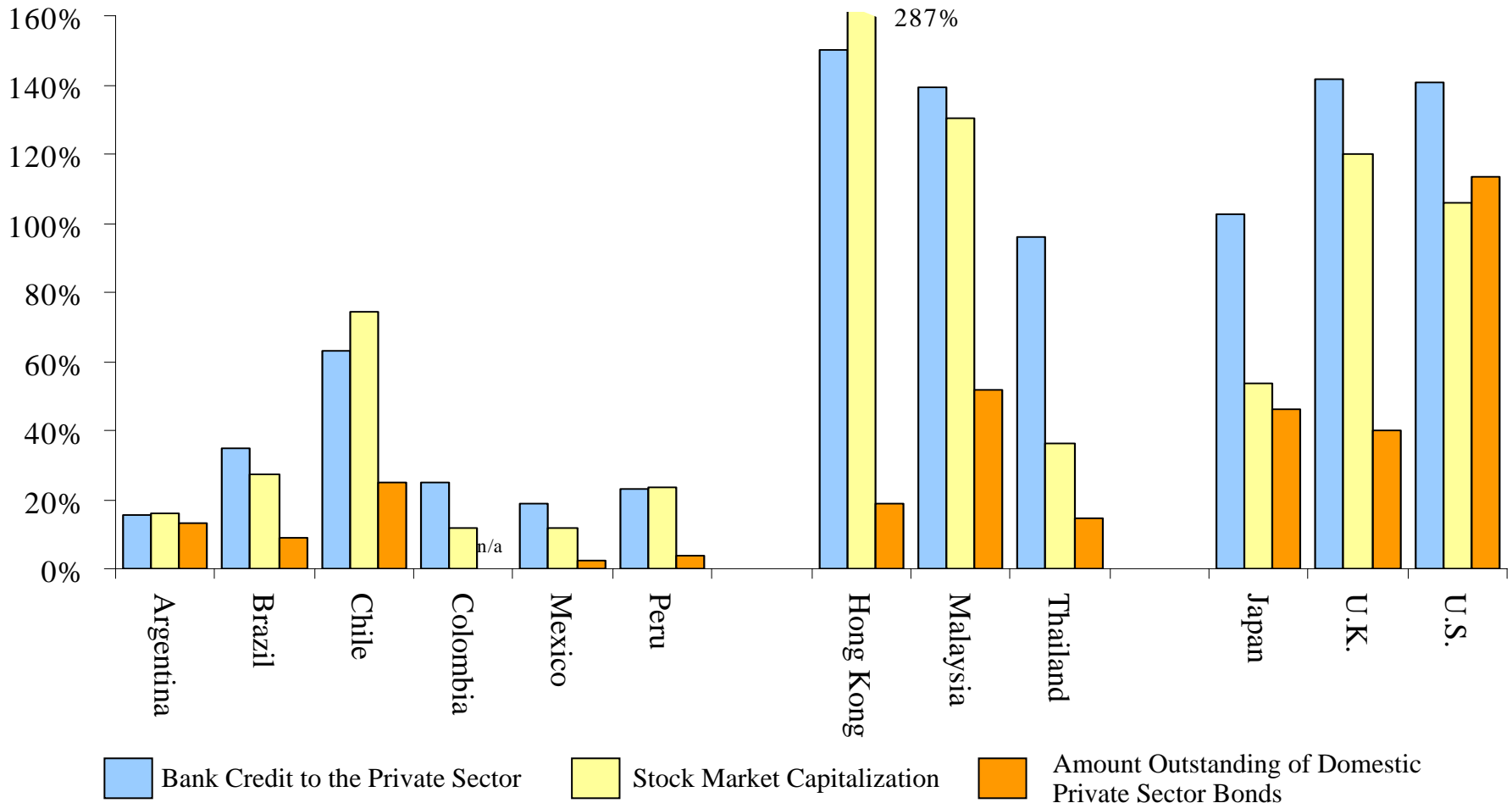
1. Motivation and Approach

- ✦ Domestic capital markets (equity and private bonds) in LAC have under-performed other regions over the last decade...
 - Bank credit has not compensated for this under-performance
- ✦ ...despite the intense reform effort and high expectations
- ✦ But LAC has been a leader in embracing global capital mkts
- ✦ Motivating questions
 - Why the shortage in outcomes relative to expectations?
 - Is there a need to recast the reform agenda? And how?
- ✦ Approach – study LAC in an international context
 - International financial integration is not a detail

Domestic Financial Markets in LAC are Underdeveloped

Financial Sector Size Across Countries

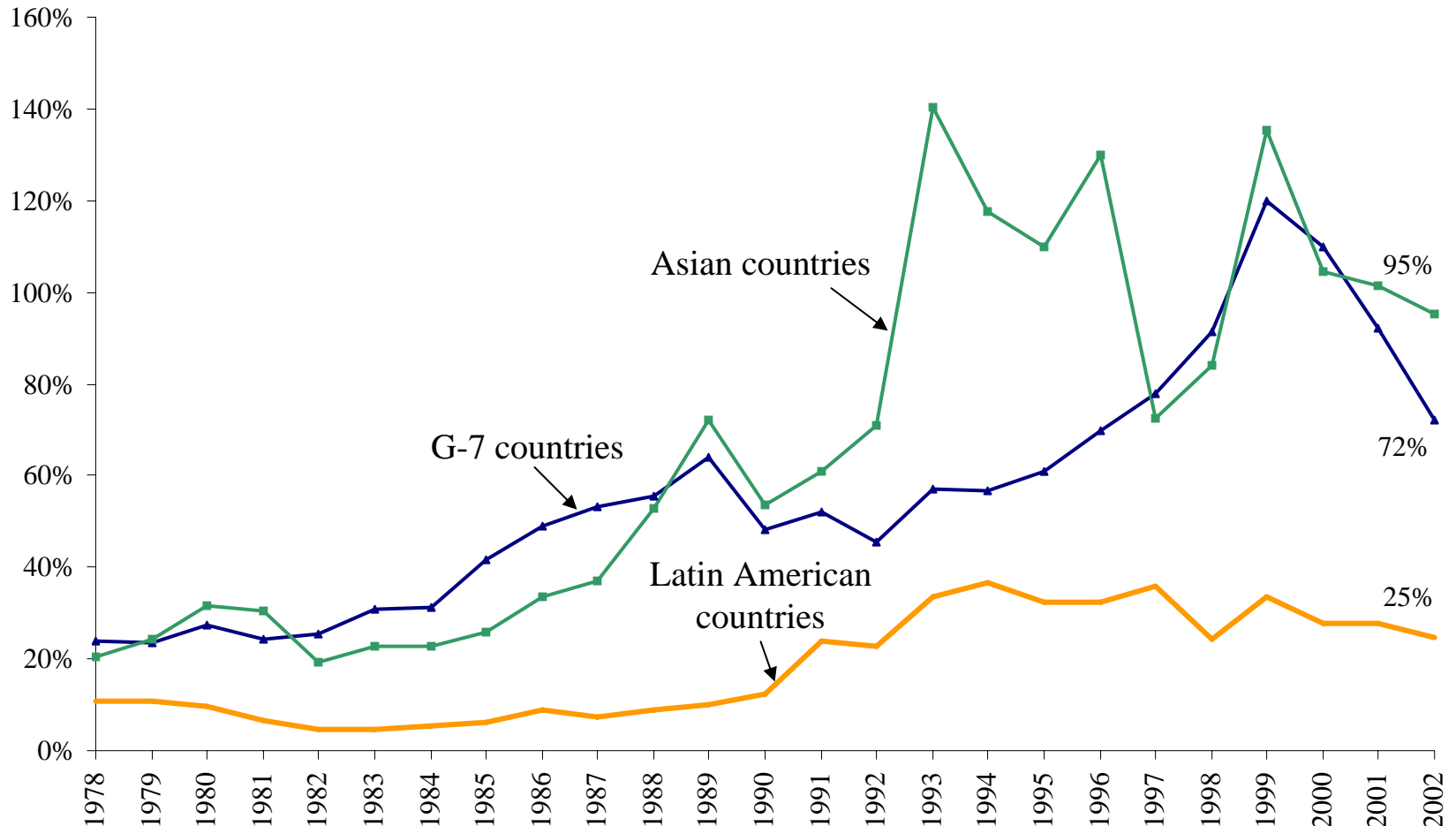
Percentage of GDP,
2002



Stock Market Capitalization in LAC has Lagged Compared to Other Regions...

Stock Market Capitalization

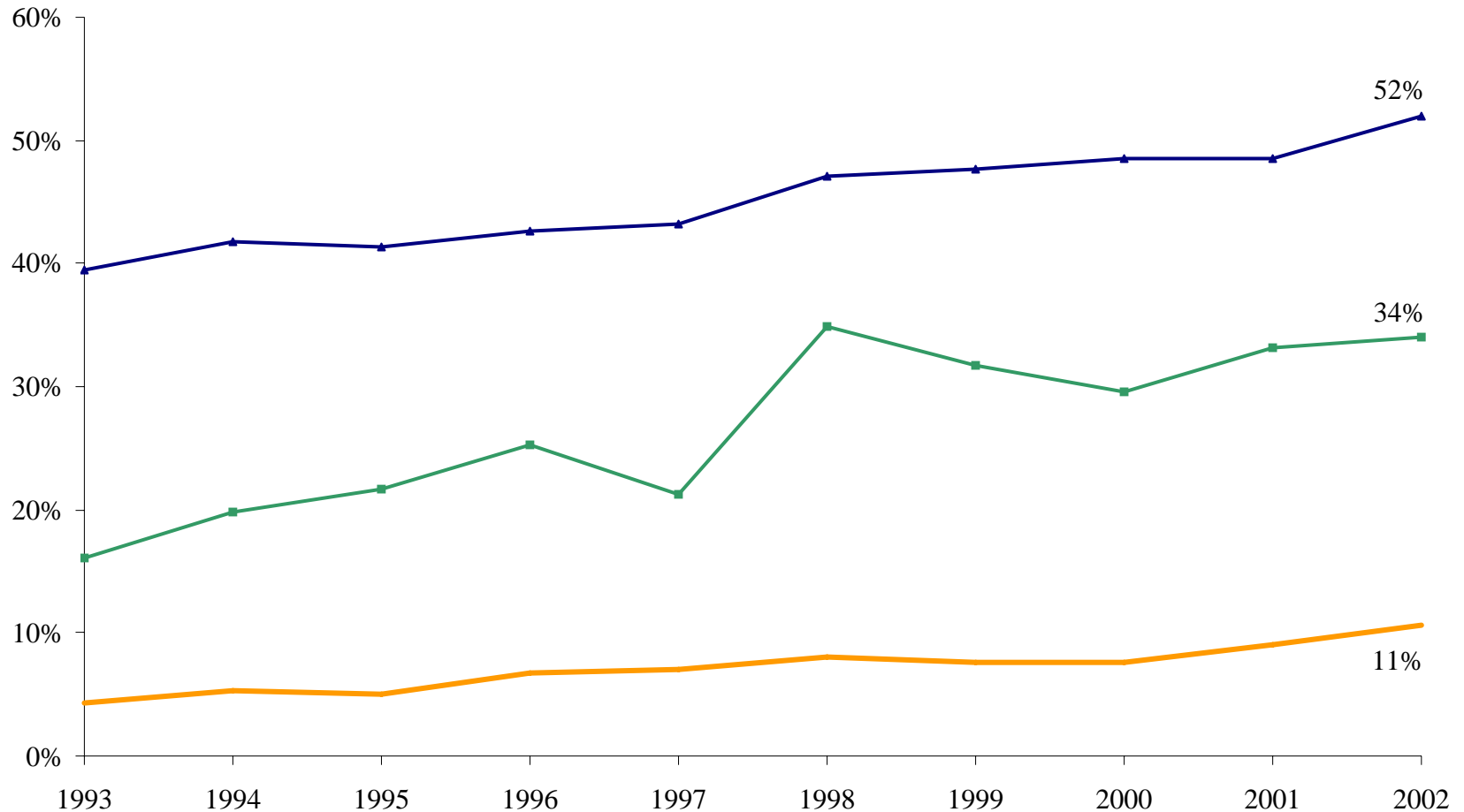
Percent of GDP



...and so have Domestic Private Sector Bond Markets

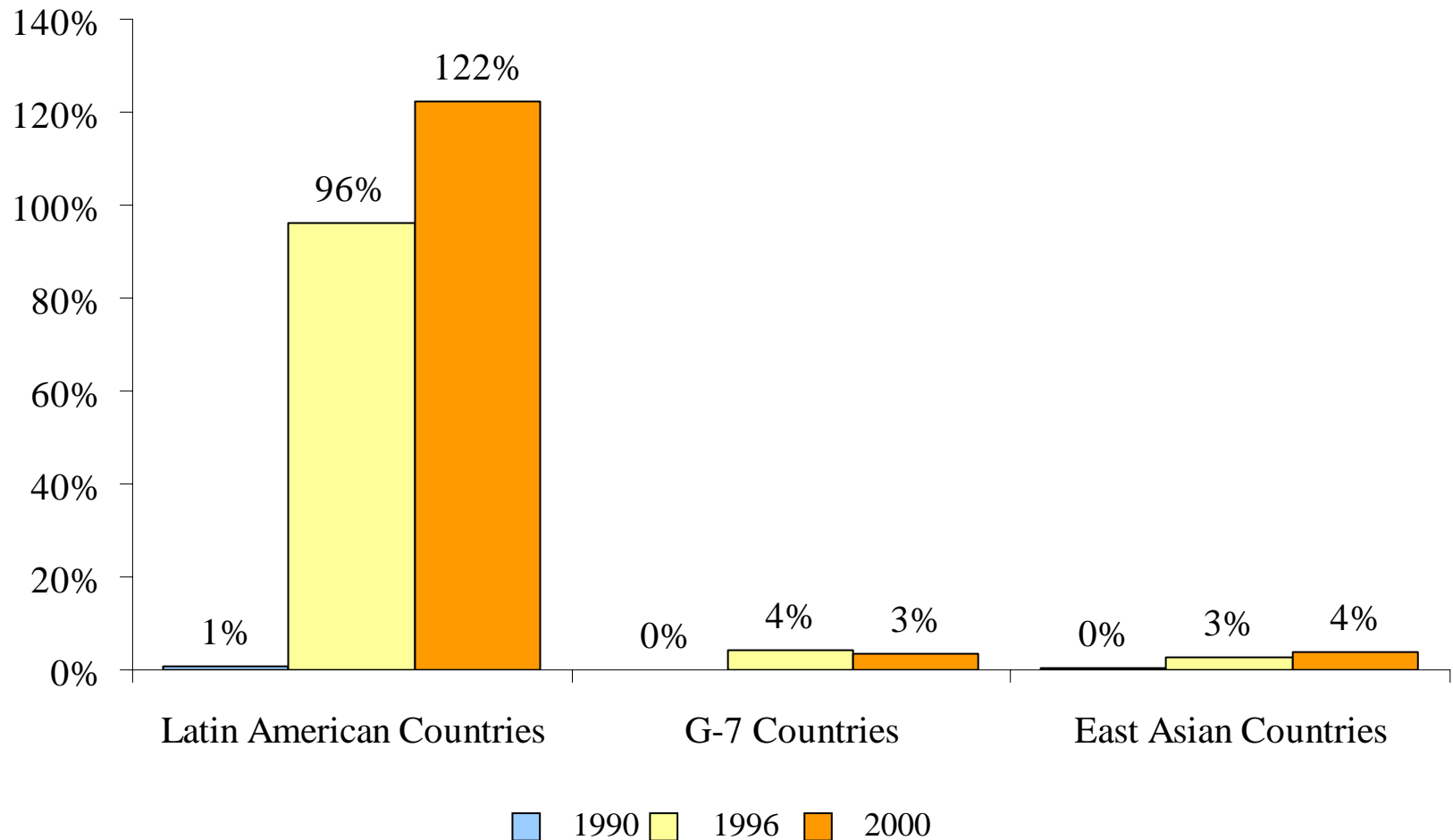
Domestic Private Sector Bonds Outstanding

Percent of GDP

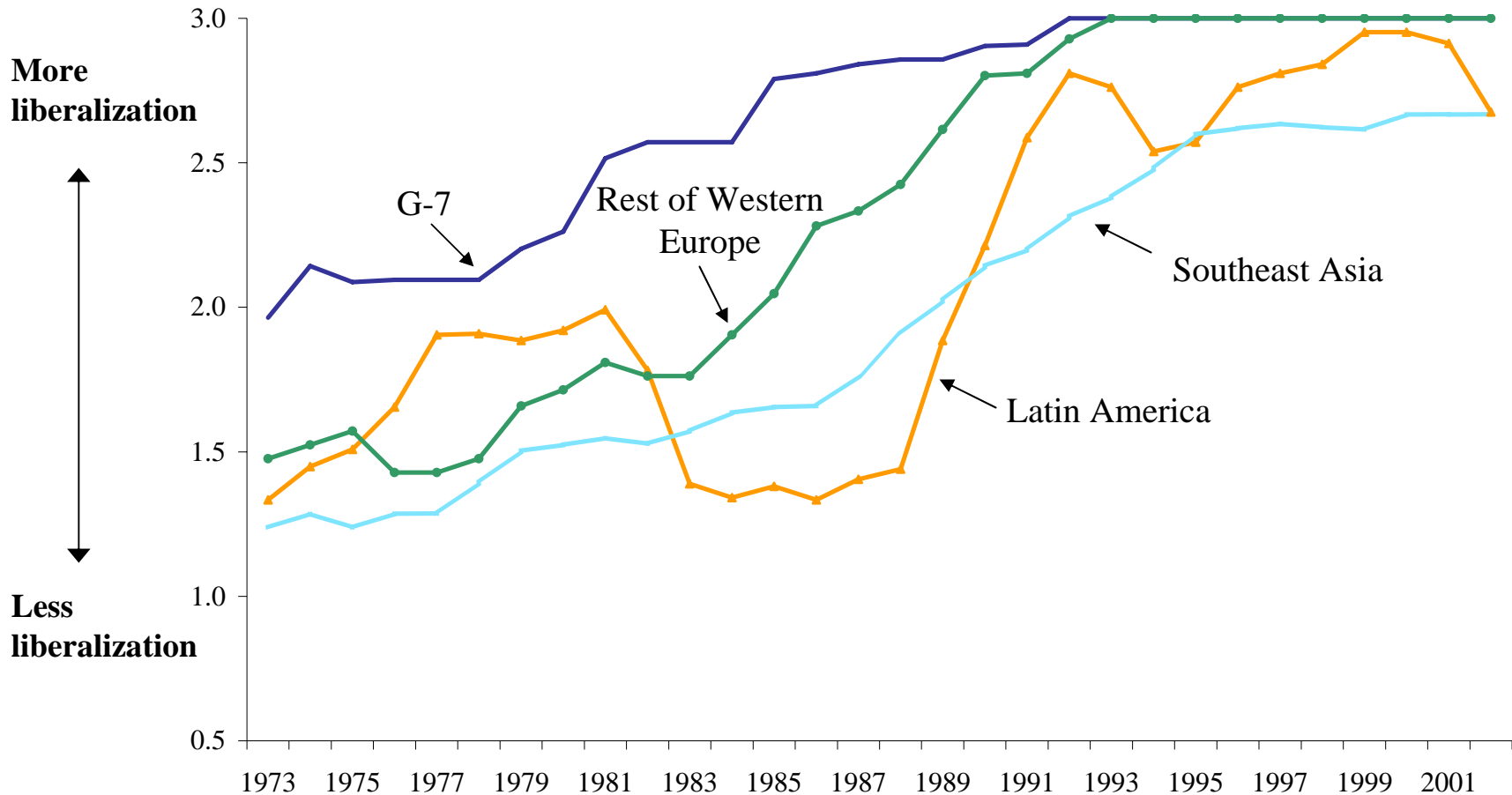


But International Trading of LAC Stocks has Exceeded that of Other Regions

Ratio of Value Traded Abroad to Value Traded Domestically



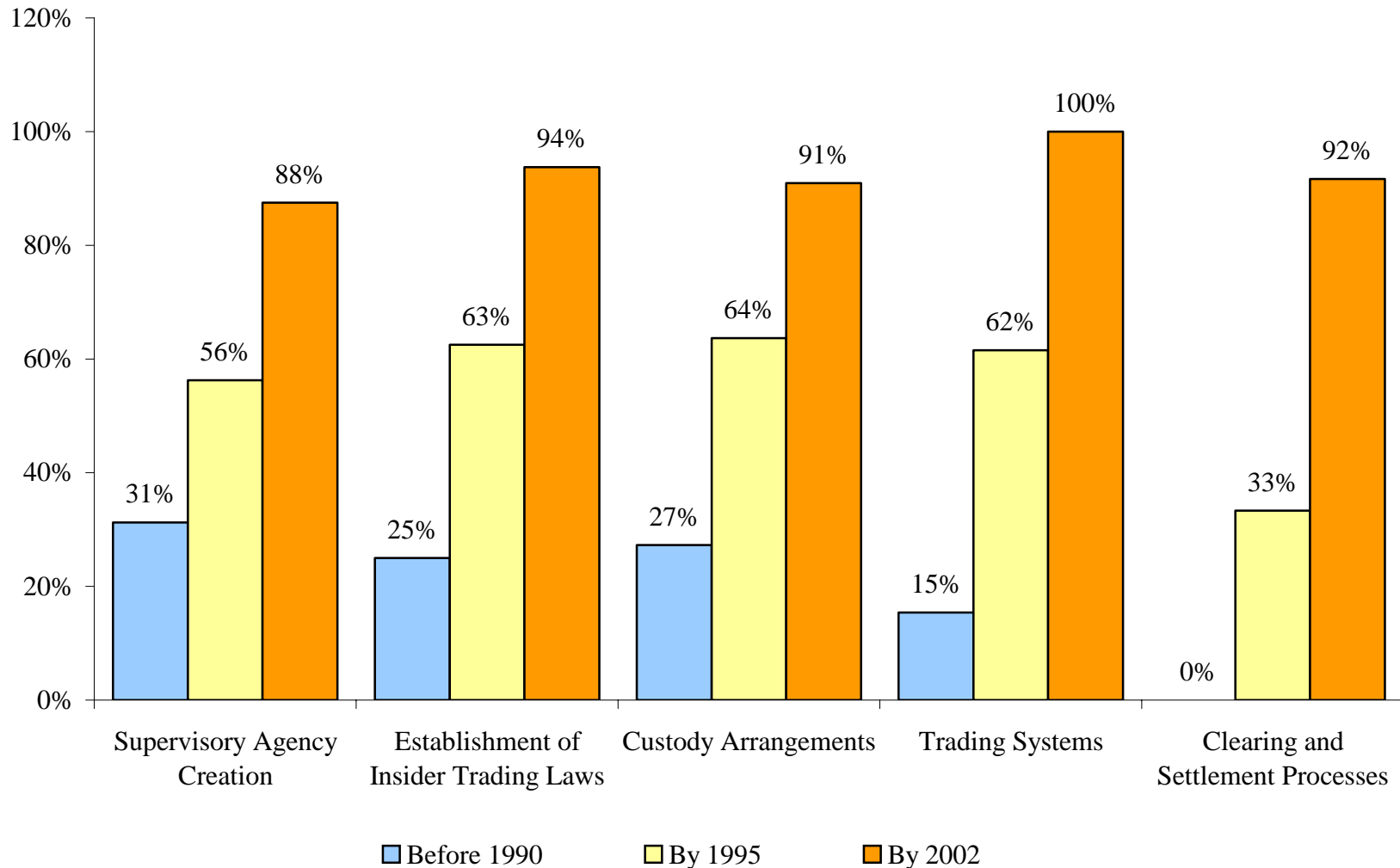
However, No Shortage of Reforms: Financial Liberalization



The liberalization index is calculated as the simple average of three indices (liberalization of the capital account, domestic financial sector, and stock market) that range between 1 and 3, where 1 means no liberalization and 3 means full liberalization. These data are then aggregated as the simple average between countries of each region.

However, No Shortage of Reforms: Capital Markets Laws, Regulation, and Infrastructure

Percentage of Latin American Countries Having Implemented Reforms



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2. Stock Market Development

Main Characteristics of Equity Contracts

- ✦ No default risk
 - Variable income: payments depend on the issuer's performance
- ✦ Internationalization does not generate vulnerabilities in the balance sheet of issuers
 - Firm performance might be affected by exchange rate fluctuations, but effects are passed on to investors via dividends
- ✦ Attention concentrated on links between corporate governance and market development/internationalization

2. Stock Market Development

Main Questions

- ✚ What is the impact of macroeconomic and institutional fundamentals *and* reforms on
 - Domestic stock market development?
 - The internationalization process?
- ✚ What is the impact of internationalization on domestic mkts?
- ✚ Theory gives ambiguous predictions re: internationalization
 - Fundamentals can increase or decrease use of int'l markets
 - ✚ No need to escape bad milieus *versus* easier access to foreign markets
 - Internationalization can hinder or spur domestic markets
 - ✚ More liquidity plus crowding in *versus* migration, negative spillovers and trade diversion at home

2. Stock Market Development

Method and Data

- Panel and time series regressions, domestic and international market activity
- Data on domestic and international activity from 1975 to 2000 for 82 countries
- Data on international activity for 3,000 firms

Low-Income Countries		Middle-Income Countries	High-Income Countries	
Armenia	Lithuania	Argentina	Australia	Norway
Azerbaijan	Macedonia	Botswana	Austria	Portugal
Bangladesh	Moldova	Brazil	Belgium	Singapore
Bulgaria	Morocco	Chile	Britain	Slovenia
China	Nigeria	Croatia	Canada	Spain
Colombia	Pakistan	Czech Republic	Denmark	Sweden
Cote D'Ivoire	Peru	Estonia	Finland	Switzerland
Ecuador	Philippines	Hungary	France	Taiwan
Egypt	Romania	Korea	Germany	United States
Ghana	Russia	Malaysia	Greece	
India	Sri Lanka	Mauritius	Hong Kong	
Indonesia	Thailand	Mexico	Ireland	
Iran	Tunisia	Poland	Israel	
Jamaica	Ukraine	Saudi Arabia	Italy	
Jordan	Uzbekistan	Slovak Republic	Japan	
Kazakhstan	Zimbabwe	South Africa	Luxembourg	
Kenya		Trinidad & Tobago	Malta	
Kyrgyz Republic		Turkey	Netherlands	
Latvia		Venezuela	New Zealand	

2. Stock Market Development

Summary of Results

- ✦ Better macroeconomic & institutional *fundamentals* foster
 - Domestic stock market development...
 - ...as well as the internationalization of equity trading and issuance
- ✦ Better *fundamentals* accelerate internationalization, increasing the ratio of international to domestic activity
- ✦ *Reforms* are found to have similar impacts (on domestic & internationalization dimensions) over time within countries
 - Results are not just driven by cross-country variations
- ✦ The *internationalization* of stock trading/issuance adversely affects turnover of domestic (non-internationalized) firms

2. Stock Market Development Fundamentals and Domestic Markets

Dependent Variable	Market Capitalization / GDP			Value Traded Domestically / GDP		
Log of GDP per capita	0.14 ***	0.16 ***	0.10 ***	0.11 ***	0.10 ***	0.07 ***
Law and Order	0.03 *	0.01	0.04 **	0.00	-0.01	0.02
Shareholders Rights			0.11 **			0.03
Log (1 + Inflation)						
Government Deficit / GDP	-2.63 ***	-1.77 ***	-2.14 ***	-1.43 ***	-1.24 ***	-1.62 ***
Capital Account Liberalization	0.05			0.00		
Total Equity Flows / GDP		3.85 ***	2.35 ***		2.85 ***	1.81 ***
No. of Observations	843	802	401	838	797	399
No. of Countries	73	71	58	73	71	58
R-squared	0.229	0.270	0.265	0.175	0.233	0.239

Least square regressions estimated using random effects models for a panel of 82 countries between 1975 and 2000. A constant is estimated but not reported.

*, **, *** mean significant at 10, 5, and 1 percent, respectively

2. Stock Market Development Fundamentals and Internationalization

Dependent Variable	Market Capitalization of International Firms / GDP			Value Traded Abroad / GDP		
Log of GDP per capita	0.08 ***	0.08 ***	0.07 ***	0.03 ***	0.02 ***	0.03 ***
Law and Order	0.04 ***	0.04 ***	0.03 **	0.00	0.00	0.00
Shareholders Rights			0.00			0.00
Log (1 + Inflation)						
Government Deficit / GDP	-0.93 ***	-0.69 ***	-0.66 **	-0.18 ***	-0.05	-0.13 **
Capital Account Liberalization	0.04			0.01		
Total Equity Flows / GDP		3.53 ***	3.25 ***		0.64 ***	0.94 ***
No. of Observations	557	536	365	611	574	380
No. of Countries	66	64	53	70	67	54
No. of Uncensored Obs.	441	423	312	287	276	215
No. of Left-Censored Obs.	116	113	53	324	298	165

Tobit regressions estimated using random effects models for a panel of 82 countries between 1975 and 2000. A constant is estimated but not reported.

*, **, *** mean significant at 10, 5, and 1 percent, respectively

2. Stock Market Development Fundamentals and Internationalization Ratio

Dependent Variable	Market Capitalization of International Firms / Total Market Capitalization			Value Traded Abroad / Value Traded Domestically		
	Log of GDP per capita	0.15 ***	0.14 ***	0.11 ***	0.43 ***	0.35 ***
Law and Order	0.04 ***	0.05 ***	0.03 ***	0.10	0.11 ***	0.09 ***
Shareholders Rights			0.00			0.00
Log (1 + Inflation)						
Government Deficit / GDP	-0.72 ***	-0.22	0.20	-0.83	1.78 **	1.80 ***
Capital Account Liberalization	0.06 ***			0.26 **		
Total Equity Flows / GDP		3.22 ***	3.33 ***		5.38 ***	6.72 ***
No. of Observations	528	516	354	567	541	372
No. of Countries	65	64	53	67	65	55
No. of Uncensored Obs.	433	417	307	282	269	211
No. of Left-Censored Obs.	95	99	47	285	272	161

Tobit regressions estimated using random effects models for a panel of 82 countries between 1975 and 2000. A constant is estimated but not reported.

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2. Stock Market Development Reforms and Domestic Market Capitalization

Dependent Variable: Market Capitalization / GDP

Financial liberalization	0.244	***				
Infrastructure reform			0.427	***		
Institutional reform					0.233	***
Enforcement of insider trading laws						0.469 ***
Pension reform						0.440 ***
Privatization						0.285 ***
No. of Observations	1,108	605	568	816	368	904
No. of Countries	49	23	33	33	17	39
R-squared	0.23	0.26	0.11	0.28	0.20	0.26

Least square regressions estimated using fixed effects models for countries implementing reforms between 1975 and 2002. A constant is estimated but not reported.

*, **, *** mean significant at 10, 5, and 1 percent, respectively

2. Stock Market Development Reforms and Domestic Market Liquidity

Dependent Variable: Value Traded Domestically / GDP

Financial liberalization	0.171	***				
Infrastructure reform		0.371	***			
Institutional reform			0.196	***		
Enforcement of insider trading laws				0.455	***	
Pension reform					0.288	***
Privatization						0.178
No. of Observations	1,154	625	582	844	372	904
No. of Countries	52	23	34	34	17	39
R-squared	0.06	0.17	0.11	0.22	0.13	0.15

Least square regressions estimated using fixed effects models for countries implementing reforms between 1975 and 2002. A constant is estimated but not reported.

*, **, *** mean significant at 10, 5, and 1 percent, respectively

2. Stock Market Development Reforms and Internationalization

Dependent Variable: Value Traded Abroad / GDP

Financial liberalization	0.009	***				
Infrastructure reform			0.042	**		
Institutional reform					0.011	***
Enforcement of insider trading laws						0.027 ***
Pension reform						0.013 ***
Privatization						0.016 **
No. of Observations	426	156	303	332	130	487
No. of Countries	38	13	26	28	11	42
R-squared	0.05	0.03	0.08	0.02	0.08	0.01

Least square regressions estimated using fixed effects models for countries implementing reforms between 1975 and 2000. A constant is estimated but not reported.

*, **, *** mean significant at 10, 5, and 1 percent, respectively

2. Stock Market Development Reforms and Internationalization Ratio

Dependent Variable: Value Traded Abroad / Value Traded Domestically

Financial liberalization	0.077	***				
Infrastructure reform			0.415	***		
Institutional reform					0.154	***
Enforcement of insider trading laws						0.155 ***
Pension reform						0.361 ***
Privatization						0.089 *
No. of Observations	341	156	260	313	114	311
No. of Countries	32	13	23	27	11	28
R-squared	0.02	0.15	0.05	0.06	0.13	0.01

Least square regressions estimated using fixed effects models for countries implementing reforms between 1975 and 2000. A constant is estimated but not reported.

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2. Stock Market Development

Internationalization and Domestic Market Liquidity

Dependent Variable: Log of One Plus the Turnover Ratio of Domestic Firms

Share of international companies	-1.39 ***	-2.98 ***	-3.01 ***	-2.55 ***	-2.93 ***	-2.56 ***
Log of one plus aggregate turnover ratio in international markets	0.24 ***	0.18 ***	0.17 ***	0.22 ***	0.17 ***	0.19 ***
Log of GDP per capita			0.20 ***			0.16 ***
Law and order				0.05 ***		0.04 ***
Capital account liberalization					-0.01	-0.02
Log of total assets		-0.06 ***	-0.06 ***	-0.06 ***	-0.06 ***	-0.06 ***
Number of firms	2,400	1,531	1,530	1,509	1,517	1,494
Number of observations	12,762	7,312	7,298	7,233	7,138	7,045
Country dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.70	0.71	0.71	0.71	0.70	0.70

Least square regressions with robust standard errors for a panel of data covering over 3,000 firms across 55 emerging market countries during the years 1989 to 2000.

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3. Bond Market Development

Main Characteristics of Bond Contracts

- ✦ Commitment to payments, independent of performance
- ✦ Contract features: currency, duration, maturity, jurisdiction
- ✦ Contract features are used to cope with risks
 - Principal-agent, time inconsistency, and dual agency risks
 - Idiosyncratic and systemic risks
- ✦ Risks inherent to bond contracts (apart from corporate governance problems)
 - Interest rate risk, default risk induced by interest and currency fluctuations, post-default litigation risk, dilution risk, confiscation risk

3. Bond Market Development

Main Questions

- ✦ Why short-term debt given rollover and default risks?
 - Debtor moral hazard → lenders prefer “tight leash” monitoring
 - Investor risk aversion → debtors go uninsured because high premium on longer term debt goes beyond debtor default risk
- ✦ Why dollar debt given default risk (mismatches)?
 - Poor fundamentals / small investor base encourage dollarization
 - “Original sin” mystery – not fully explained by above reasons
 - Currency regime – moral hazard or signaling accentuate dollarization
- ✦ Why the preference for default risk over price risk?
 - Litigation in case of default – value increases in better jurisdictions
 - Independent of, but reinforced by, moral hazard

3. Bond Market Development

Summary of Results

- ✦ Better macroeconomic and institutional fundamentals foster *both* local and foreign currency bond markets
- ✦ Exchange rate flexibility promotes peso bonds over foreign currency bonds...
- ✦ ...but size matters – markets for peso bonds develop more in larger countries and larger domestic financial sectors

3. Bond Market Development

Fundamentals and Local Currency Bond Markets

Dependent Variable: Log of Domestic Currency Government Bonds Outstanding / GDP							
	Lagged variables						Initial values
Log of GDP	0.25 ***	0.23 ***	0.20 ***	0.06 ***	0.23 ***	0.26 ***	0.14 ***
Log of total deposits / GDP	0.50 ***	0.27 ***	0.50 ***	0.82 ***	0.32 ***	0.42 ***	0.52 ***
Inflation index	-0.09 ***					-0.07 ***	-0.16 ***
Fiscal burden		0.31 ***				0.03	-0.06
Institutionalized democracy			0.08 ***			0.13 ***	0.10 ***
Official exchange rate regime				0.06 ***			
Actual exchange rate regime (LYS)					0.00	0.04 **	0.17 ***
No. of Observations	158	158	231	200	192	143	216
No. of Countries	35	35	35	30	34	32	33

Feasible generalized least squares regressions with heteroskedastic error structures and autocorrelation within countries for a panel of 36 countries between 1993 and 2000. The actual exchange rate regimes increases with the degree of flexibility of the exchange rate. A constant is estimated but not reported.

*, **, *** mean significant at 10, 5, and 1 percent, respectively

3. Bond Market Development

Fundamentals and Foreign Currency Bond Markets

Dependent Variable: Log of Foreign Currency Government Bonds Outstanding / GDP

	Lagged variables						Initial values
Log of GDP	-0.76 ***	-0.63 ***	-0.70 ***	-0.98 ***	-0.68 ***	-0.66 ***	-0.66 ***
Log of total deposits / GDP	-1.05 ***	-0.84 ***	0.01	-0.19 *	-0.62 ***	-1.15 ***	-0.34 ***
Inflation index	-0.31 ***					-0.23 ***	-0.36 ***
Fiscal burden		0.53 ***				0.26 ***	0.57 ***
Institutionalized democracy			0.08 **			0.12 ***	0.08 *
Official exchange rate regime				0.11 **			
Actual exchange rate regime (LYS)					-0.01	-0.20 ***	-0.50 ***
No. of Observations	158	158	231	200	192	143	216
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3. Bond Market Development

Fundamentals and Share of Foreign Currency Bonds

Dependent Variable: Log of Foreign Currency Government Bonds Outstanding / Total Government Bonds Outstanding

	Lagged variables						Initial values
Log of GDP	-0.89 ***	-0.92 ***	-0.73 ***	-0.93 ***	-0.84 ***	-0.89 ***	-0.72 ***
Log of total deposits / GDP	-0.88 ***	-0.93 ***	-0.55 ***	-0.68 ***	-0.78 ***	-0.99 ***	-0.62 ***
Inflation index	-0.09 ***					-0.07 ***	-0.10 ***
Fiscal burden		0.19 ***				0.19 ***	0.49 ***
Institutionalized democracy			0.05			-0.02	0.00
Official exchange rate regime				0.08 **			
Actual exchange rate regime (LYS)					-0.07 *	-0.14 **	-0.59 ***
No. of Observations	158	158	231	200	192	143	216
No. of Countries	35	35	35	30	34	32	33

Feasible generalized least squares regressions with heteroskedastic error structures and autocorrelation within countries for a panel of 36 countries between 1993 and 2000. The actual exchange rate regimes increases with the degree of flexibility of the exchange rate. A constant is estimated but not reported.

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4. Open Questions in Capital Markets

- a. Regional Differences
- b. Future of Reforms
- c. Future of Latin American Capital Markets

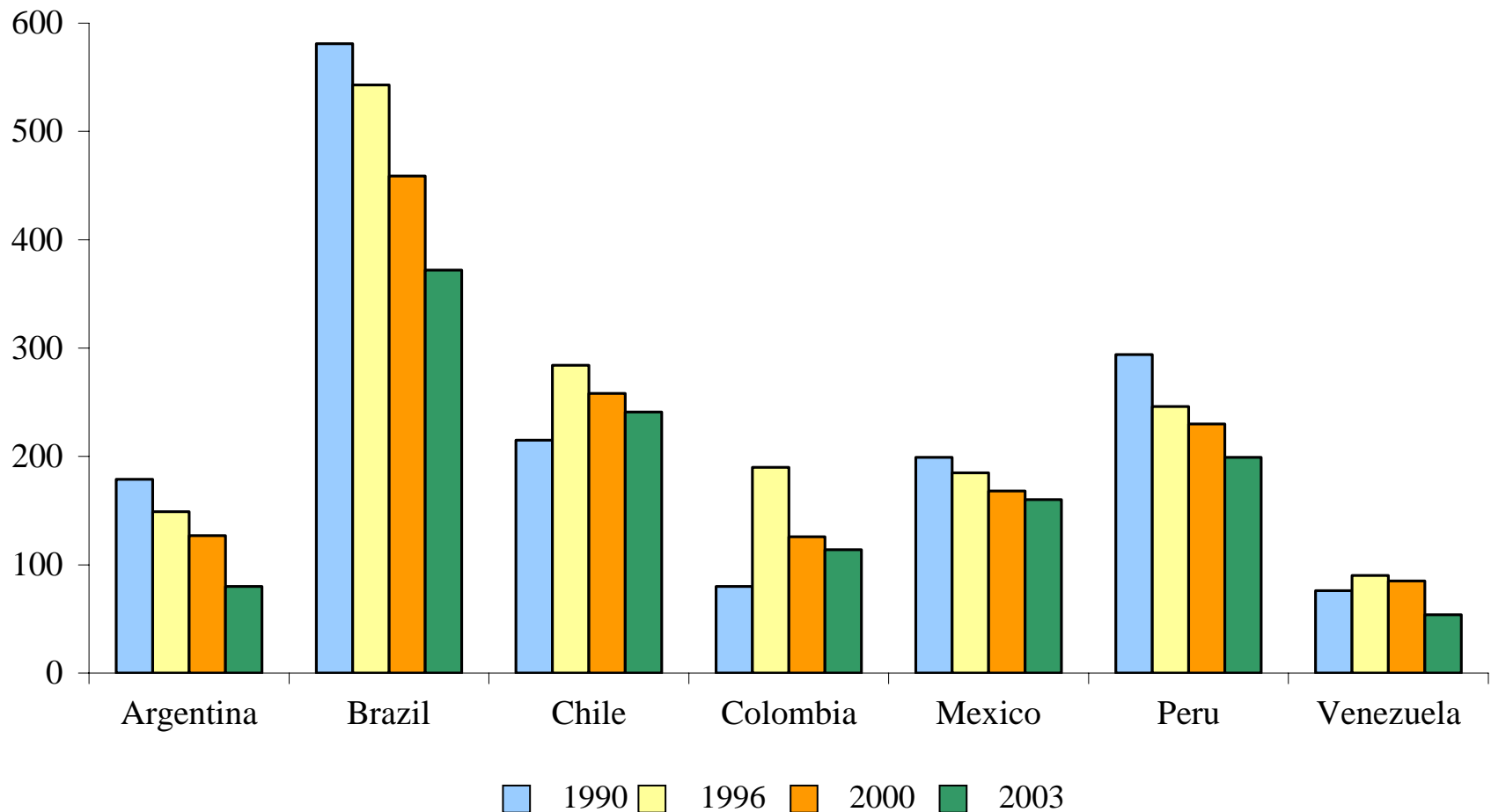
4.a. Open Questions in Capital Markets

Regional Differences

- ✚ Latin America is different – a robust econometric result
 - Domestic stock markets are less developed than predicted by fundamentals and less responsive to reforms
 - Internationalization of stock trading and issuance is higher than predicted by fundamentals and more responsive to reforms
 - Domestic currency bond markets are less developed, controlling for fundamentals and size
- ✚ Latin America is an extreme, but it is not alone...
 - Witness Eastern Europe and even Western Europe
- ✚ ...and East Asia is at the other extreme
 - Is East Asia the future or the past?

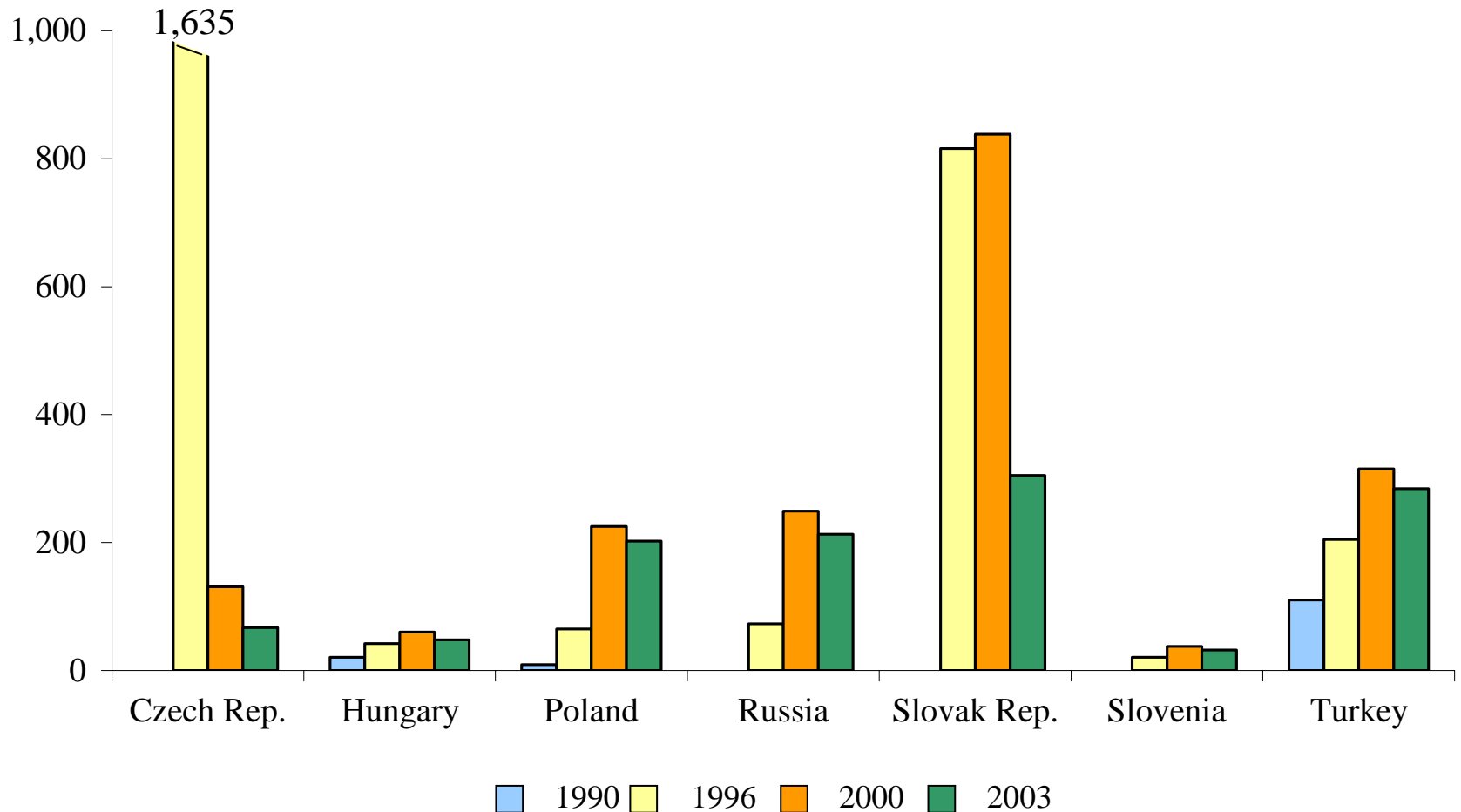
4.a. De-Listings in Latin Stocks Markets...

Number of Firms Listed in Domestic Stock Exchanges in Latin America



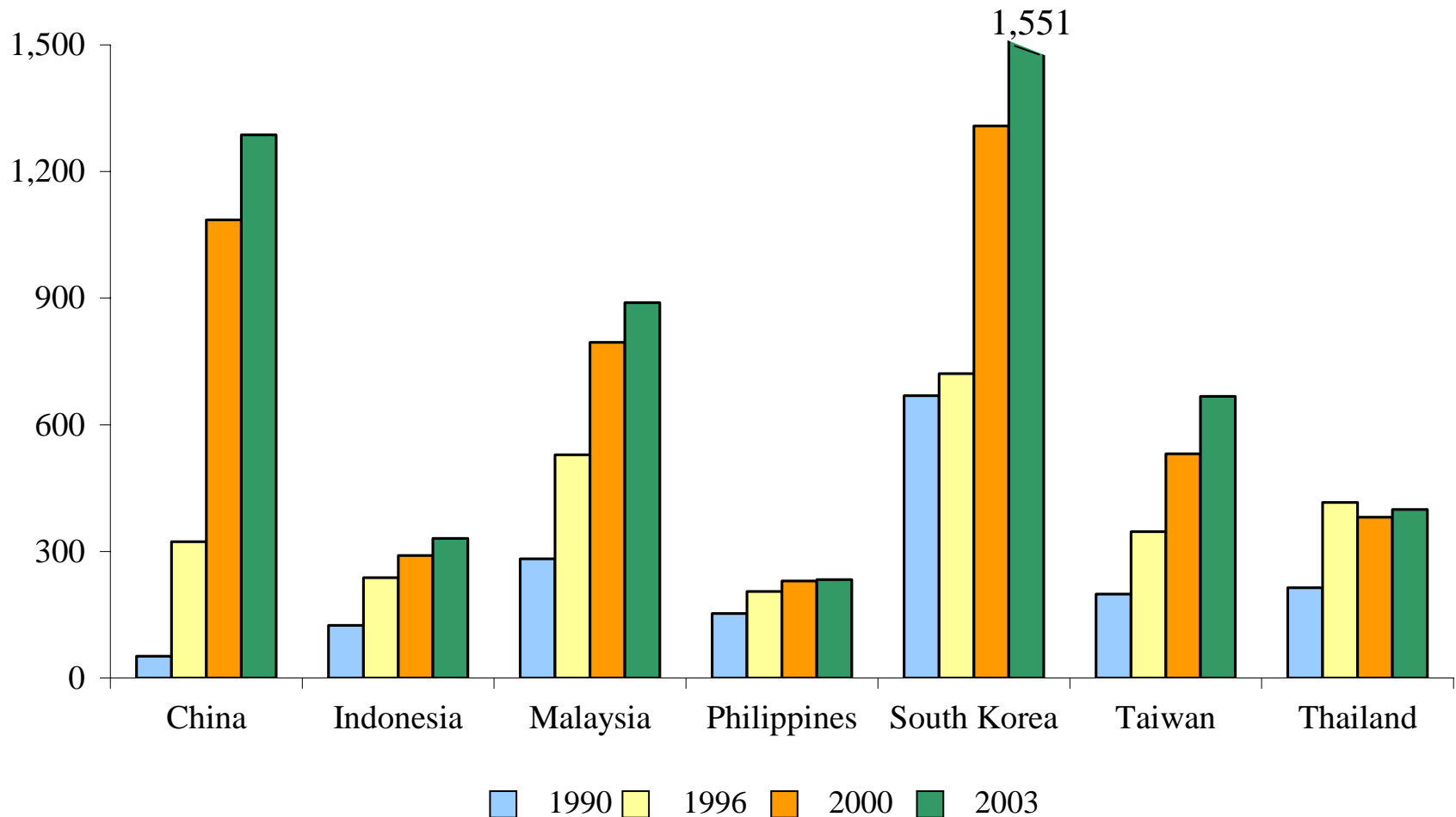
4.a. ...and in markets in Eastern Europe

Number of Firms Listed in Domestic Stock Exchanges in Eastern Europe



4.a. Listings in East Asian Stock Markets

Number of Firms Listed in Domestic Stock Exchanges in South East Asia



4.b. Open Questions in Capital Markets

Future of Reforms

- ✚ What went wrong and what to do next?
 - The same evidence examined from different angles can lead to different diagnoses and policy recommendations
 - But new evidence has to be taken into account seriously
- ✚ Three possible views – complementary in many respects
 - Be patient and redouble the effort
 - Get the sequence right
 - Revisit basic issues and revise expectations

4.b. Open Questions in Capital Markets

Views on the Reform Agenda

- ✚ Be patient and redouble the effort
 - Diagnosis: past reforms were right and the core elements of reform agenda are well known
 - Policy recommendation: be patient, accelerate and deepen reforms
- ✚ Get the sequence right
 - Diagnosis: financial liberalization went too soon and too fast
 - Policy recommendation: get the sequencing right
 - Achieve minimal institutional strength and domestic currency debt markets development first

4.b. Open Questions in Capital Markets

Views on the Reform Agenda

- ✦ Revisit basis issues and reshape expectations
 - Diagnosis: shortcomings of previous views
 - Reforms spur both domestic securities markets development and internationalization, and the latter relatively more
 - Resistance to reform might not yield without outside competition
 - Implicit premise that developed capital markets are the adequate benchmark for developing countries
 - Policy recommendation: step back, revisit basic issues and adjust expectations, before reformulating reform agenda in detail
 - Basic issues: globalization, liquidity, risk diversification
 - Cross-cutting themes: size; segmentation of access

4.c. Open Questions in Capital Markets

Future of LAC Capital Markets

- ✚ New model for capital markets?
 - Abandon hope of creating mini-Wall Streets in every Latin country
 - Difference between int'l financial centers and peripheral markets
 - Local markets should be complementary rather than replicative
 - Reassess role of regional integration vis-à-vis global integration
 - Emphasize links between capital markets and the rest of financial service providers and the real sector
 - Unrealistic to expect that firms of all sizes will have *direct* access to formal bond and stock markets
 - Stress capital markets functions that do not hinge on substantial liquidity
 - Financial structures and hybrid products joining multiple stakeholders
 - What matters is access, regardless of where or by whom provided

END