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# THE ROLE OF INSTITUTIONAL INVESTORS IN THE DEVELOPMENT OF CAPITAL MARKETS

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# Oliver Wyman has built a dedicated global market infrastructure practice covering the full breadth of strategic topics

## Client examples



## Market Infrastructure expertise areas

**Risk management:** Risk governance, risk strategy, cyber risk, stress testing, recovery and resolution planning, model development, validation, review and governance

**Product/growth Strategy:** New market segments, new product launch, product refinement, data monetization, new service design, strategy articulation & refocus, competitive responses

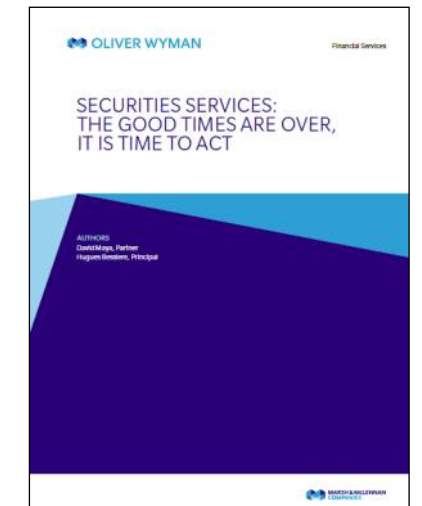
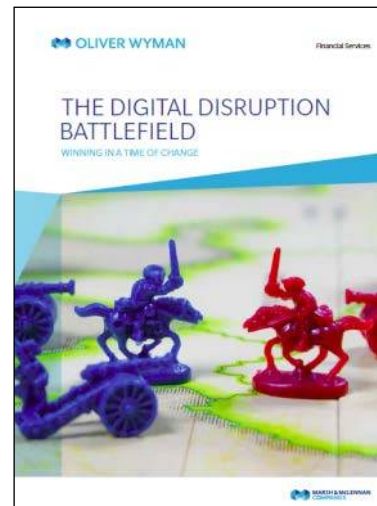
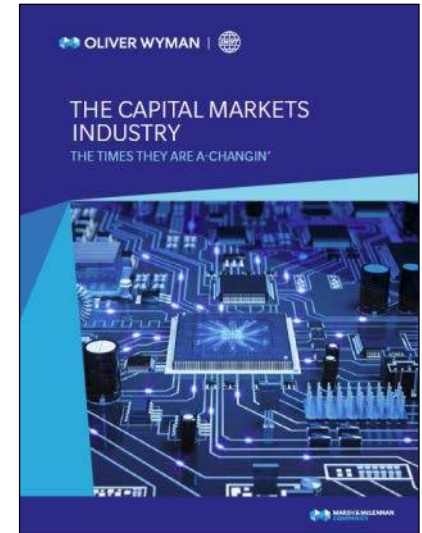
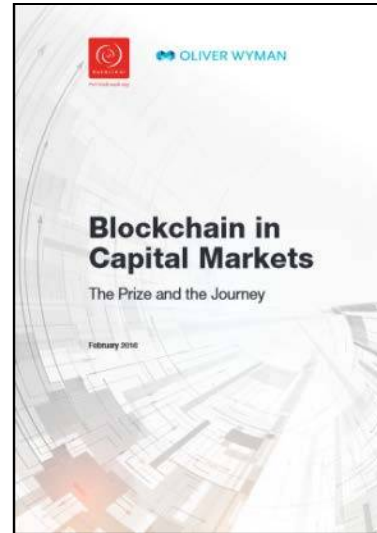
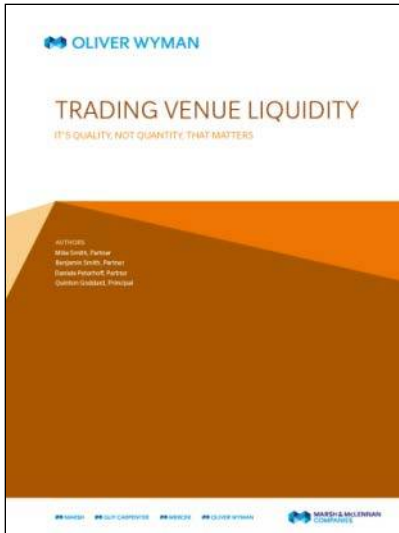
**IT strategy:** Vendor selection, savings assessment, management of RfP, development of infrastructure blueprints, capabilities diagnostics

**Cost & operational efficiency:** cost reduction, efficiencies and business unit synergies, support models, operational and organizational structure design

**Partnership & transactions:** M&A support (cross transaction lifecycle), post-merger integration, separation, cross-border liquidity pooling, partnerships

**250+** projects have been led by Oliver Wyman globally for market infrastructure providers in recent years

# Oliver Wyman have developed a wide range of publications on key capital markets and innovation issues in the industry



# Contents

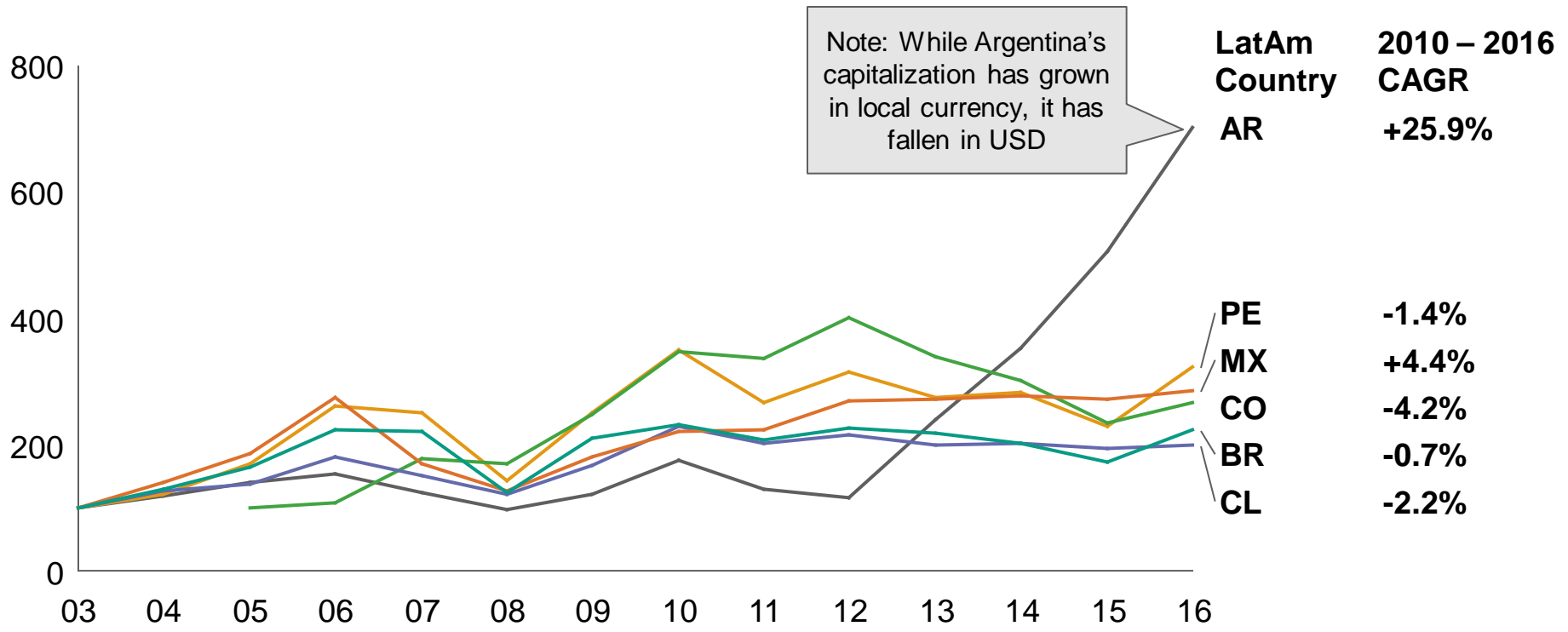
1. LatAm Capital Markets Snapshot
2. The Importance of Liquidity for market development
3. The Role of Institutional Investors
4. Promoting the Development of an Institutional Investor Base

# 1 | LatAm Capital Markets Snapshot

# Market capitalization

## Strong rebound post-crisis although recent stagnation

**Domestic market capitalization<sup>1</sup> over time**  
 2003-2016, 2003<sup>2</sup> = 100, local currencies



Source: WFE database, WEO, Oliver Wyman analysis

1. Market capitalization represents the share price times the number of shares outstanding (including their several classes) for listed domestic companies. Data are end of year values reported in local currencies
2. No data available for Colombia pre-2005, so domestic market capitalization for Colombia has been indexed as 2005 = 100

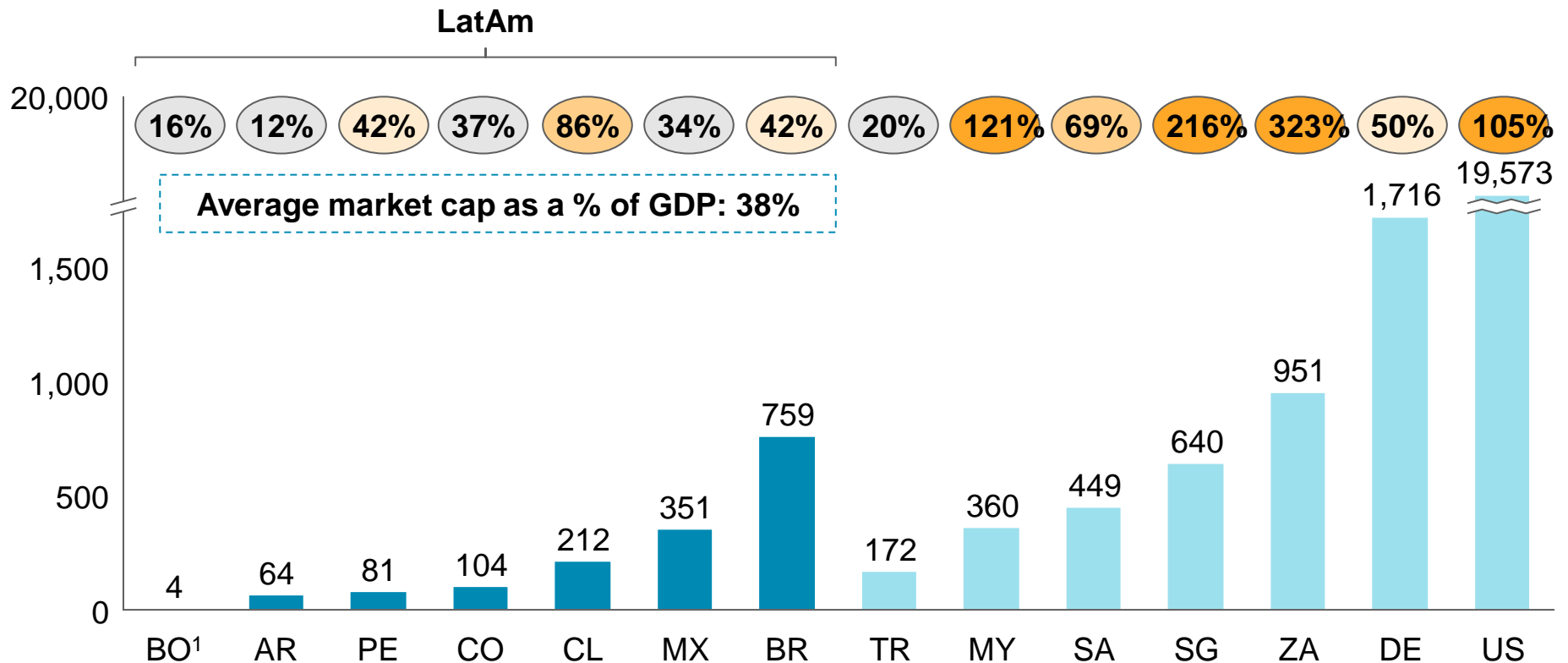


# Market capitalization

## Market cap lags key emerging markets except for Chile

Domestic market capitalization  
2016, in USD BN

○ Market capitalization as a % of GDP



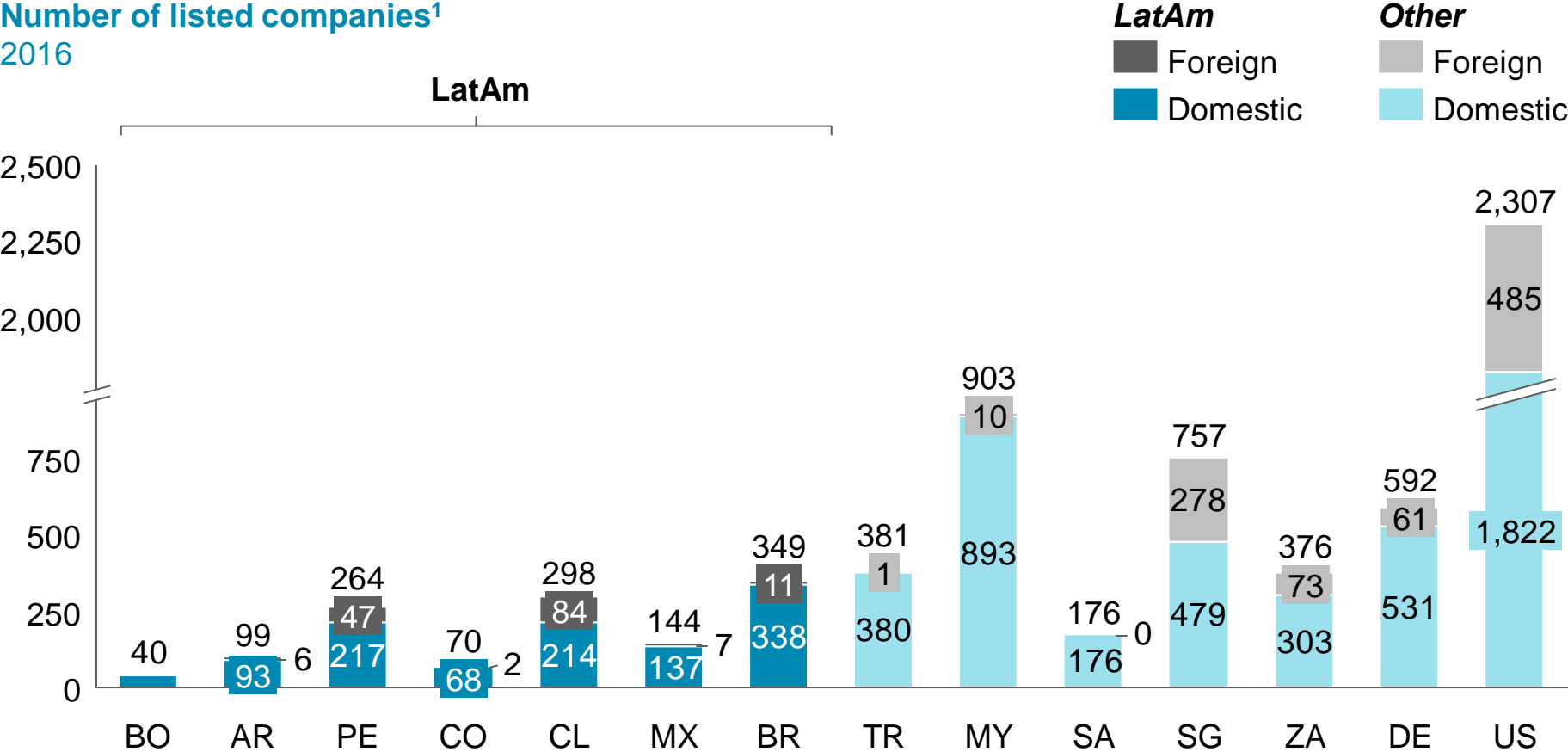
Source: WFE, WEO, Oliver Wyman analysis

1. BO Domestic Market Capitalization based on latest available data (2012)

# Issuer base

## Brazil, Chile and Peru boast reasonably sized issuer bases

Number of listed companies<sup>1</sup>  
2016



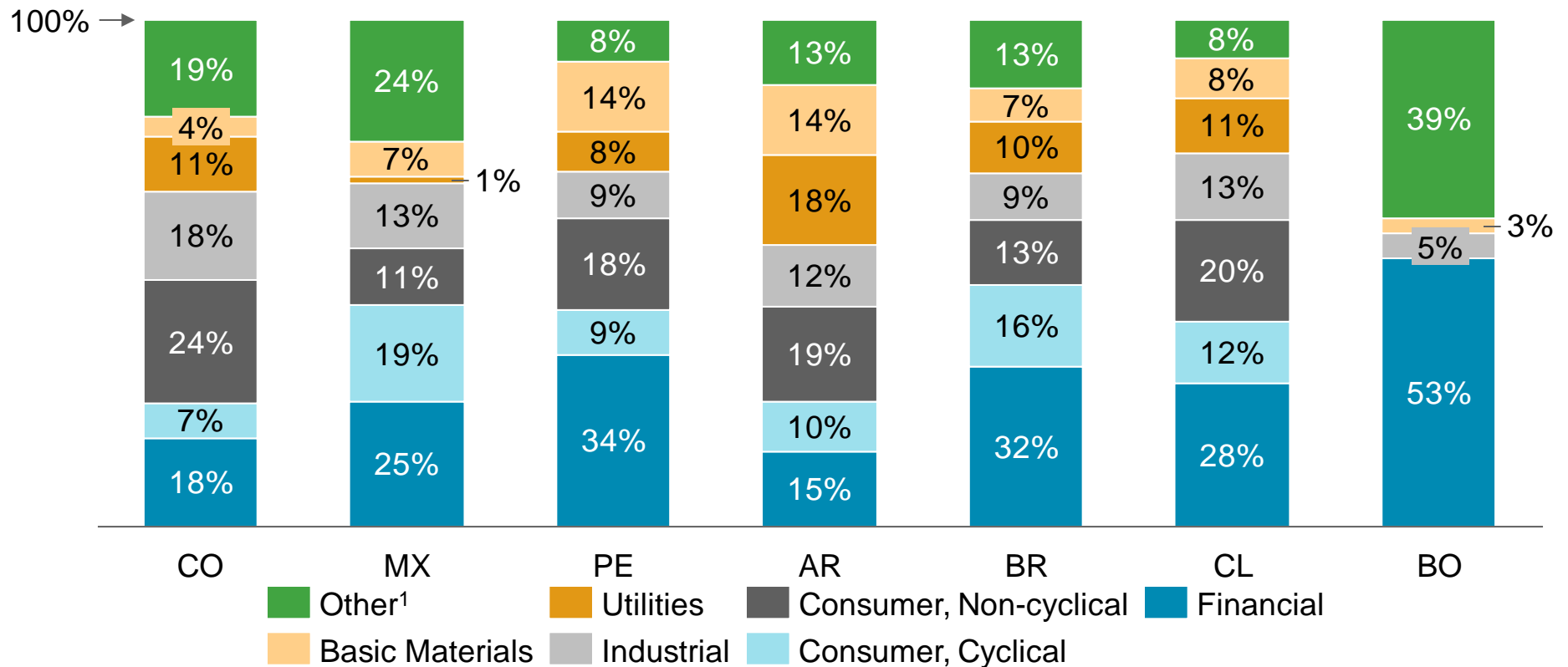
Source: WFE, WEO, Oliver Wyman analysis

1. Listed companies refer to the number of companies which have shares listed on an exchange at the end of the period, split into domestic and foreign, excluding investment funds, unit trusts, and companies whose only business goal is to hold shares of other listed companies, such as holding companies and investment companies. A company with several classes of shares is counted just once. A company is considered domestic when it is incorporated in the same country as where the exchange is located.

# Issuer base

## Issuer base relatively broad consistently across LatAm markets

Concentration of listed issuers by sector  
2016, # of listed issuers



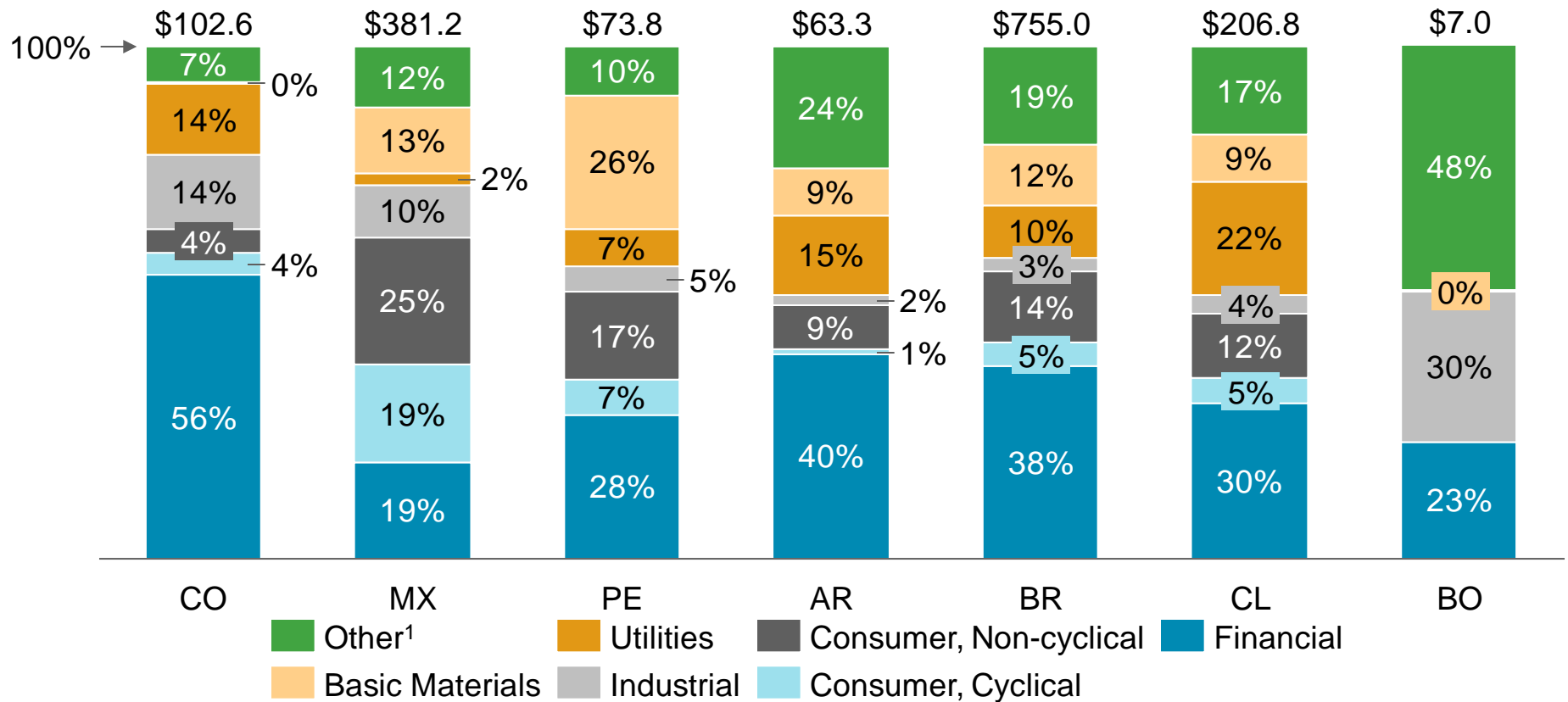
Sources: Oliver Wyman research and analysis

1. Other includes Energy, Communications, Diversified, Technology, and Funds sectors

# Issuer base

## Market cap is however relatively concentrated in Financial firms

Concentration of market capitalization by sector  
2016, Domestic market capitalization (USD BN)



Sources: Oliver Wyman research and analysis

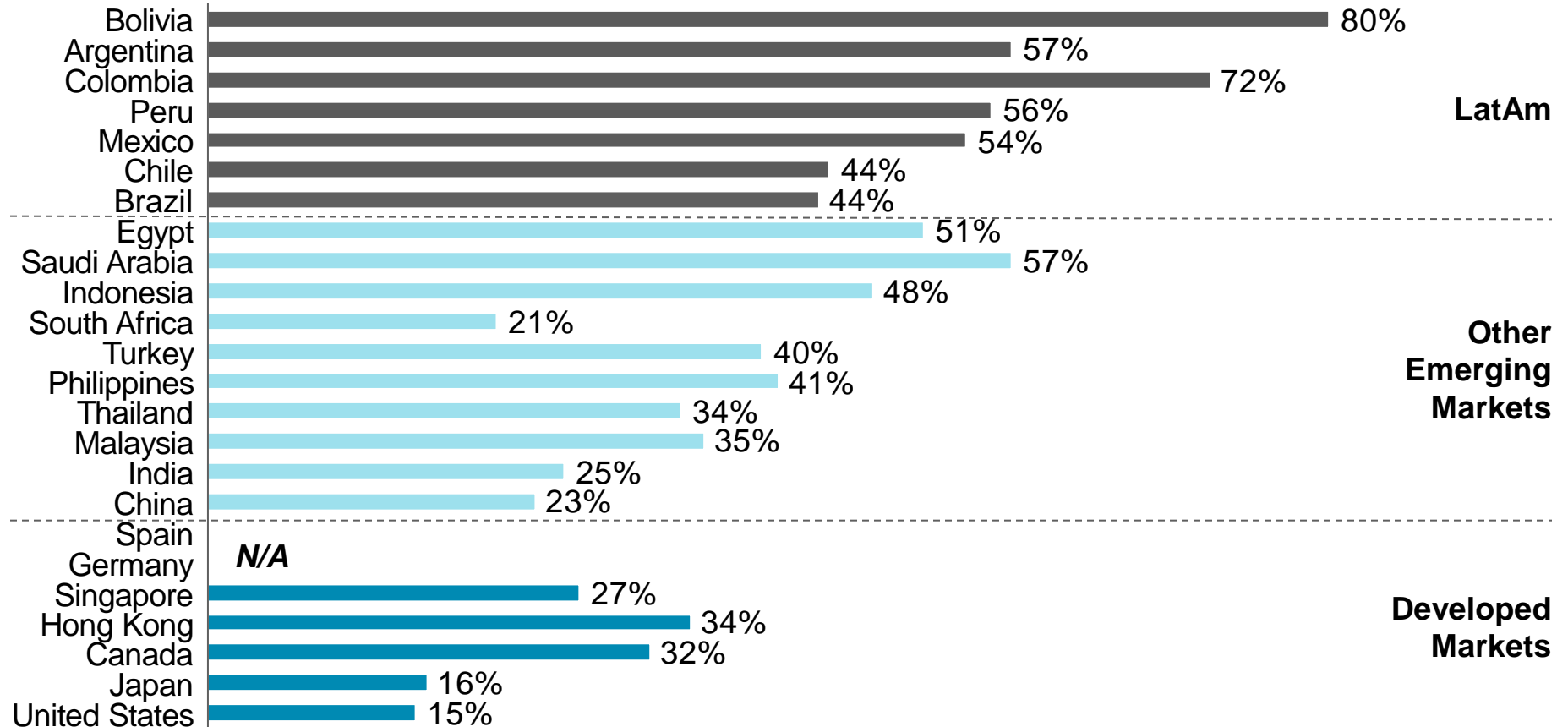
1. Other includes Energy, Communications, Diversified, Technology, and Funds sectors

# Capitalization concentration

## LatAm markets are relatively concentrated across top 10 firms

### Market concentration among top 10 domestic companies<sup>1</sup>

As of 2016



Sources: WFE, Oliver Wyman analysis

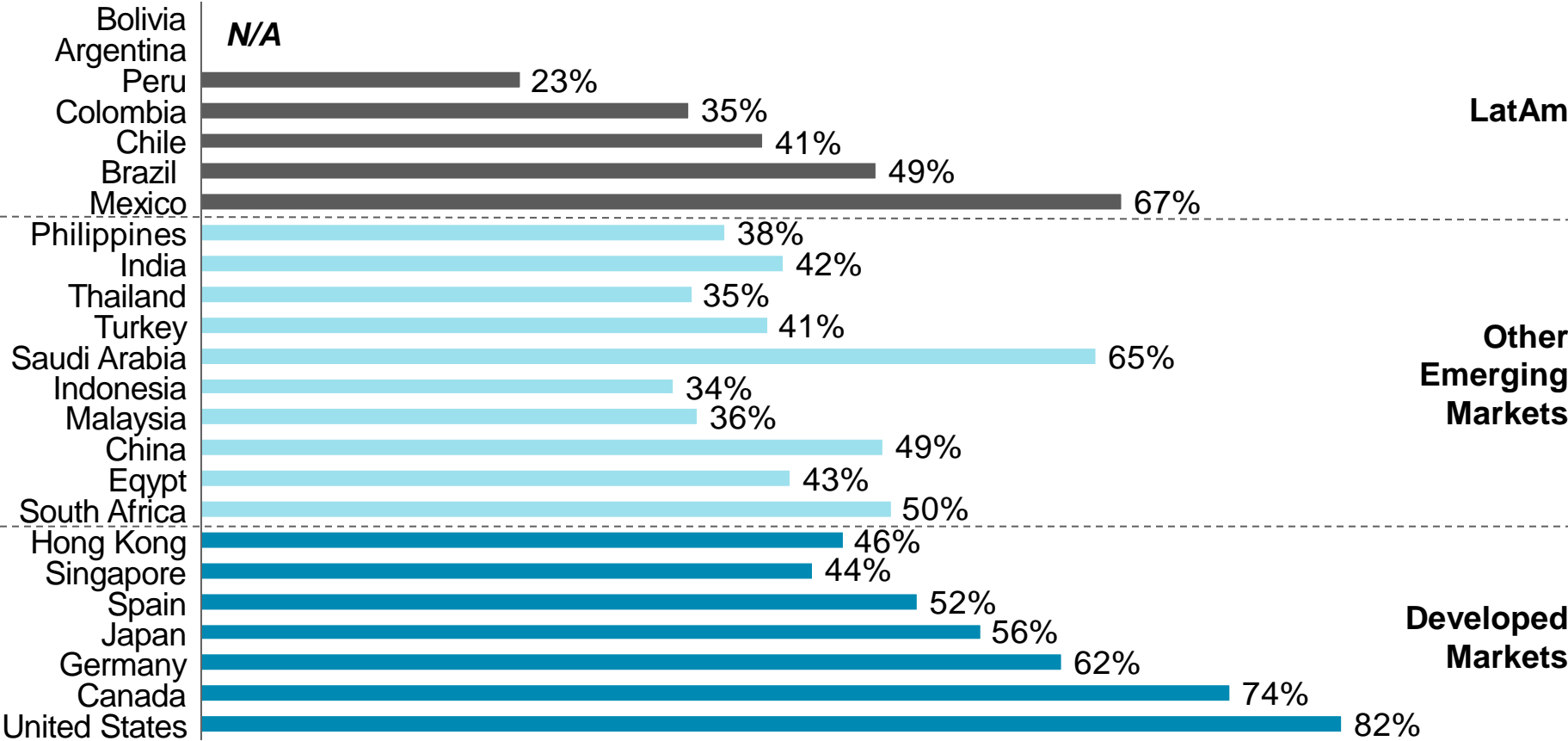
1. Defined as the percentage of total market capitalization represented by the 10 most heavily capitalized domestic companies

# Free float

## Free float is relatively low but comparable with small markets

### Free float ratio

Year-end 2016

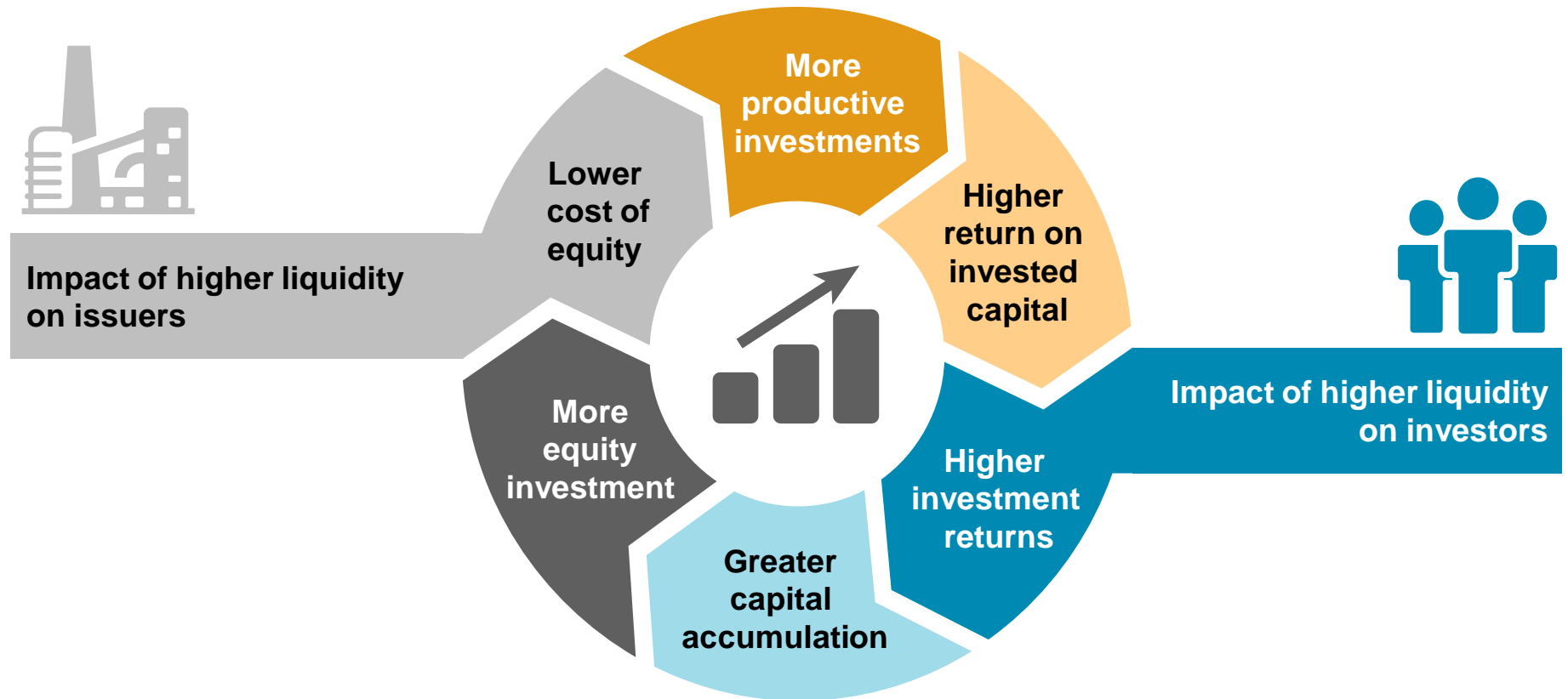


Sources: Credit Suisse Research; Capital IQ, WEF research

## 2 | The Importance of Liquidity for market development

# Enhancing liquidity benefits both investors and issuers in a virtuous cycle leading to more efficient capital markets

## Benefits of increasing market liquidity





# There are also significant wider economic benefits to improved capital markets liquidity

## Wider economic benefits

### Investors



- Lower cost of trading
- Ability to trade in and out of assets
- Lower price volatility
- Improved price formation

### Issuers



- Reduced cost of raising capital
- More accurate share price valuations
- Wider investor base

### Exchanges



- Increased volumes & thus revenues
- Greater public confidence in the market
- Support expansion of product offering

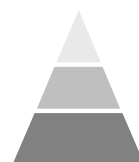
## Benefits to market participants



- Positive cycle helps increase funding to corporates



- Helps drive economic growth, increasing employment, enriching individuals and the economy







- Has a tiered impact as well, as benefits flow through supply chains



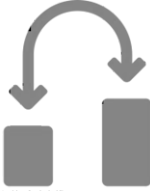
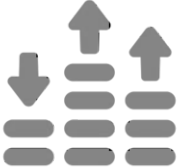

- Additional transparency and disclosure improves confidence in the market and listed firms



Liquidity is the ability to facilitate large volumes without excessive price movements with steady and fair prices

Dimensions of liquidity	Definition
<p data-bbox="108 468 229 511"><b>Depth</b></p> 	<ul style="list-style-type: none"><li>• Number of pending orders and volume on both sides of the bid/ask spread</li><li>• Greater depth limits the influence of orders on prices</li><li>• Lower depth results in the need for “dark” alternative venues</li></ul>
<p data-bbox="108 718 270 761"><b>Breadth</b></p> 	<ul style="list-style-type: none"><li>• The cost of reversing a position over a short period</li><li>• A tighter bid/ask spread suggests better breadth</li></ul>
<p data-bbox="108 969 318 1012"><b>Resilience</b></p> 	<ul style="list-style-type: none"><li>• The speed at which prices return to stability after a shock</li></ul>
<p data-bbox="108 1220 330 1263"><b>Immediacy</b></p> 	<ul style="list-style-type: none"><li>• The speed at which trades can be conducted at a given cost</li></ul>

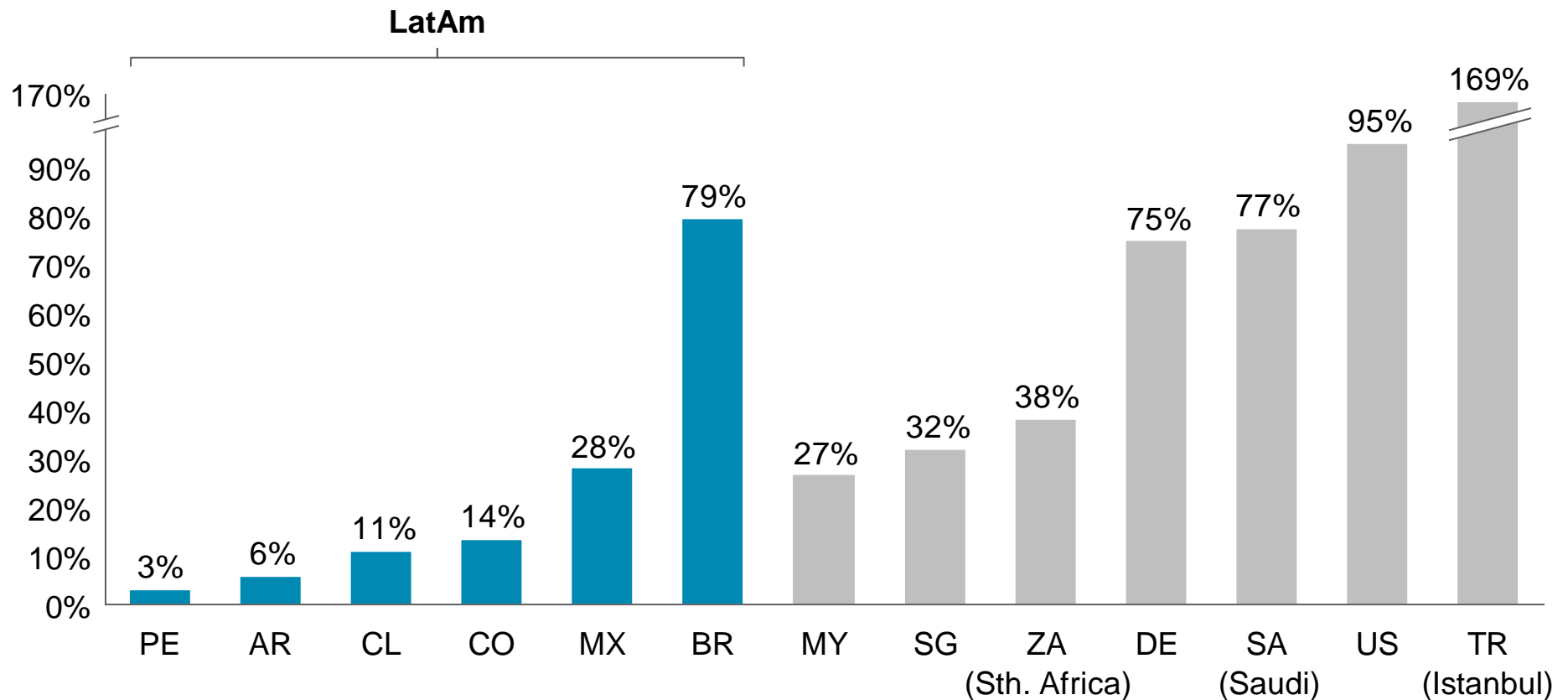
# Liquidity can be measured through three key metrics

Dimensions of liquidity	Definition
<p data-bbox="108 439 270 534"><b>Bid/Ask spread</b></p> 	<ul data-bbox="681 382 1862 591" style="list-style-type: none"><li>• The amount by which the ask price exceeds the bid price for an asset in the market</li><li>• Typically the bid/ask is monitored over time for a measurement</li></ul>
<p data-bbox="108 715 294 753"><b>Turnover</b></p> 	<ul data-bbox="681 691 1830 785" style="list-style-type: none"><li>• The volume or value of shares traded on a stock exchange during a given period of time</li></ul>
<p data-bbox="108 939 294 1033"><b>Turnover velocity</b></p> 	<ul data-bbox="681 942 1741 1036" style="list-style-type: none"><li>• The ratio between turnover of shares and their market capitalization</li></ul>

# Liquidity is still relatively low across LatAm exchanges, although there is a relatively large disparity across the exchanges

## Annualized turnover velocity of domestic shares<sup>1</sup>

2016; Electronic domestic share turnover in USD / domestic market capitalization in USD (%)



Source: WFE, Oliver Wyman analysis

1. Calculated as the ratio between the Electronic Order Book (EOB) turnover of domestic shares and their market capitalization. The value is annualized by multiplying the monthly average for domestic shares by 12

# Three ways to increase liquidity: diversify investor base, increase pools of securities, and improve market environment

- 1 Promoting the development of a diverse investor base**

Includes both retail and both local and international institutional investors in order to promote a mix of different investment horizons and perspectives
- 2 Increasing the pool of securities and associated financial products**

Encouraging a greater variety of high quality products available to trade on the venue
- 3 Investing in the creation of an enabling market environment**







Improving efficiency in the trading and post-trade processes to reduce transaction and settlement costs

Supporting the development of institutional investors is a key component of developing the a diverse investor base

# 3 | The Role of Institutional Investors







# We define institutional investors as including pensions, insurers, mutual funds, SWFs, and hedge funds

*Importance for LatAm liquidity*

Institution type	Typical investment behavior	LatAm context	AuM estimate
 <b>Pension funds</b>	<ul style="list-style-type: none"> <li>Buy to hold longer-term assets</li> <li>Limited trading / liquidity</li> <li>Significant allocation to equities</li> </ul>	<ul style="list-style-type: none"> <li>Focus of recent policies</li> <li>Strong recent growth</li> <li>Requires more participation</li> </ul>	Global <sup>1</sup> : \$28 TN LatAm: \$1 TN
 <b>Insurance companies</b>	<ul style="list-style-type: none"> <li>Longer-term investors although also engage in some shorter-term ALM investment / trading</li> </ul>	<ul style="list-style-type: none"> <li>Largely vanilla investments</li> <li>Lack of derivatives</li> </ul>	Global <sup>1</sup> : \$8.5 TN LatAm: \$0.05 TN
 <b>Endowment / Foundations</b>	<ul style="list-style-type: none"> <li>Long-term horizon (often perpetuity)</li> <li>Mandatory distribution requirements</li> </ul>	<ul style="list-style-type: none"> <li>Limited local players although foreign market is large</li> </ul>	Global <sup>1</sup> : \$1.3 TN LatAm: N/A
 <b>Sovereign wealth funds</b>	<ul style="list-style-type: none"> <li>Very long-term horizon</li> <li>Infrequent trading activity</li> <li>Outcome-dependent approach</li> </ul>	<ul style="list-style-type: none"> <li>SWFs are fewer and relatively smaller in size (e.g., Chile Copper Fund)</li> </ul>	Global <sup>1</sup> : \$2.2 TN LatAm: \$0.02 TN
 <b>Hedge funds</b>	<ul style="list-style-type: none"> <li>Varied approaches (long/short) and complex hedging with derivatives</li> <li>Employ algo/high frequency trading</li> <li>Unique technology and data needs</li> </ul>	<ul style="list-style-type: none"> <li>Limited local market but large global market with increasing forays into EM trading</li> </ul>	Global <sup>2</sup> : \$3.2 TN Brazil: \$0.03 TN
 <b>Mutual funds</b>	<ul style="list-style-type: none"> <li>Typically long-only</li> <li>Derivatives for synthetic investments</li> <li>Increasing focus on managing ETFs</li> <li>Data and algo trading requirements</li> </ul>	<ul style="list-style-type: none"> <li>Market has been developing successfully</li> <li>Further growth potential exists</li> <li>Increasing foreign EM funds</li> </ul>	Global <sup>3</sup> : \$40 TN LatAm: \$1 – 2 TN

1. Pension Funds, Insurance Company, E&F and SWF figures from Oliver Wyman AuM model (2014). LatAm figures include Argentina, Brazil, Chile, Colombia, Mexico and Peru. 2. Preqin Global Hedge Fund Report (2016). 3. ICI Global Mutual Fund AuM (2016): LatAm defined as Argentina, Brazil, Chile and Mexico only.

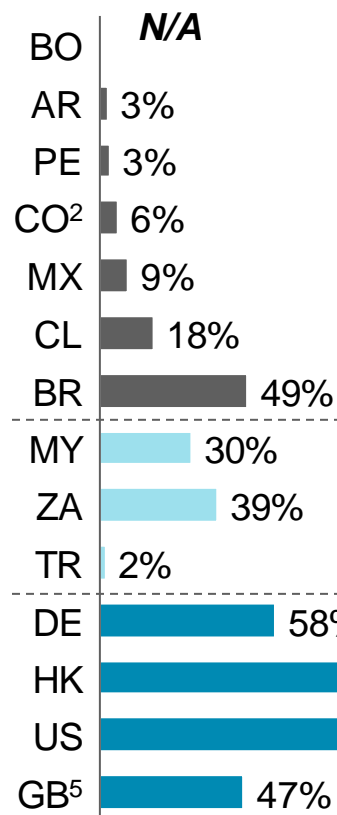
# Institutional investors also develop vital market enablers

Enabler	Role of institutional investors	Example
 <b>Improved transparency</b>	<ul style="list-style-type: none"> <li>Professional and detailed investment research</li> <li>Demanding additional management disclosure; keep management honest/open</li> </ul>	Alibaba listing in the US and significant attention on its business processes in 2015
 <b>Improved governance</b>	<ul style="list-style-type: none"> <li>Vote in shareholder meetings</li> <li>Bring international corporate governance standards; e.g., more independent directors</li> </ul>	Norwegian SWF voted against management in 7 of 10 largest equity holdings
 <b>Research</b>	<ul style="list-style-type: none"> <li>Stimulate demand for investment research from brokers</li> </ul>	Increased coverage of emerging markets by brokers following investment
 <b>Ratings</b>	<ul style="list-style-type: none"> <li>Big ratings agencies rate local companies, enabling greater transparency, better management practices, financial discipline, and improve practices</li> </ul>	Indonesia's recent sovereign credit rating upgrade is expected to generate inflows
 <b>Awareness</b>	<ul style="list-style-type: none"> <li>Improve awareness with retail investors by providing alternative savings and risk management products</li> </ul>	Surge in ETF inflows and the growth of mutual funds
 <b>Social &amp; environmental responsibility</b>	<ul style="list-style-type: none"> <li>Drive more socially responsible investment behavior, including impact investing</li> </ul>	Pull-back from coal investments; increased ESG reporting focus

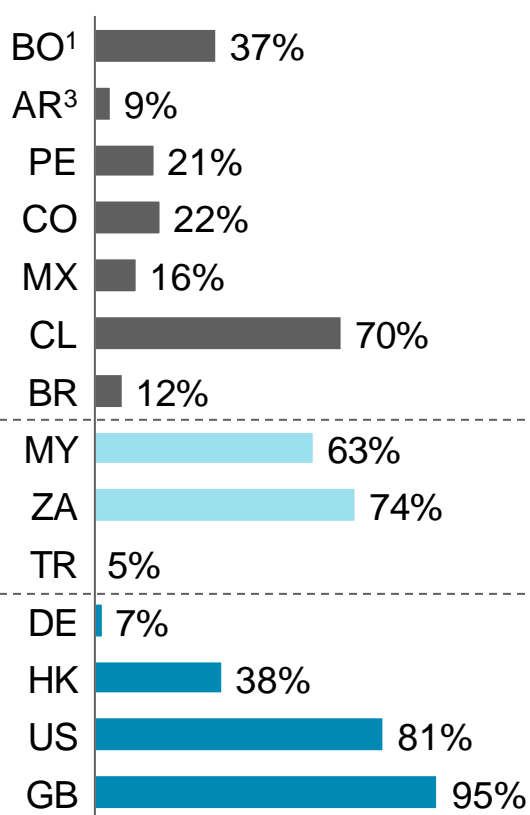


# The local institutional investor base of LatAm markets is relatively small and should thus be a key area of focus

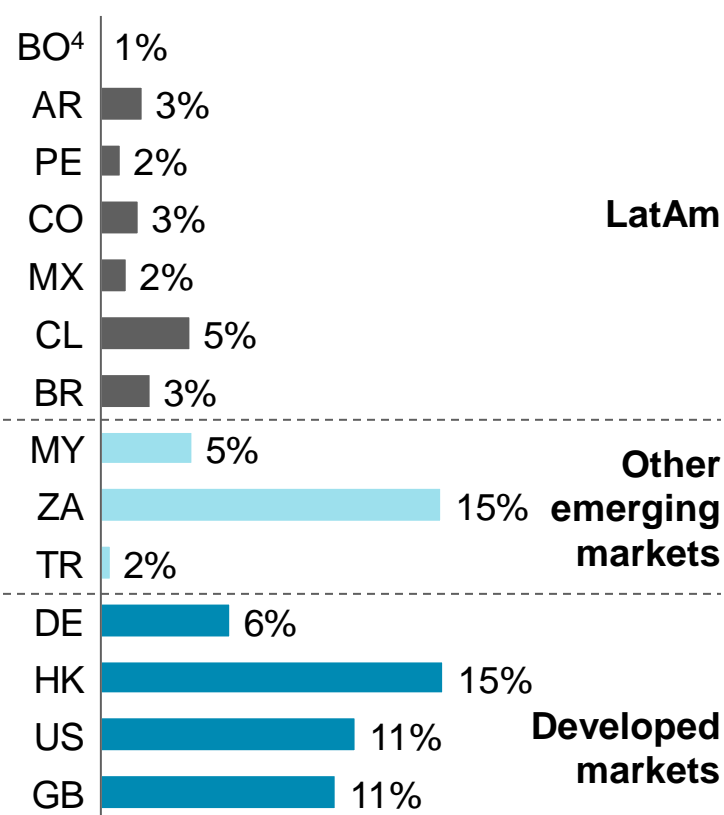
## Mutual Fund assets (AuM as % of GDP, 2015)



## Pension Fund assets (AuM as % of GDP, 2016)



## Insurance<sup>1</sup> penetration (Premium as % of GDP, 2015)



1. Figure from 2015. 2. Figure from 2011. 3. Figure from 2007, the year before Argentina enacted pension reform that transferred pension funds' assets to the National Social Security Administration. 4. Figure from 2012. 5. Figure from 2014  
Sources: OECD, World Bank

## 4 | Developing the Institutional Investor Base

# We see three key levers for supporting institutional investor development

## 1. Enabling policy environment

- Pension and insurance sector development
- Supportive taxation policies
- Minimizing investment restrictions
- Enabling foreign investors
- Availability and quality of financial advisory services
- Investor education
- Regulatory and institutional architecture

## 2. Broader securities and derivatives products

- Increasing issuance
- Tiered markets to satisfy range of risk profiles
- Derivatives and risk management products
- Stock lending
- Free float

## 3. Technology, data and enablers

- State of the art market technology and infrastructure
- Better algorithmic support
- Enabling faster and richer data access
- Efficient post-trade systems

# The levers for supporting institutional investor development closely tie to short-comings identified in LatAm markets

MSCI's market accessibility criteria		MSCI's rating assessment (2017)					
		AR	BR	CL	CO	MX	PE
<b>Openness to foreign ownership</b>	• Investor qualification requirement	++	++	++	++	++	++
	• Foreign ownership limit level	++	+	++	++	-/?	++
	• Foreign room level	++	++	++	++	++	++
	• Equal rights to foreign investors	+	-/?	+	+	-/?	+
<b>Ease of capital inflows/outflows</b>	• Capital flow restriction levels	++	++	+	+	++	++
	• <b>FX market liberalization level</b>	+	-/?	+	-/?	++	++
<b>Efficiency of the operational framework</b>	• Market entry						
	– <b>Investor registration</b>	-/?	-/?	-/?	-/?	+	+
	• Market organization						
	– <b>Market regulations</b>	+	+	+	+	++	+
	– <b>Information flow</b>	+	+	+	+	+	+
	• Market infrastructure						
	– <b>Clearing and settlement</b>	-/?	-/?	++	+	++	-/?
	– Custody	++	++	++	+	++	++
	– Registry/Depository	++	++	++	++	++	++
	– Trading	+	++	++	+	++	+
	– Transferability	+	+	-/?	-/?	++	+
– <b>Stock lending</b>	-/?	++	-/?	+	++	-/?	
– <b>Short selling</b>	-/?	++	-/?	+	+	-/?	
<b>Competitive landscape</b>	-/?	-/?	++	++	++	++	
<b>Stability of institutional framework</b>	-/?	+	++	-/?	+	+	

# 1. Enabling policy environment

The regulatory environment often serves to inhibit institutional investors but through reforms can stimulate investor growth

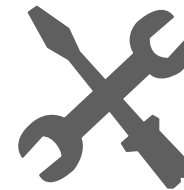
## Typical regulatory inhibitions



- Reasons vary between markets:
  - Restrictive pay-as-you-go pension schemes
  - Requirements that encourage low-risk investing
  - Restrictions on who manages assets
  - Prohibiting equity market participation



## Examples of policy changes



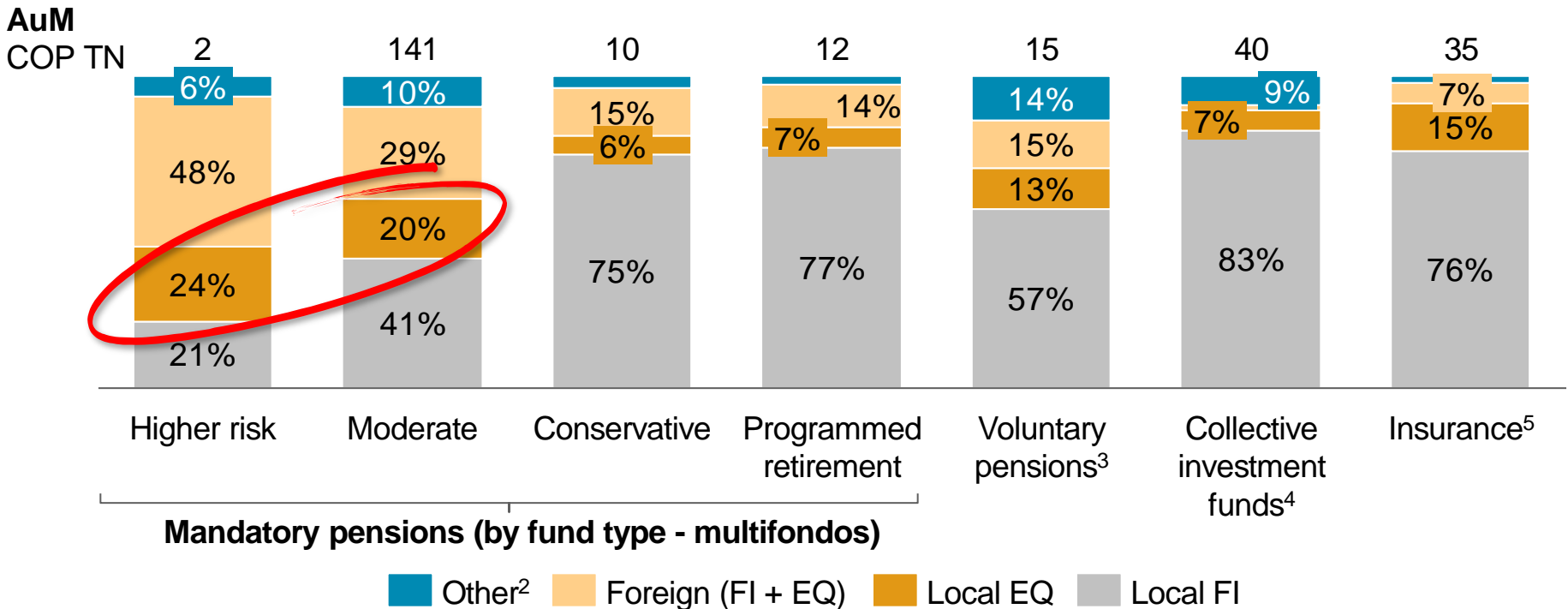
- Encourage private and mandatory pensions
- Remove or relax legislative and regulatory barriers
- Institute tax incentives (e.g., abolish stamp duty)
- Remove distortionary taxes
- Sample interventions by regulators:
  - Brazil: exempted tax on contributions/transactions and allowed aggressive investment approaches
  - Russia: removed “no annual loss” requirements
  - Egypt: abolished stamp duty of 0.1%

# 1. Enabling policy environment

## Mandatory private pension systems structure can serve to increase local assets available for equity investment

### Asset allocation by type of local institutional investor (shown for Colombia)

% of total AuM, as of July 2015<sup>1</sup>



1. As of September 2015 for Collective Investment Funds.

2. For mandatory and voluntary pension funds "Other" includes PE, derivatives, deposits; for collective investment funds "Other" includes non-rated debt, real estate and specialized funds.

3. Includes voluntary pension funds managed by pension fund administrators, trusts, and insurance companies.

4. Excludes private equity funds and funds managing public resources under Decree 1525.

5. Includes life and non-life insurance.

Sources: Superintendencia Financiera de Colombia, Carteras Colectivas, WEF analysis

# 1. Enabling policy environment

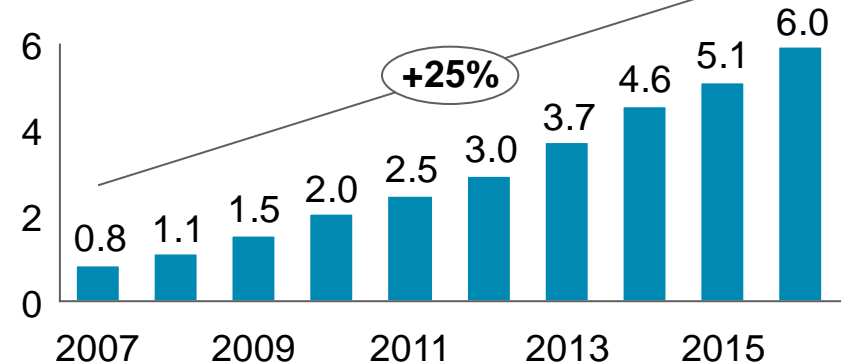
## Several case studies show the impact of institutional investor growth on financial market development

### Chile: Financial development started in 1974 in large part driven by institutional investor growth<sup>2</sup>

- Underwent significant financial deregulation and led to expansion of capital markets
- Development of fully funded pension system contributed to institutional investor base
- Capital markets are growing but have become relatively illiquid
  - Demand for long-term inflation indexed bonds
  - Buy-and-hold is a dominant strategy
- Implications of low liquidity could be profound<sup>3</sup>: higher cost of equity, induce high leverage, discourage private equity, impede price discovery

### Nigeria: Developing pension funds as an institutional investor base<sup>1</sup>

Total AuM of pension funds (Naira TR)



- Introduced major pension reform in 2004 (new DC scheme, increase in portfolio caps in ETFs)
- Pension funds are largest source of domestic investment in equities (~14%)

1. WEF "Accelerating Capital Markets Development in Emerging Economies" (2017).  
2. IMF "Rethinking Financial Deepening: Stability and Growth in Emerging Markets" (2015).  
3. L. Brandao-Marques IMF Working Paper "Stock Market Liquidity in Chile" (2016)

# 1. Enabling policy environment

Some LatAm countries have reformed mutual fund regulation given its importance to capital markets' evolution and growth

## Chile



- “Ley Unica de Fondos” seeks to gain greater international presence and attract more foreign investors
- Focuses on simplifying operations and tax benefits
- Creates new instruments such as funds of funds

## Mexico



- “Ley de fondos de inversion” published early 2014
- Changed denomination from investment companies to investment funds
- Open architecture of MFs seeks to facilitate access and increase competition
- More efficient approval process for funds

## Colombia



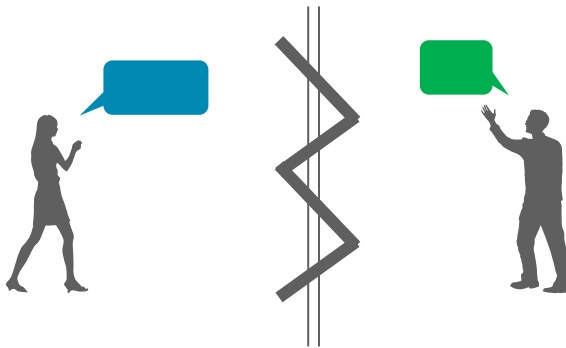
- New regulation identifies MF products as “investment funds” rather than “collective portfolios”
- Mandates independent custody of securities to create greater confidence
- Created concept of “family of funds” that facilitates creation of new products



# 1. Enabling policy environment

International institutional investors can serve as a catalyst for improving market liquidity and attracting local demand

**Remove regulatory barriers to international participation**



- Regulators may adopt a phased approach to market liberalization
- 2001: China joined WTO and introduced new institutional investor program
- 2015: Saudi regulator partially opened markets to allow direct international investments

**Facilitate international participation through foreign links with other markets**

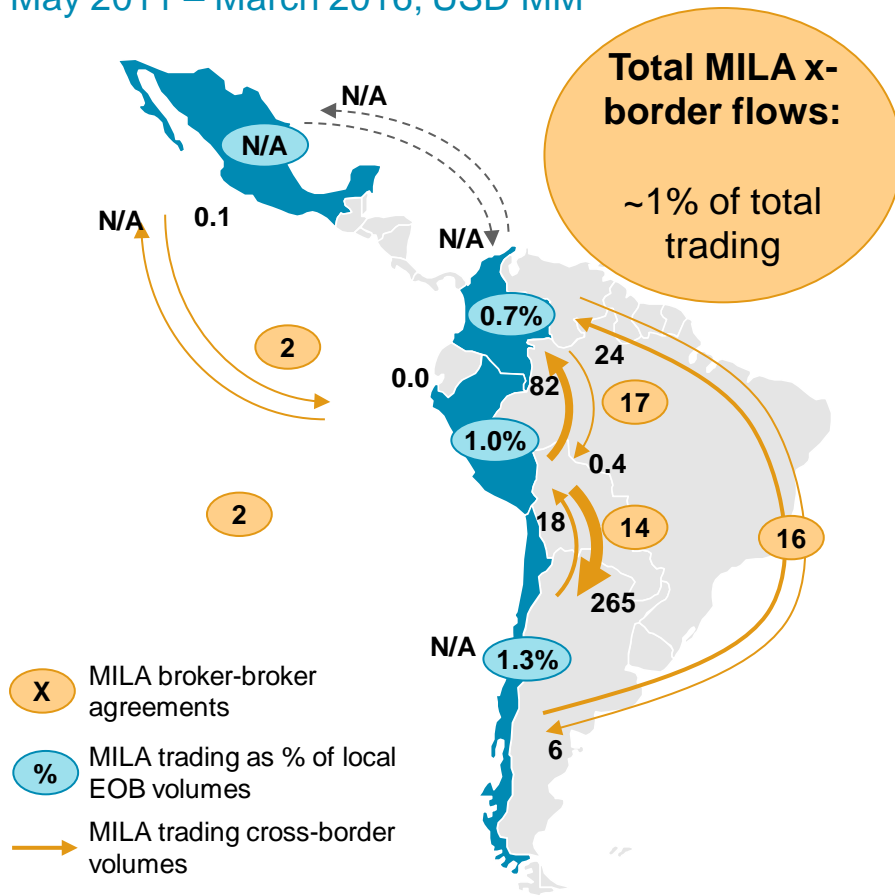


- Institute bilateral linkage initiatives to build institutional investment
- Example: Shanghai-Hong Kong Stock Connect
  - Access listed securities on either exchange
  - Capitalize on mispricing in securities that trade on both exchanges

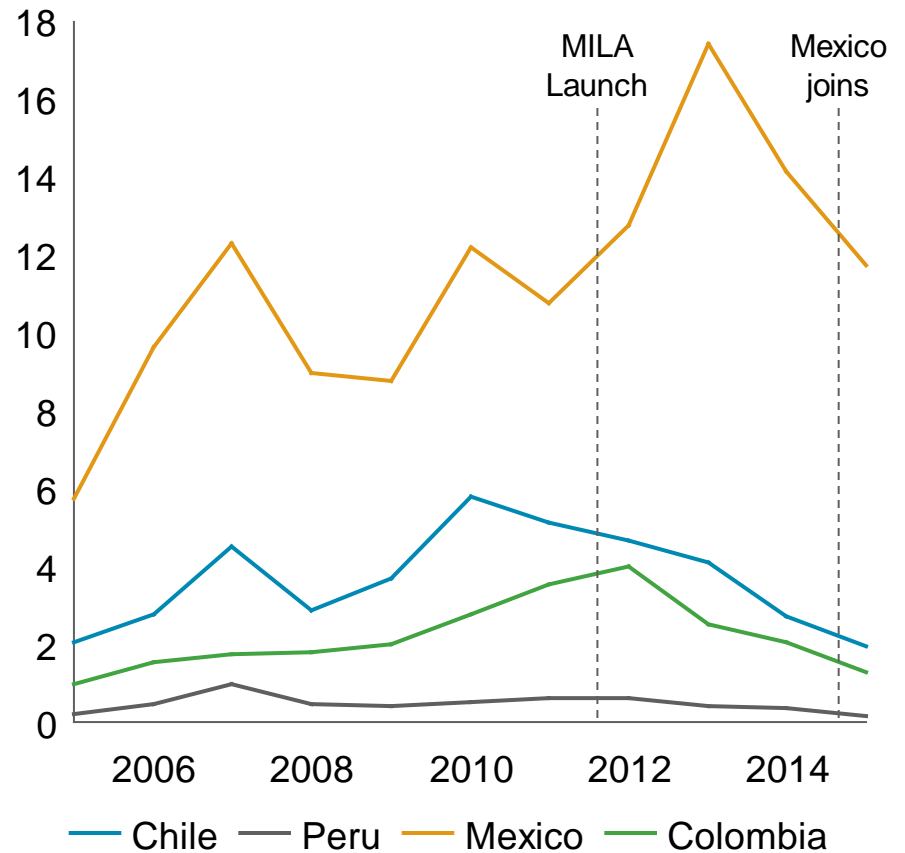
# 1. Enabling policy environment

## Significant potential to grow regional liquidity through MILA

**MILA cross-border volumes**  
May 2011 – March 2016; USD MM



**MILA exchanges EOB volumes**  
USD BN, local and foreign trading

















Broker-broker cross-border MILA agreements: 39 42 43 47 51

Source: WFE, MILA, Oliver Wyman analysis; EOB: Electronic Order Book

## 2. Broader securities and derivatives products

A broader pool of securities and derivatives provides more options for investment and risk management supporting growth

Possible levers	Market stage			Relative impact	Ease to implement	
	Early	Mid-stage	Maturing			
Optimize market admission requirements	Promote the listings value proposition	✓	✓	✓		
	Specify appropriate admission criteria	✓				
	Move to disclosure based approach		✓			
	Align with international standards			✓		
Launch ETFs		✓				
Launch derivatives			✓			
Create regional marketplace			✓			

## 2. Broader securities and derivatives products

### Five key approaches adopted globally to improve issuance

1

**Privatize state owned enterprises (SOEs) by listing them on the exchange**

- Singapore's IPO market
- Malaysia's government investment arm convertible bond issuance

2

**Accelerate approval process and lower issuance fees**

- Reforms to speed up approvals process have had a positive impact on liquidity (e.g. Malaysia, Israel, Oman)

3

**Create a multi-tiered market to meet the demands of various sized institutions (i.e. SMEs)**

- Relaxed listing, disclosure requirements, and lower costs for specific segments (e.g. Korea, Malaysia, Thailand, Singapore)

4

**Increase free float by introducing minimum requirements and/or financial incentives**

- Malaysia introduced a free float adjusted index
- Indonesian tax reduction (5%) based on free float % (40%)

5

**Facilitate raising of equity capital for non-traditional issuers on the exchange**

- Mexico's new REITs regulation
- Thailand listed infrastructure funds

## 2. Broader securities and derivatives products

Brazil introduced a tiered market structure that provided a step ladder for adherence to higher levels of corporate governance

### Brazilian equity markets – overview of reformed market structure

—————New market segments—————

Requirements	Description	Traditional	Level 1	Level 2	Novo Mercado
<b>Improved disclosure</b>	• Financials reviewed by independent auditor				
	• Transaction disclosures and reporting	✗	✓	✓	✓
	• IFRS or US GAAP (Novo Mercado listings only)				
<b>Corporate governance and shareholder rights</b>	• Tag-along rights for all shareholders				
	• Specific Board of Director requirements	✗	✗	✓	✓
	• At least 25% free float				
	• Corporate issues arbitrated via dedicated panel				
<b>Only voting shares allowed</b>	• Shareholders entitled to vote in some key situations	✗	✗	○	✓
	• Novo Mercado participants can only issue voting shares				

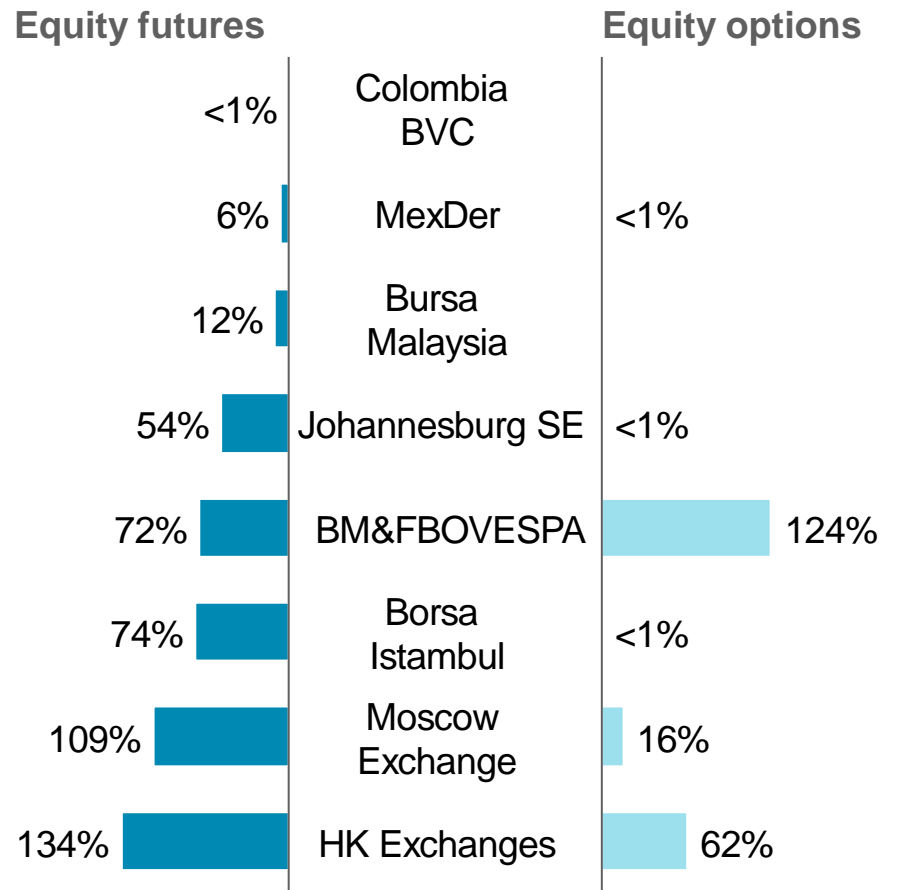
## 2. Broader securities and derivatives products

### Equity derivatives allow a broader range of investment and hedging strategies which are key for institutional investors

#### Usage of equity derivatives

<b>Institutional investors</b>	<ul style="list-style-type: none"> <li>• Asset allocation</li> <li>• Yield enhancement</li> <li>• Risk management</li> <li>• Hedging earning volatility</li> </ul>
<b>Hedge funds</b>	<ul style="list-style-type: none"> <li>• Arbitrage</li> <li>• Yield enhancement</li> <li>• Leverage and risk management</li> </ul>
<b>International institutional investors</b>	<ul style="list-style-type: none"> <li>• See institutional investors (above)</li> <li>• Diversification benefits</li> <li>• Liquidity and global risk hedging</li> </ul>
<b>FIG/Other</b>	<ul style="list-style-type: none"> <li>• Asset liability management</li> <li>• Hedging</li> <li>• Capital structure management</li> <li>• Monetization</li> </ul>

#### Relative size of equity derivative markets<sup>1</sup> 2014, Notional turnover as a % of market cap



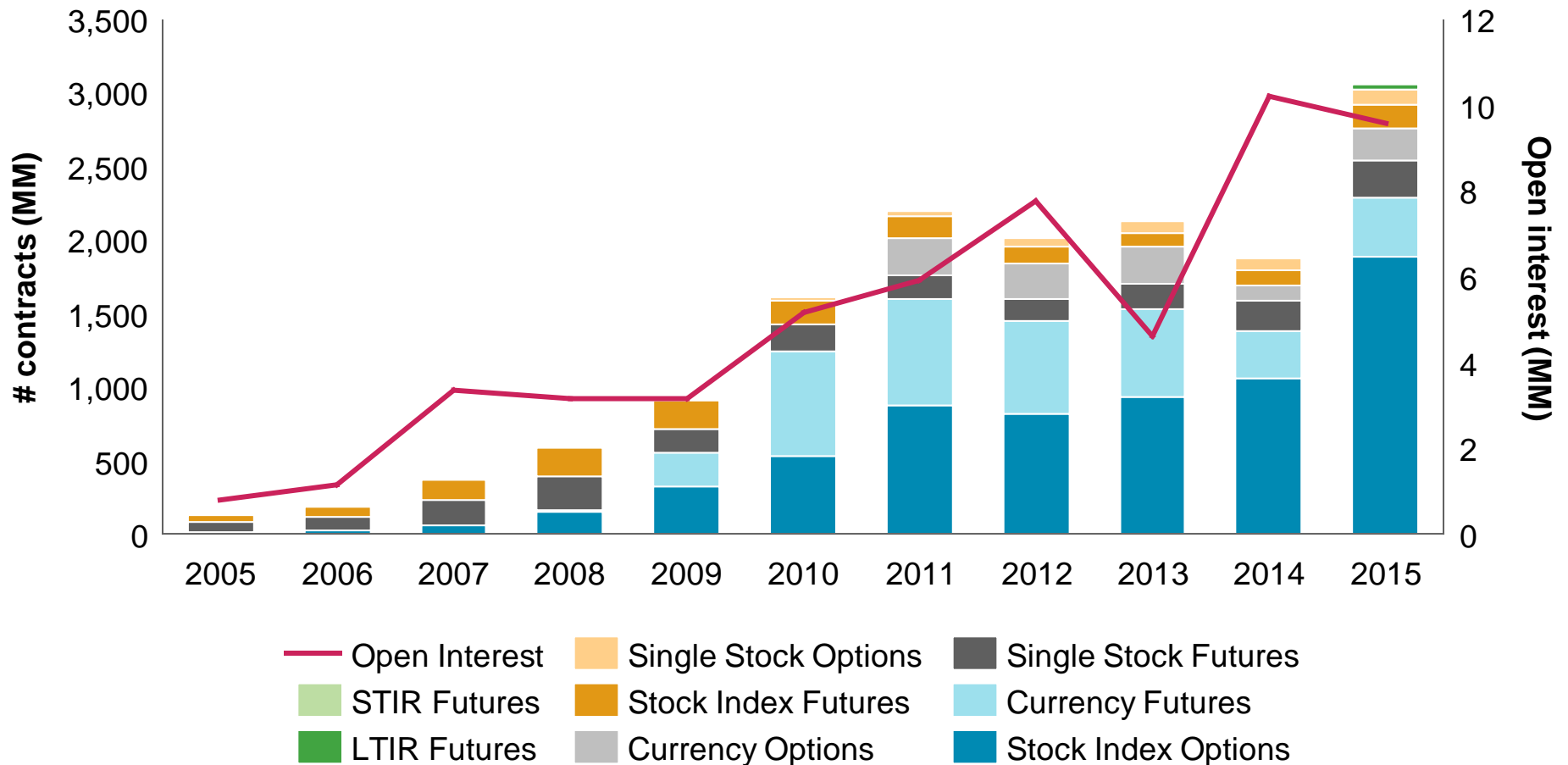
1. Includes single stock, index and ETF futures and options

## 2. Broader securities and derivatives products

India's NSE successfully launched its derivatives market in 2000 which has contributed to increased investor activity

### NSE India case study

Derivatives – number of contracts & open interest

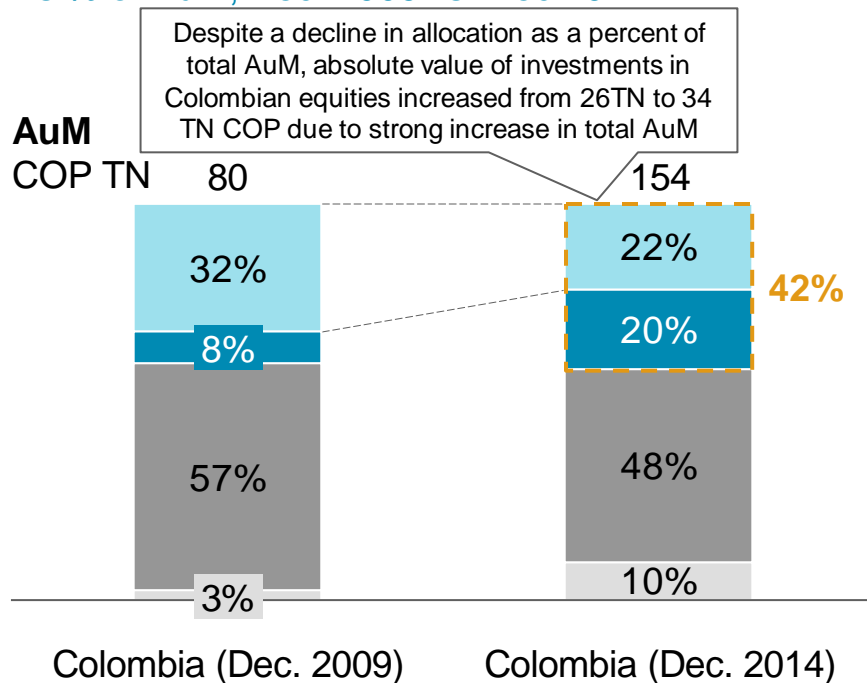


## 2. Broader securities and derivatives products

Without reforms to stimulate institutional investors locally, they may increase their share of foreign assets

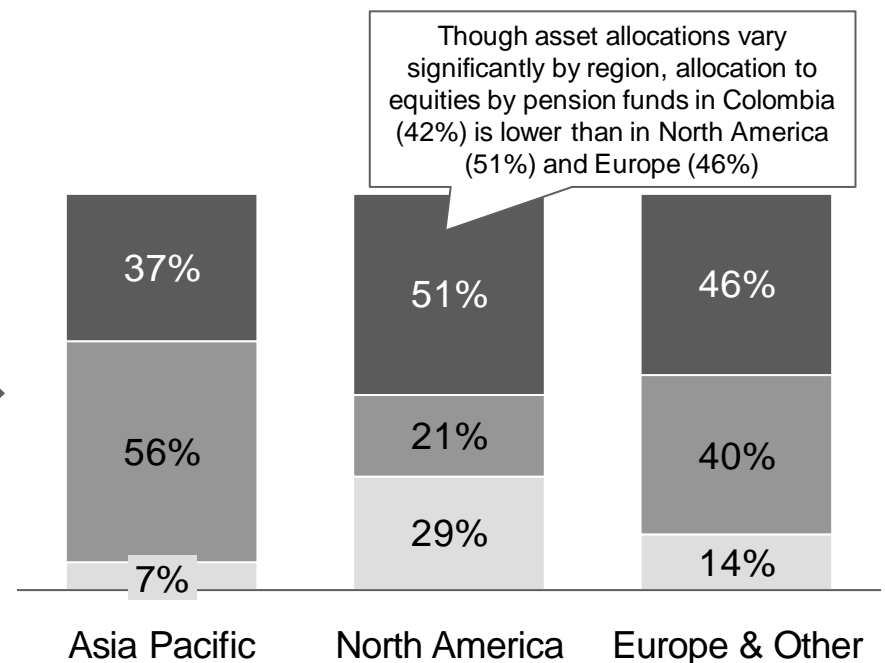
### Example: Evolution of Colombian pension assets<sup>1</sup>

As % of AuM, Dec. 2009 vs. Dec 2014



### Example: Allocation of foreign pension funds<sup>2</sup>

As % of AuM, Dec 2014



■ Equities ( ■ Local Equities ■ Foreign Equities ) ■ Fixed income ■ Alternatives & Other

1. Includes mandatory pension funds only

2. Based on top 300 pension funds worldwide

Sources: Superintendencia Financiera de Colombia, Towers Watson, WEF analysis



### 3. Technology, data and enablers

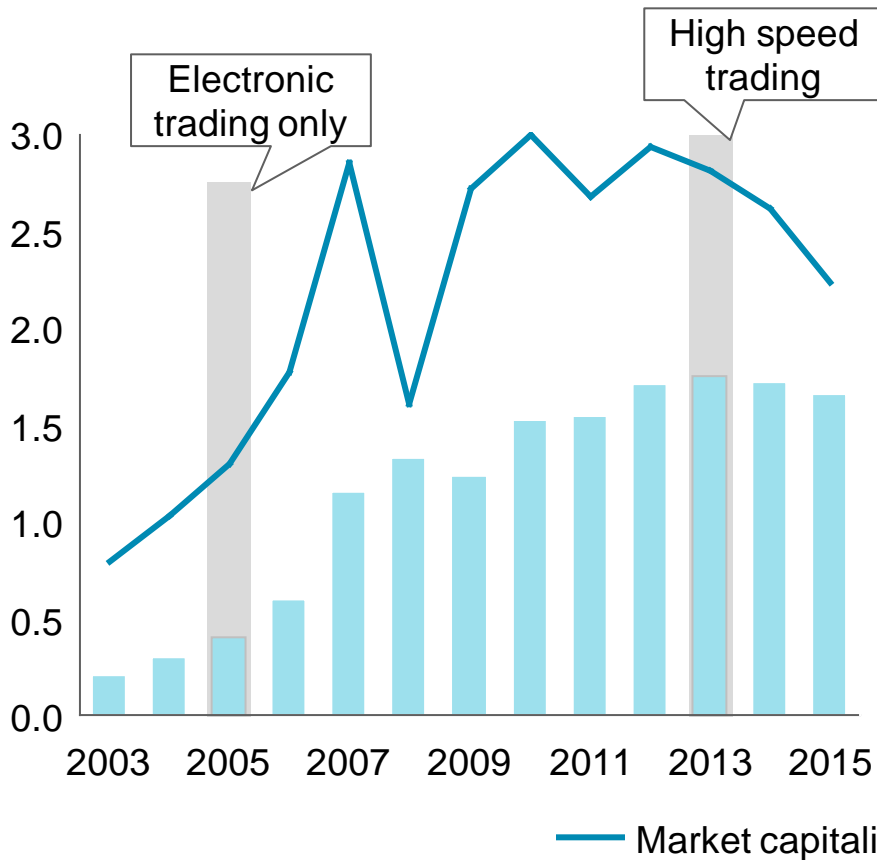
#### Investing in the creation of an enabling market environment

Possible levers	Market stage			Relative impact	Ease to implement	
	Early	Mid-stage	Maturing			
<b>Improving market trading technology</b>	Electronification	✓				
	Dematerialization	✓				
	Direct market access		✓	✓		
	Algorithmic execution		✓	✓		
	Co-location services			✓		
	Support for algo trading firms			✓		
<b>Enhancing market and reference data</b>	Improved real-time and historical data	✓				
	Analytics and tools		✓	✓		
	Index capabilities		✓	✓		
<b>Implement market-maker schemes</b>		✓				
<b>Implement short-selling and securities lending and borrowing</b>			✓			

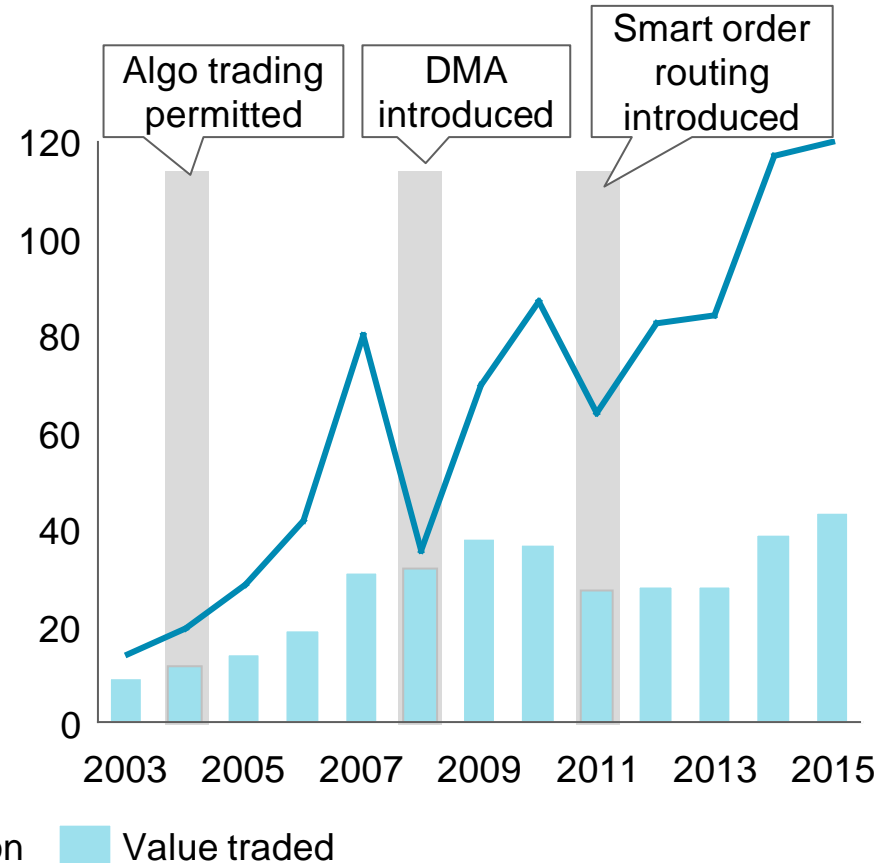
### 3. Technology, data and enablers

## Case study: Impact of shift to electronic trading on liquidity

**Brazil: Value traded and market capitalization**  
BM&F Bovespa exchange, in BRL TN



**India: Value traded and market capitalization**  
National Stock exchange, in INR BN



Source: Oliver Wyman analysis, WFE data

### 3. Technology, data and enablers

## Establishing a network of professional intermediaries will also support market development

#### Objectives

- Promote greater sophistication of market intermediaries (e.g., investment banks)
- Promote a more leveled playing field between banking and non-banking intermediaries

#### Benefits

- Development of a full capital markets offering with greater independence between investment and commercial banks
- Increased non-banking institution scale to improve their willingness/capacity to invest and their ability to gain greater sophistication

#### Case study: Indian exchange certification

- Critical to promote a network of professional and appropriately regulated intermediaries
- In 1998, the National Stock Exchange of India introduced the Certification on Financial Markets (CFA)
  - Online testing certification program
  - Required by regulation for occupations involving financial intermediation
- CFA ensures intermediaries adhere to a code of conduct and possess the required skills and knowledge to act as market intermediaries

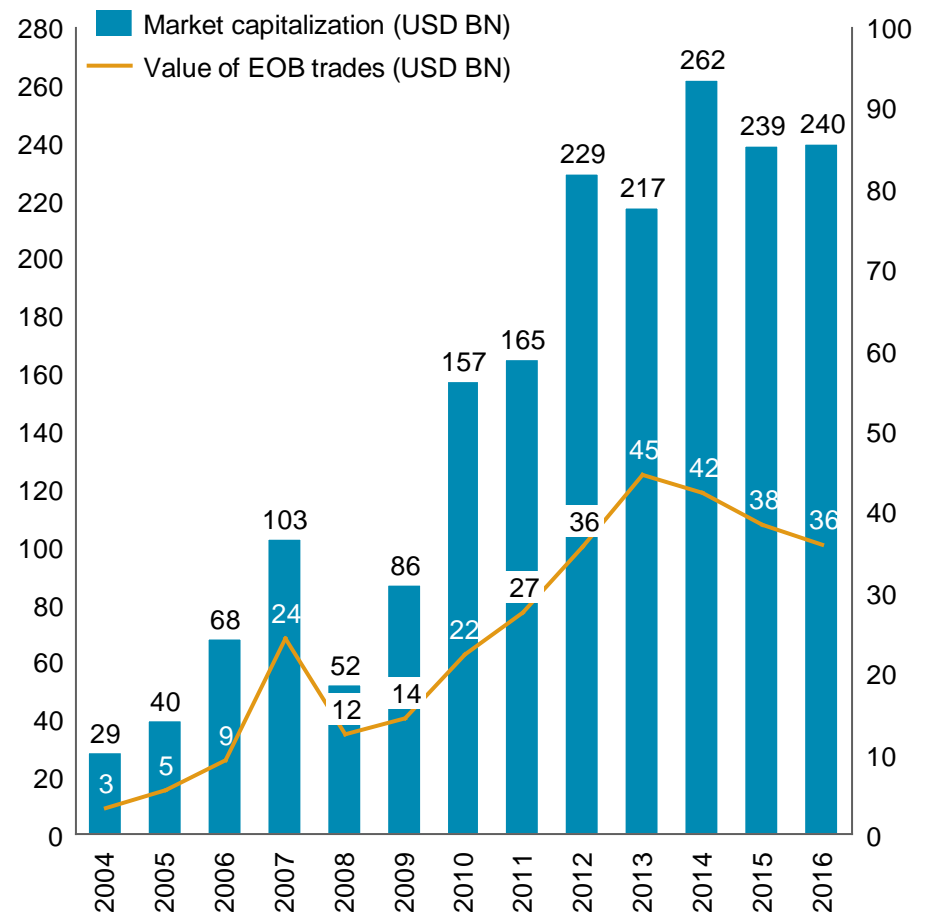
### 3. Technology, data and enablers

## The Philippine Stock Exchange improved liquidity through a mix of strategies improving institutional investor participation

#### Key actions taken

- A variety of interventions were taken by the PSE, market regulators, and policymakers
- Market improvements were due to **interaction of multiple interventions** than a single initiative
- Invested in **technology** to extend market reach
  - Rolled out Tradex in 2013 to allow users to trade, monitor and manage stock portfolios
  - Launched PSEtrade XTS in 2015, a new trading platform
- Applied key **non-technology** related strategies:
  - Encouraged investor participation in the market
  - Promoted investor education / financial literacy
  - Strengthened corporate governance and listing standards
  - Diversified investment products

#### Impact to Philippines Stock Exchange



# The policies and levers discussed in this section can support the development of each class of institutional investor

## Policies/levers and applicability to each institutional investor type

Institutional investor	Enabling policy environment	Broader securities and derivatives products	Technology, data and enablers
Pension funds	✓	✓	
Insurance companies	✓	✓	
Endowments and Foundations		✓	
Sovereign wealth funds		✓	
Hedge funds	✓	✓	✓
Mutual funds	✓	✓	✓

Thank you for your attention!

**Questions**



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