

Examining the Asian Markets

Prepared for the Global Market Structure Conference

Securities Operations Forum

December 2, 2008

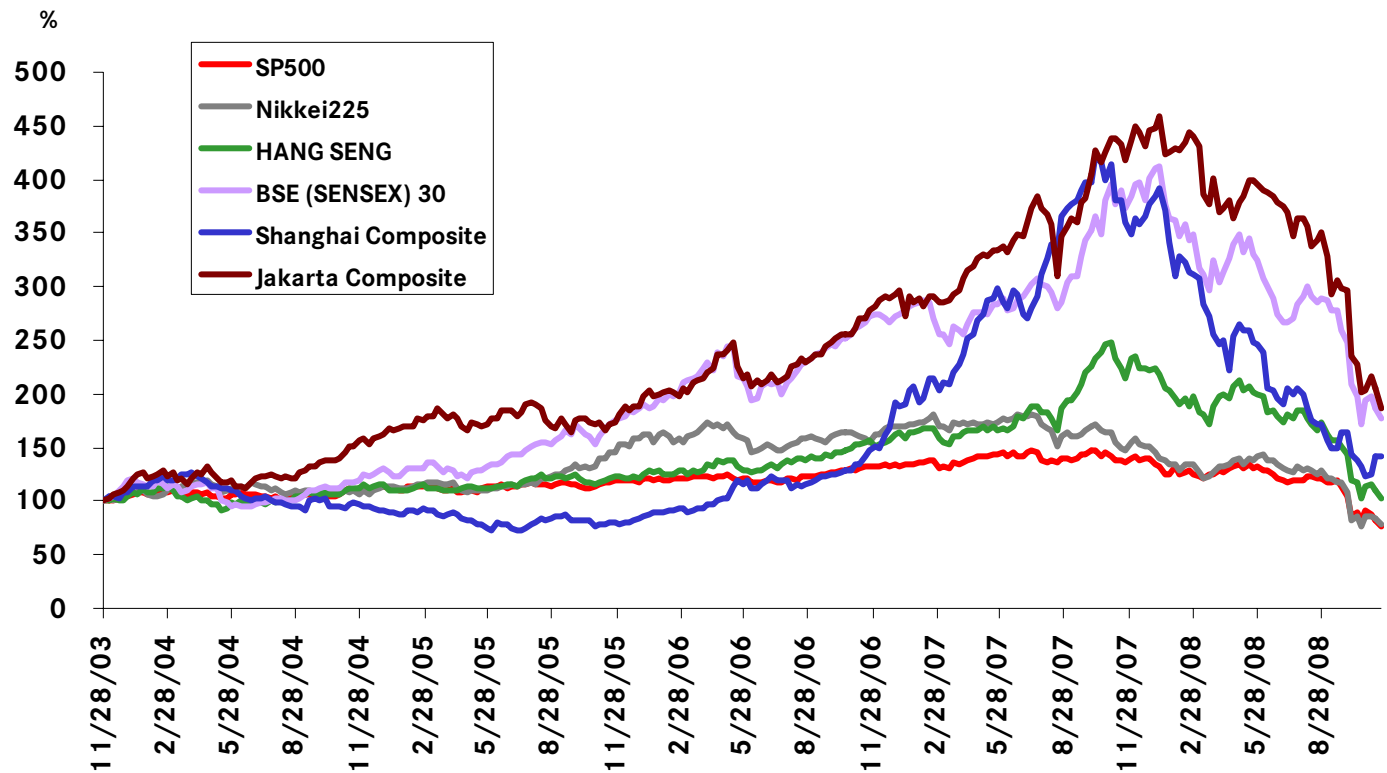
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The last few years in Asia

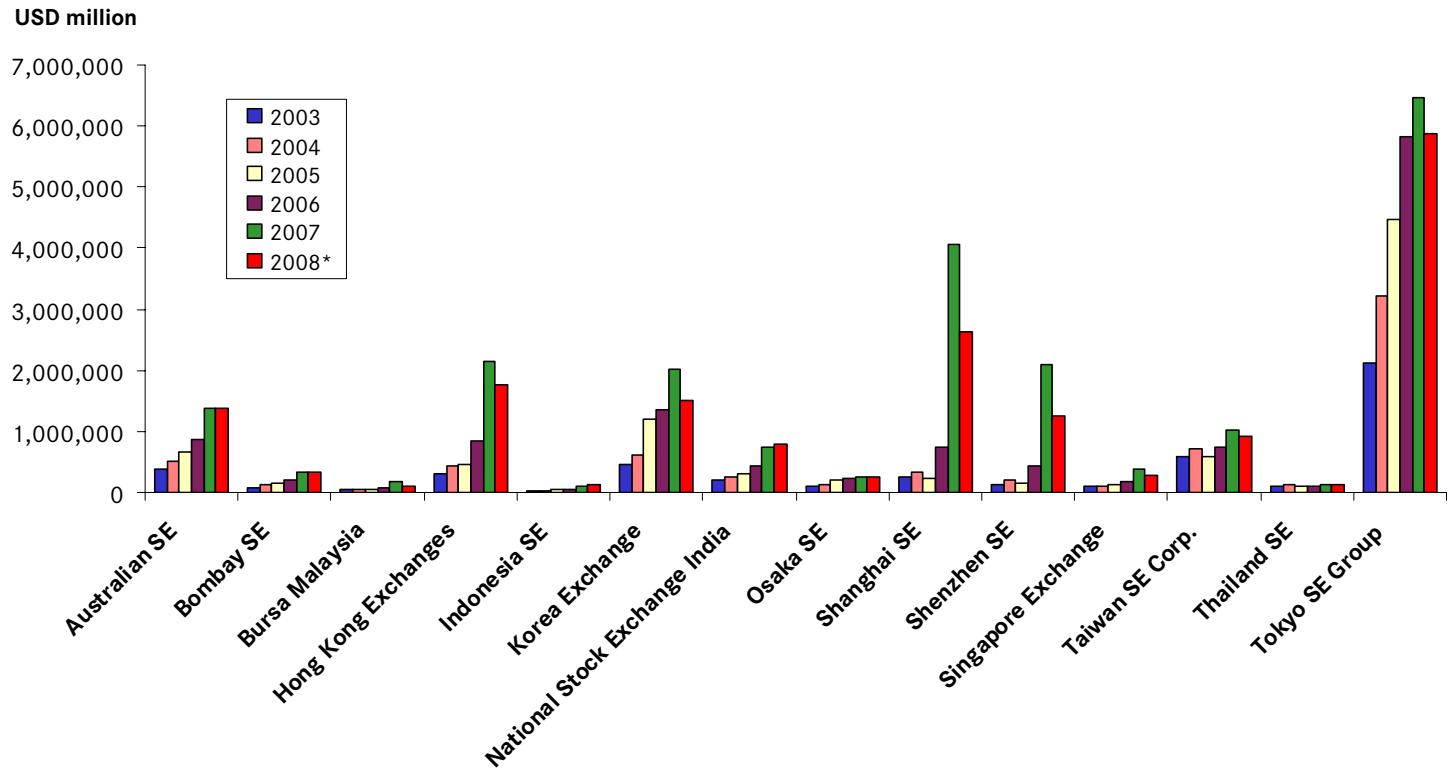
Asia Market Performance

Major Asian Stock Indices – Last 5 years



Asia Market Performance

Major Asian Equity Markets – \$ Value of Trading

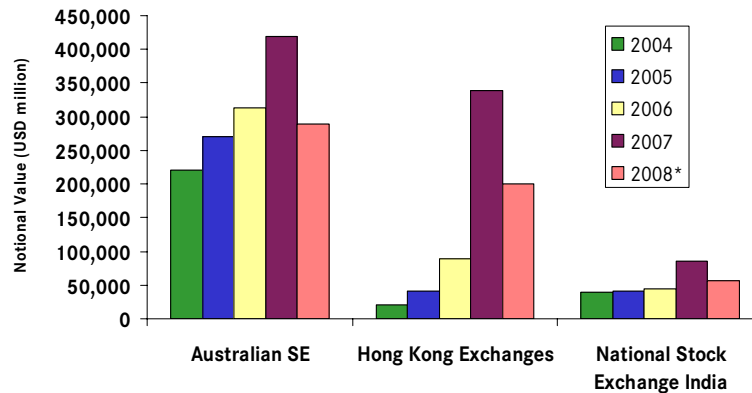


*2008 data annualized, based on first ten months

Asia Market Performance

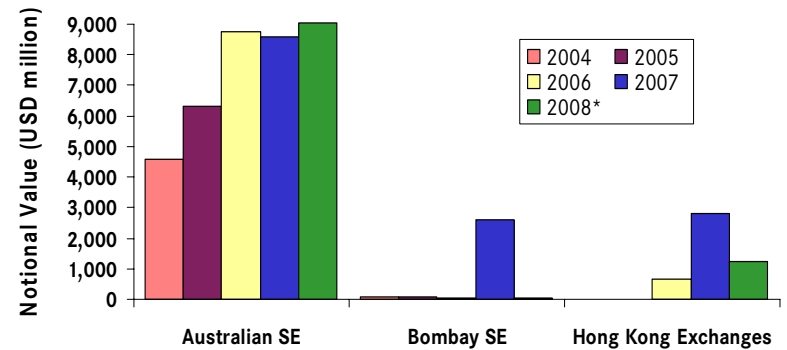
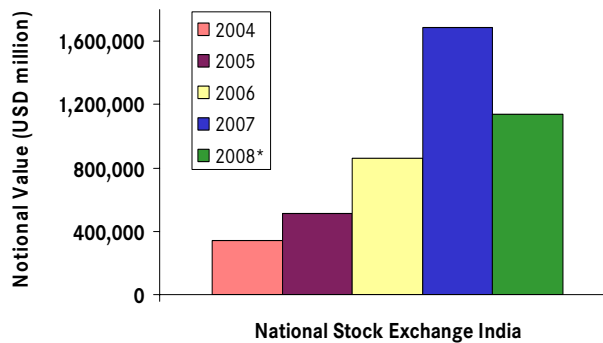
Major Asian Derivative Markets

Single Stock Options



Other Exchanges with Stock Options Trading include **Bombay SE, Korea Exchange, Osaka SE, TAIFEX and Tokyo SE**

Single Stock Futures

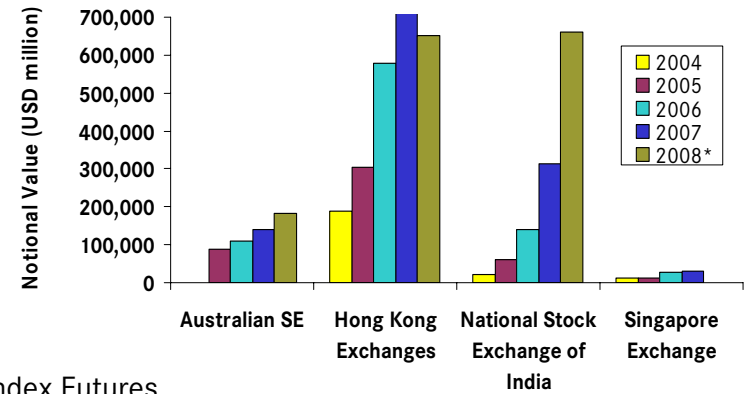
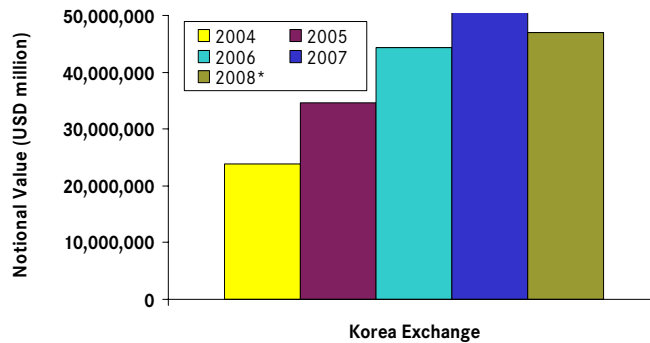


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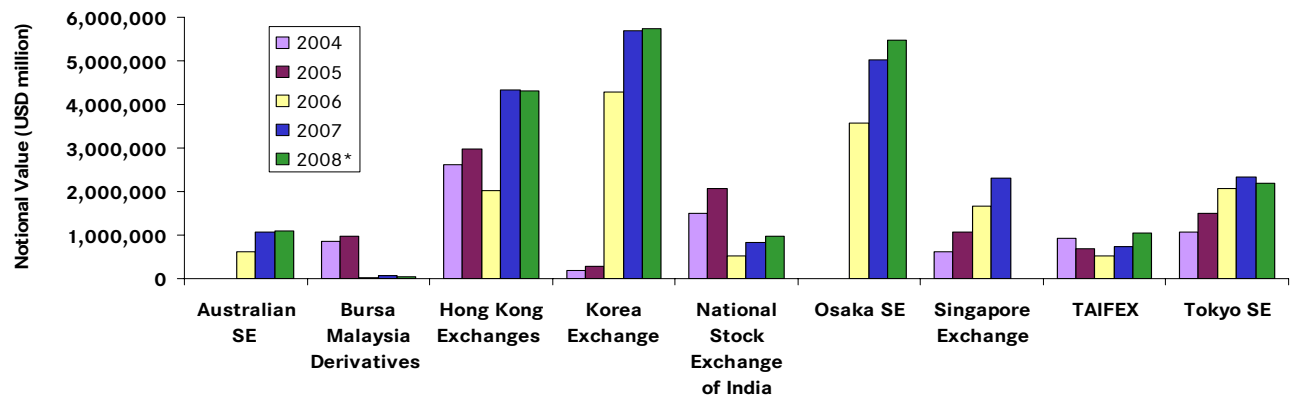
Asia Market Performance

Major Asian Derivative Markets

Stock Index Options



Stock Index Futures



*2008 data annualized, based on first ten months

The Big Equity Markets

Japan

- TSE is still the largest exchange in Asia – \$3.3 trillion in market cap (September 2008)
 - Despite size, Tokyo has still has not emerged as true regional or global financial center
 - TSE now demutualized, but still unlisted
- Recent international Alliances and Cross Holdings
 - TSE will receive technology help from NYSE Euronext
 - TSE purchased 5% stake in SGX
 - Alliance with LSE to develop an emerging company market in Japan modeled on AIM

Japan (cont.)

Other significant markets:

- **OSE (listed since 2004)**
 - **Focused on derivatives trading rather than equities**
 - **Largest market for index options in Japan (Nikkei 225)**
- **Four “emerging company” markets: Mothers (TSE), Hercules (former Nasdaq, now owned by OSE), Jasdaq, TSE/LSE new AIM market?**
 - **November 2008 Consolidation move: OSE (Hercules) will merge with Jasdaq**
- **TOCOM (Commodities)**
 - **Demutualizing in 2008, planning to list**
- **TFX (formerly Tokyo Financial Futures Exchange, now Tokyo Financial Exchange)**
 - **Mainly currency and interest rate derivatives**
 - **Fungible link between TFX and Liffe (Liffe technology)**

Japan (cont.)

- **JSCC – since 2002 provides cross-market clearing for most securities trading in Japan. Owned by the six securities exchanges in Japan:**
 - **Tokyo Stock Exchange Group, Inc. (86.3%); Osaka Securities Exchange Co., Ltd. (9.5%); Jasdaq Securities Exchange, Inc. (3.4%); Nagoya Stock Exchange, Inc. (0.7%); Sapporo Securities Exchange (0.5%); Fukuoka Stock Exchange (0.05%)**
 - **Majority of the board is made up of exchange customers.**
 - **Clears all cash equities trading in Japan and TSE derivatives trading**
- **OSE clears and settles trading of its derivatives products**
- **Trades settle on JASDEC**
 - **JASDEC entrusts part of its business to Japan Securities Settlement & Custody, Inc (JSSC), a subsidiary of the TSE**

China

- Two Equity Exchanges
 - Shanghai (\$1.7 trillion as of September) much larger than Shenzhen (\$387 billion)
 - Plan for years to allow Shenzhen to start an “emerging company” exchange with easier listing standards, but it never materializes
 - Shanghai has technology link with DB/Eurex
 - Ownership of both exchanges – 100% government
 - Severe restrictions on new issuance and trading participants have significantly hampered equity market development
 - Despite problems, progress has been impressive in the last decade

China (cont.)

- Commodities Futures Exchanges
 - The Shanghai Futures Exchange (SHFE): futures contracts on copper, aluminium, zinc, natural rubber, fuel oil, and gold.
 - Dalian Commodities Exchange (DCE), futures on Corn, No.1 Soybean, No.2 Soybean, Soy Meal, Soy Oil, RBD Palm Olein and LLDPE (Linear Low Density Polyethylene)
 - Zhengzhou Commodities Exchange (ZCE), futures contracts on wheat, cotton, white sugar, purified terephthalic acid (PTA) and rapeseed oil

China (cont.)

- **Other Exchanges**
 - **China Financial Futures Exchange (CFFEX)**
 - **Founded jointly by Shanghai Futures Exchange, Zhengzhou Commodity Exchange, Dalian Commodity Exchange, Shanghai Stock Exchange and Shenzhen Stock Exchange on September 8, 2006**
 - **First product will be based on the China Securities Index, the CSI 300. Trading has not started.**
- **Environmental Exchanges**
 - **Beijing**
 - **Shanghai**
 - **Tianjin (strategic tie-up with Chicago Climate Exchange)**
- **Reluctant to cede ownership of exchanges to foreign participants**
- **Very cautious on currency convertibility**

India

- **Vibrant environment for exchange investment and formation**
- **NSE (Private: Shareholders include NYSE and Goldman)**
 - **#1 in terms of trading volume; Leader in derivatives trading; Vertically integrated clearing (NSCC)**
- **BSE (Private: Shareholders include SGX and DB)**
 - **Acquiring Nasdaq OMX technology**
 - **Clearing House (subsidiary of BOI and BSE) handles clearance and settlement**
- **Over 24 commodities and commodity futures exchanges**
 - **Multi-commodities exchange (MCX). Shareholders include: Financial Technologies Group, NYSE, Merrill Lynch, Citigroup, ICICI Ventures, SBI and Kotak Mahindra Bank**
 - **National Commodity & Derivatives Exchange Limited (NCDEX). Shareholders include: NSE, Goldman**

India (cont.)

- Three new Power/Electricity Exchanges
 - PEI, IEX and “un-named third power exchange”
- New Derivatives and Forex exchanges
- OTC Exchange of India
- Portfolio investment by foreigners subject to a ceiling of 30 per cent; 10 percent for any one investor

Hong Kong

- Third largest equity market by market cap, after Tokyo and Shanghai
- Second largest single stock options market
- Fourth largest stock index futures market
- Consolidated equity, derivatives and clearing under HKEC
- Beginning threats from new entrants
 - HK Mercantile Exchange (Cinnober technology)
 - Other?
- Leading contender for regional financial hub; but losing ground to Singapore (asset management), China (investment banking) and India (derivatives trading)

Hong Kong (cont.)

- In Hong Kong, brokers can operate Automated Trading Services (ATS) and compete with the exchanges
- While this is a short term threat to the HKEX, it may end up ensuring the relevance of the city in terms of regional or global financial activity by attracting global intermediaries and innovators

The slide features a white background with several light blue circles of varying sizes scattered across it. Two horizontal dark blue lines are positioned across the slide, one above and one below the main text.

Other notable developments

Singapore

- Serious push to establish itself as regional financial center
- Regulatory regime relatively open to new entrants and foreign (onshore and remote) participation
- Listed exchange (as a result of the merger of the stock and derivatives exchanges and the CCP)
- Hopelessly small domestic market continues to be an obstacle
- Chance of success if genuinely willing to allow London/Wimbledon evolution to occur

Taiwan

- Recently followed HK and Singapore to merge TSEC with the country's futures and OTC exchanges and the domestic clearing body
- This will make it much easier to realize potential partnerships
- Only real chance to stay relevant is to partner with some of the other smaller exchanges in Asia (Philippines, Malaysia, Singapore?) or merge into a Pan Asian entity if one eventually emerges

Korea

- Also recently merged equity and derivatives exchanges to create a globally competitive entity
- Tremendous success growing derivatives trading (notably the Kospi 200 equity index option product)
- Regional leader in internet trading and retail derivatives penetration
- Despite ambitions, hard to imagine Korea emerging as a regional financial center. More likely a large economy with a large domestically oriented market.
- Might find a US or European partner to cross-list products, or for mutual investment

New Asian Players

- Case Study: Financial Technologies
 - Indian listed company – impressive growth and market cap
 - Owner/operator of exchanges
 - MCX (Indian Multi Commodity Exchange)
 - Indian Energy Exchange
 - MCX SX (Indian Online currency futures)
 - SMX (Singapore Mercantile Exchange, Pan-Asian commodity derivatives exchange based in Singapore)
 - Technology provider (trading, clearing, order management, etc.)

Asian Commodity Exchanges

Existing commodity exchanges will be increasingly challenged by new entrance with Pan Asian or Global ambitions, e.g., SMX and the soon-to-be-launched HKMEx


The cost of entry is low and there are few well-established incumbents (at least compared to the US or Europe)

ASIAN COMMODITIES EXCHANGES

| Exchange | Location | Agricultural | Metals | Energy | Emmissions |
|---|--------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Greater China | | | | | |
| Dalian Commodity Exchange | Dalian | <input checked="" type="checkbox"/> | | | |
| Shanghai Futures Exchange | Shanghai | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Zhengzhou Commodity Exchange | Zhengzhou | <input checked="" type="checkbox"/> | | | |
| Northeast Asia | | | | | |
| Central Japan Commodity Exchange | Nagoya | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Kansai Commodities Exchange | Osaka | <input checked="" type="checkbox"/> | | | |
| Tokyo Commodity Exchange | Tokyo | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Tokyo Grain Exchange | Tokyo | <input checked="" type="checkbox"/> | | | |
| South Asia | | | | | |
| Bursa Malaysia Derivatives Exchange | Kuala Lumpur | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | |
| Multi Commodity Exchange | Mumbai | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
| National Commodity and Derivatives Exchange | Mumbai | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Singapore Commodity Exchange | Singapore | <input checked="" type="checkbox"/> | | | |
| Pacific | | | | | |
| Australian Securities Exchange | Sydney | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

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Source: World Federation of Exchanges

 = Publicly traded exchange



Key Trends

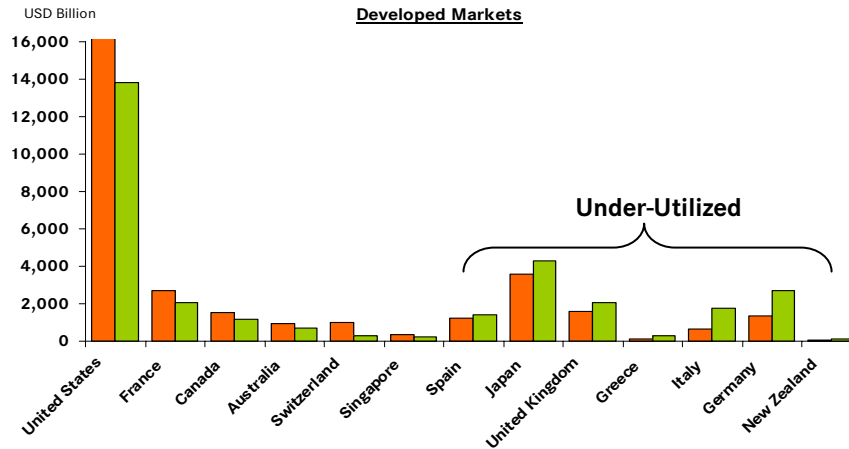
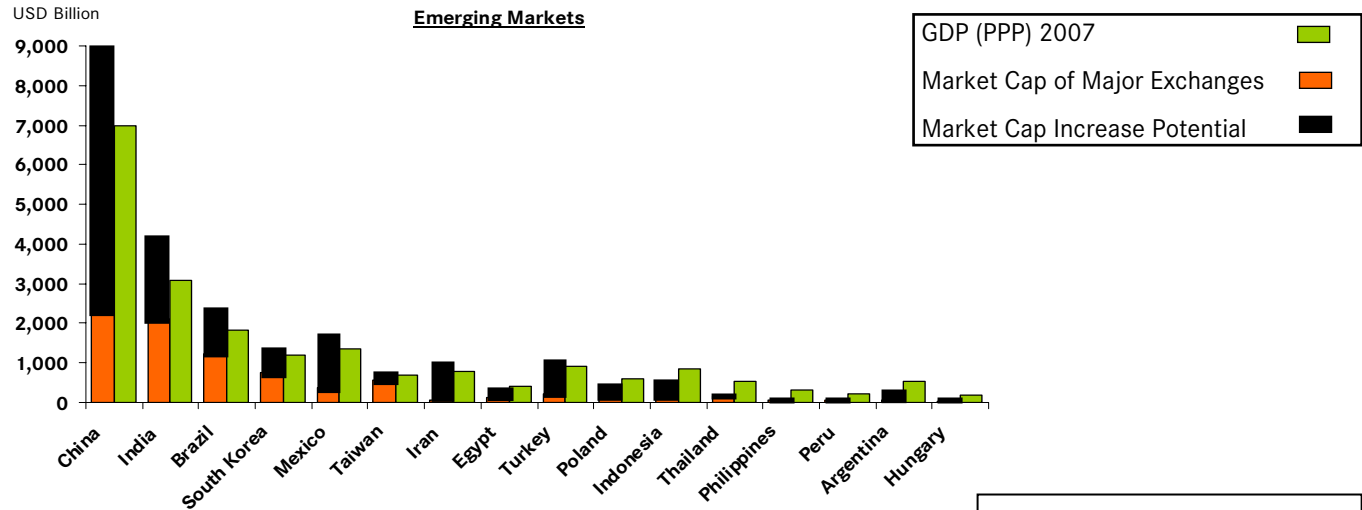
Key trends

- **Equity exchanges in developing markets in Asia are generally still undersized and will continue to grow until relative size converges with global norm**
- **Growth of derivatives and commodities exchanges will outpace that of equity exchanges over the next 5 years (perhaps with a dip during the current crisis)**
- **Regulators in Asia will look toward Europe for model of consolidation and integration, but it will take many years to follow**
 - **If MiFID is deemed successful (lower trading and clearing costs), larger markets in Asia will emulate**
 - **Demutualization and listing of exchanges will follow global pattern (in many countries) and will facilitate further strategic alliances and M&A**
 - **There will be market pressure from users of CCPs – generally still owned by exchanges, rather than by users – for them to evolve and give up monopoly clearing.**

Equity Market Growth Potential in Emerging Economies

Emerging Markets Exchange Ecosystem Poised for Substantial Growth

Emerging market exchanges remain underdeveloped relative to their underlying economies.



Market Cap to GDP Ratio:

Emerging Economies
39.7%

Developed Economies
100.1%

Source: World Bank, WFE

Note: Additional detailed information on market cap increase potential in Appendix

Key trends – Direct Market Access

- **Remote access to exchanges in Asia will continue to grow**
 - **Capital account restrictions continue to loosen**
 - **Regulators grow more comfortable with high-frequency trading by foreign participants**
 - **Competition to become a regional financial center supports this trend**
 - **Order routing and trading technology firms have already crossed borders elsewhere and are now turning attention to Asia**

Key trends: Exchange demutualization and listing in Asia

The trend is strengthening in Asia

