

# **Current Situation of Japanese Securities Market and TSE's Strategy**

**October, 2010**

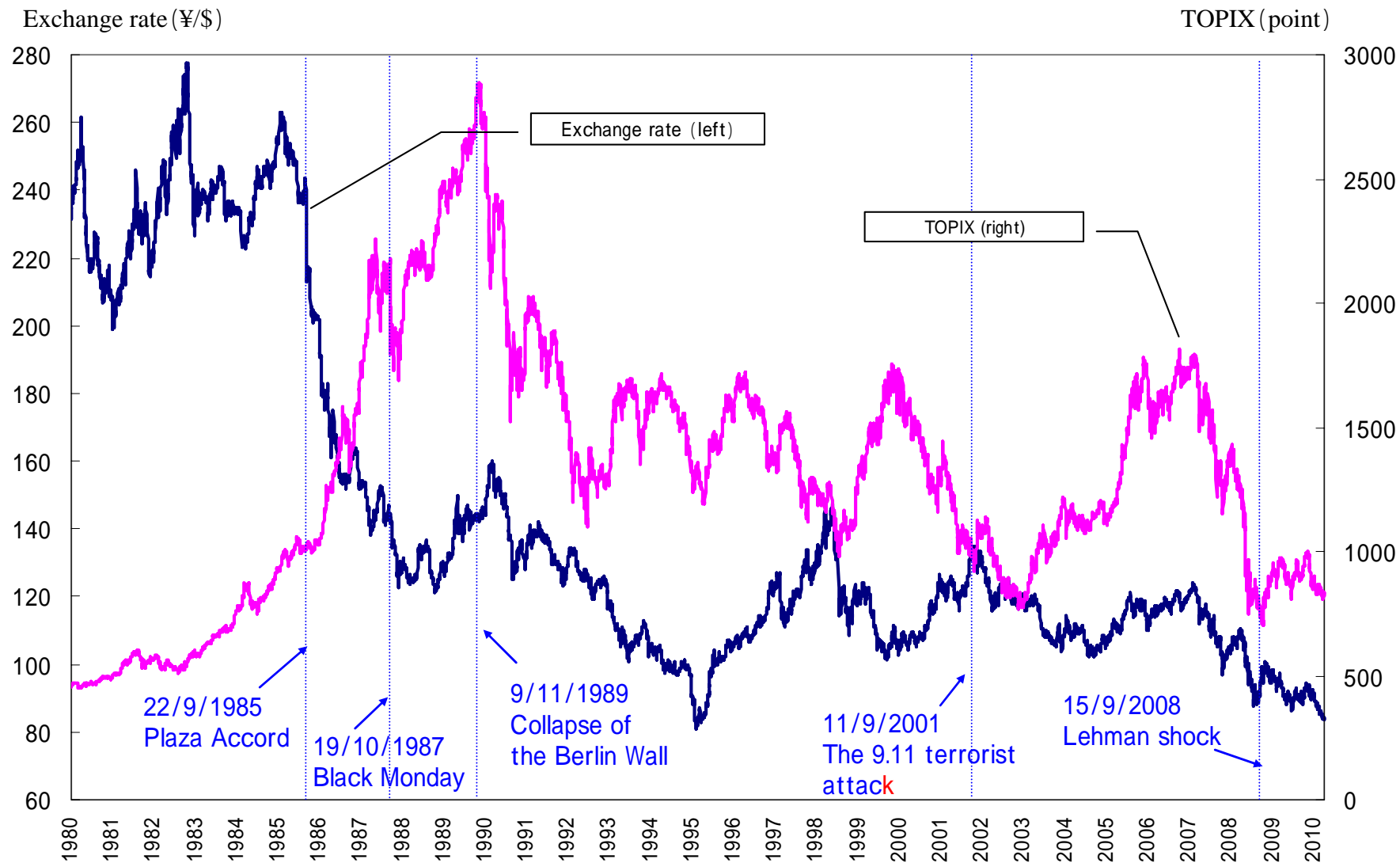
**Tokyo Stock Exchange, Inc.**



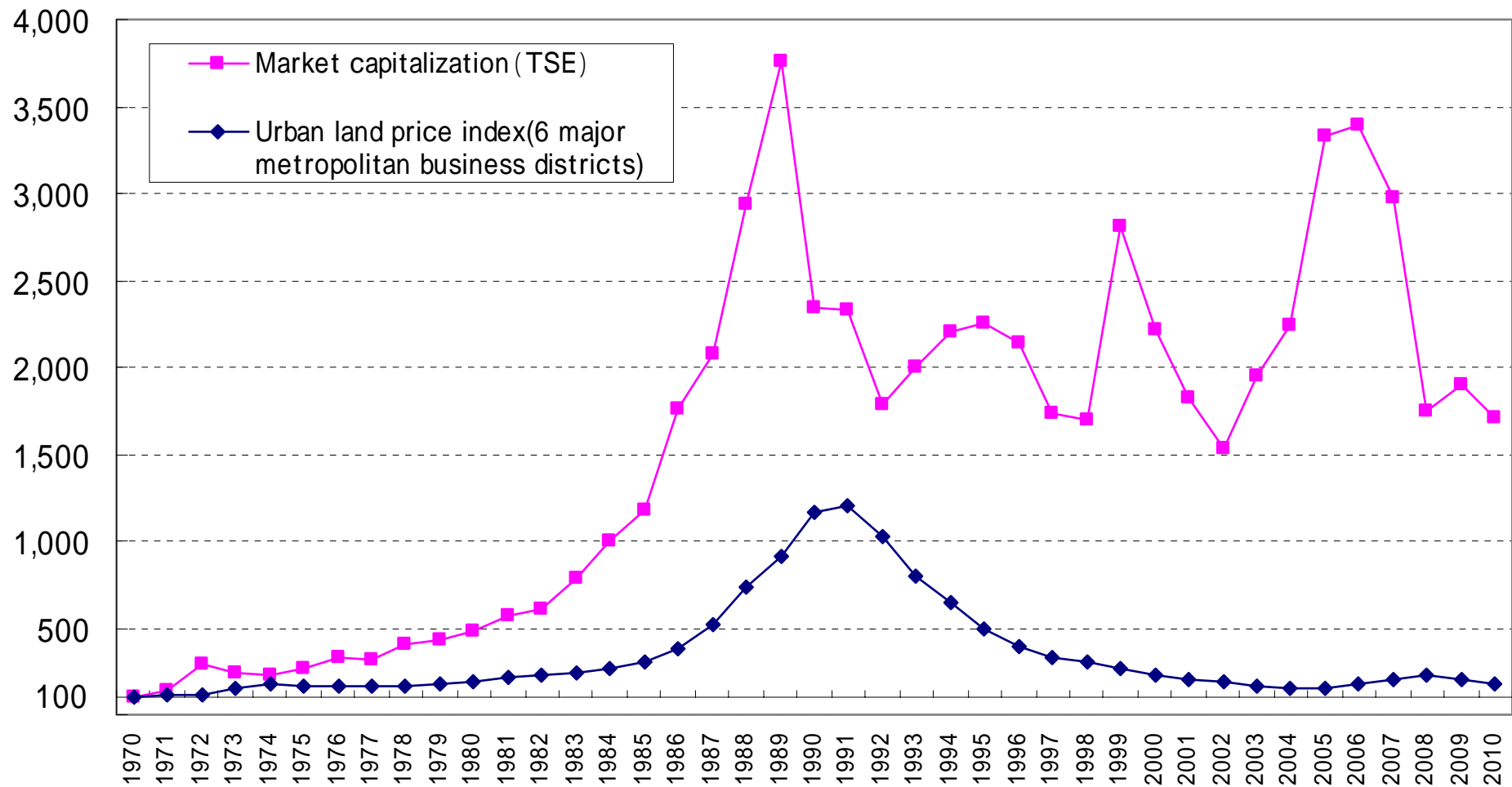
# **1. Circumstances surrounding the Japanese securities market**



# 1. Stock price and exchange rate



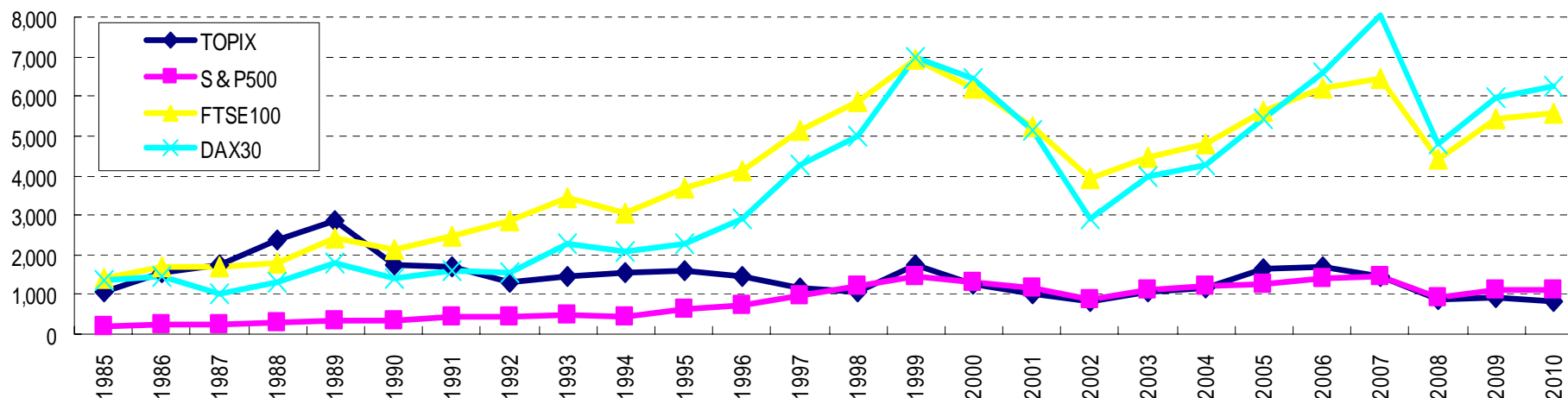
## 2. Property prices and market capitalization



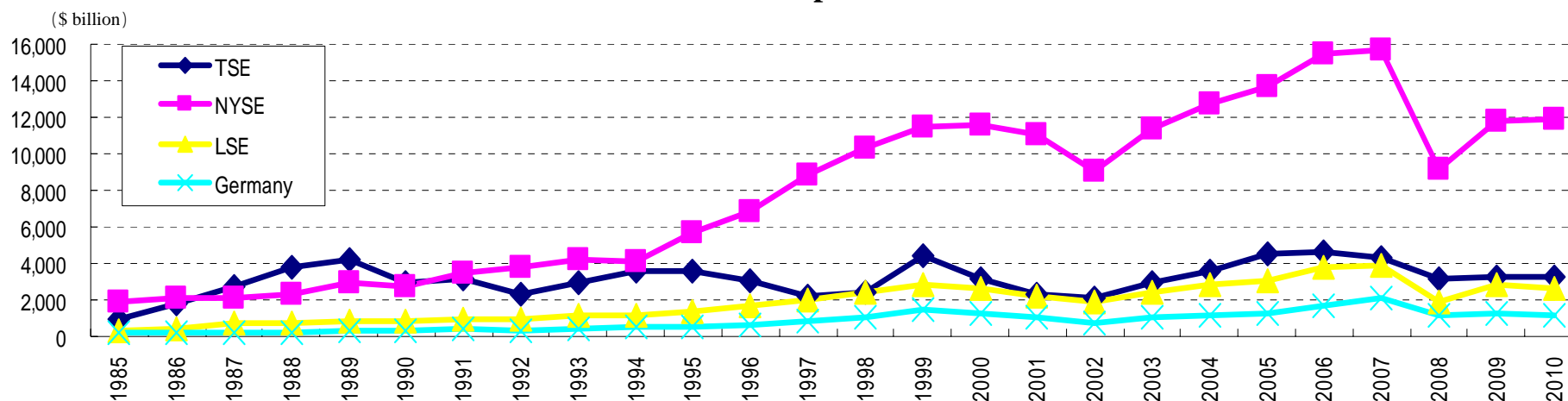
\*1970=100

### 3. Stock price indices and market capitalization

Stock price indices



Market capitalization



## 4. Present position of TSE

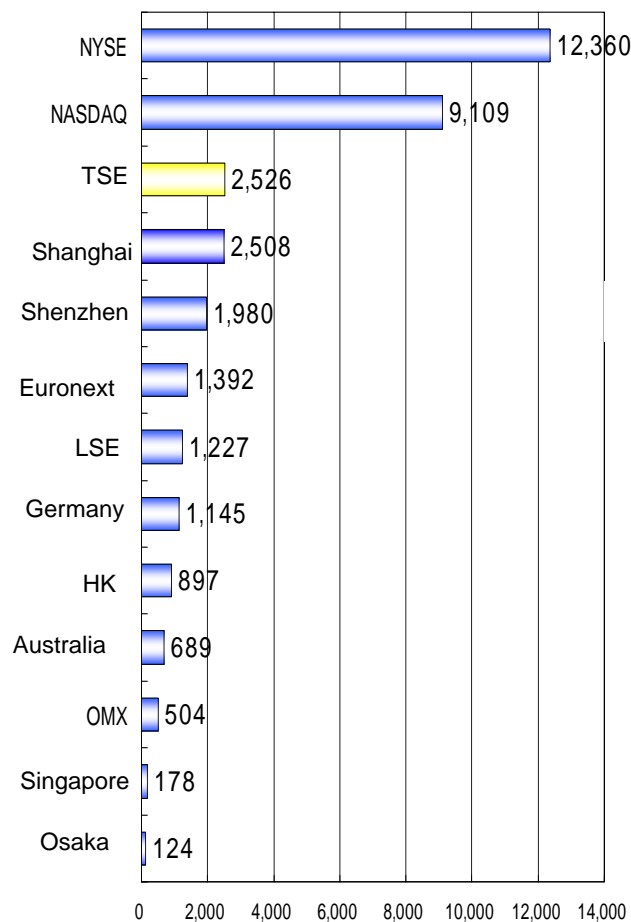
**Market Capitalization (2010.8)**

( \$ billion )

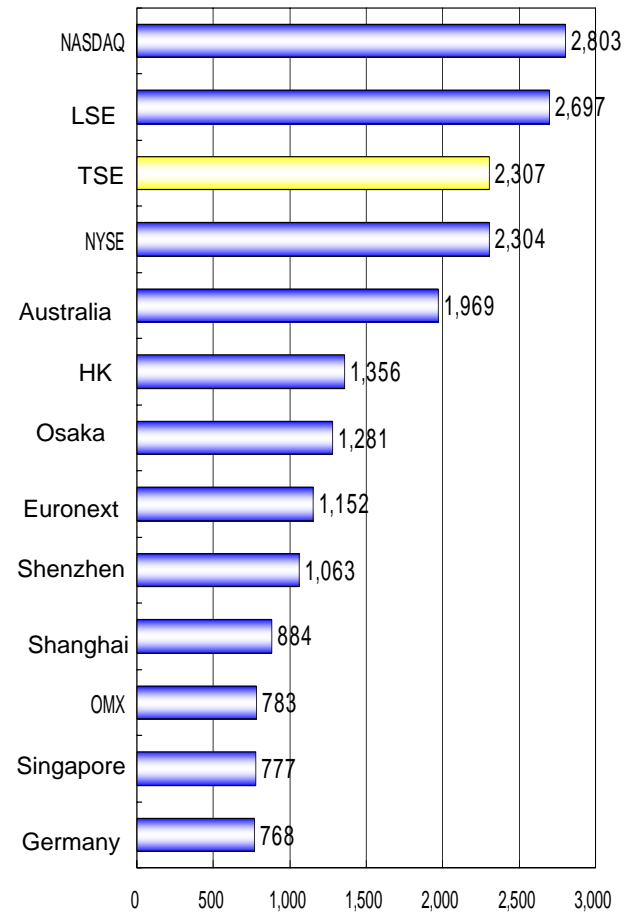


**Trading Value (2010 Jan-Aug)**

( \$ billion )

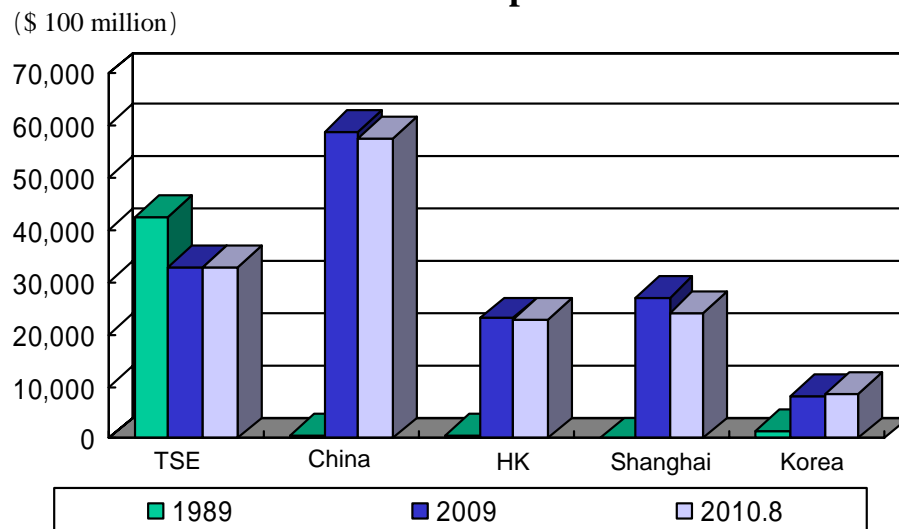


**Number of Listed Companies (2010.8)**

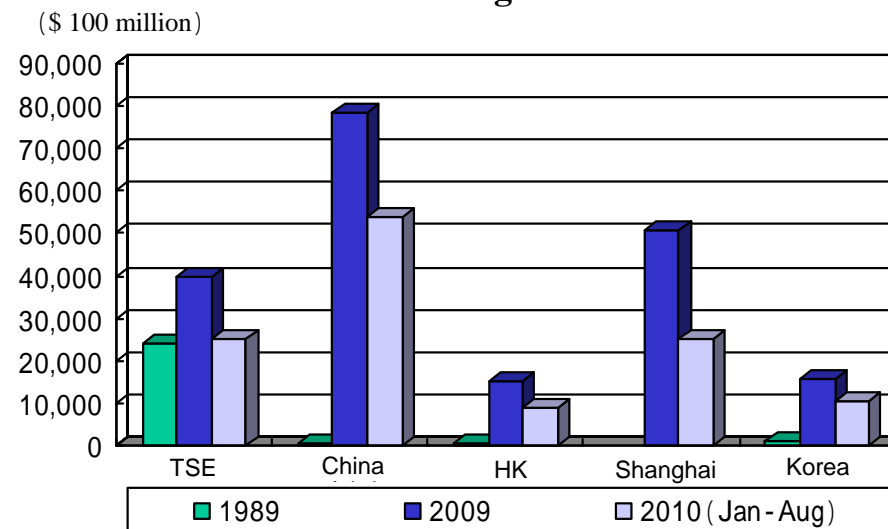


## 5. Comparison between TSE and Asian markets

### Market Capitalization



### Trading Value



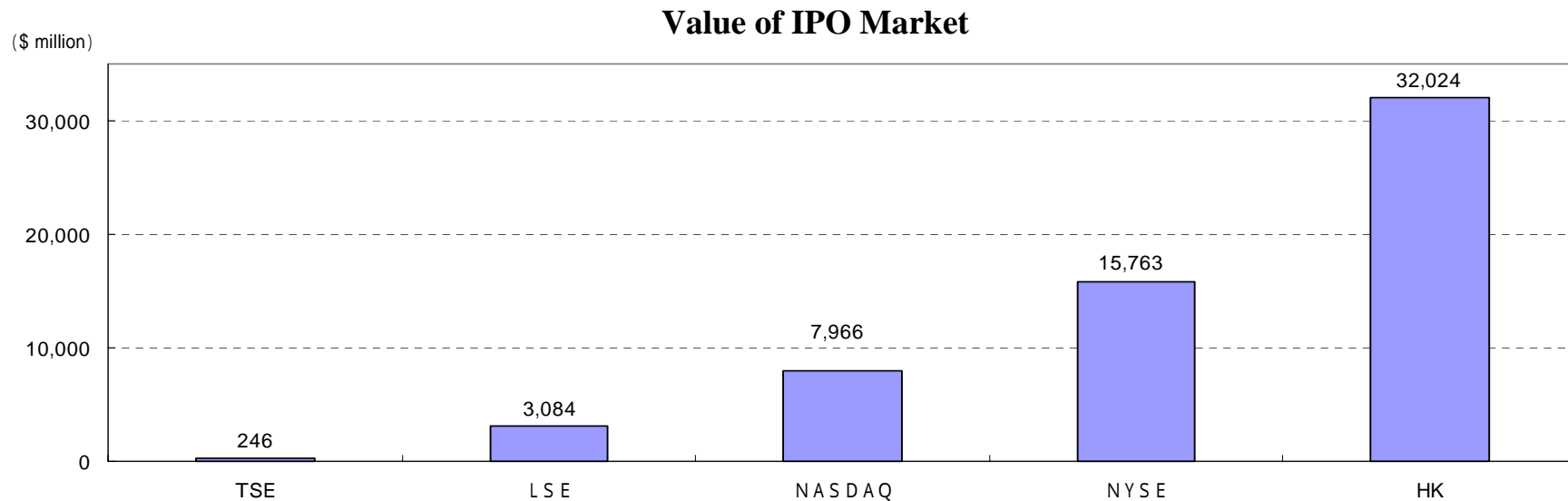
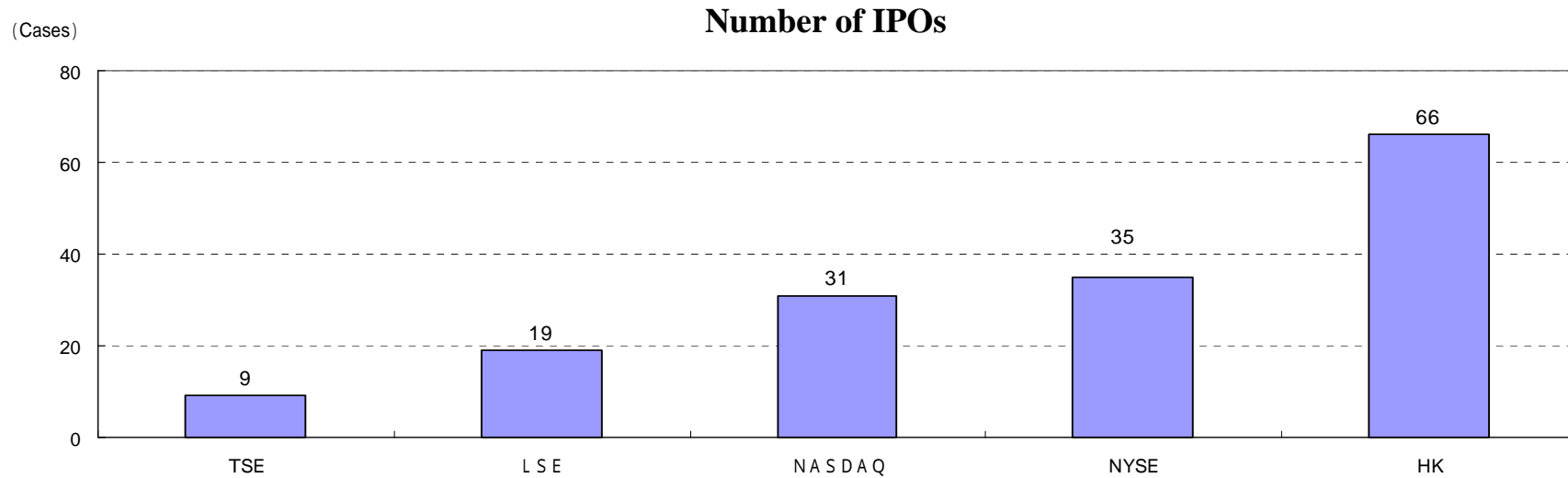
	1989 year-end	2009 year-end	2010.8 end of month
Tokyo	42,604	33,061	33,098
China	788	58,783	57,582
Hong Kong	776	23,051	23,043
Shanghai	2	27,048	24,003
Korea	1,405	8,346	8,728

	1989 (Jan-Dec)	2009 (Jan-Dec)	2010 (Jan-Aug)
Tokyo	24,312	39,878	25,257
China	476	78,363	53,844
Hong Kong	346	15,017	8,967
Shanghai		50,620	25,077
Korea	1,209	15,752	10,271

Note: China market indicates the total for Hong Kong, Shanghai, and Shenzhen.

(\* 1989 figures for market capitalization for China is data at the time of establishment; trading value is as of 1992.)

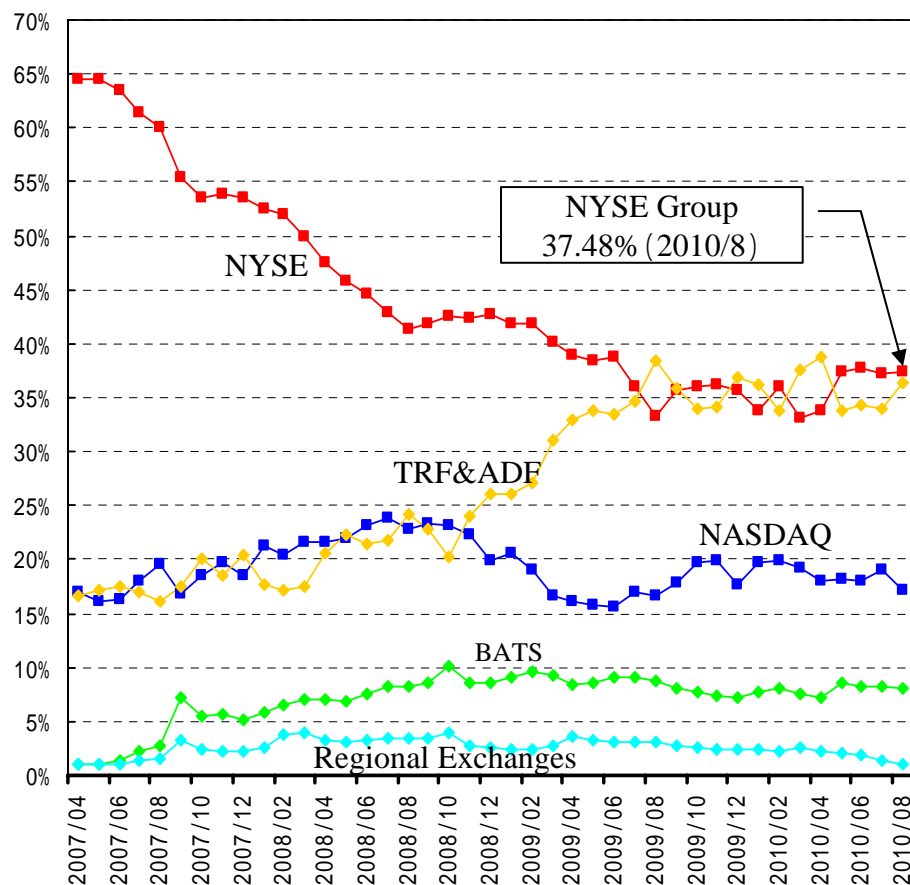
## 6. IPOs on main markets (2009)





## 7. Market share of NYSE and LSE

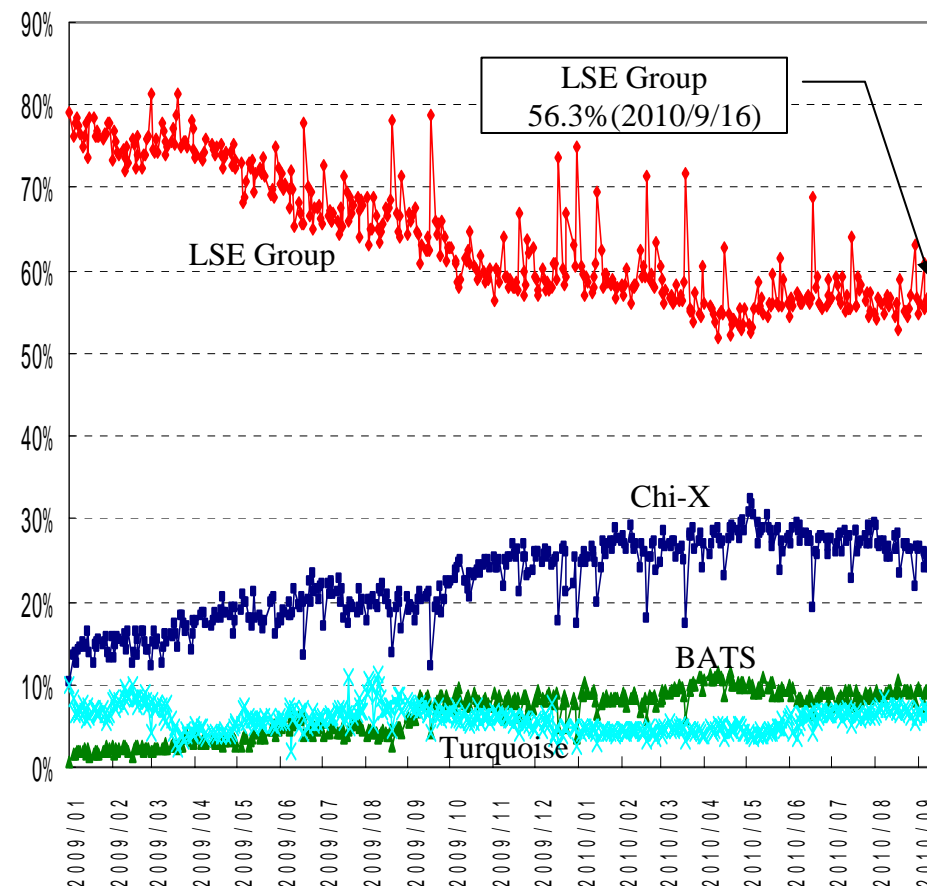
**[NYSE Market Share (NYSE listed company)]**



Note: NYSE includes NYSE Arca and NYSE Amex; NASDAQ includes NASDAQ OMX BX and NASDAQ OMX PHLX

Source: BATS Exchange

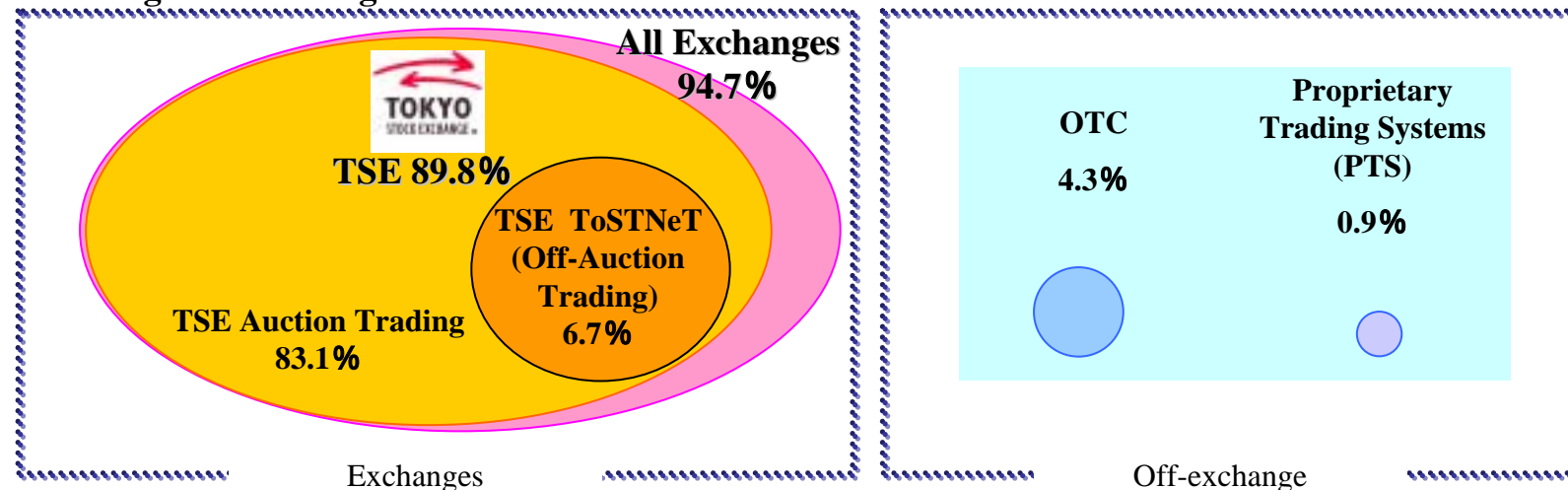
**[LSE Market Share (FTSE100)]**



Source: BATS Europe

## 8. Trading value at each venue

### Trading Value in August 2010



Source: Japan Securities Dealers Association and Tokyo Stock Exchange, Inc.

### [Comparison between Exchanges and Off-exchange Trading]

(market capitalization and no. of listed companies as at FY2009 end, trading value for FY2009)

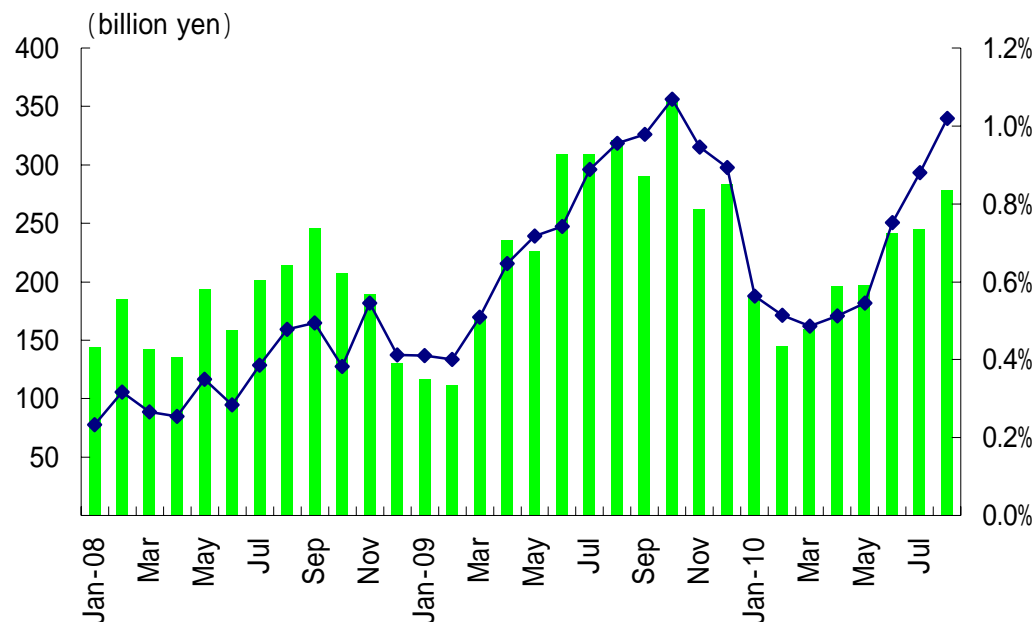
(trillion yen)	Tokyo	Osaka	Nagoya	Fukuoka	Sapporo	Jasdaq	Off-exchange
Market Capitalization	330.2	209.3	128.0	59.1	51.2	9.1	-
Number of Listed Companies	2,299	949	351	131	86	876	-
Trading Value (including off-auction)	383.2 (89.8%)	15.3 (3.6%)	0.7135 (0.0%)	0.059 (0.0%)	0.0314 (0.0%)	3.7 (0.9%)	24.4 (5.7%)

Source: JSDA, etc.

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## 9. Changes in the environment surrounding the OTC (PTS) market

PTS trading value / Share of market



### Environmental changes

- Amendment of guidelines on supervision of PTS (March 2010)
  - Internal crossing and off-auction exchange transactions (ToSTNeT)
  - Handling of short-selling in PTS
- Start of clearing of PTS trades by JSCC (July 2010)

#### Exchanges

In a case where members, etc. place an order to an exchange, except for orders to which other parties are unable to respond (cross orders), the issue, whether it is a purchase or sale order, its price, quantity, etc. concerning such order must be notified to members, etc. immediately. (Article 74, Appendix 1 of the Cabinet Office Ordinance on Financial Instruments Exchange, etc.)

#### PTS

With regard to PTS businesses which handle share certificates, etc, such business shall be obliged to immediately publicize the best quotes, prices, etc. in such system to allow comparison with other PTS businesses conducted by other securities companies, and approval of such business shall be based on this condition. (Guidelines on Establishment of Proprietary Trading Systems, etc. of November 16, 2000)

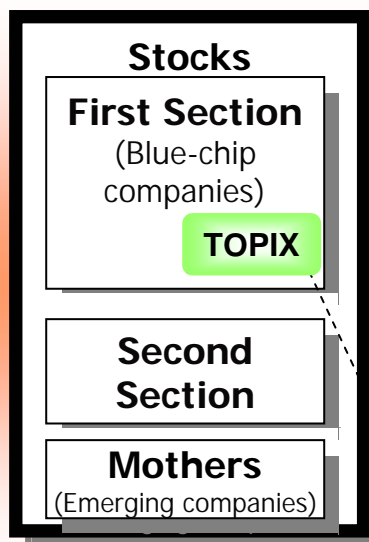
## 2 . TSE's Approach and Measures

## 10. Multiple Asset Classes ~ from Cash Equities to Fixed-Income Futures

Wide Variety of  
Tradable Securities

More than **2,300** stocks, **93** ETFs,  
**37** REITs

### Cash Market



### Derivatives Market

#### Equity Derivatives

**TOPIX Futures**  
and Other Index Futures  
Nikkei/Dividend Futures  
TOPIX Options  
Equity Options

#### Fixed-Income Derivatives

**10-yr. JGB Futures**  
5-yr. JGB Futures  
Mini-JGB Futures  
Options on  
10-yr. JGB Futures



## 11. High Liquidity

Large Market Cap

Large Trading Value

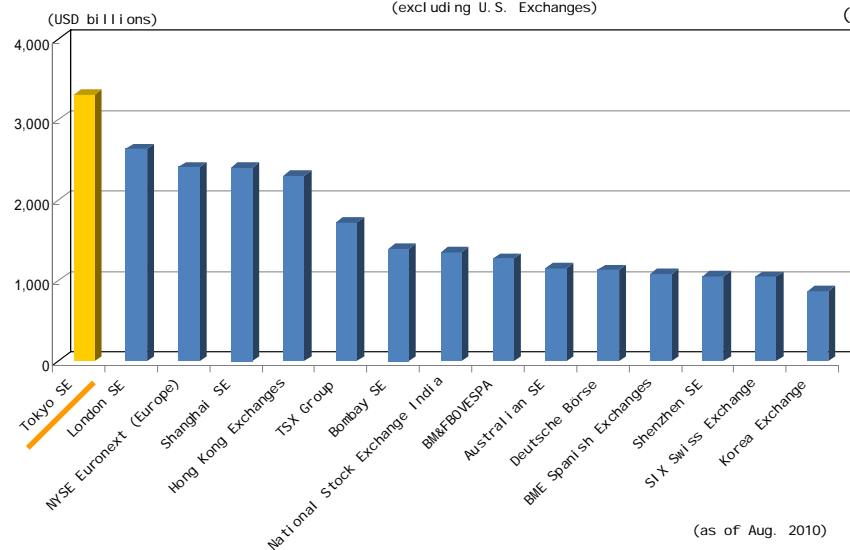
USD 3.30 Trillion Market Cap (Aug. 2010)

**No. 2** in the World, **No.1** in Asia

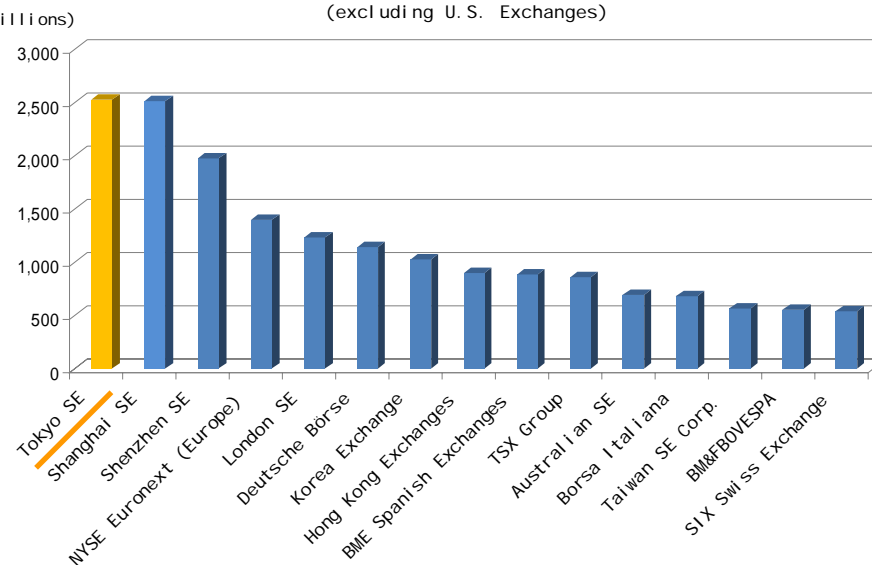
USD 2.52 Trillion Trading Value (Jan.-Aug. 2010)

**No. 3** in the World, **No. 1** in Asia

Domestic Market Capitalization  
(excluding U.S. Exchanges)



Total Value of Share Trading  
(excluding U.S. Exchanges)



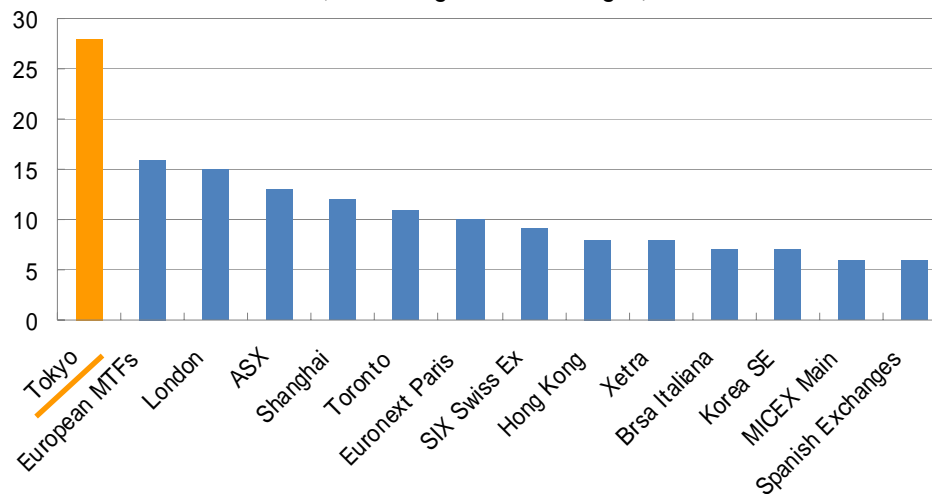
## 12. High Liquidity Products

Many High Liquidity Products\*

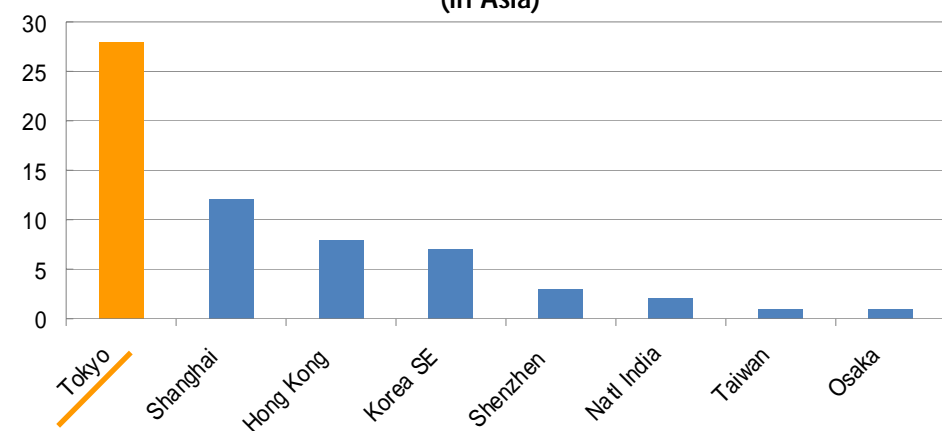
**No. 1 in Asia**  
Double the Amount vs.  
the 2<sup>nd</sup> Place Exchange

\* Companies and ETFs having an average daily trading value of \$1 million or more.

Number of High Liquidity Companies/ETFs  
(excluding U.S. Exchanges)



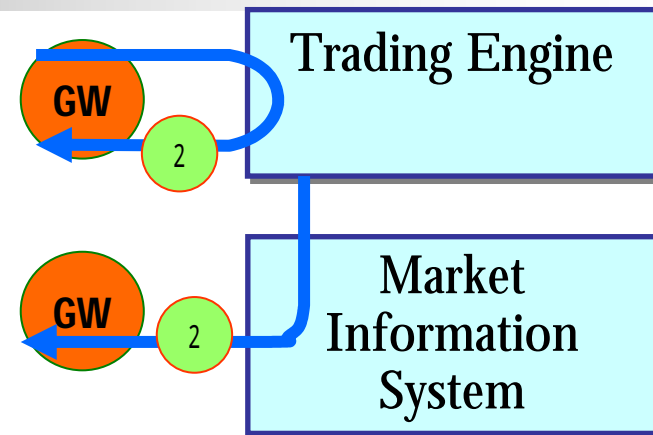
Number of High Liquidity Companies/ETFs  
(in Asia)



Feb. 20, 2010 – May 19, 2010

## 13. High Speed with Market Stabilizers

TSE's new high speed, high capacity trading platform, **'arrowhead'**, is now in operation.



Lower  
Latency

Order Response Time: **2.0** milliseconds\* on average  
(round-trip from Gateway (GW) to GW)

**Full Depth** Market Data Latency : **2.0** milliseconds\* on average  
(Order book to GW) \*actual performance basis (Continuous auction)

Built-in  
Stabilizers

Several built-in functions to maintain market stability in times of high volatility.

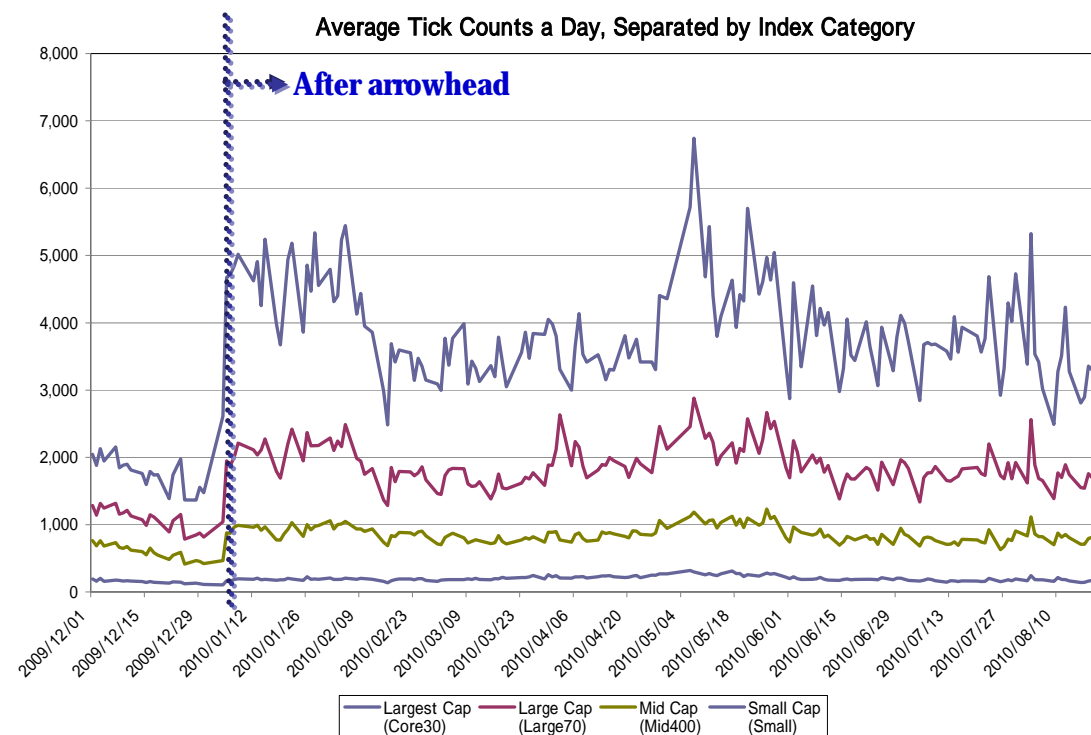
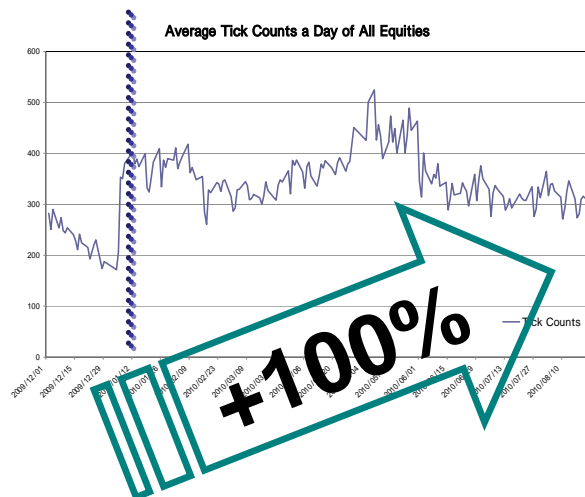
- Price Limits
- Sequential Trade Quotes
- Special Bid/Ask Quotes
- Circuit-Breakers



## 14. Ticks

Increased  
Number of  
Ticks

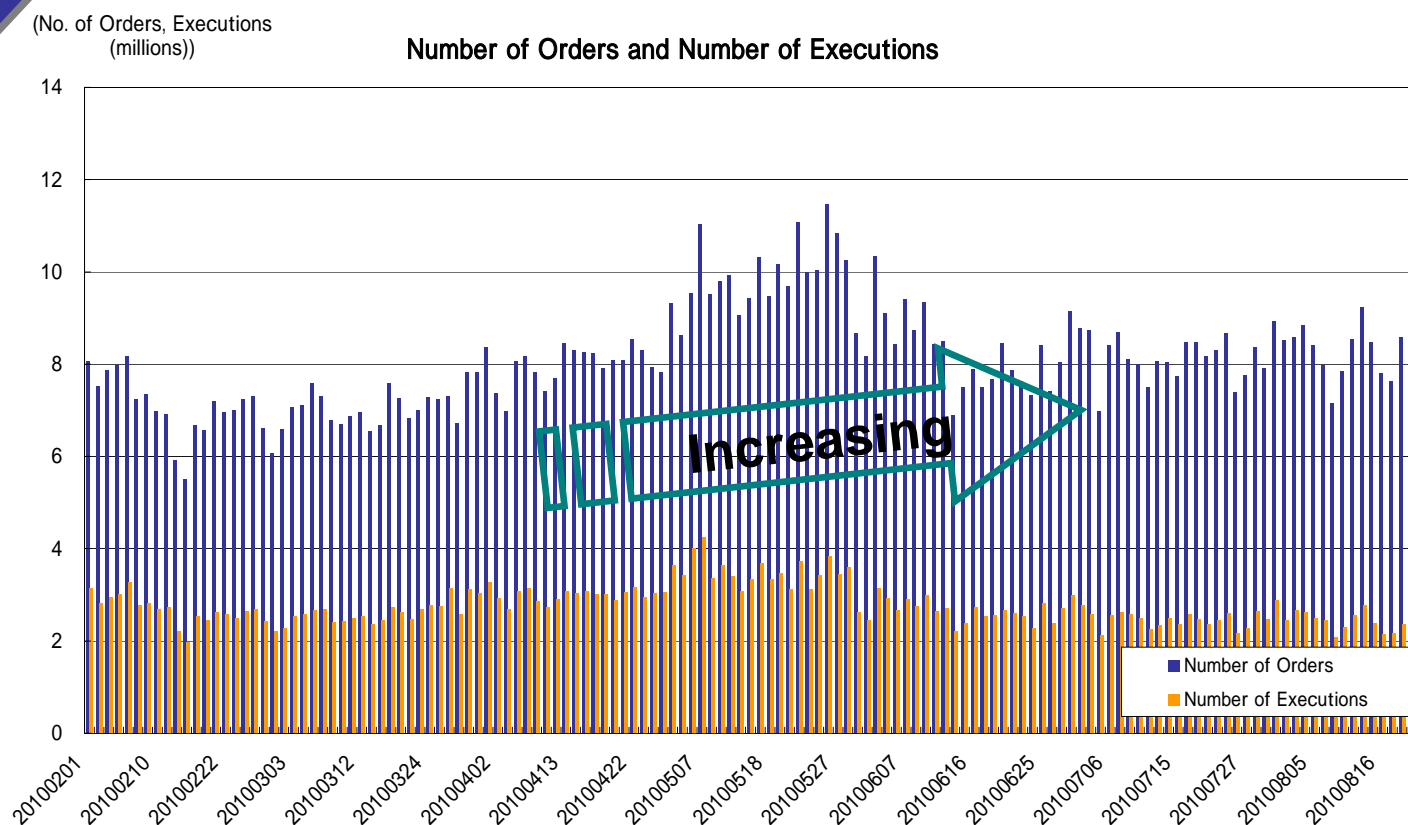
For almost all equities, the number of ticks has increased to **about 100% more** than before arrowhead.



## 15. Number of Orders and Executions

Increasing  
Number of  
Orders

The number of orders is **increasing steadily.**

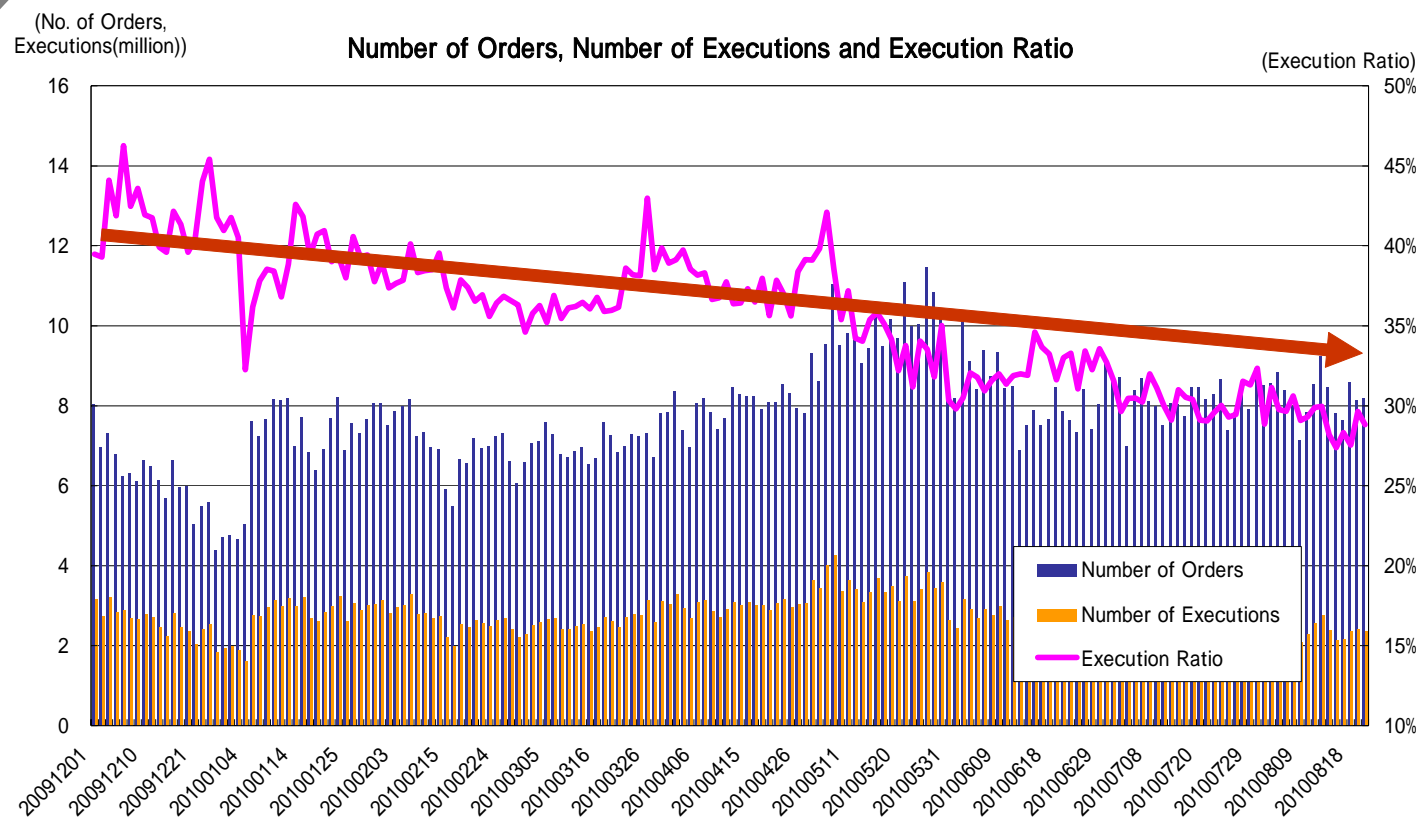


## 16. Early Stage of HFT Growth

First Year  
of HFT

Still in the early stage of new, high speed systems.  
The execution ratio has only decreased slightly.

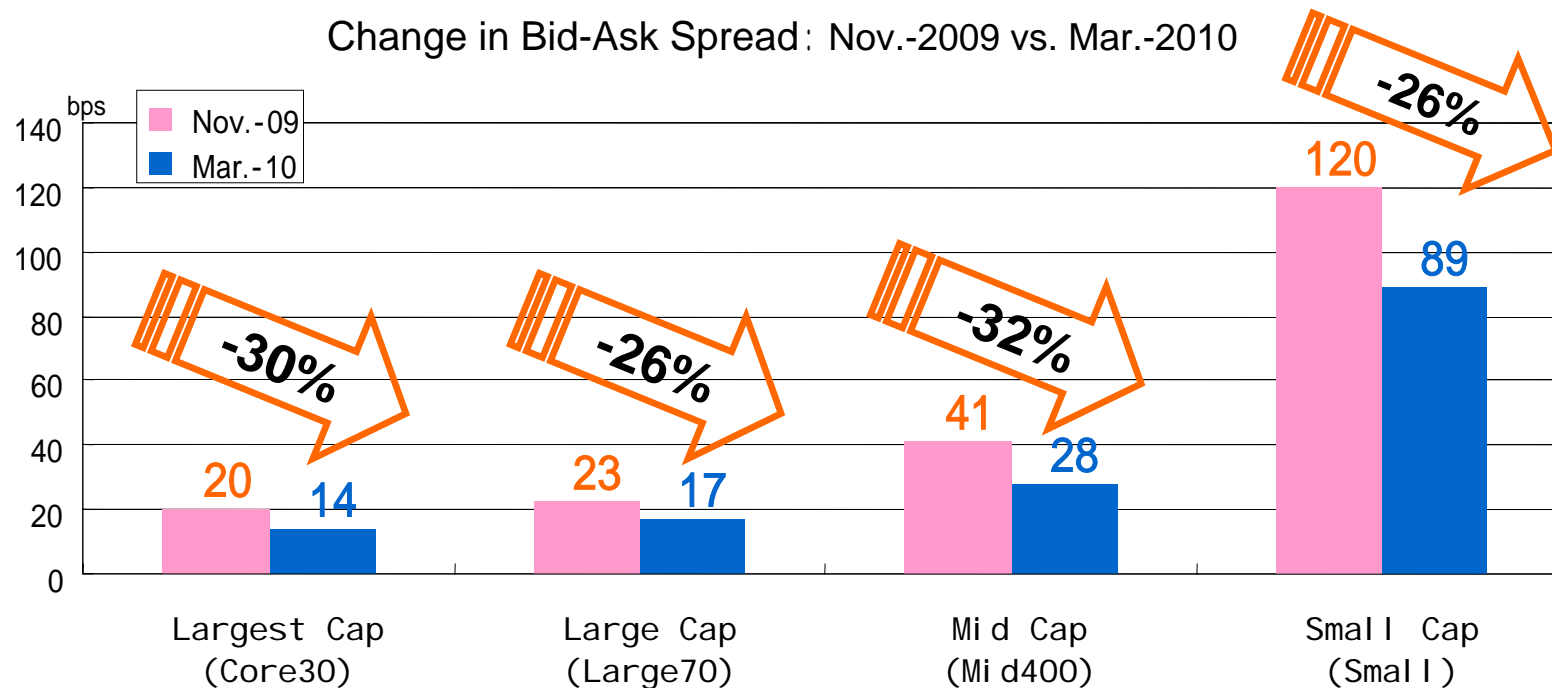
Introduction of  
IOC orders  
(Early 2011)



## 17. Spreads

### Narrower Spreads

For almost all stocks, the Bid-Ask Spread has been reduced by **30%** due to the introduction of arrowhead, and it remains narrow intra-day.



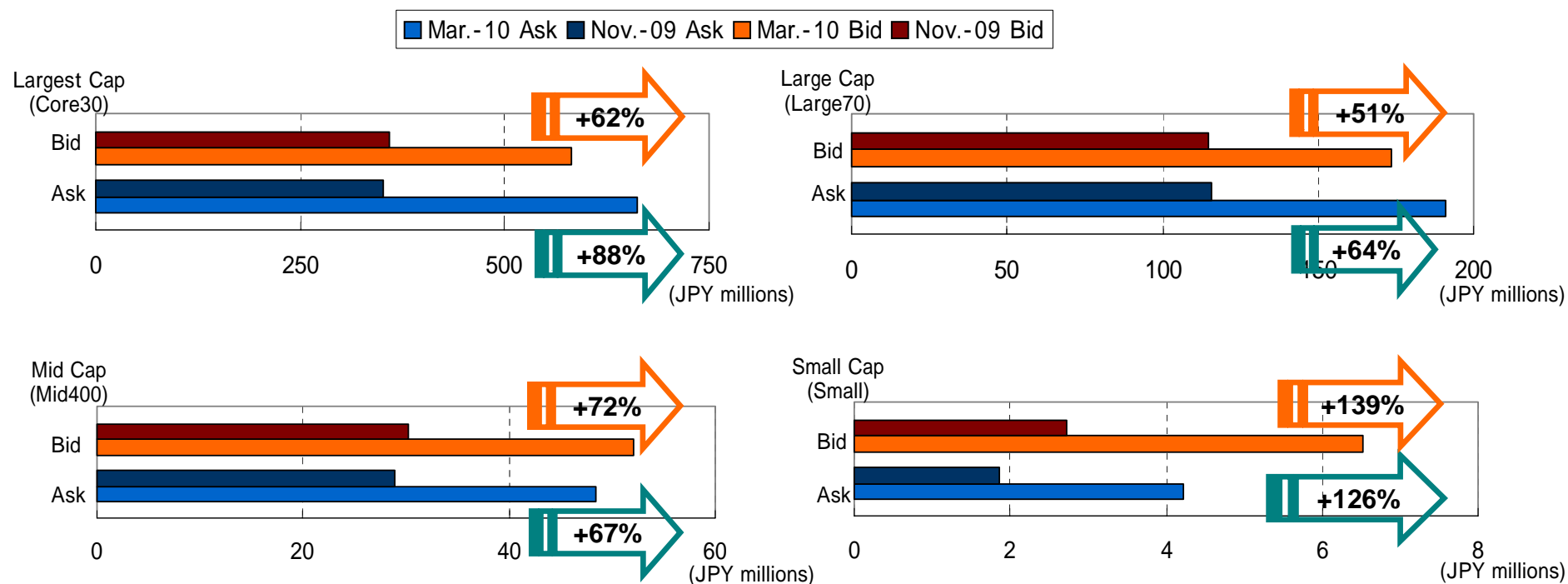
Bid-Ask Spread: Spread between best bid and best ask.

## 18. Depth

### Enhanced Depth

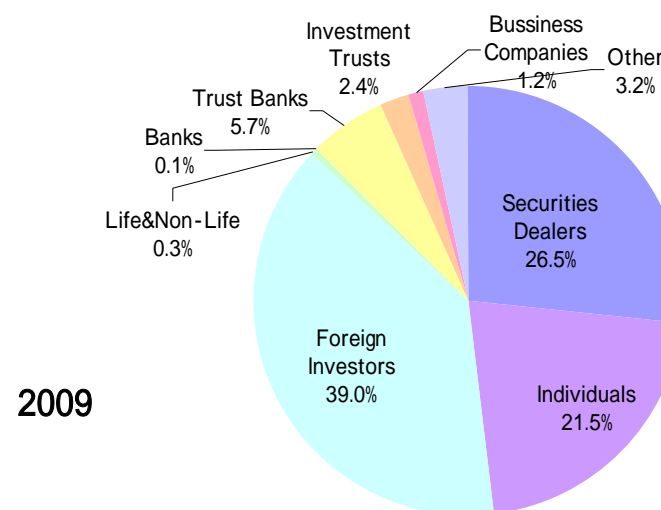
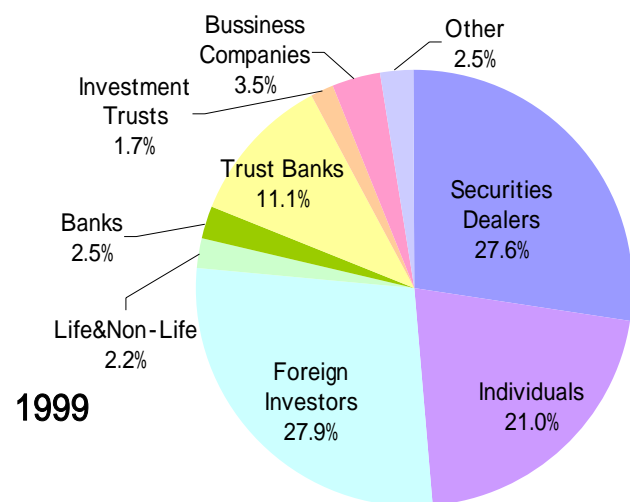
After the introduction of arrowhead, liquidity has increased for almost all stocks.

Depth: Nov.-2009 vs. Mar.-2010; within 50 bps from mid-price

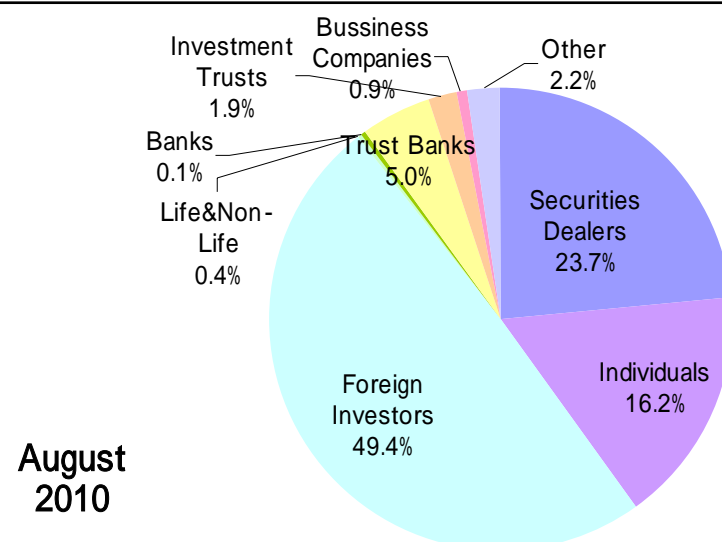


\* Depth is the total value of orders within 50bps of the BBO (number of orders × price)

## 19. Trading Share by Investor Category 1999 / 2009 / August 2010



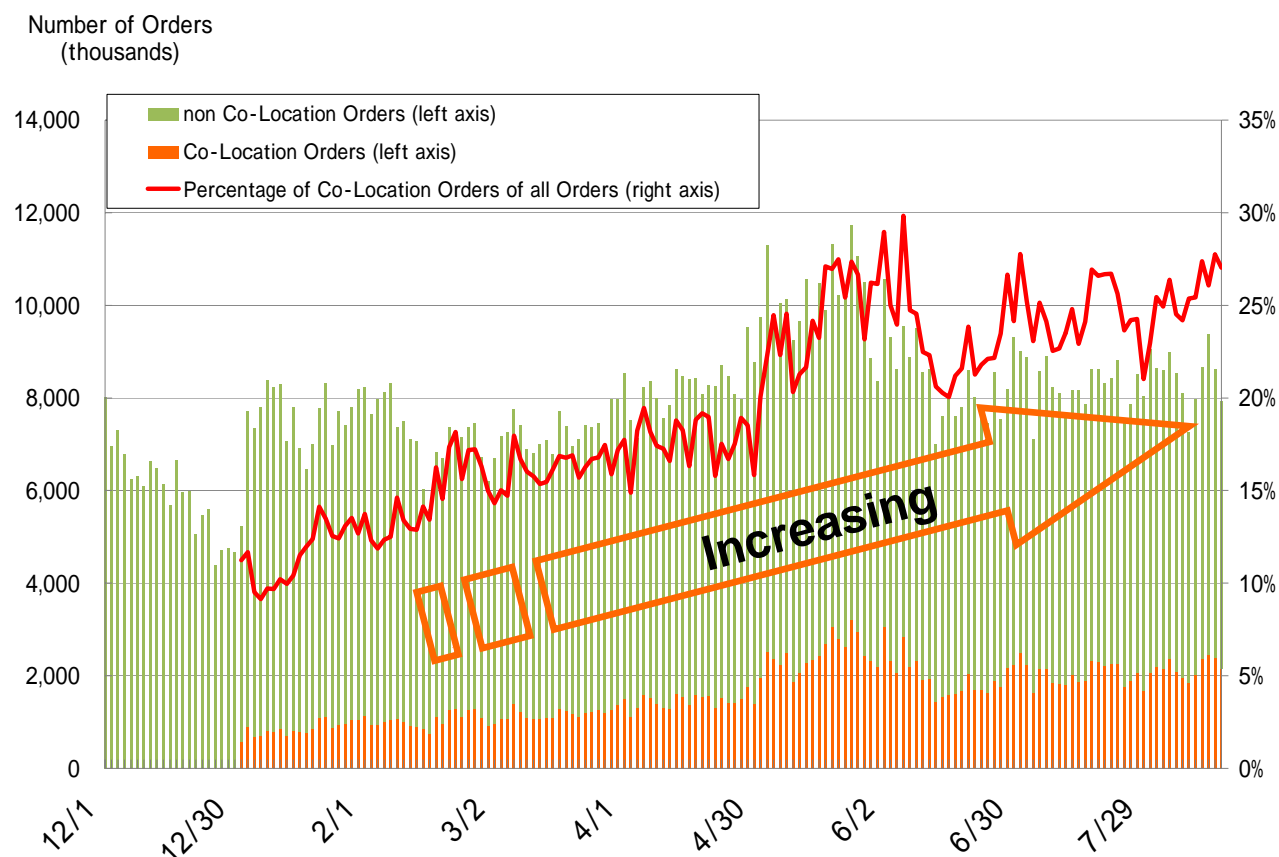
After arrowhead



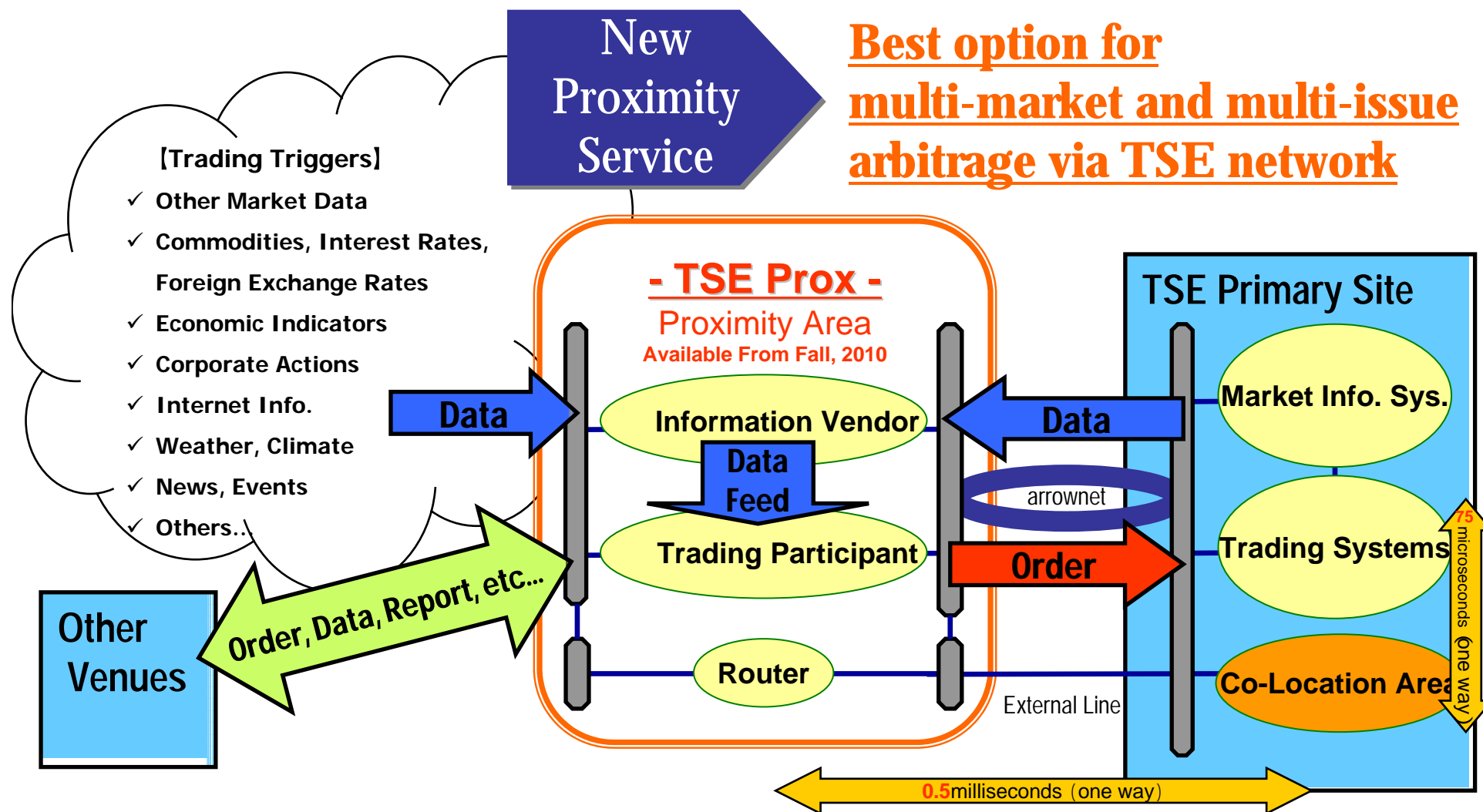
## 20. Percentage of Co-Location Orders

Increasing  
Number of  
Co-Lo  
Orders

The number of Co-Lo orders is also **increasing steadily.**



## 21. Planned Proximity Service





## 22. Overhauling the TSE options market through “Tdex+”

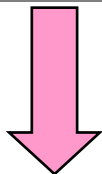
### [Problems in the TSE options market]

#### (Index options trading/securities options trading)

- Vicious cycle: lack of liquidity -> lack of investor participation -> no improvement in liquidity
- In view of overseas markets displaying vibrant activity, the role of the market maker is essential in providing liquidity for the vast number of options.

#### (JGB Futures options trading)

- Due to participation by a series of market makers and algorithmic traders, liquidity has improved, but the rapid increase in the number of orders puts considerable demands for the exchange system.



***Tdex+ System started on 5<sup>th</sup> October 2009.***

***Improving operations on TSE derivatives market***

### [Improvement]

#### **1. Introduction of Market Maker system**

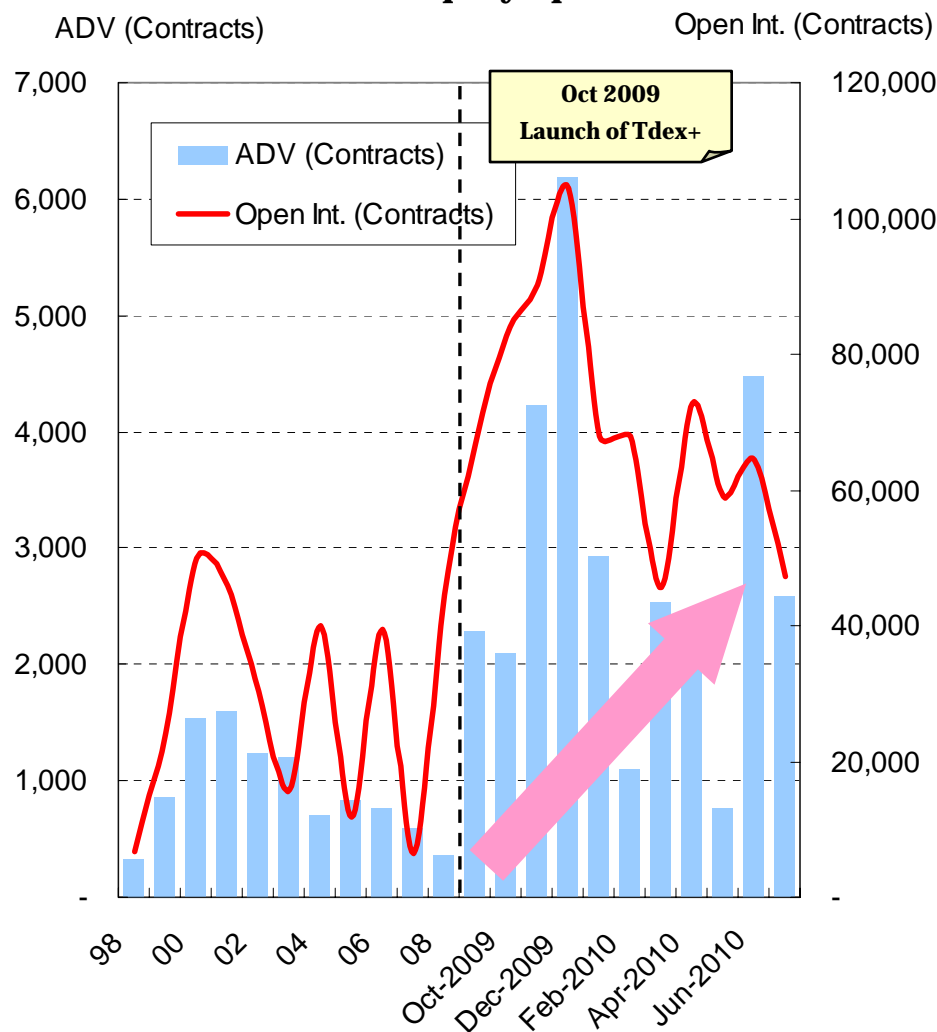
- Constant display of ask/bid prices for TOPIX options and main securities options. Allow investors to trade at any time.
- Achieve tight spreads through ask/bid competition between multiple market makers.
- Market makers could respond if RFQs (Request for Quote) were placed for deep OTM and ITM options

#### **2. Introduction of new trading system, “Tdex+ System” (LIFFE CONNECT®)**

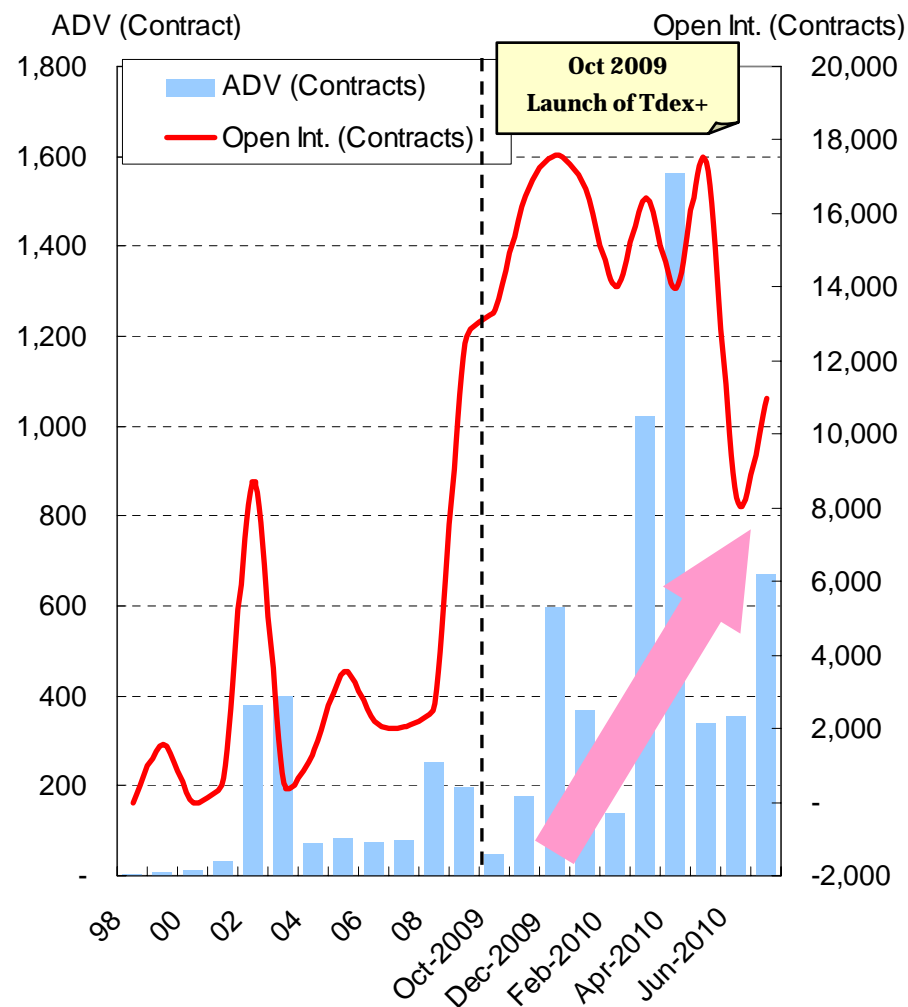
- Achieve global standard order processing capacity (order processing less than 10 milliseconds, massive order capacity)
- Enable strategy trading (30 varieties including straddle, strangle and butterfly, and so on)
- Delta neutral trades involving simultaneous trades of options and the underlying is also possible

## 23. Trading conditions before and after the launch of the Tdex+ System

### Individual equity options



### TOPIX Options



## 24. Launch of Dividend Index Futures (July 2010)

### Dividend Index Futures trading started on July 26, 2010

#### (1) Dividend Fluctuation Risk Hedge

- When the dividend amount of your portfolio is expected to fall ...
- Investors can lock-in a dividend amount by selling Dividend Index Futures

#### (3) Small Contract Size

- Contract size is one-tenth of that in SGX.

#### (2) New Investment Opportunities

- Nikkei 225 Dividend Point Index
- TOPIX Dividend Index
- TOPIX Core30 Dividend Index

#### (4) "IFS" actively support the market

- Following members are designated as "TSE Index Futures Supporters (IFS)".  
(Deutsche Securities, BNP Paribas Securities, Nomura Securities)

### Potential Demand

#### Established OTC product

Dividend swaps have been actively traded in OTC market. (tens of millions dollars per day)  
By using listed products, investors can mitigate counter party risk.

#### Total amount of dividends in Japan is several trillion yen every year

Considering the size of Japanese equity market, dividend-related market has great growth potential.

### How to Use

#### Hedging dividend-related risk

Investors can hedge the risk of dividend-cut by selling dividend index futures.

#### Taking dividend exposure

It is possible to take dividend exposure by buying dividend index futures without holding stock portfolio.

#### Implied dividend rate

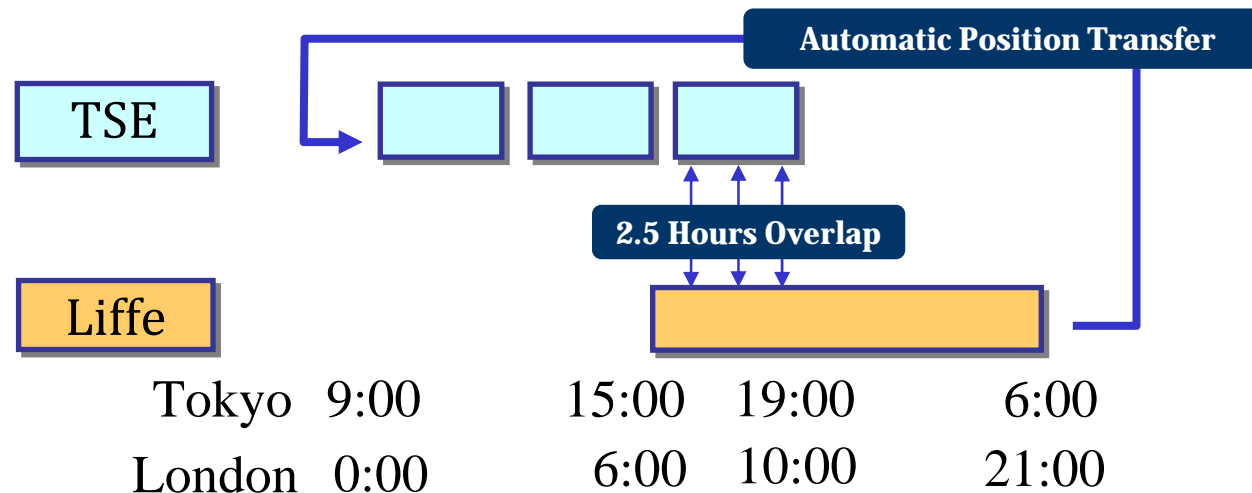
The price of dividend index futures which factors in estimated future dividend rates in the market is a more accurate gauge of the expected dividend rate.

## 25. TOPIX Futures available on NYSE Liffe (Oct. 2010)

### **TOPIX Futures will be listed on NYSE Liffe (Scheduled for Oct. 18)**

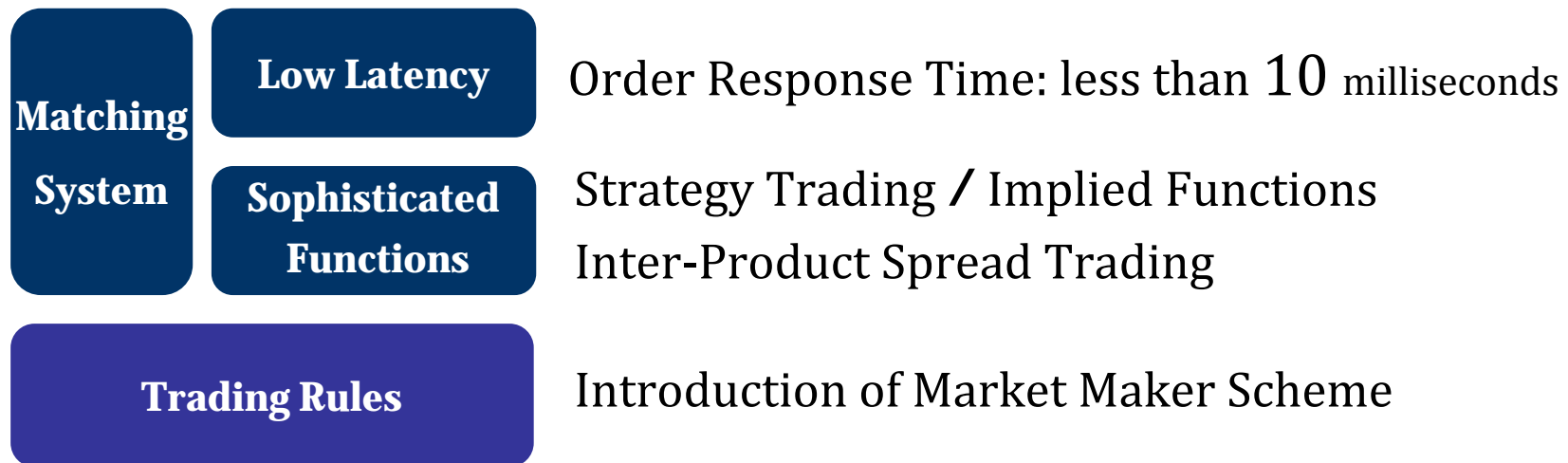
#### Longer Trading Hours

- Easy access to Japanese stocks over 21 hours
  - 2.5 hour overlap contributes to smooth transition of liquidity
  - Positions on NYSE Liffe will be automatically transferred to TSE everyday, so further liquidity will be added to TOPIX Futures market.
- => 100% fungibility between TSE TOPIX futures and NYSE Liffe TOPIX futures



## 26. Migration of futures market to the Tdex+ System (Autumn 2011)

- TSE is planning to migrate futures products to the Tdex+ System in Autumn 2011



Dramatic improvement in system performance and  
the market maker scheme will enhance market liquidity.

## 3. Future Improvements

## 27. Future Improvements

Enhance clearing function

Providing clearing services for OTC derivatives

Provide system to external parties

Providing arrowhead to emerging Asian markets

Attract foreign listings

Attract companies from Korea and other Asian countries to list on the TSE market

Expand data distribution services

Historical Tick Data (December, 2010)

Introduction of High-Speed Index (13, Sep, 2010)

Dissemination Service (Feb, 2011)

Improve ToSTNeT system

Increasing the Speed of the ToSTNeT System  
(TSE's Off-Auction Trading System) to Capture More  
Off-Exchange Order Flow