



# Changing Market Structure in Asia The Role of HFTs

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# Agenda

- ✘ Market structure leadership from US & Europe
  - ✘ 15 years of fundamental change
- ✘ Changing landscape for markets in Asia
  - ✘ Liberalising rules
  - ✘ New trading venues
- ✘ High Frequency Trading – Historic Experience
- ✘ HFT in Asia
- ✘ Market structure issues for China
  - ✘ Impact of QFII liberalisation
  - ✘ Margin and short sales
  - ✘ Technology issues



## US & Europe – Drivers of Change

- x** Decay of the old system
  - x** The old NYSE “Specialists” market-making system was breaking down
- x** Rise of New Techniques & Technologies
  - x** Emergence of quantitatively driven investment approaches
  - x** Development of algorithmic trading strategies
  - x** Creation of dramatically faster order matching & risk management tools
- x** Regulatory Stimulus & Response
  - x** Reg ATS & Reg NMS in US
  - x** MiFID in Europe



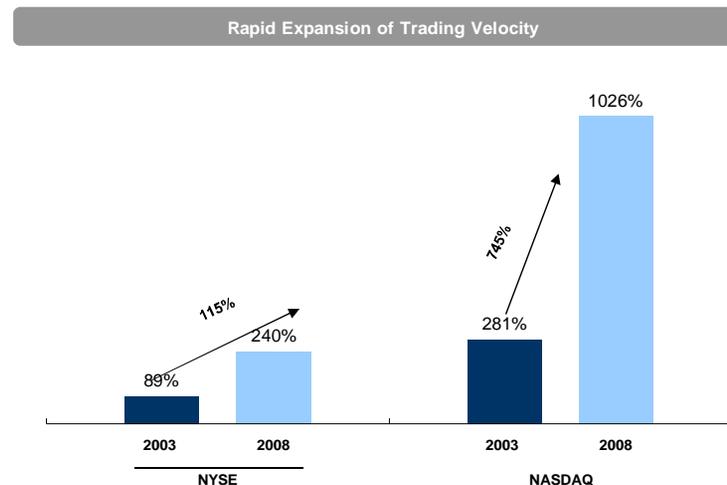
## Impact in the US

- ✘ Development of many new electronic trading platforms
- ✘ Through regulatory drive, creation of linkage mechanisms to ensure
  - ✘ Best execution
  - ✘ Avoid liquidity fragmentation
- ✘ Emergence of new market-makers
  - ✘ Enabled by technology
  - ✘ Encouraged by new regulation
  - ✘ Assisted by a multi-venue environment
- ✘ We call them, High Frequency Traders
  - ✘ [Which they are, but not all are market-makers]



## US Impact

- ✗ There are roughly 27 Exchange and exchange-like trading venues in the US today
- ✗ Average daily value of NYSE-listed stocks traded on all venues rose from approximately \$12b to \$170b between 1995 and 2009
- ✗ Trading velocity increased from 55% to 281% - a 5x increase
- ✗ Transaction costs for investors have dropped by an estimated 50%\*





## European Impact

- ✘ MiFID permitted cross-border trading in all EU stocks from a single venue for the first time
  - ✘ Permitted creation of Multi-lateral Trading Facilities (MTFs)
- ✘ Emergence of new trading venues
  - ✘ Much lower costs
  - ✘ Much faster technology
  - ✘ Fostered competitive clearing which also lowered costs
- ✘ New style market-makers attracted
  - ✘ Multi-venue environment plus changed technology/costs



# New Venues Deliver More Capacity and Speed

- ✗ Chi-X internal latency is <500 microseconds for 75,000+ orders/sec
- ✗ Built using industry standard hardware, enabling increases in current capacity quickly and at low cost
- ✗ Wholly FIX compliant – easy connectivity

Trading Venue	Average Latency (milliseconds)
Chi-X Europe Ltd Nasdaq OMX INET Bats Europe	<0.5
NYSE Arca	<1
LSE Tradelect	<2
TSE Arrowhead	5
Hong Kong Stock Exchange [AMS 3.8 due 2011]	9 [target performance]

**Source:**

Mondo Visione Website, April 2010: <http://www.exchange-handbook.co.uk/index.cfm?section=news&action=detail&id=89825>

Hong Kong Stock Exchange, July 2010: <http://www.hkex.com.hk/eng/newsconsul/speech/2010/Documents/sp100702.pdf>



# New Venues Give Lower Trading Fees

Trading Venue	Trading Costs (bps)*
Chi-X Europe Ltd	0.10
Turquoise	0.08
NYSE Arca Europe	0.20
London Stock Exchange	0.20 – 0.45+
Deutsche Börse Xetra	0.48 – 0.55+
SWX Europe	0.25 – 0.32+
OMX Helsinki	0.32+
OMX Stockholm	0.29+

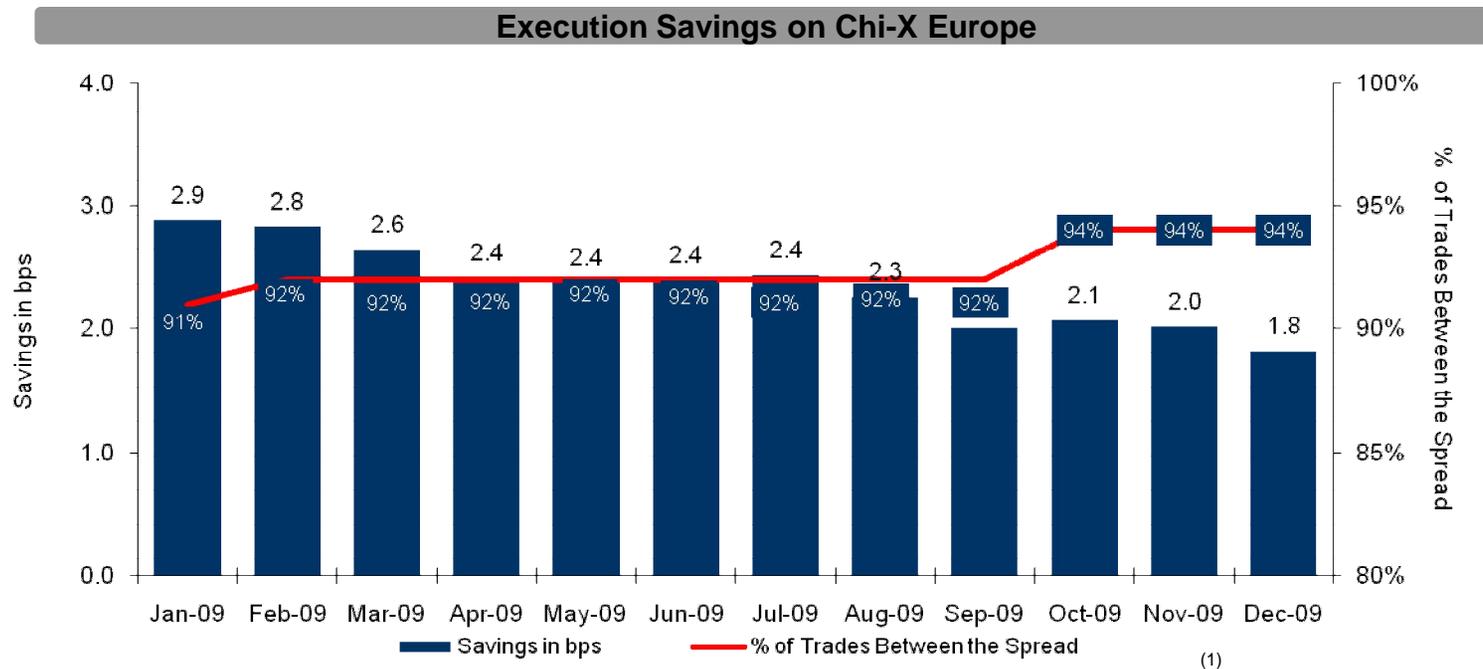
\* based on a passive/aggressive execution ratio of 50:50.  
+ multiple/variable fee structures. Approximate cost shown.

Source: Exchange websites



# Lower Costs - Tighter Spreads – Faster Results

- ✗ Average basis points improvements in December 2009 were 1.8 bps
- ✗ In December 2009, 94% of trades were executed inside the spread
- ✗ During same period, customers on Chi-Delta (non-displayed) saved 5.99 bps



(1) Represents percentage of trades executed on Chi-X Europe that are inside the spread of the primary market

Source: Chi-X Europe Press Release, "Chi-X Europe Issues Q4 2009 Trading Statistics":  
<http://www.chi-x.com/chi-x-press-releases/chi-x-europe-q4-2009-trading-stats.pdf>





## New Venues Drive Lower Post Trade Costs

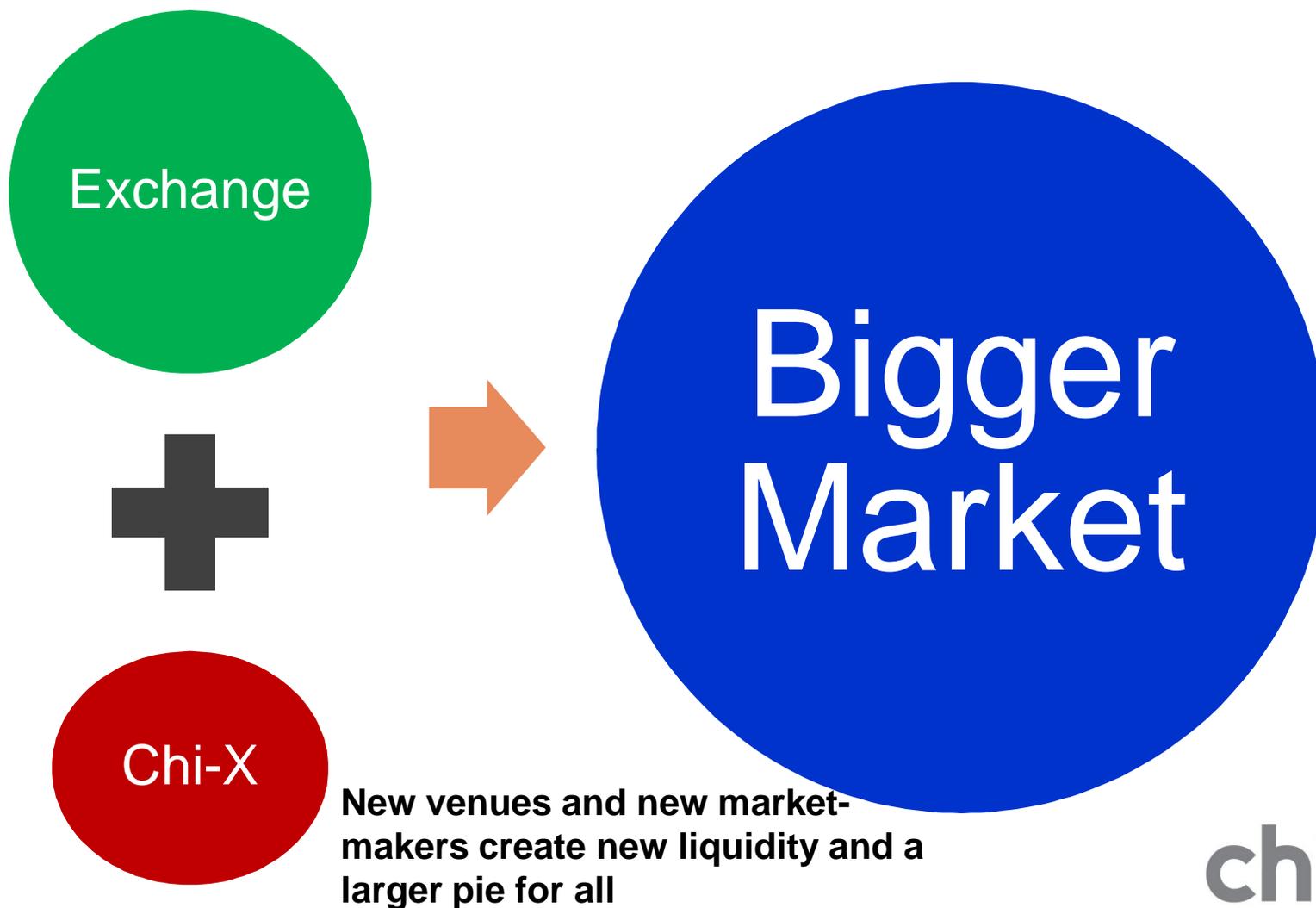
**X** Competition in clearing has had a dramatic impact on investor costs

Market	Initial fees	1 October 2007	1 March 2008	1 May 2008	1 July 2008	1 August 2008	Per Trade	Per Order	% Reduction
							14 April 2009	1 June 2009	
Netherlands	0.30	0.28	0.19	0.14	0.10	0.05	0.05	0.07	-83.3%
Germany	0.25+0.07 5 bp	0.20+0.07 5 bp	0.19	0.14	0.10	0.05	0.05	0.07	-80.0%
UK	0.18	0.17	0.15	0.12	0.10	0.05	0.03	0.05	-83.3%
France	-	0.28	0.19	0.14	0.10	0.05	0.05	0.07	-82.1%
Switzerland	-	-	0.10	0.08	0.08	0.05	0.05	0.07	-50.0%
Scandinavia	-	-	0.19	0.14	0.10	0.05	0.05	0.07	-73.7%
Rest of Europe	-	-	-	-	-	-	0.05	0.07	-
Internal / Self	-	-	-	-	-	0.03	0.03	0.05 / 0.07	-

**X** All clearing fees are stated in Euros



## The US & European Experience





## Asian Exchange Landscape

- ✘ Most Asian Exchanges operate vertical silos
  - ✘ Control trading, clearing and settlement
  - ✘ Normally with a regulatory monopoly
- ✘ Most Asian Exchanges 'in-source' technology
  - ✘ Main suppliers NASDAQ/OMX or NYSE/AMS
    - ✘ NASDAQ and NYSE keeping 'best' technology for themselves
    - ✘ NASDAQ and NYSE want global consolidation
- ✘ Most Asian Exchanges throttle/limit trading volumes
  - ✘ Limit broker input to a few orders per second
  - ✘ Significant charges for gateway upgrades
- ✘ Competition would significantly increase trading in Asia



## Asian ATS Regulations

- ✘ Some markets have the concept of broker/dealers registering as an ATS
  - ✘ Trades then reported to local stock exchange
  - ✘ 'Locked into' existing infrastructure and cost base
    - ✘ Can possibly suit crossing networks such as Liquidnet, Posit etc
- ✘ Some markets have 'all or none' exchange regulations
  - ✘ If you become an exchange, you have to do listings and everything
- ✘ No post trade competition and no regional netting
- ✘ European MiFID model for MTFs largely sensible
  - ✘ Limit orders must be displayed in CLOB; price taking can be dark
  - ✘ Best execution obligations on brokers and clients



# What Can Asia Learn From Europe?

Pointers for regulators and exchanges



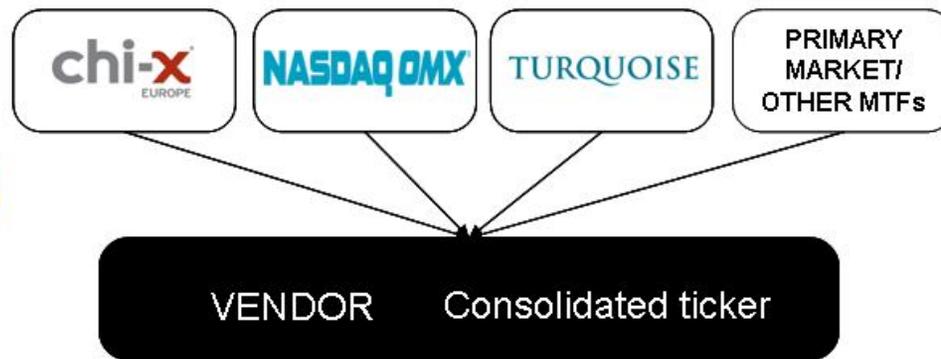
## Multi-venue markets Need a Consolidated Price Feed

- ✗ Ensures full price discovery knowledge across venues
- ✗ Mandated in the US
- ✗ Industry is driving development in Europe to create a common symbology
- ✗ MiFID regulatory review looks likely to mandate a consolidated tape in Europe in 2011

### Current situation



### Post-consolidation

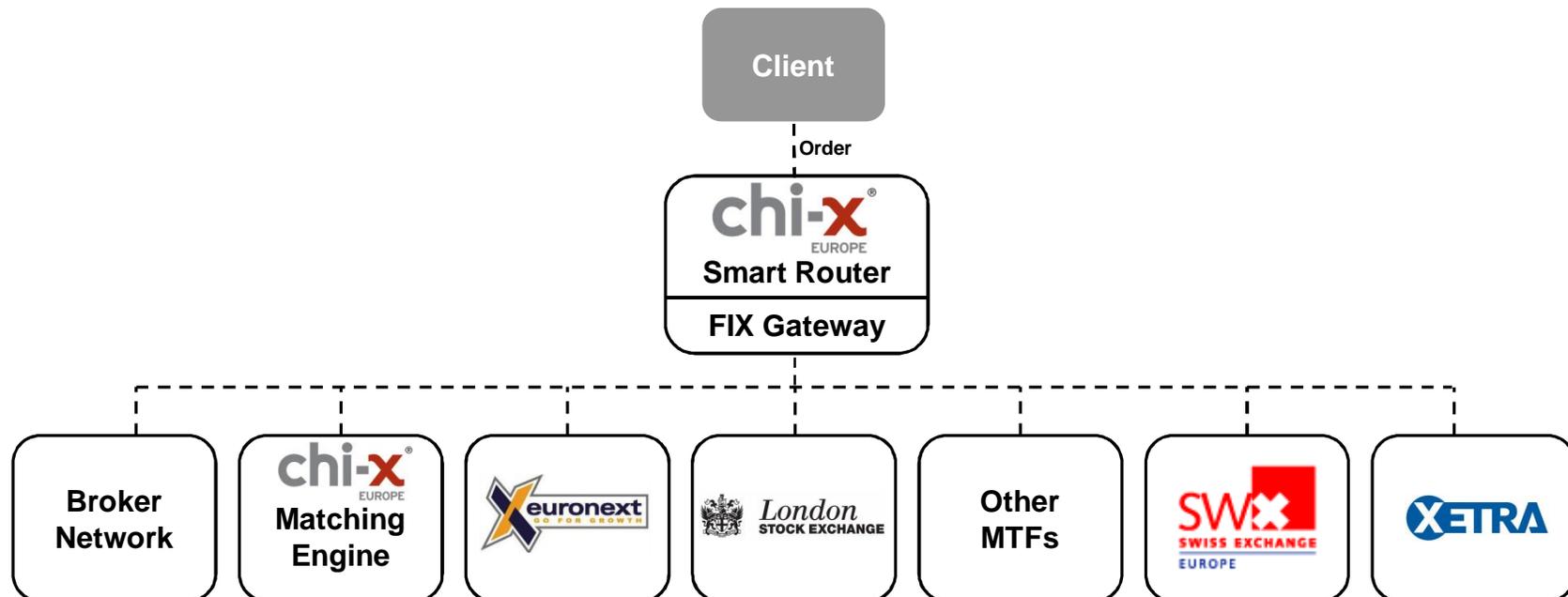


- Tape A – Primary
- Tape B – Primary + MTFs
- Tape C – MTFs



# You Need Smart Order Routing

- Routing between venues creates a “best execution” environment





## Changing Asian Markets

- ✘ Liberalising Rules – some countries are changing to allow more competition
  - ✘ Japan PTS changes + opening to JSCC clearing
  - ✘ Singapore RMO scheme
  - ✘ Australia – opening to competition
  - ✘ China – margin trading and short sales
- ✘ New Venues emerge
  - ✘ Chi-X Japan
  - ✘ Chi-East (Singapore)
  - ✘ Chi-X Australia
- ✘ New market-makers arrive – HFTs



# High Frequency Traders

- ✘ The term can be applied to many different types of firms
- ✘ HF Trading is a trading style, not a strategy
- ✘ HFTs apply many different trading strategies
- ✘ HFTs post liquidity in markets, sometimes with formal market making responsibilities, ie, NYSE Arca
- ✘ HFTs are active in making markets in both cash equities and derivatives markets
- ✘ HFTs are active in the US, Canada, Europe, Latin America and Asia
- ✘ Together with new trading venues, they have contributed to a huge increase in market liquidity & tighter spreads



## HFTs in Asia

- ✘ Yes – they are already here!
- ✘ No – the market environment is not perfect in some places
- ✘ There is a large influx of interest in Asia from HFTs
  - ✘ Many have established an Asian base already – more are coming
  - ✘ Attracted first to markets with competing venues or prospects
  - ✘ Attracted to markets with better technology
  - ✘ Need for an efficient short sale regime
  - ✘ Maker-taker pricing models are favoured
  - ✘ Variable tick size is a plus for HFTs and investors

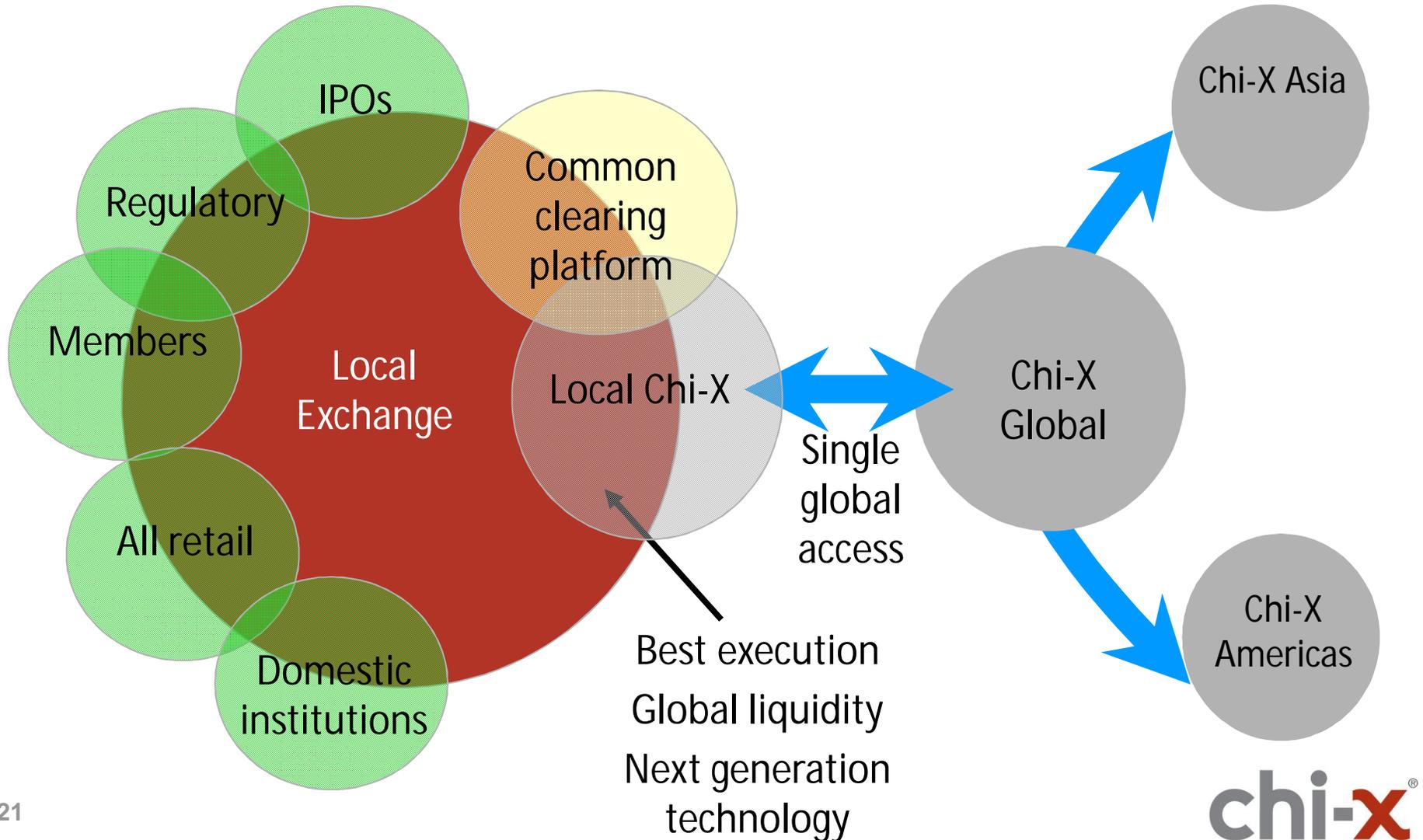


## Market Structure Issues for China

- ✘ Achieving a balance between current retail needs & future institutional investor development
  - ✘ Today's market is heavily retail but professional investment is growing
    - ✘ Opportunity for new venues
- ✘ Role of foreign investors will change over time
  - ✘ Renminbi liberalisation
  - ✘ QFII expansion
- ✘ Regulatory change to encourage innovation
  - ✘ Margin trading
  - ✘ Short sale rules
  - ✘ Block trading – non-displayed markets with liquidity
  - ✘ Co-location & data feed changes



# Chi-X Global Vision – A linked-up world





## The Virtuous Circle Of Competition

- x** More trading venues
- x** Attraction of HFT market-makers
- x** Lower trading costs
- x** Competitive clearing
  - x** Post Trading Inter-operability?
- x** Increased Trading Volumes
- x** Better liquidity
- x** More Efficient Capital Markets



# Questions?

## Thank You

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