STATE STREET GLOBAL MARKETS

FOREIGN EXCHANGE

What are the Implications of the Growing Use of Electronic Trading ?

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Historical Perspective

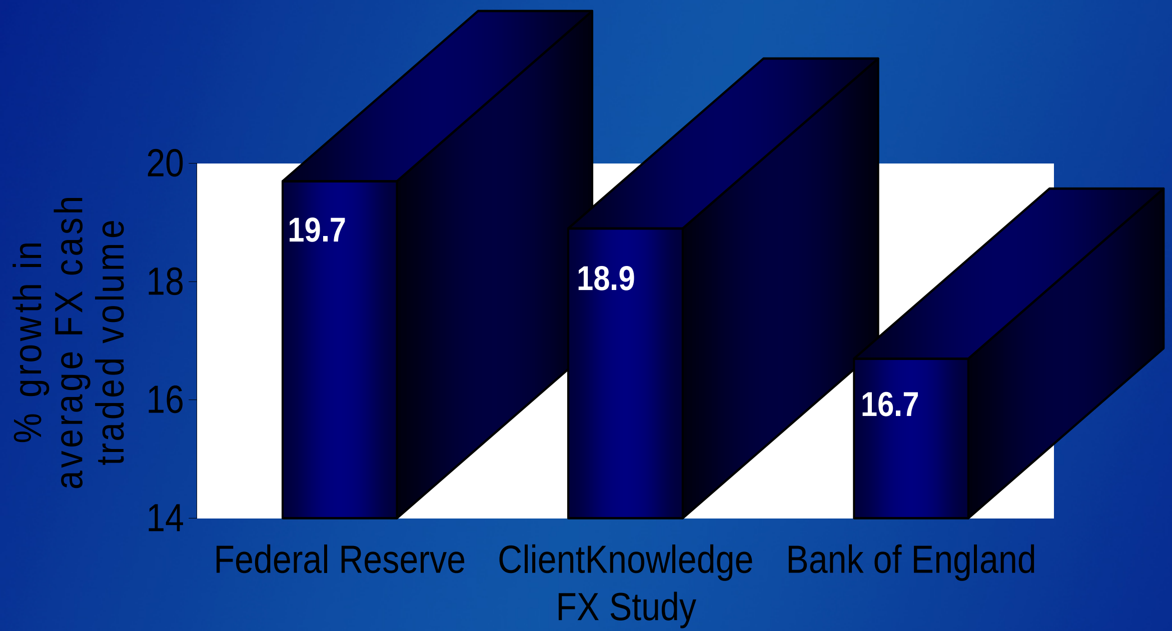
- ***The mid to late 1990's: Single bank platforms, processing efficiency, functionality build out, STP, private networks, RFQ.***

- ***2000 – 2004 : The rise of multi-bank platforms, transition to the internet, the ECN develops, auto pricing is a focus, prime brokerage activity in FX expands, white labeling and outsourcing proliferates, "reported e-ticket volumes in excess of 50% of total" by 2004.***

- ***2005 : The Application Program Interface (API) facilitates revolutionary change in the FX market. Hedge Fund and CTA participation leads to explosive volume increases, programmable, rapid –fire, high frequency trading gains momentum. RFQ-RFS.***

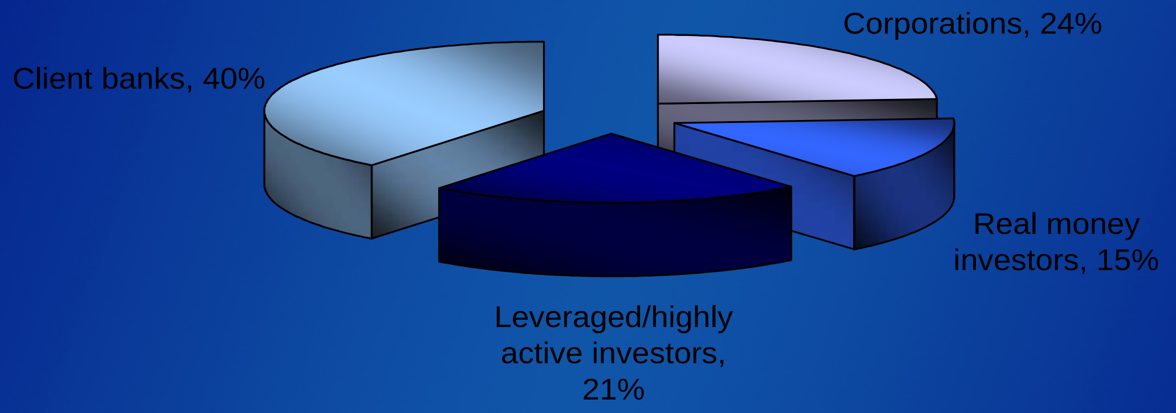
Growth in overall FX cash traded volume: 2004-2005

Comparable data from the Federal Reserve, Bank of England and ClientKnowledge

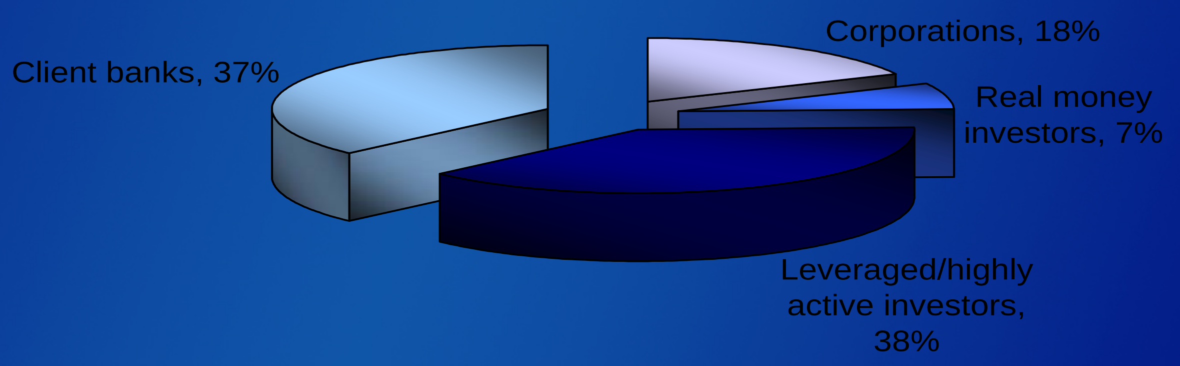


% change in annual FX cash traded volume	
CK FX2004-2005 Study	%
Corporations	-19.3
Institutional investors overall	23.6
Real money investors	-55.8
Leveraged/highly active invest	81.1
Client banks	2.2

% share of daily FX cash traded volume ~
Global corporations, real money and leveraged/highly active investors: 2004



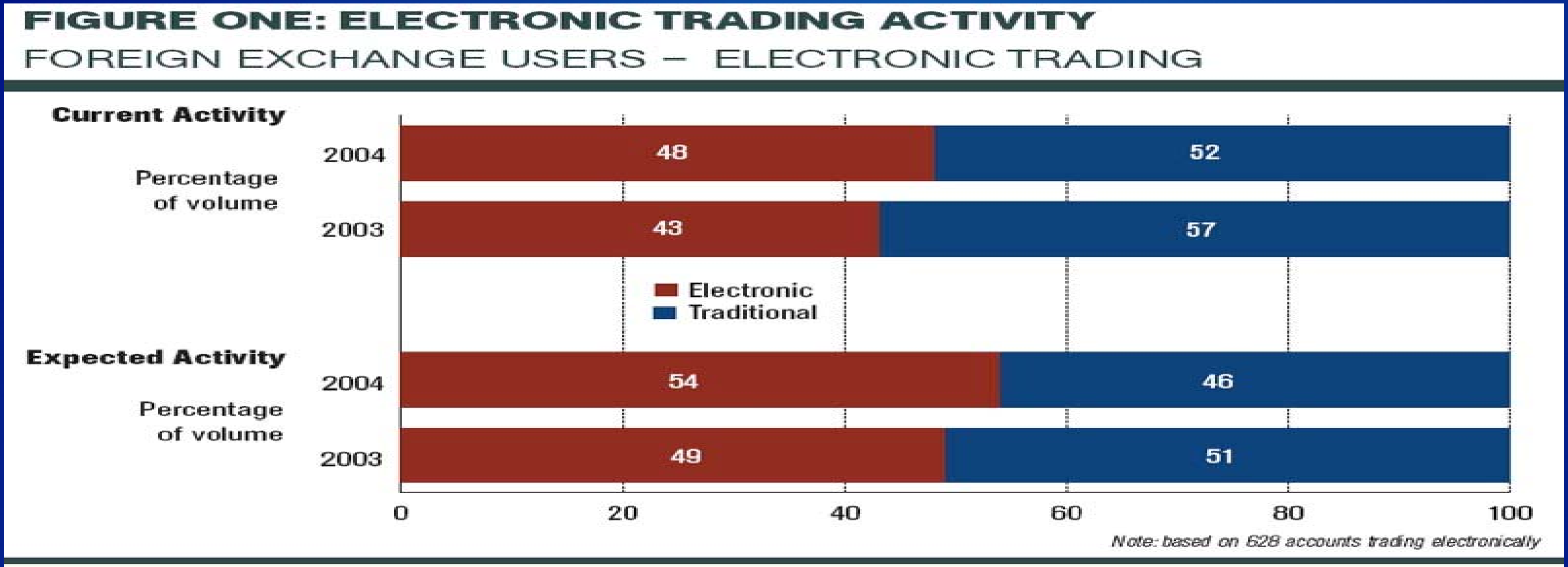
% share of daily FX cash traded volume ~
Global corporations, real money and leveraged/highly active investors: 2005

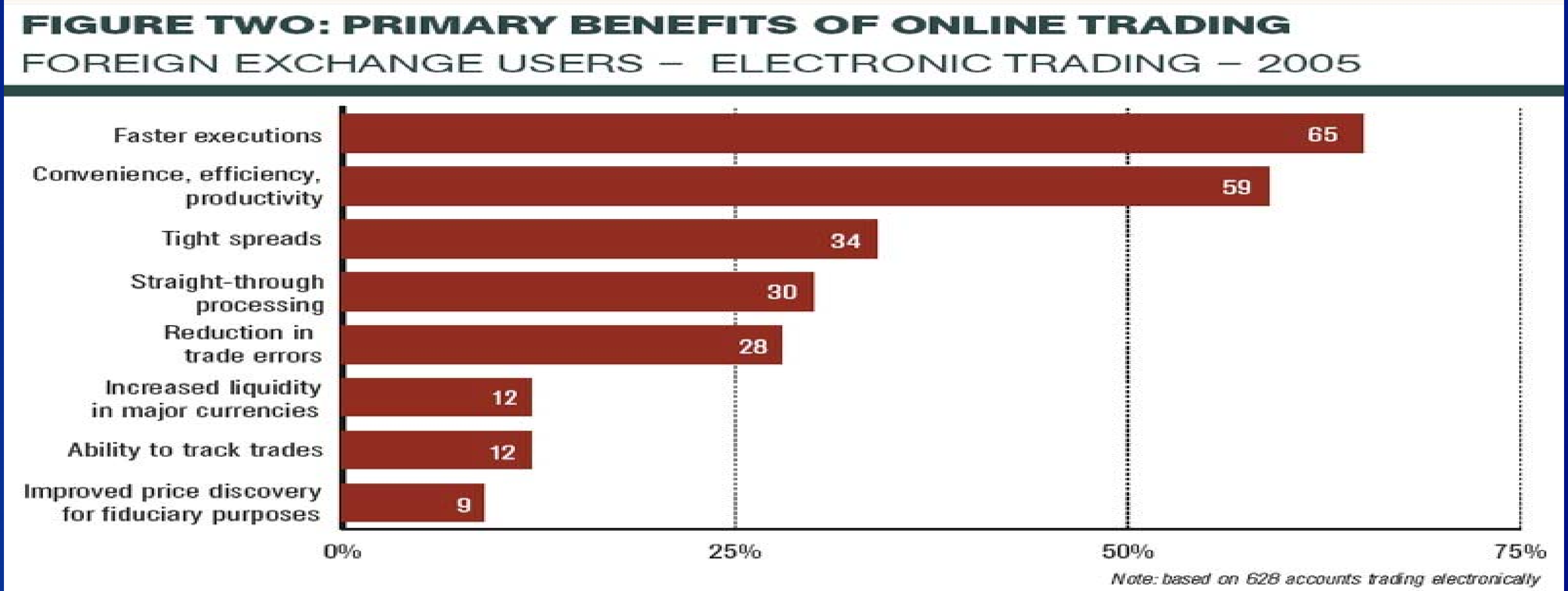


Volumes / Client Update

- If EBS / Reuters are included in the % of volumes transacted then e – FX is very high
- Otherwise it is estimated that more than 50% of the client market is now electronic with significant scope for growth
- Single bank platforms are retaining a higher proportion of volumes
- Client knowledge estimates that Algorithmic volumes made up 5 – 7 % of overall volume by mid 2005 and may have doubled since
- Search for Alpha is driving growth from sell-side and buy-side

Client Adoption / Benefits





Present Market Dynamics / Trends

- Further proliferation of retail activity
  - Tapping E-liquidity
  - Regulation an Issue?

- Liquidity Outsourcing, White Labelling, Bank to Bank Marketing on the Rise

- A "Technology Arms Race" has Intensified
  - Bank vs. Bank - product diversification to gain market share
    - e FX Options
    - e FX Fixings
    - Finer Pricing, Additional Decimal Places
    - More Flexible OMS, Stop Loss Orders?
    - e FX Prime Brokerage
    - Algorithmic Trading
  - Bank vs. Clients – Technological Processing Power/Capability can Determine Success
    - Large Investments required especially by the sell-side on capacity of hardware not just on functionality upgrades

Present Market Dynamics / Trends

- FX Prime Brokerage at the Forefront
  - Enabling broad access, underpinning the growth in client-side provision of liquidity (Hedge Funds, CTA's)
  - Driving the increase in anonymous trading and aggregated dealing on dealer prices.
  - Is KYC an issue?
- Price Latency Issues
  - Banks must invest, some to withdraw?
  - Value of flows to be measured, tiered pricing to ensue?
- Convergence of Buy-side and Sell-side
  - Client-side better able to stream liquidity into the Market

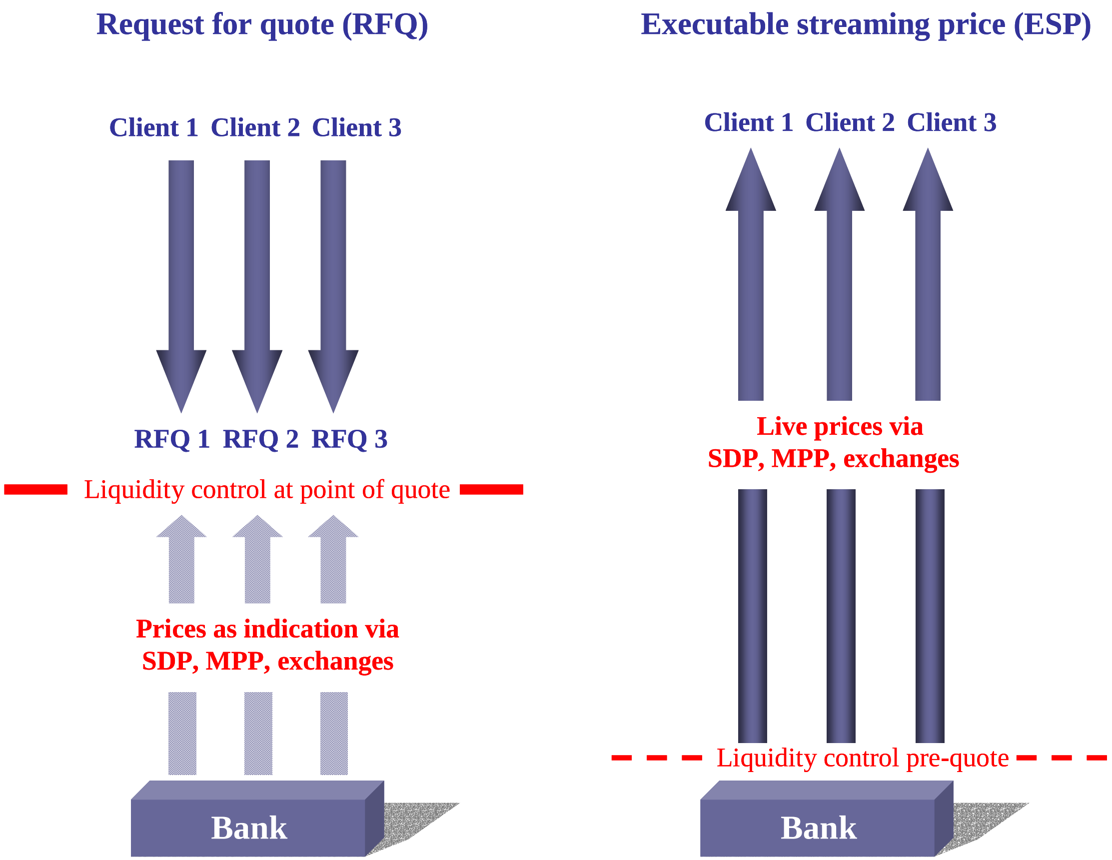
Present Market Dynamics / Trends

- Algorithmic Trading
  - Quantitative, typically high frequency automated trading strategy that is implemented without human intervention, Buy-side and Sell-side participation
  - Has roots in the equity markets, FIX language for FX seemingly important
  - Is Buy-side or Sell-side better positioned to succeed in this field? Is the end of human trading in sight, will trader attrition be accelerated?
- Consolidation in the e-commerce space
  - Liquidity fragmentation or aggregation ?
  - Recent announcements in ECN space
    - Hot spot – Knight, FX All – Private equity, EBS – ICAP?
  - Implications?
    - Multi-asset strategies to include FX e-trading?
    - Is a new inter-bank market set to emerge?

Present Market Dynamics / Trends

- Liquidity Mirage, Liquidity Magnification, Liquidity Hazard
  - Price taker has “real liquidity”, market maker inherits a potential “liquidity hazard”
  - EBS / Reuters still the main reference points for e-pricing.
    - Not enough sources?
  - Buy-side given too many points of access? EBS Prime / Reuters, CME, single and multi-bank platforms, ECN’s etc
  - Equity capital at risk
  - Market self-policing?, dynamic MIS required to respond

Liquidity Mirage ?



Implications / Discussion

- As Volumes increase will market risk or operational (technological) risk be more of an issue ?
- What will be the future growth areas? Are Emerging Markets gaining traction ?
- Sell-side race for market share and buy-side empowerment have fuelled unrestrained liquidity provision. Are we at a turning point?
- Is electronic, commission-based execution appropriate for active large buy-side clients?
- Will regulatory factors affect the development path of e-trading in FX?
- Will integrated multi-asset e-commerce grow in future?
- Is a centralized exchange-based model a foregone conclusion? What are the obstacles?
- Will an unbundling of services occur in the FX Markets?