

# Trends and Opinions on Algorithmic Trading

Adam Sussman  
TABB Group

Quant Group  
September 14, 2005

# Agenda

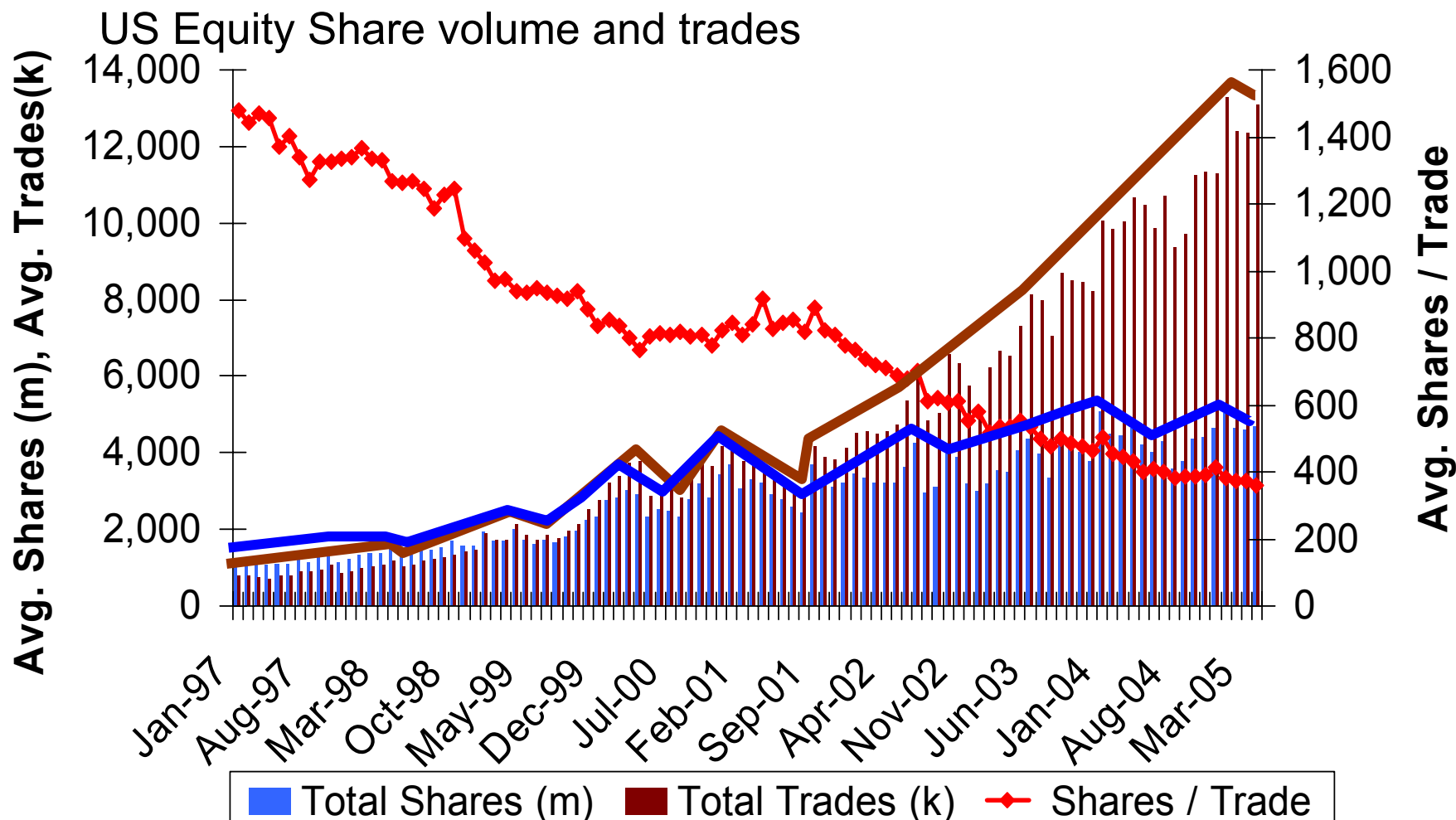
---

- ▲ Electronic trading drivers
- ▲ The changed market
- ▲ Algorithms – the liquidity paradox
- ▲ News and events
- ▲ How to approach the market
- ▲ Thoughts

# A Brief History of recent Market Structure

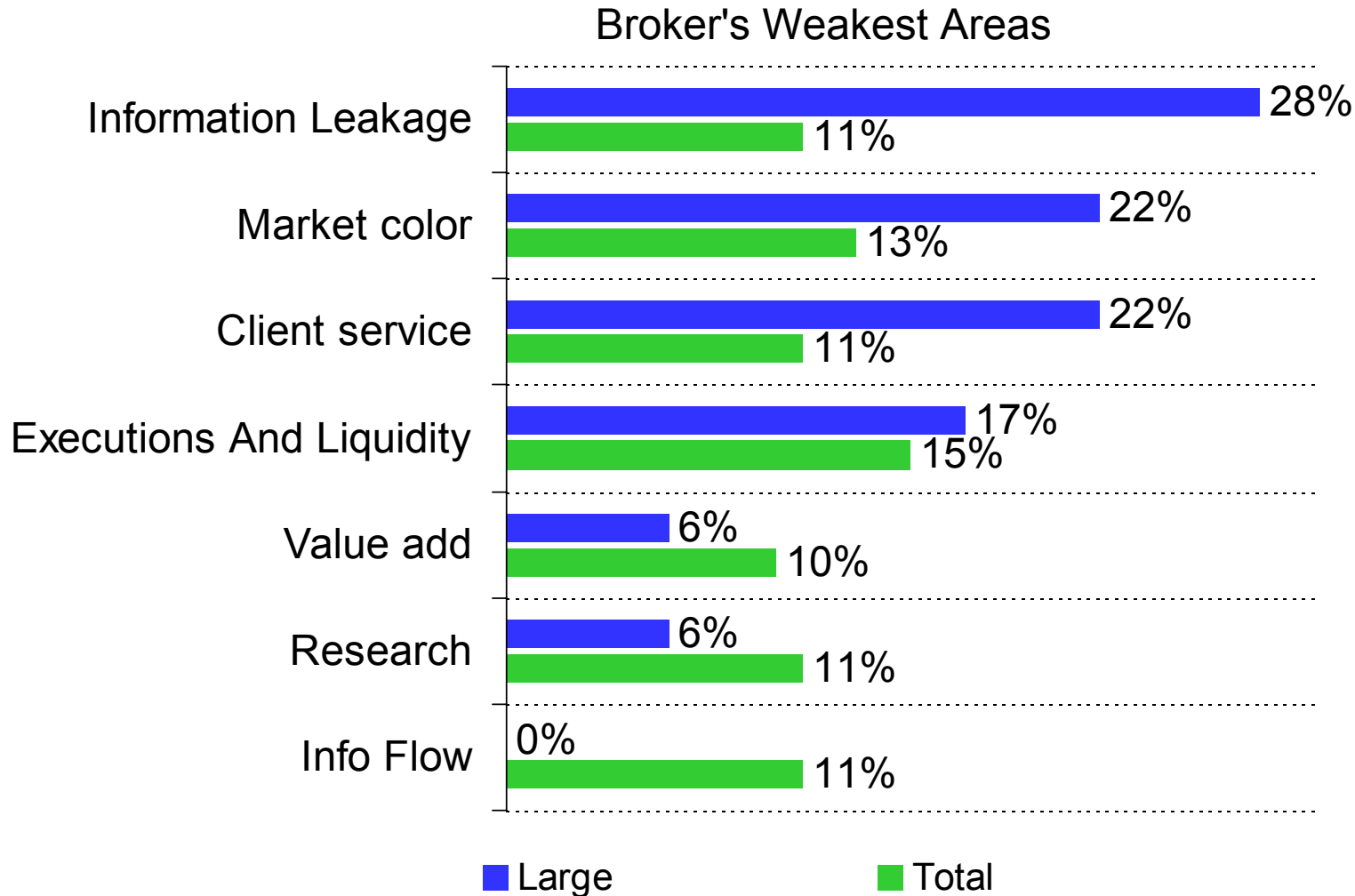
- ▲ In 1997 developed order handling rules mandating the development of electronic execution
  - ▲ A number of Electronic Communication Networks (ECN) were created over the next few years
  - ▲ Liquidity began to fragment across new and old venues
- ▲ In 2000, equities began trading in pennies
  - ▲ From 16 price points to 100
  - ▲ Narrow spreads makes market making less profitable
  - ▲ Liquidity fragments across venues *and* price points
- ▲ As a result, over the last 10 years commissions have been cut nearly in half, to under .05/share.
- ▲ Next big change is Reg NMS
  - ▲ New rules force exchanges to route to competing bids and offers; could slow down algorithms

# All of these issues has drastically changed the nature of market



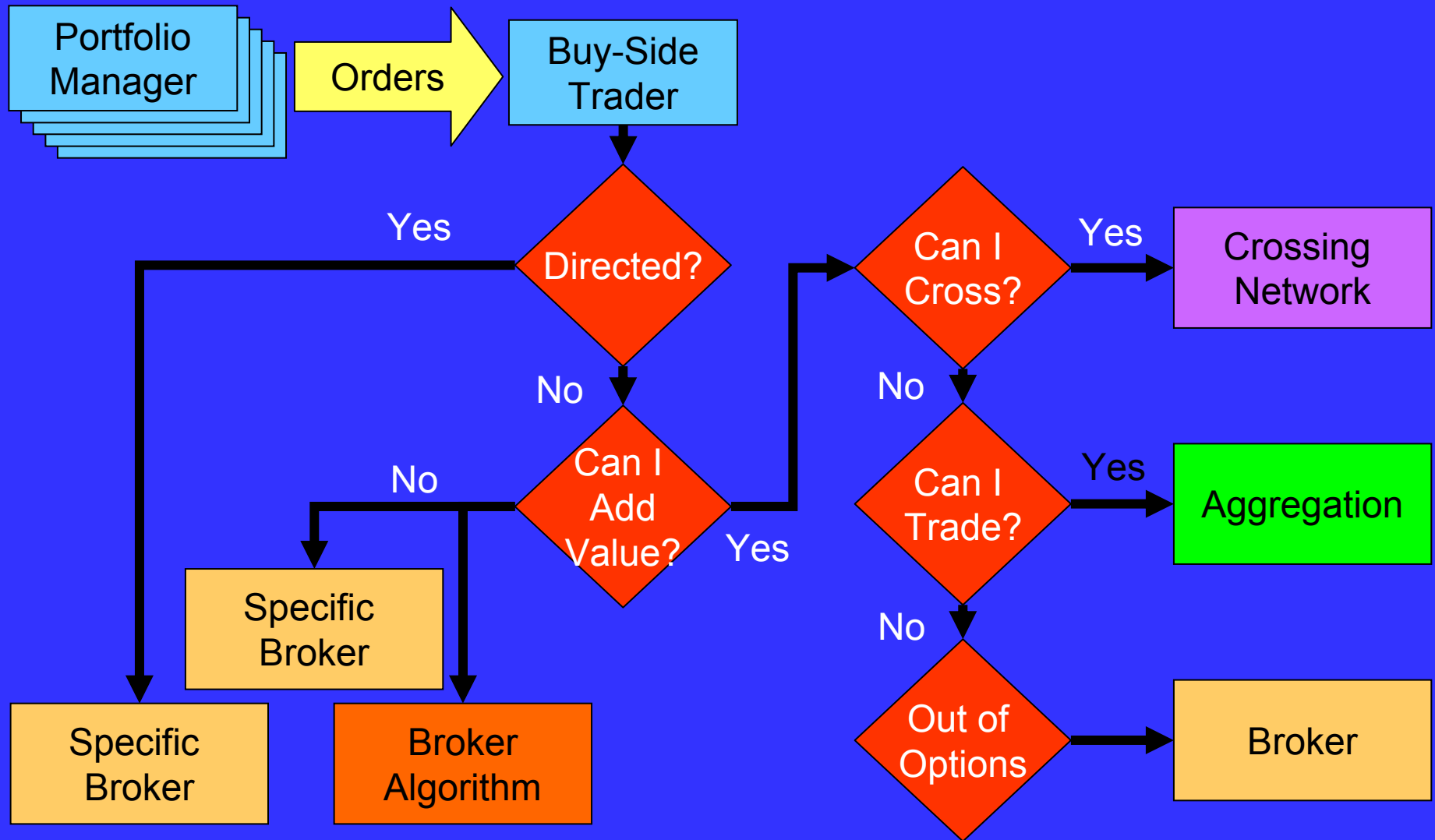
Source: NYSE, Nasdaq, NSX, & ArcaEx

# Brokers are an expensive venue and are not serving the trading desk well. Why route there?



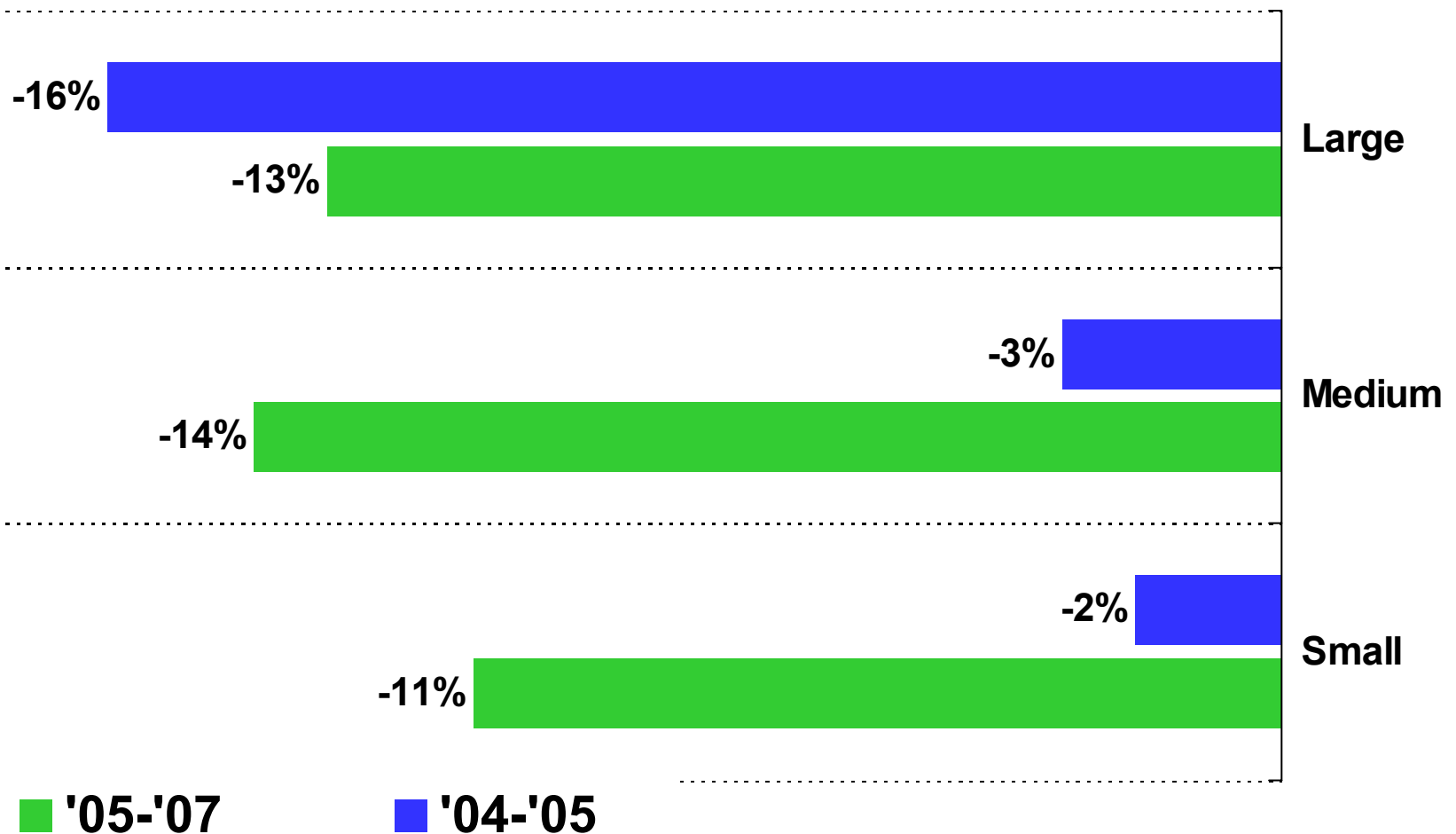
# When the buy-side needs to pay for research or cannot add value, it goes to a broker

## Typical Buy-Side Order Flow Process



# But the buy-side is shifting the order flow away from the traditional sales trader

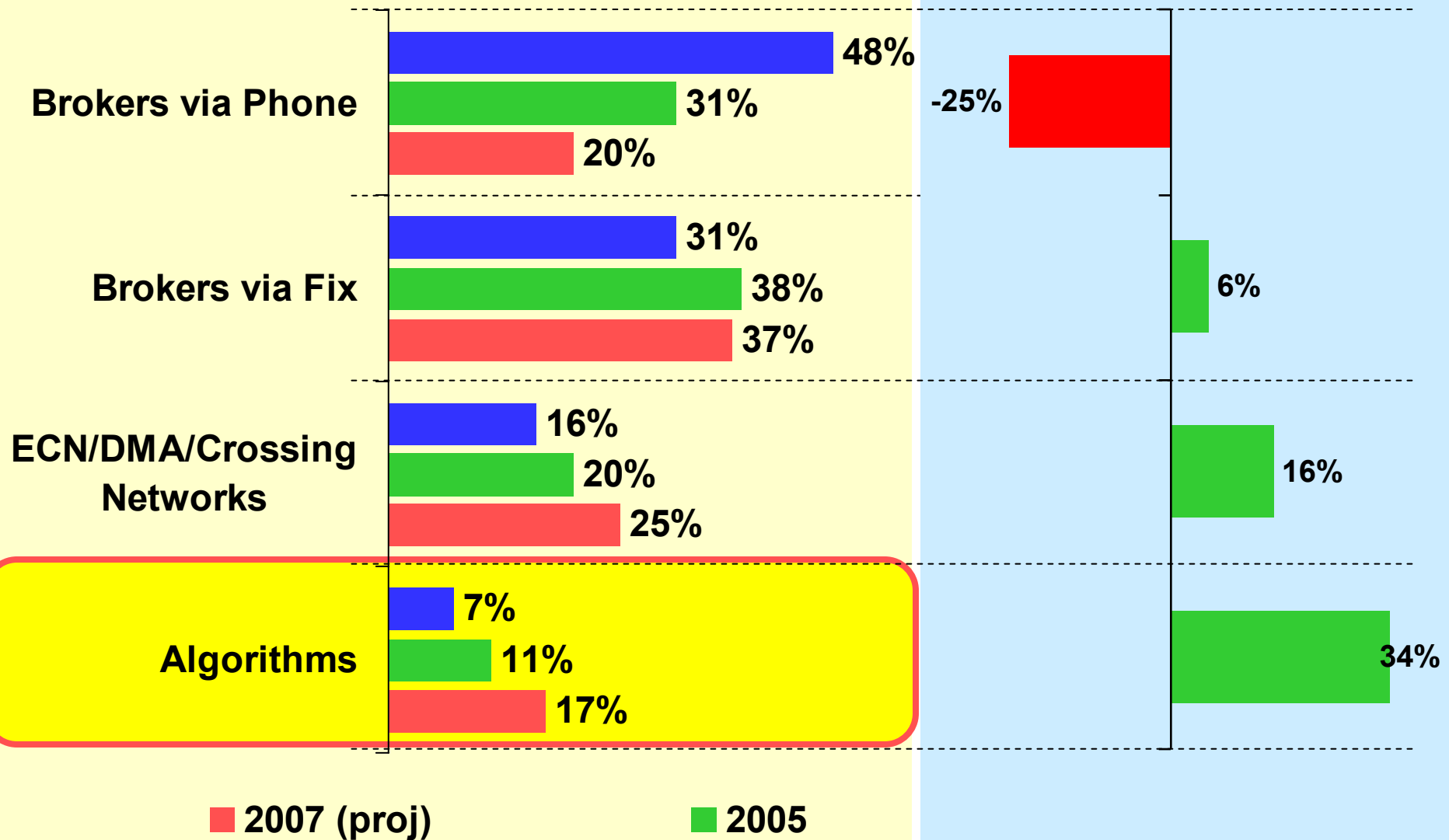
Order flow directed to sales-traders (either by Phone or FIX)



# Order flow is migrating towards cheaper venues, with algorithms growing fastest

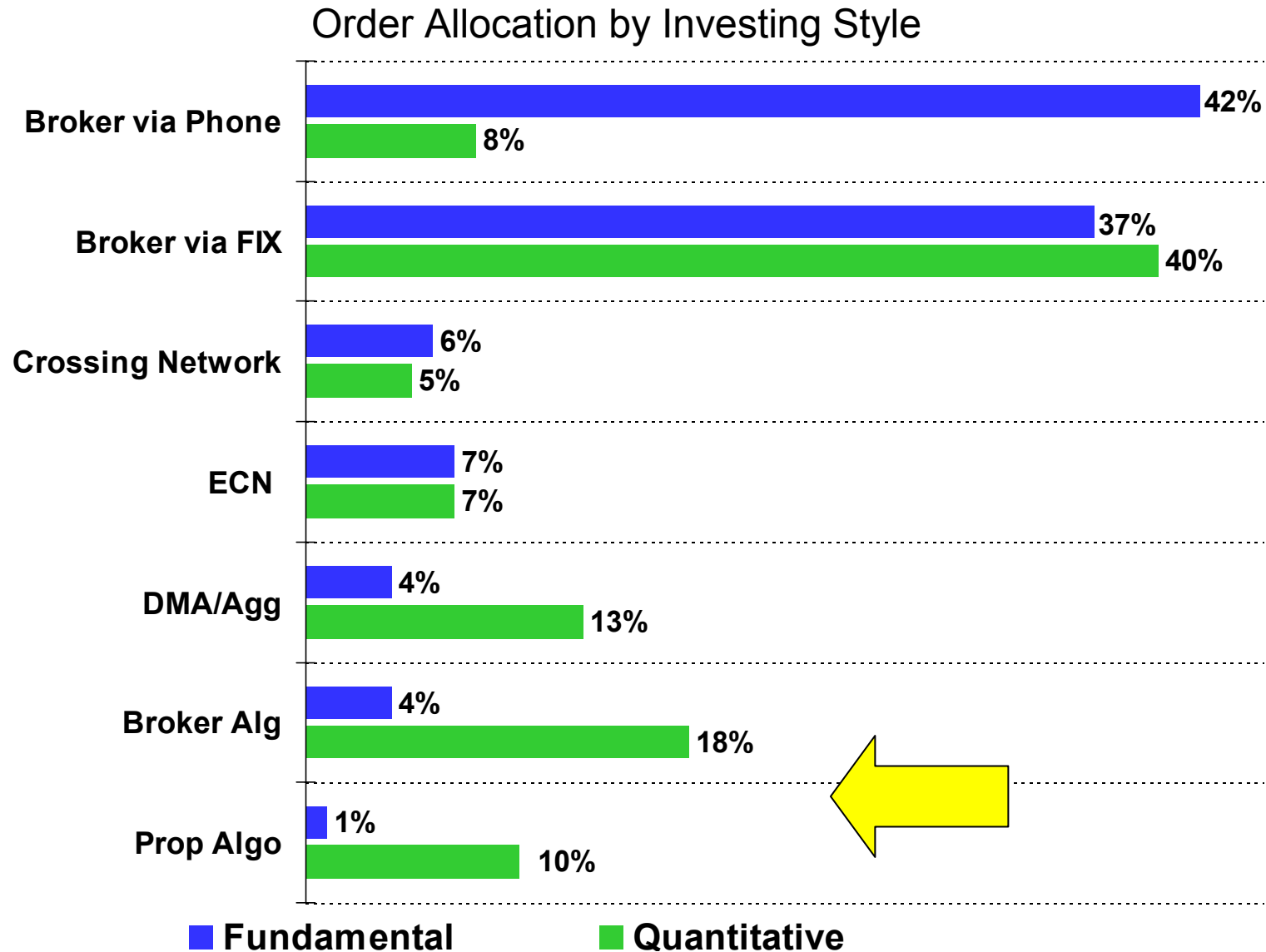
Order Flow Allocation '04 – '07(projected)

CAGR ('04 – '07)



Source: TABB Group Institutional Equity Trading 2005

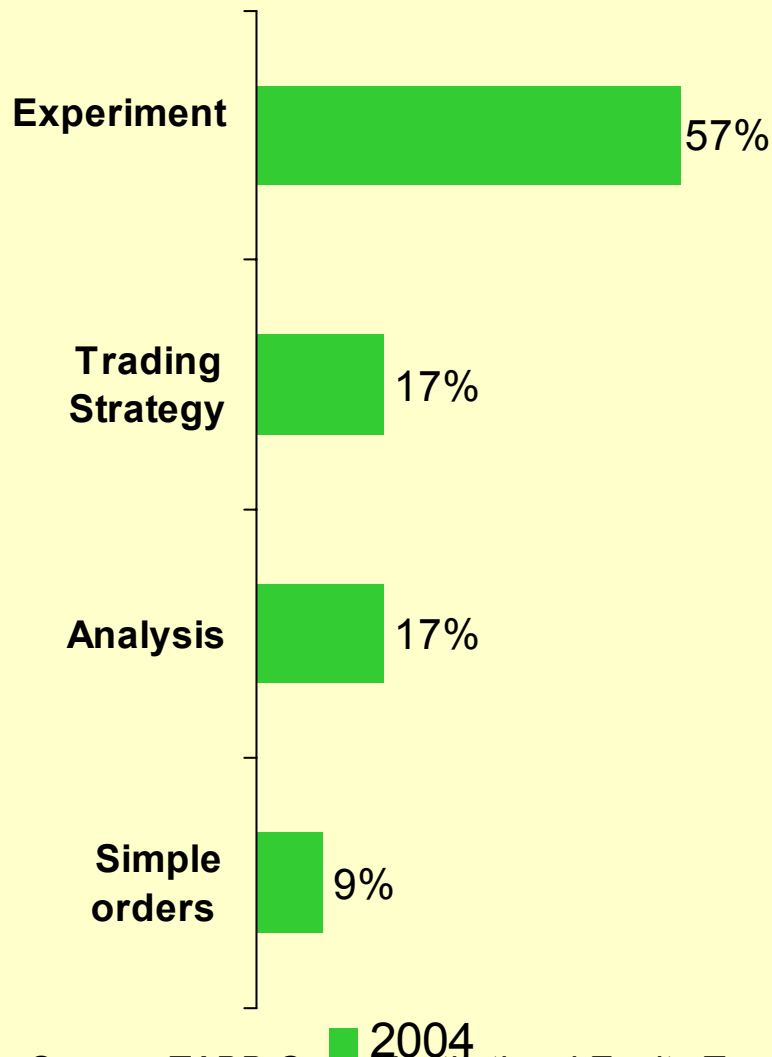
# Quantitative firms are leading the migration towards broker and proprietary algorithms



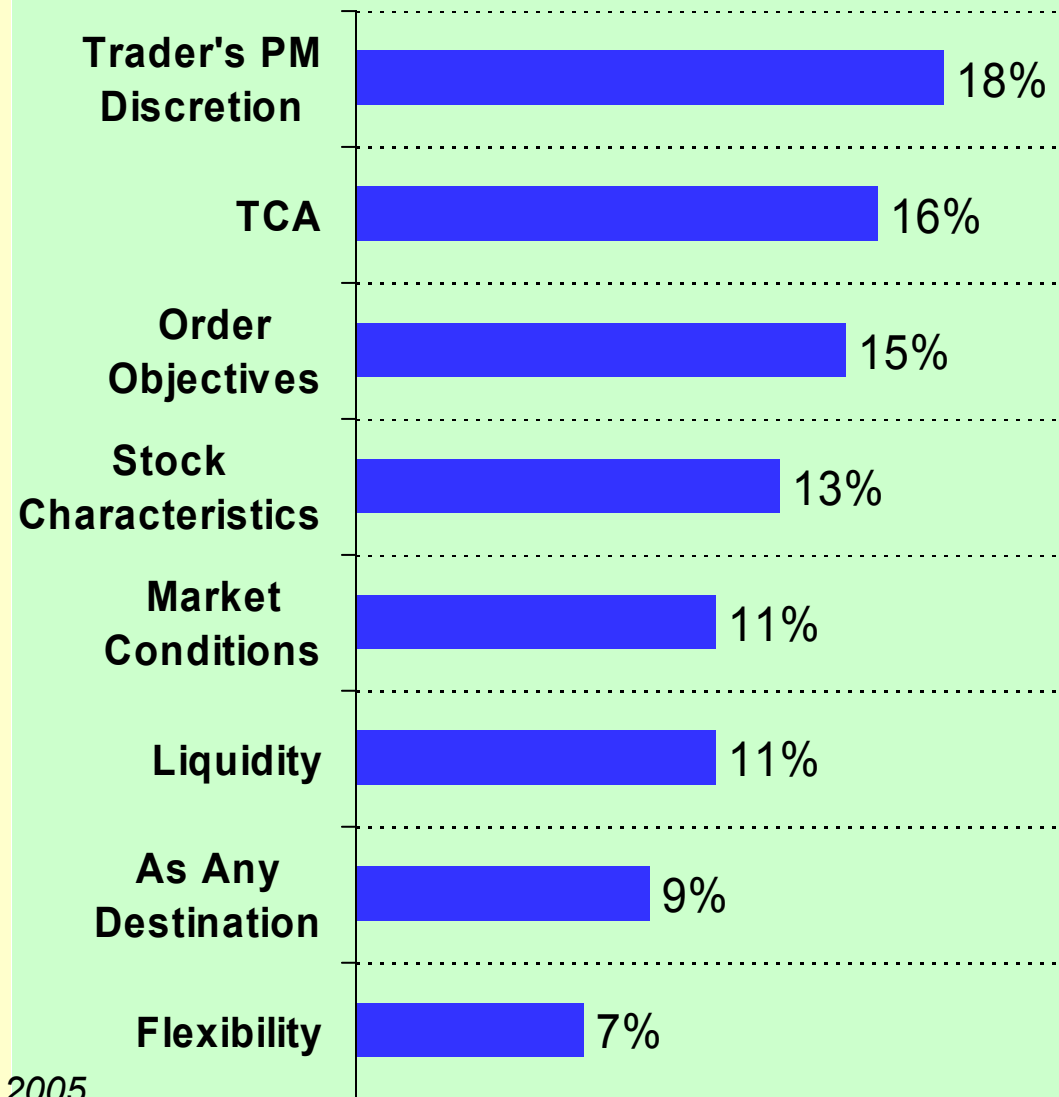
Source: TABB Group Institutional Equity Trading 2005

# Firms are also becoming more insightful in using algorithms

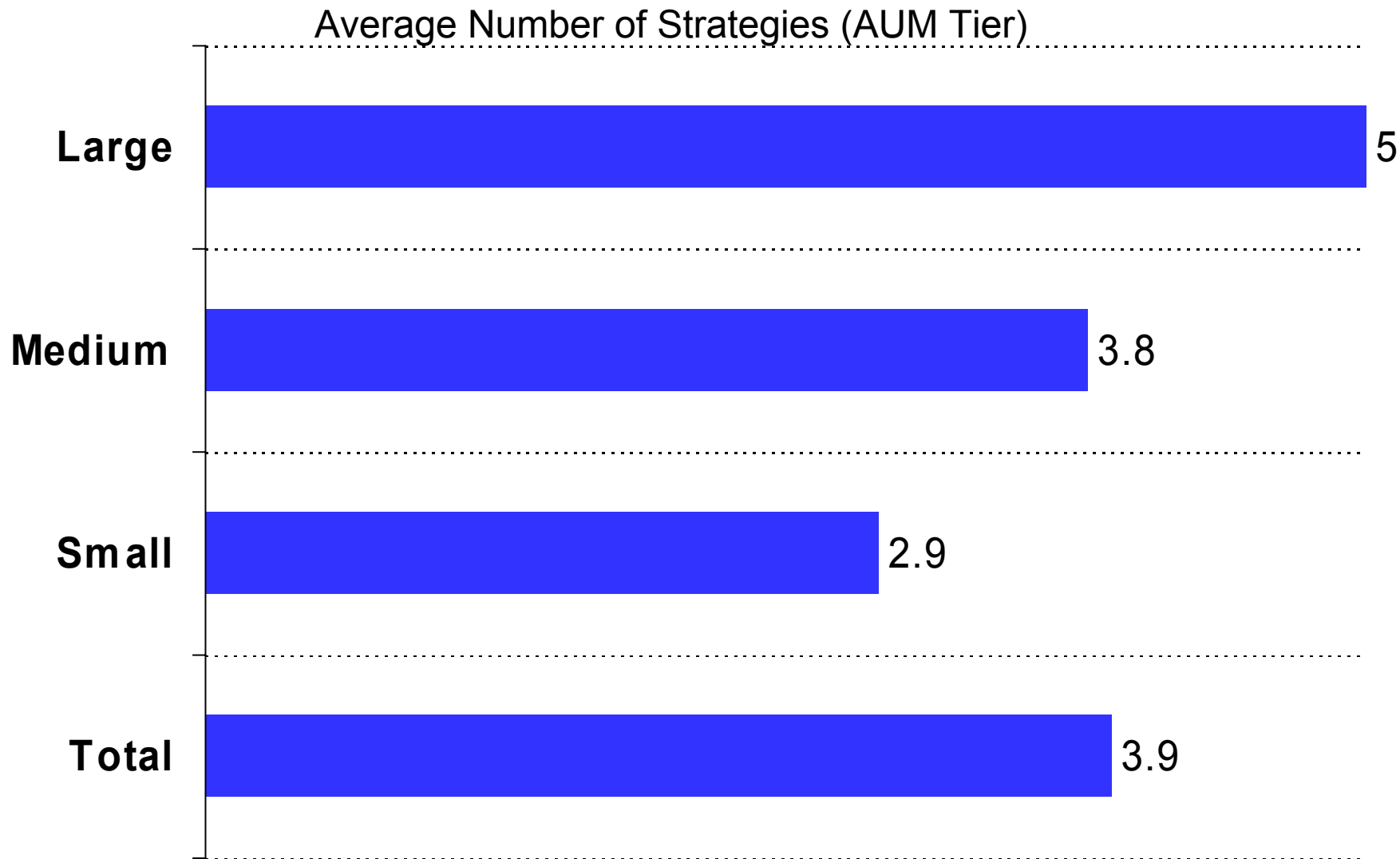
'04 Algorithm Decision Process



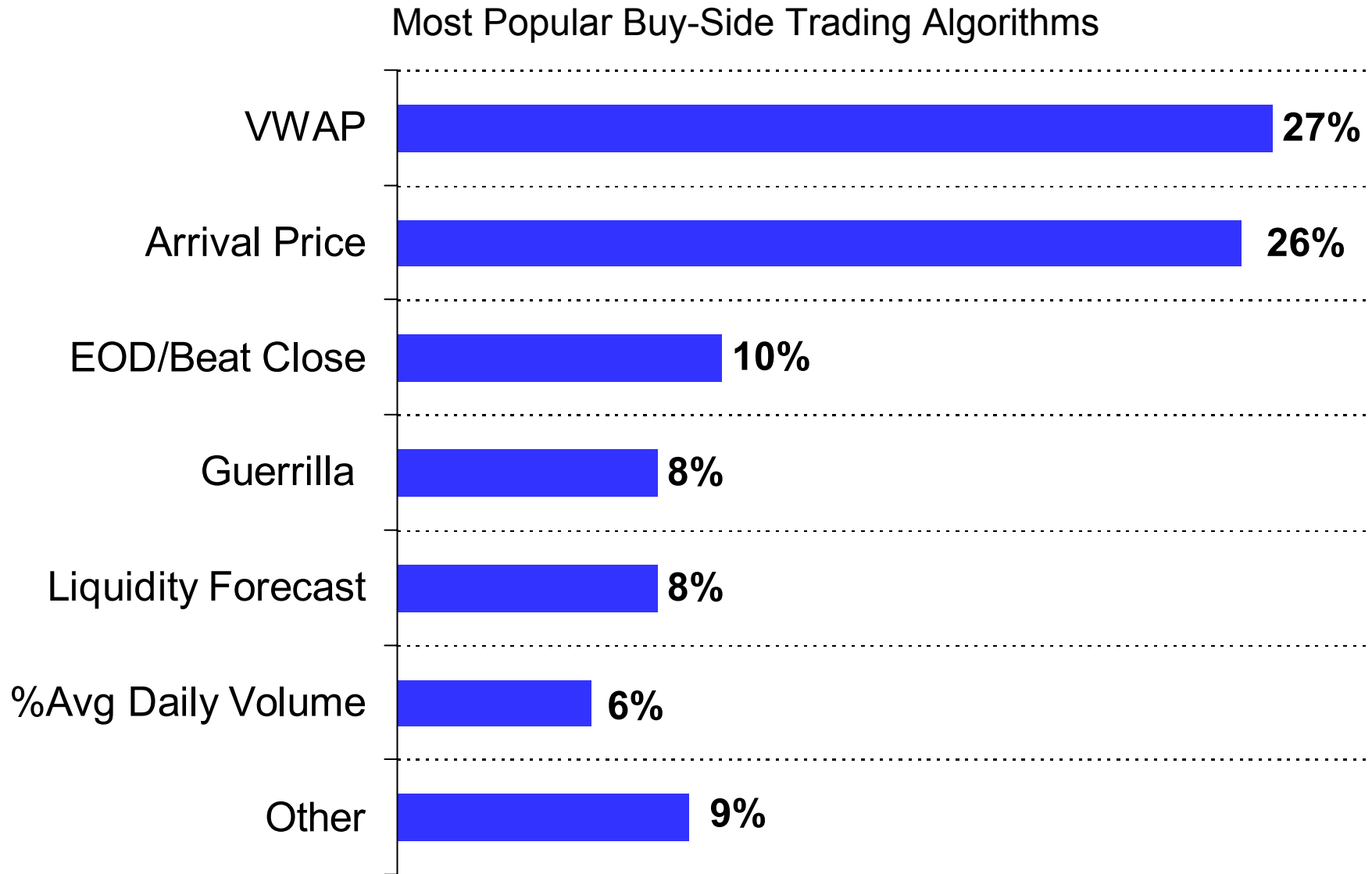
'05 Algorithm Decision Process



# Firms using more than just VWAP strategy

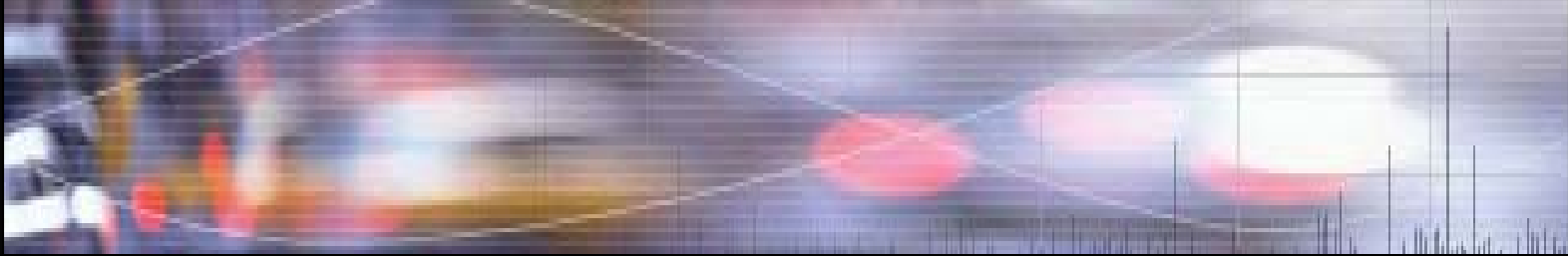


# While VWAP is most popular, we are seeing more sophisticated models being used



# Future of Algorithms

- ▲ Buy-side complains that algorithms have several flaws
  - ▲ Few algorithms handle illiquid stocks well
    - ▲ **Brokers are developing more as we speak**
  - ▲ Algorithms do not react well to news (earnings, analyst upgrades)
    - ▲ **Standardizing news delivery will enable algorithms to incorporate events into their models**
  - ▲ They need to be more flexible
    - ▲ **Increasing customization will need to be balanced with usability**
- ▲ Commoditization
  - ▲ VWAP algorithms have become commoditized
  - ▲ Innovation is needed to differentiate products
- ▲ What happens when volatility returns?
  - ▲ Quality algorithms will outperform generic methodologies
  - ▲ An increase in difficult trades will decrease algorithmic usage



# Trends and Opinions on Algorithmic Trading

Adam Sussman  
TABB Group

Quant Group  
September 14, 2005