

# **A.I. Applied in Liquid Portfolios**

Segregated Accounts

# The Issue

- The failure of the traditional investment industry to provide adequate returns for their clients
  - The S&P Dow Jones Indices SIPVA division report for the year ended 2017, indicates only 10% of Large Cap managers outperformed their S&P500 benchmark over the last 10 years.
  - As main street business managers can cover cost, the problem for the fewer but more talented investment managers is not costs but style
  - Unfortunately this underperformance is not limited to fund management companies but also to extends to the buy-side: pension fund advisors (proportion of underfunded plans), endowments (NACUBO 2017 10 year ave. return of 4.6% against S&P 500 6.2%), trustees and investment officers

# Why?

Conflicts of interest on the sellside

- Many large investment houses have multiple functions e.g. brokerage or corporate banking whose earning generation take precedent to the detriment of the buy side client
- For the sell side the purpose of the relationship is to take a slice of the action not to add value. Epitomised by Goldman Sachs' Stanley Weinberg's previous career of selling a place in the line to anxious depositors during the 1907 run on Trust Companies
- Behavioural issues on buyside
  - Peer Pressure - Risk aversion to minimise loss of career/bonus by choosing products from renown companies or agreeing to “group think” e.g. since the great recession many institutional investors unsuccessfully chased previous out-performance in private equity (See American Affairs - Private Equity)
  - Response to marketing e.g. those using successful sports stars
  - Saving face more important than admit mistakes or lack of knowledge
- Regulatory
  - Many regulatory benchmarks create non-investment performance barriers to entry
  - Support for failing business models to ensure regulatory fees source maintained
- Some later generations of entrepreneurial families find it difficult to generate their own wealth becoming paranoid of losing their source of income and (incorrectly) choose poor investing preferences
- The “science” of investing is less than 100 years old and in 1990 modern portfolio theory won a Nobel prize. However since 2008 the proponents have been found to be using incorrect variables, similar to early physics theories that were eventually refined. ETFs and optimal data mined smart beta and now rob-advisors appear to have a similar following
- Inability to analyse and act against the exponentially growing amount of data

# A Solution

- Adopting techniques used by CERN to discover the sub-atomic Higgs boson or 'God particle'
- Adapted from successful use in physics for investment purposes
- To clone and improve the traits of an successful investment manger who:
  - Returned 23% against a 45% decline in the S&P 500 in 2008
  - For a \$2b portfolio between 2002-6 outperformed the FTSE 100+250 sectors of: media, chemicals, electricity, media and non-life insurance
  - Was awarded a: Bsc(Econ) honours from UCL and, Chartered Financial Analyst (CFA) designation in 2001
  - With 6 years Chartered Accountancy and multiple years entrepreneurial experience
- Using Machine Learning, Artificial Intelligence and Big Data
- Applied both to top-down (economics/asset allocation) and bottom-up (manager/security selection) research
- Irrespective of emotion, with x2000 productivity and repeatable results
- Providing a **conviction portfolio grounded in probability and not behavioural bias**
- Diversified across time
- Based on the specialisation shown in most family enterprises and successful main street businesses, not on conglomerate building (modern portfolio theory)

# How?

- Utilising Big Data from multiple internet sources including:
  - Market/Financial/Economic Data
  - Management/Company/Industry/Economic/Government Information
  - Independent News Flow including Geopolitics
- On a quarterly basis
- A.I. is used at a macro economic level providing overall weightings to USA and China asset classes
- Then using traditional screening to reduce the large cap (>\$1bn) global stocks with a US/UK/ADR listing (for regular reporting with recognised accounting standards) from an approx. 6000 stock universe to approx. 100
- A.I. is again used at the security level to further reduce the actual investing universe to approximately 50 long/short positions
- Execution is made manually on the broker platform

# The Result – Kings Portfolio

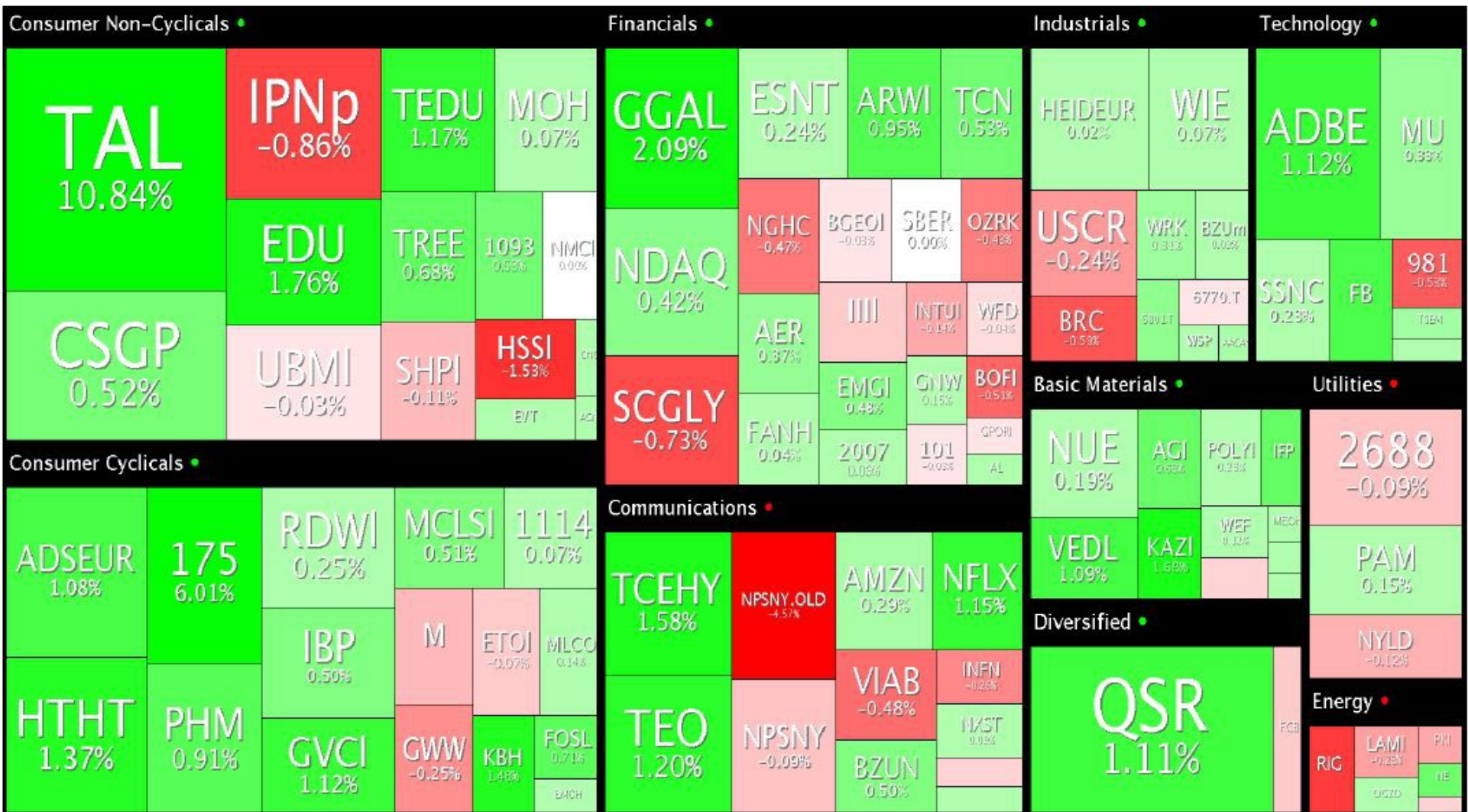
- For a US dollar segregated account held at Interactive Brokers (independently ranked best for execution and lowest brokerage fees)
- The first year of implementation provided a 43.7% net return with a 3.7 sharp ratio
- Against the global (MSCI World) index return of 20.1%
- With full liquidity (for withdrawal) within three days
- On-line real-time accounting
- No additional director, administration, regulatory, audit, legal fees
- Securities held in name of client not manager
- Optional third party custodial choice at clients expense

# A.I. Cumulative Performance

- Artificial Intelligence generated investment positions for Kings Portfolio (2017)



# Attribution Heat Map – Kings 2017





# Further investing applications

- We continue to develop natural language processing deep learning software to improve written and spoken news analysis
- We are also applying further Artificial Intelligence and algorithmic techniques to intra-day “trading” of macro futures and cash securities i.e. equity and government bond indices, foreign exchange pairs and commodities. Which in 2017 also provided 6% gross return but without as yet sufficient trading signals for a viable strategy (Belsize Portfolio)
- We expect to have these out of beta by the end of 2018 and into 2019

# As part of a universal strategy

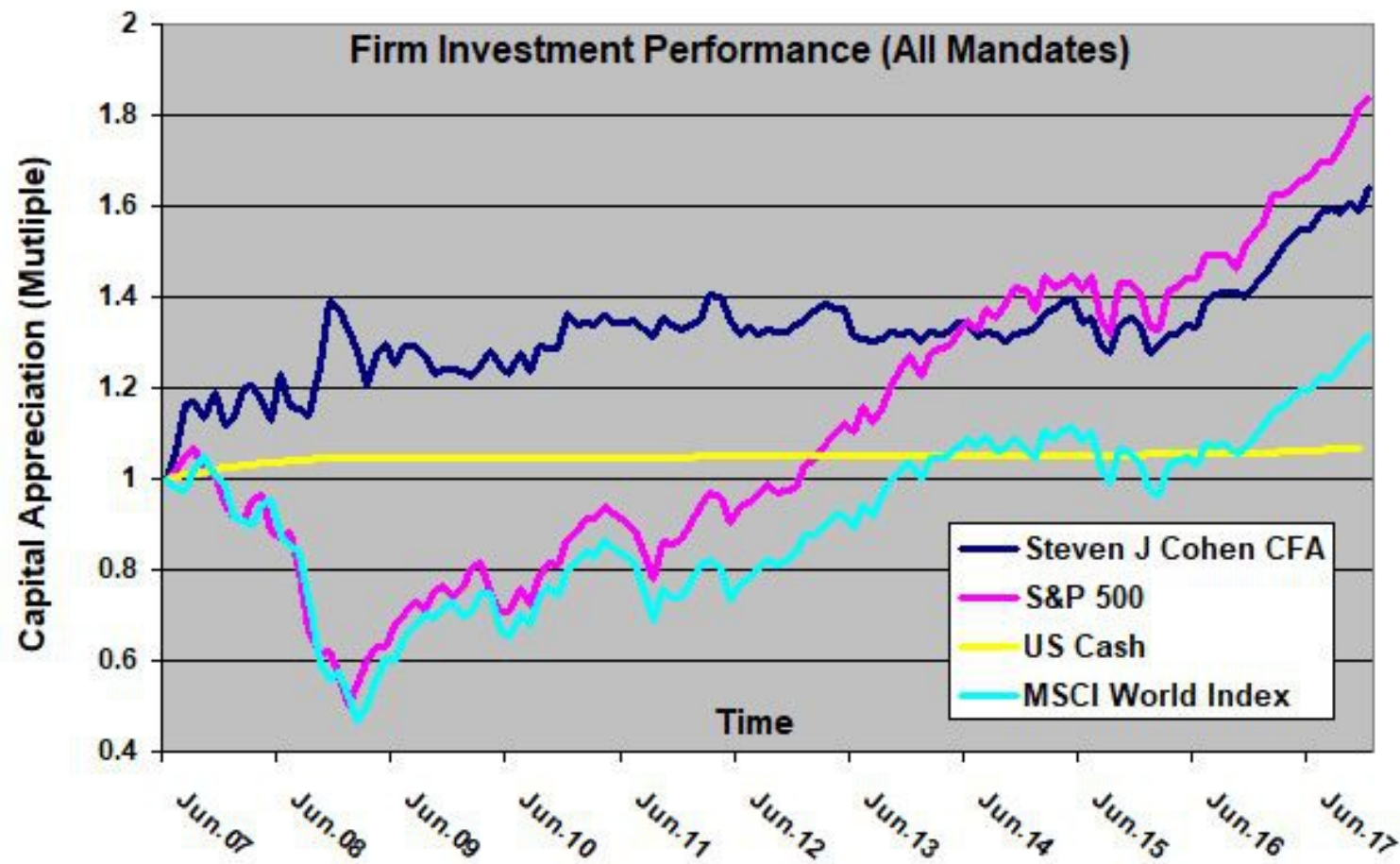
- We believe it will take the investment industry 20 years to full incorporate our techniques, due to self interest of the potential adopters
- As well as the inability of either computer programmers or marketers to fully understand the necessary factors that need to be incorporated into the Artificial Intelligence and their reliance on providing solutions based on optimal historic data mining without any recourse to real world systems
- In the meantime their clients alpha is available for us to harvest
- We have no interest in making an academic/marketing argument that our methods are either correct, the best or that we don't make errors, our only interest is in what works
- We therefore recommend clients to maintain at least one other advisor (one using the established modern portfolio theory method) and a personal investment/trading account to implement their own philosophy
- For clients who wish to utilise us exclusively, when over a certain size we will also allocate part of their portfolio to third party managers who provide:
  - Niche strategies
  - Good returns during our poorer performance
  - A successful experience during 2008

# Platform Investing

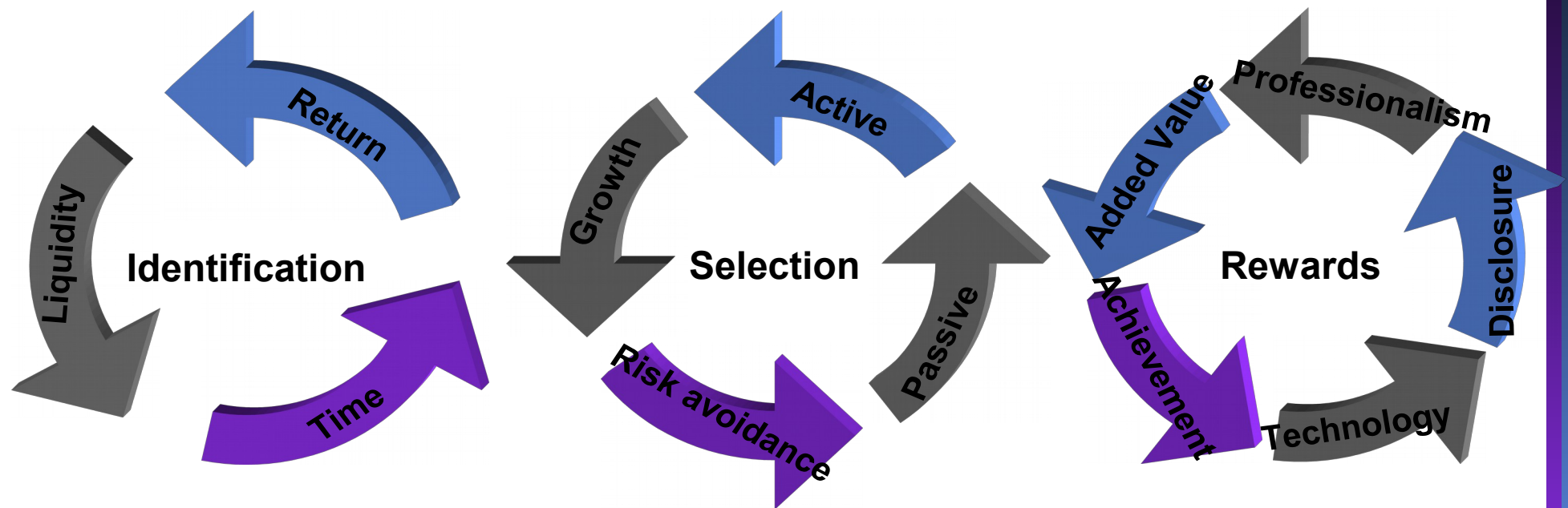
- We continue to explore the opportunity provided by regulatory change and internet provided B2B platforms in the areas of:
  - Direct Lending
  - Private Equity
  - Real Estate
- And will expand our interest, due to the implied investment horizon inherent in these strategies, in response to AI supported macro economic analysis

# Firm performance since inception

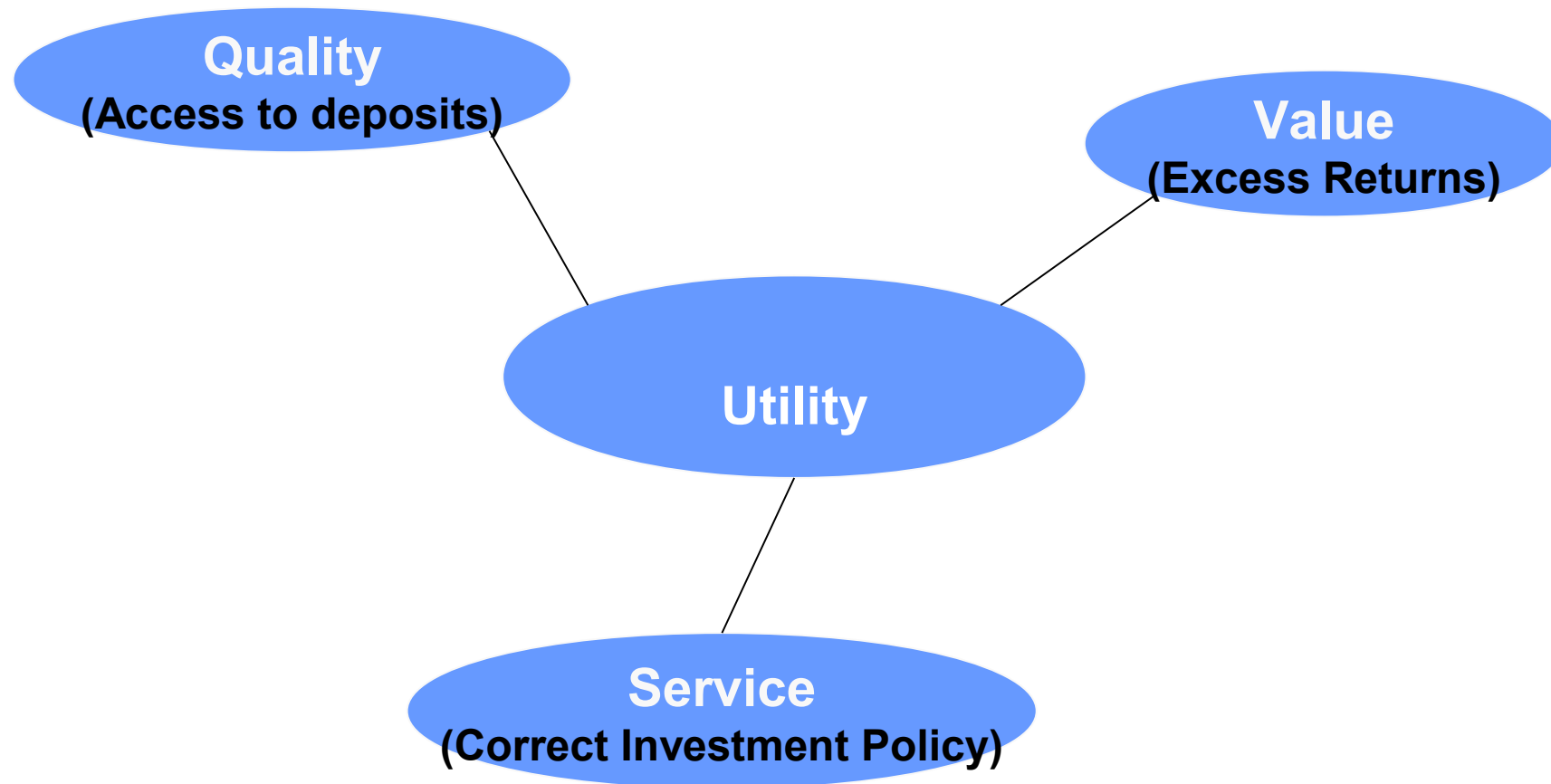
- Including all unconstrained and constrained (by regulation or platform) portfolios



# Our Strength

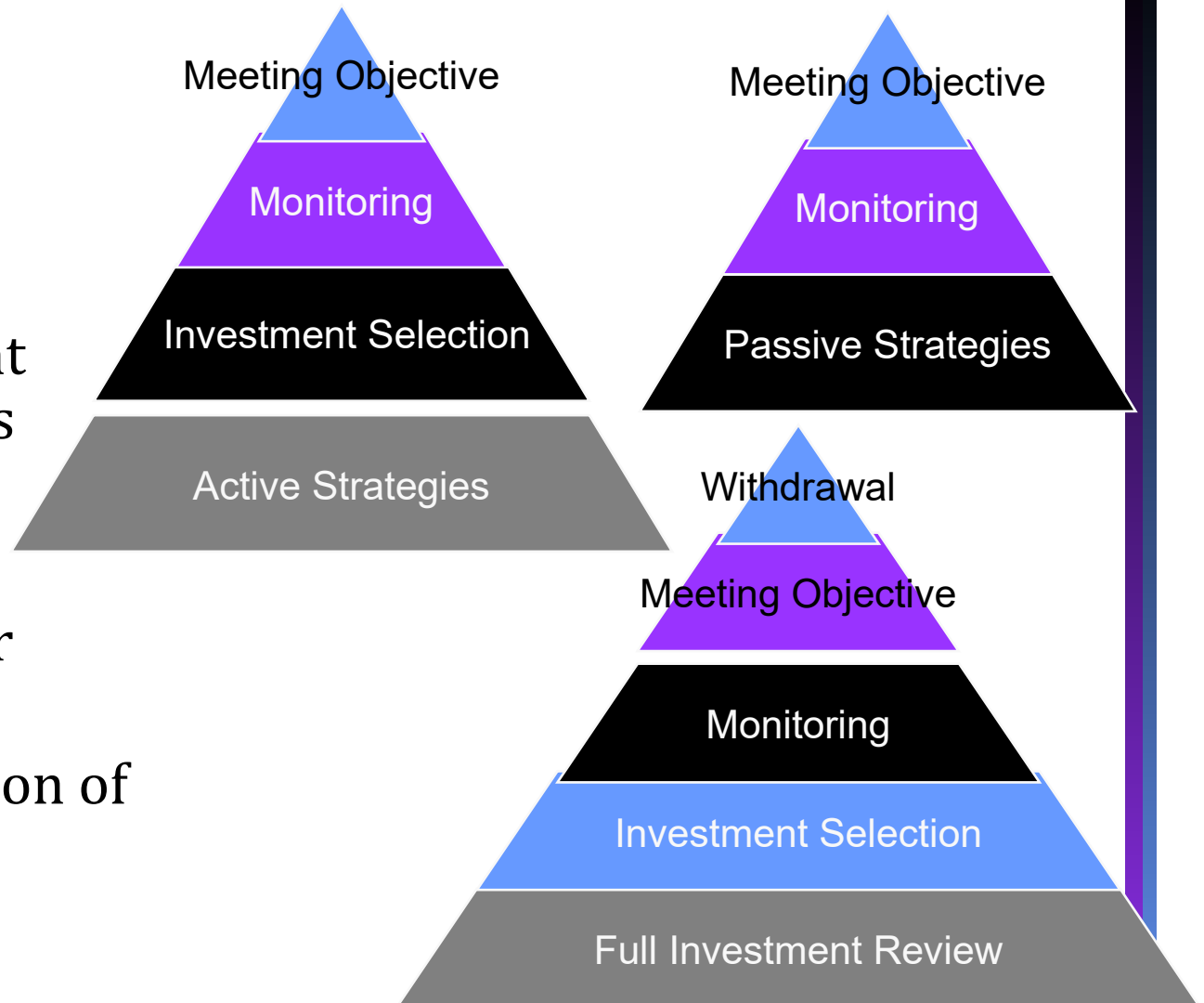


# Our Client Requirements



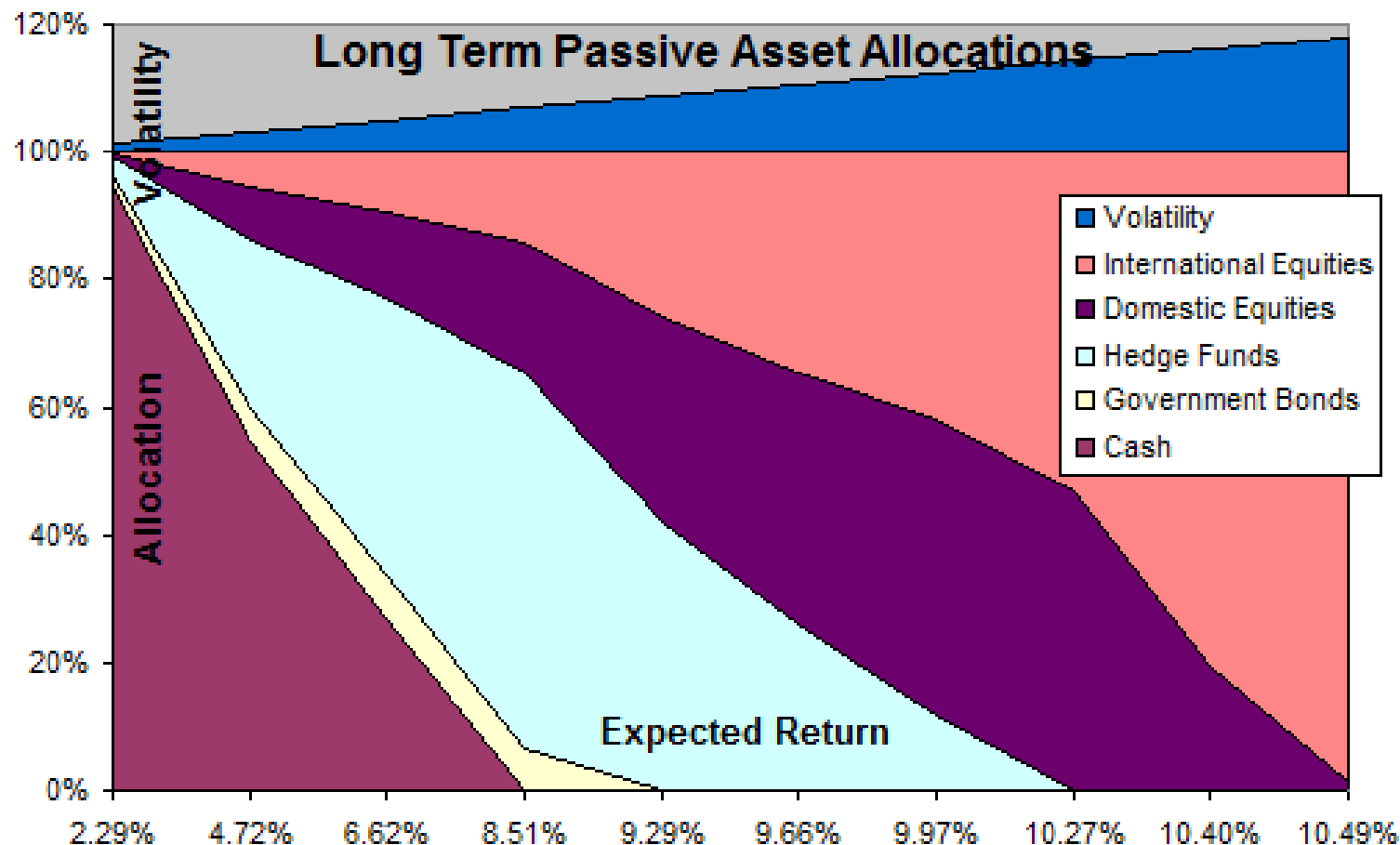
# Fulfilling Client Need

- Identification of client specific requirements
- Selection of correct instruments
- Complete and regular updating
- Satisfactory completion of mandate



# Traditional Modern Portfolio Theory

Combinations make for higher returns at preferred level of volatility





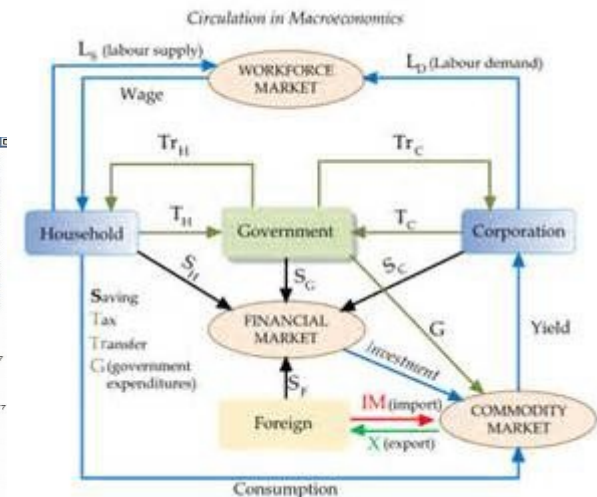
# Research Capabilities



- Client Meeting
- Big Data & Machine Learning (A.I.)
- Technical Analysis
- Geopolitics
- Company Fundamentals
- Macro Economics
- News/Information Flow



Fundamental Analysis of a Company



# Who we are

- Steven J Cohen CFA is a global non-custodial multi-family office consultancy specialising in investment management services for exclusive individuals and multi-generational wealth. Headquartered in Zurich, Switzerland with other regulatory licenses/permissions held in California, USA and British Columbia, Canada, professional oversight is by the Chartered Financial Analyst Institute. Referrals are made to other best-in-class specialists bringing the full range of family office services without conflict of interest inherent in full service entities.
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## Some overseeing bodies



CFA Institute



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