

Behavioural Finance in Practice – or, is Investment an Art or a Science?

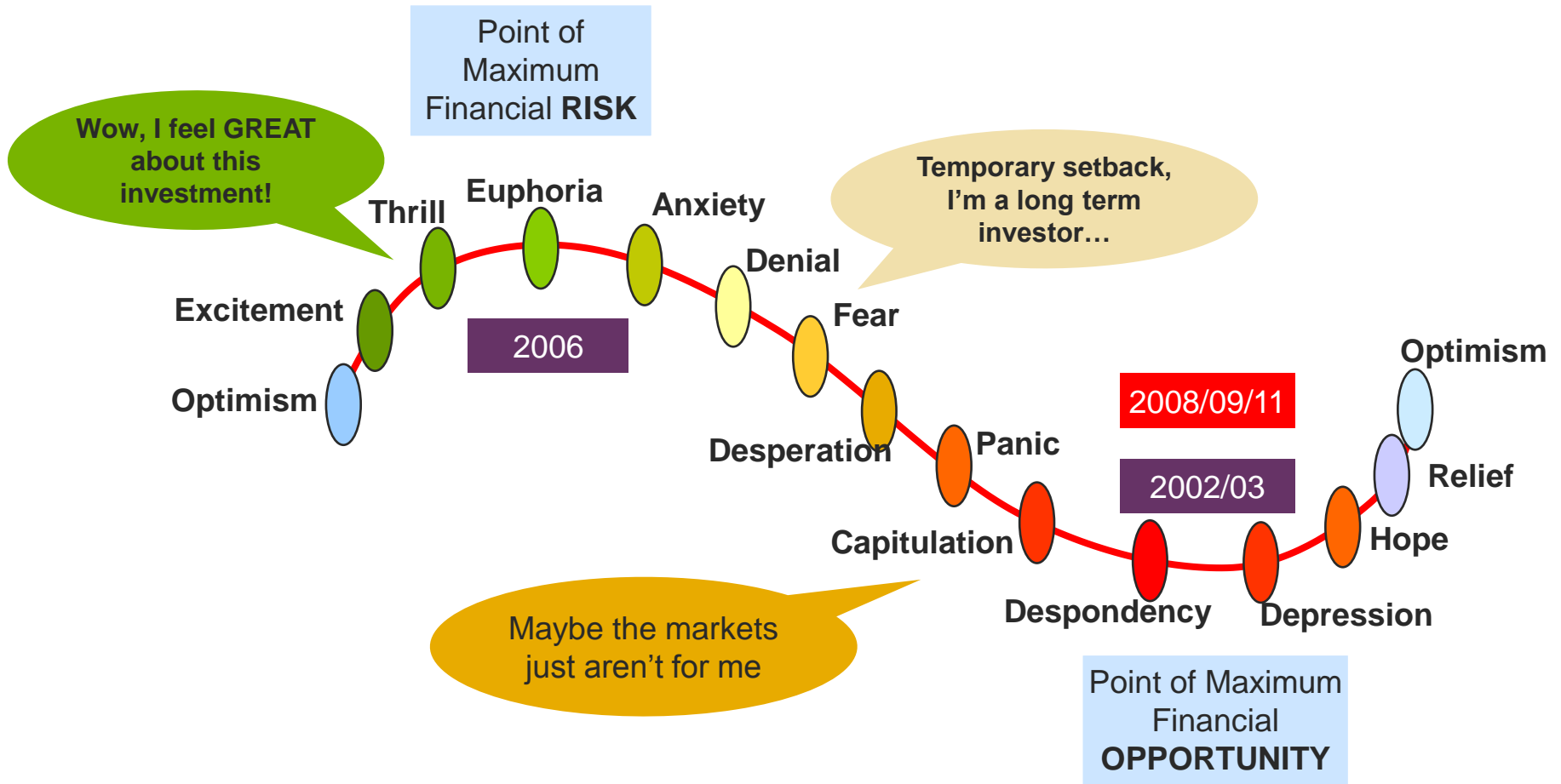
February 2015

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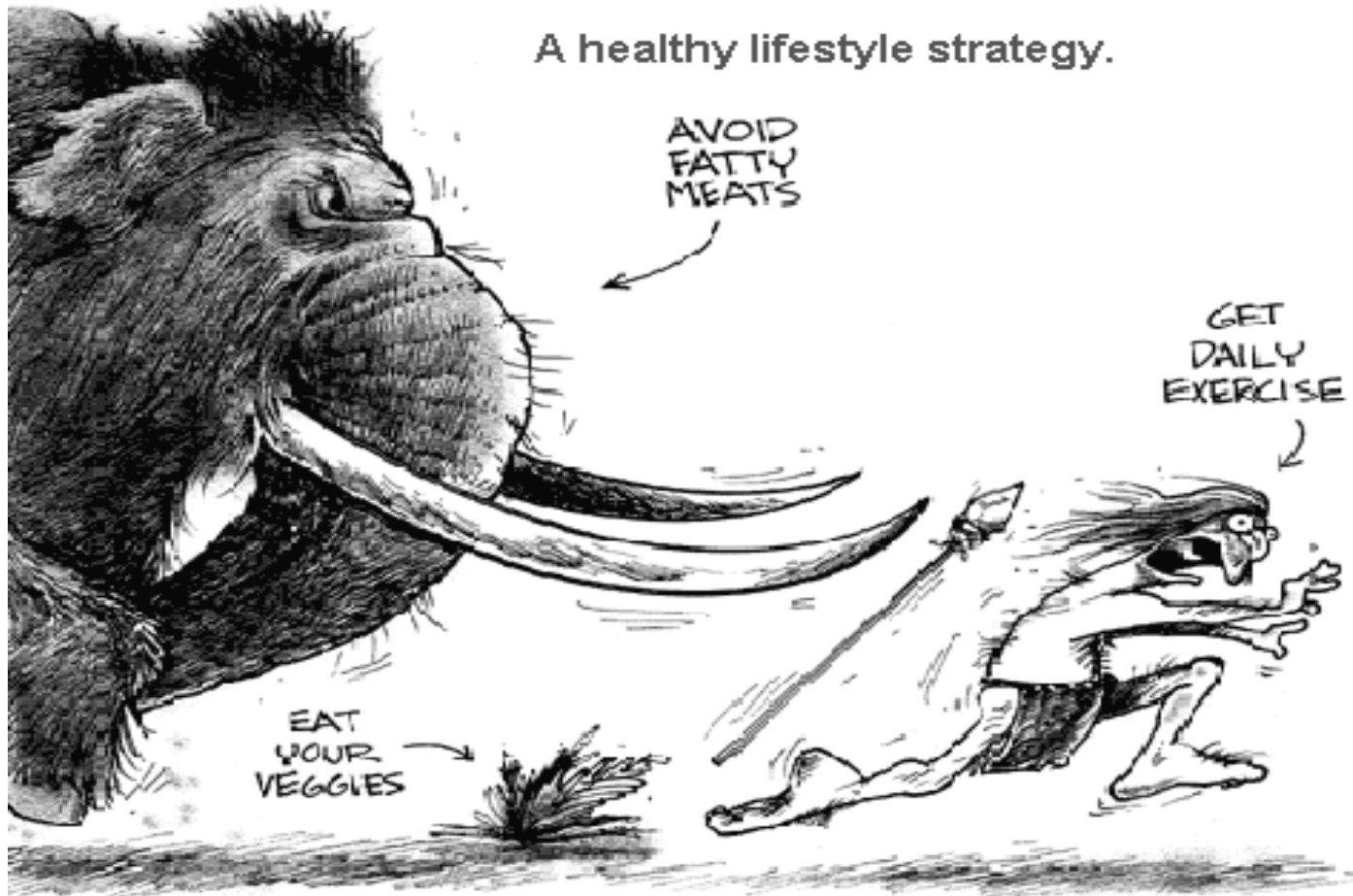
Investing – Science or Art?

Is it about Economics or Psychology?



Fight vs. Flight

Are you brave enough to stand and fight, or do you run away and fight another day?



Science and Art

Type A numbers and Type B numbers

Profit & Loss Account				2006	2007	H108	H208	2008	2009	2010
Total revenues	8,702	10,444	10,794	18,737	20,992	9,703	11,184	20,887	18,487	18,357
Revenue Growth		20.0%	3.4%	29.7%	12.0%	0.0%	-1.0%	-0.5%	-11.5%	-0.7%
Total "Cash" Operating Costs	(7,518)	(9,125)	(9,429)	(16,276)	(18,119)	(8,597)	(9,625)	(18,222)	(16,447)	(16,352)
Pre Exceptional EBITDA	1,183	1,319	1,365	2,461	2,873	1,106	1,559	2,665	2,041	2,005
EBITDA Margin	13.6%	12.6%	12.6%	13.1%	13.7%	11.4%	13.9%	12.8%	11.0%	10.9%
Depreciation & Organic Amortisation	(308)	(376)	(387)	(664)	(774)	(392)	(432)	(824)	(844)	(835)
D&A % of Opening NTFA		8.3%	7.5%	9.7%	10.3%			10.0%	9.5%	9.5%
Pre Exceptional EBITG	875	943	979	1,798	2,099	714	1,127	1,841	1,196	1,170
EBITG Margin	10.1%	9.0%	9.1%	9.6%	10.0%	7.4%	10.1%	8.8%	6.5%	6.4%
EBITG Growth		7.8%	3.7%	29.1%	16.8%	(7.4%)	(15.1%)	(12.3%)	(35.0%)	(2.2%)
Associates	0	0	0	47	64	31	31	61	45	50
Group Net Interest	(191)	(173)	(139)	(252)	(303)	(161)	(182)	(343)	(371)	(277)
Profit Before Tax (Pre Exc & Gwill)	684	770	840	1,593	1,860	583	976	1,559	870	943
Tax (underlying)	(190)	(212)	(223)	(376)	(456)	(134)	(217)	(351)	(200)	(217)
Underlying Tax rate	27.8%	27.6%	26.5%	23.6%	24.5%	23.0%	22.2%	22.5%	23.0%	23.0%
Profit After Tax (Pre Exc & Gwill)	494	558	617	1,217	1,404	449	759	1,208	670	726
Minority interest (pre Exc)	(5)	(4)	(6)	(14)	(8)	(6)	(8)	(14)	(8)	(8)
Net Income (pre Exc & Gwill)	488	554	611	1,203	1,396	443	751	1,194	662	718

- ◆ Type A numbers are SCIENTIFIC - FACT based - “easy” to deal with

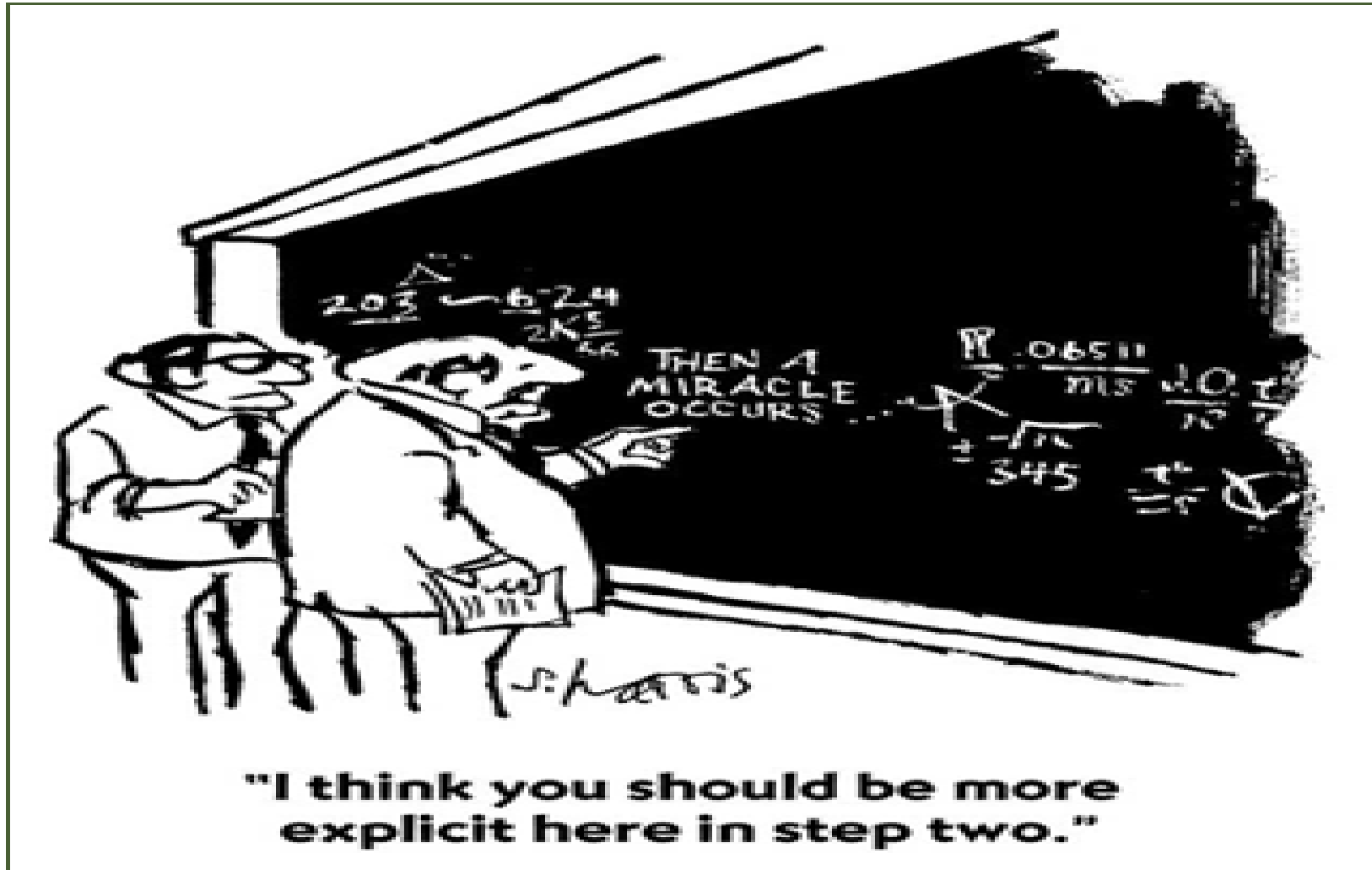
Share Price – Euro 17.5

- ◆ Type B numbers are ARTISTIC - SENTIMENT based – ‘hard’ to deal with

You CAN'T exclusively use Type A numbers to give you Type B numbers!!!!

But it doesn't stop Quants from trying!

The 'miracle' = Behavioural Investing



Trying to figure out what the whole company looks like From the most incomplete fragments



- ◆ However hard you work, you never get 100% conviction understanding
- ◆ There is ALWAYS a 'Leap of Faith'
- ◆ As a result you'll be wrong 45% of the time – minimum!
- ◆ Can you make a decision based on incomplete facts?
- ◆ Can you cope with failure?

And sometimes this can go horribly wrong!

The sad case of the Crystal Palace dinosaurs

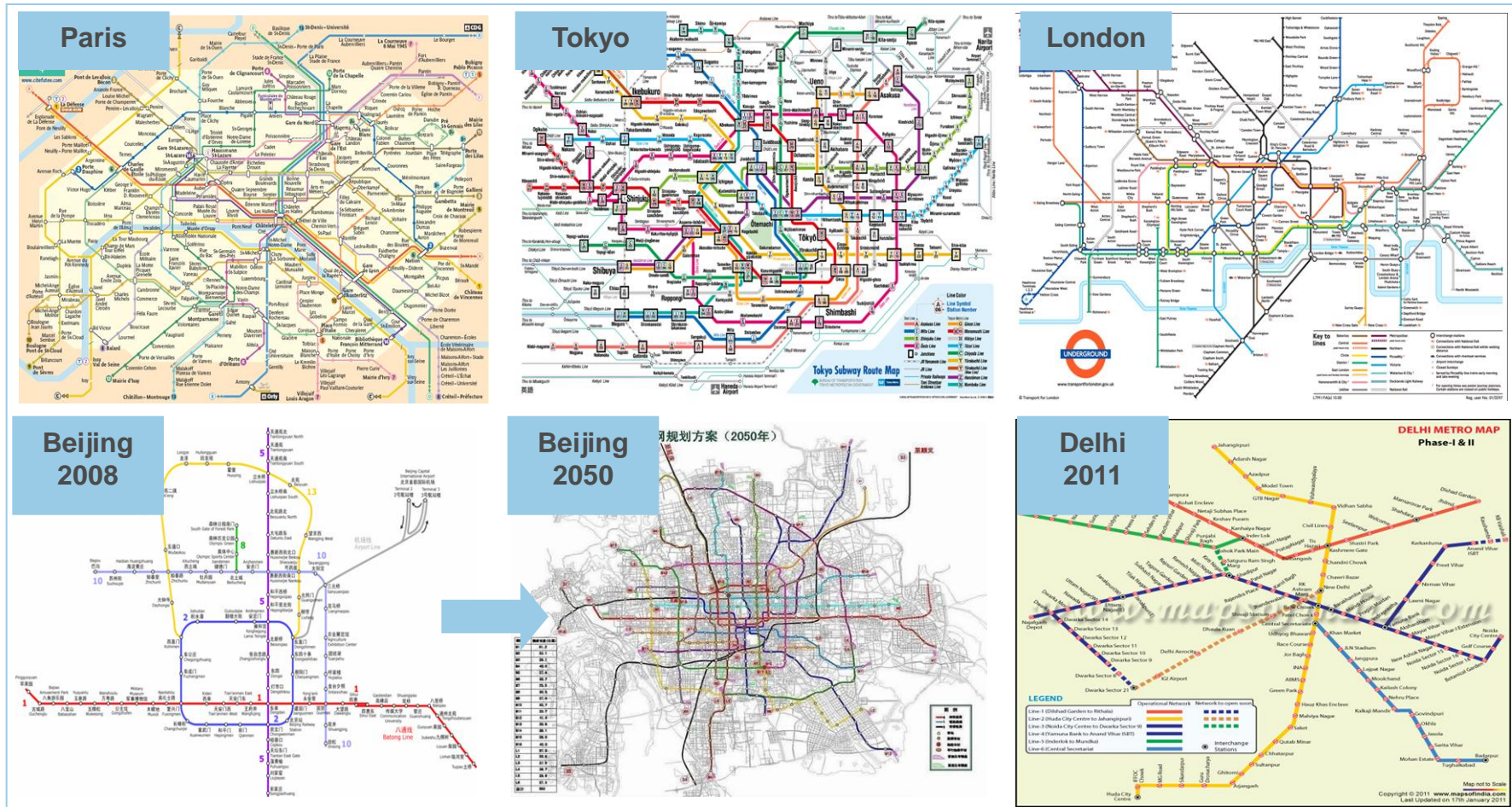


Are they really **noses**...or are they in fact **teeth**?

Remembering the Big Picture – think graphically

The underground network of the worlds capitals

Tube Networks in France, Japan, UK, China & India



Source: FIL Limited & BHP Billiton, February 2011

Would you rather be exactly wrong, or roughly right?

How many airports does China need?

Airport Density in 2010 – China, India & US

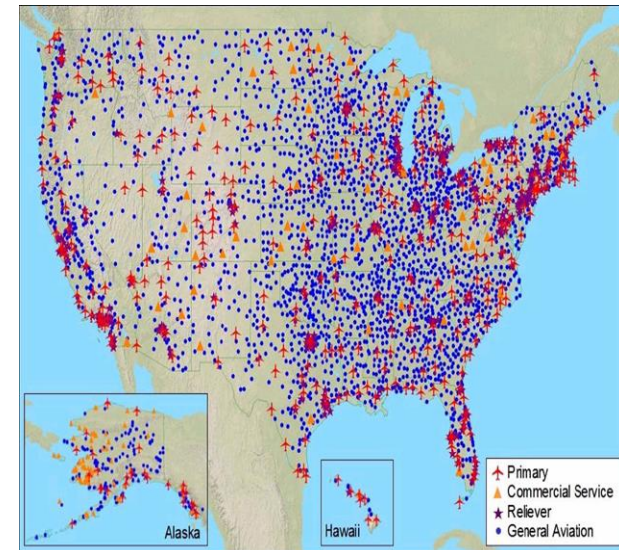
China



India



US



Source: CHINA - CACC, Research Works, May 2011. US - US Federal Aviation Administration, Research Works, May 2011. INDIA - <http://www.indiainternationalflights.com>, August 2011

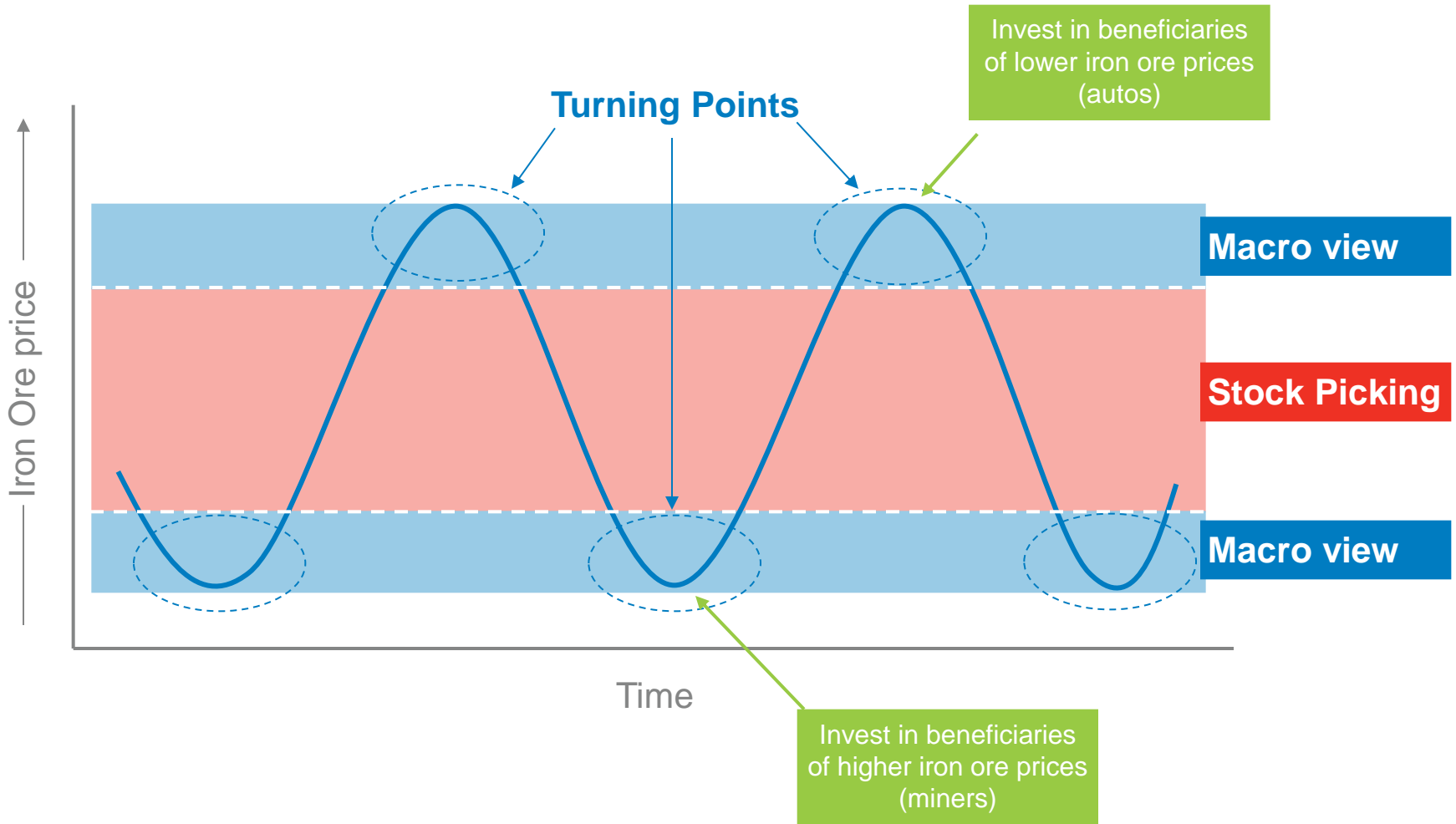
Creating your own neural map of the World

The importance of Value Chains



Where in the chain should you be?

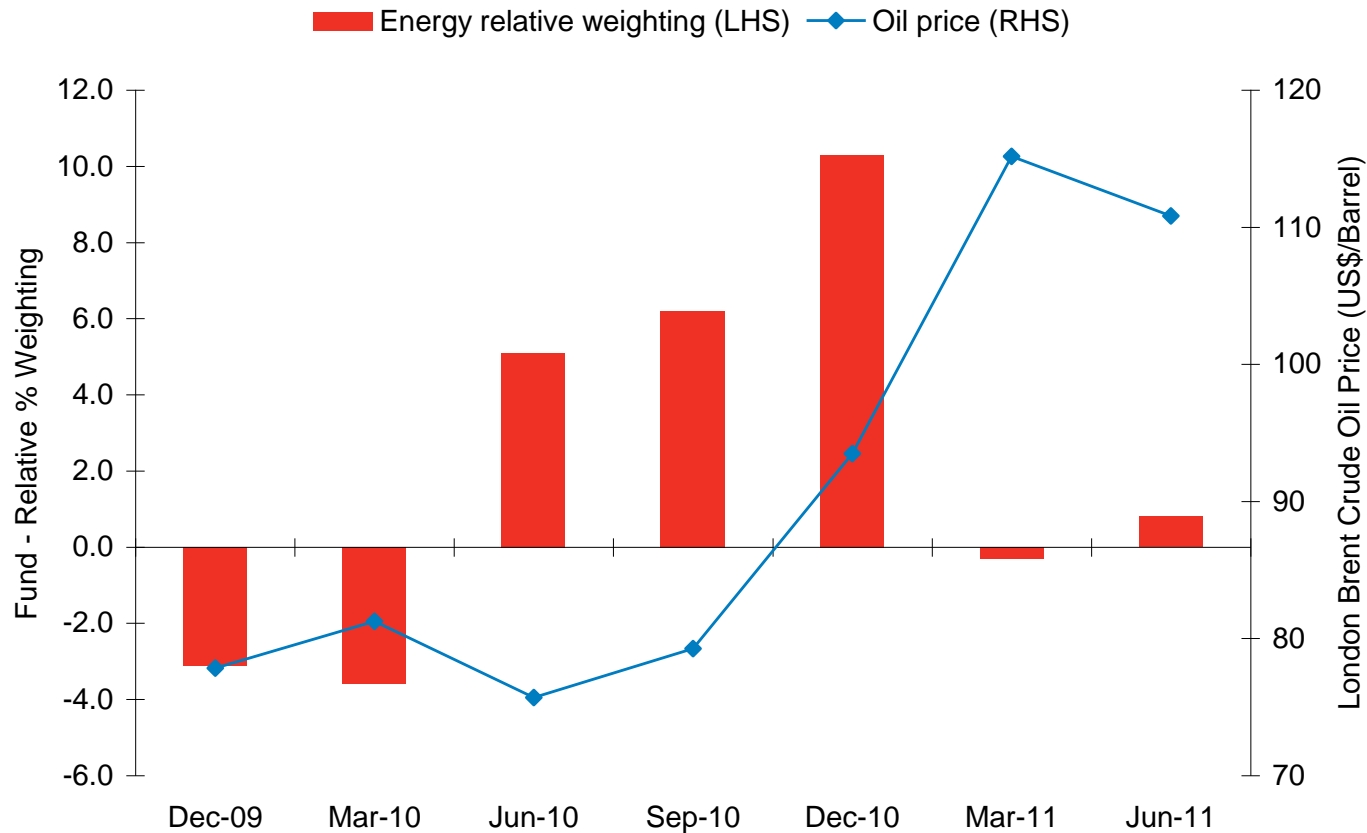
The macro helping the micro



The macro impacts on individual stocks

Example - oil price and energy stock attractiveness

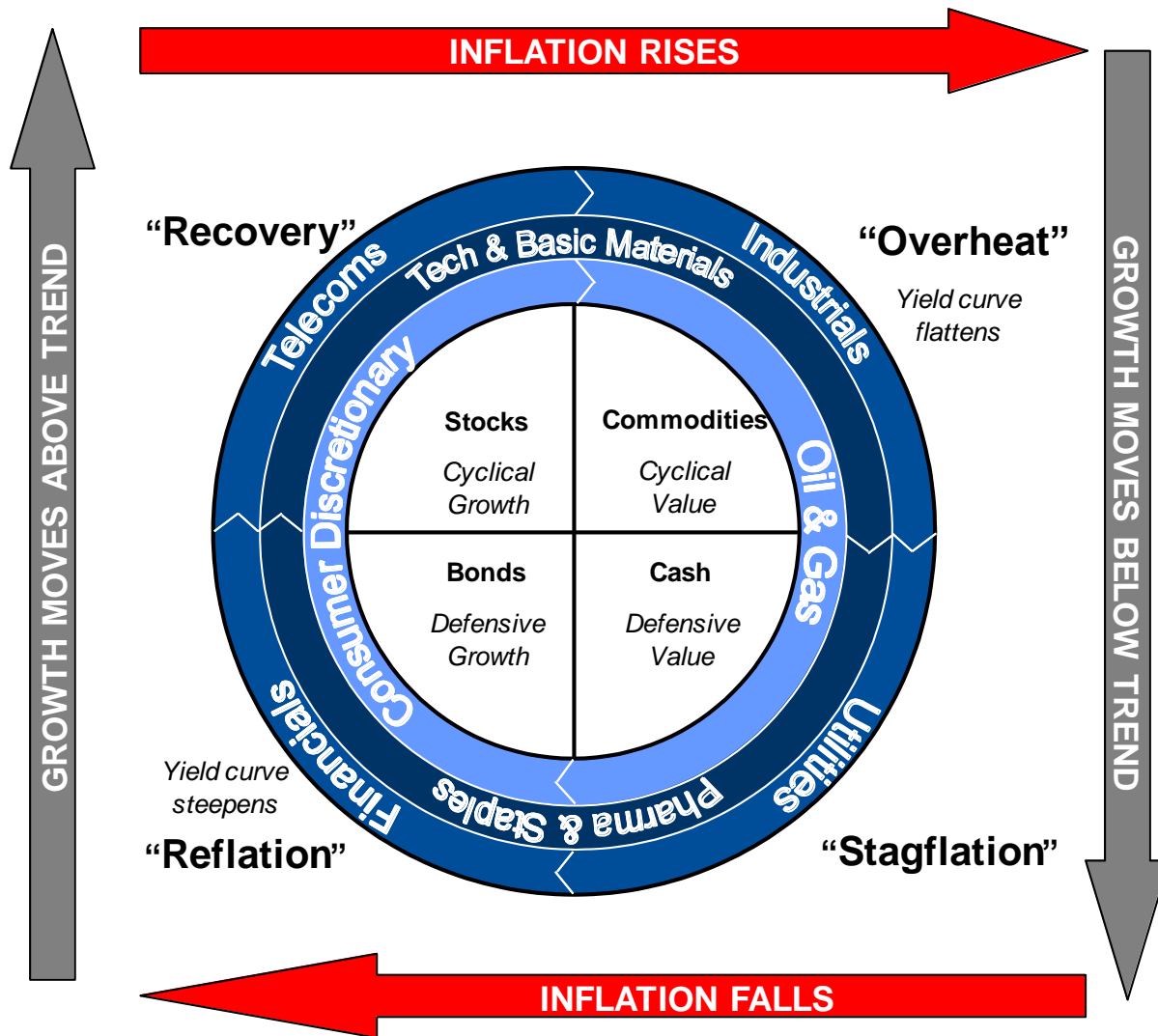
Relative energy weighting versus the oil price



Source: Fund Data - FIL Limited, 30.06.2011, relative to the MSCI AC World Real Asset Composite Index - MSCI ACWI Industrials (20%), Materials (20%), Real Estate (20%), Utilities (10%), Energy (30%). Oil Price Data - DataStream, Actual values, 31.12.2009 -30.06.2011

The concept of the 'Investment Clock'

An **objective** framework – not a substitute – for thinking



Source: Fidelity April 2012

Backtesting – reminds us what has happened in the past

Growth and inflation cycles are key

	GROWTH	INFLATION	Bonds	Stocks	Commodities	Cash
Reflation	↓	↓	10.3%	-1.1%	-25.3%	3.5%
Recovery	↑	↓	5.2%	20.3%	-8.4%	1.6%
Overheating	↑	↑	0.7%	6.2%	18.7%	0.3%
Stagflation	↓	↑	-1.3%	-13.5%	32.8%	-0.8%
	Average Return		3.2%	5.8%	3.7%	1.0%

The limitations of the Index - Nuance Communications

Voice recognition technology cross-over

Global Technology Solutions

Global Healthcare Solutions


DRAGON Speech Recognition Software*
NATURALLY SPEAKING

iPhone Voice Control Applications


NUANCE

Hospital Network Solutions via



eScripton Medical Transcriptions

➤ Broad portfolio of technologies

➤ Over 1,000 software patents

➤ Main SRS* provider in the US

➤ Mobile phone and auto products

➤ Increases operational efficiency

Used by over 3,000 US hospitals

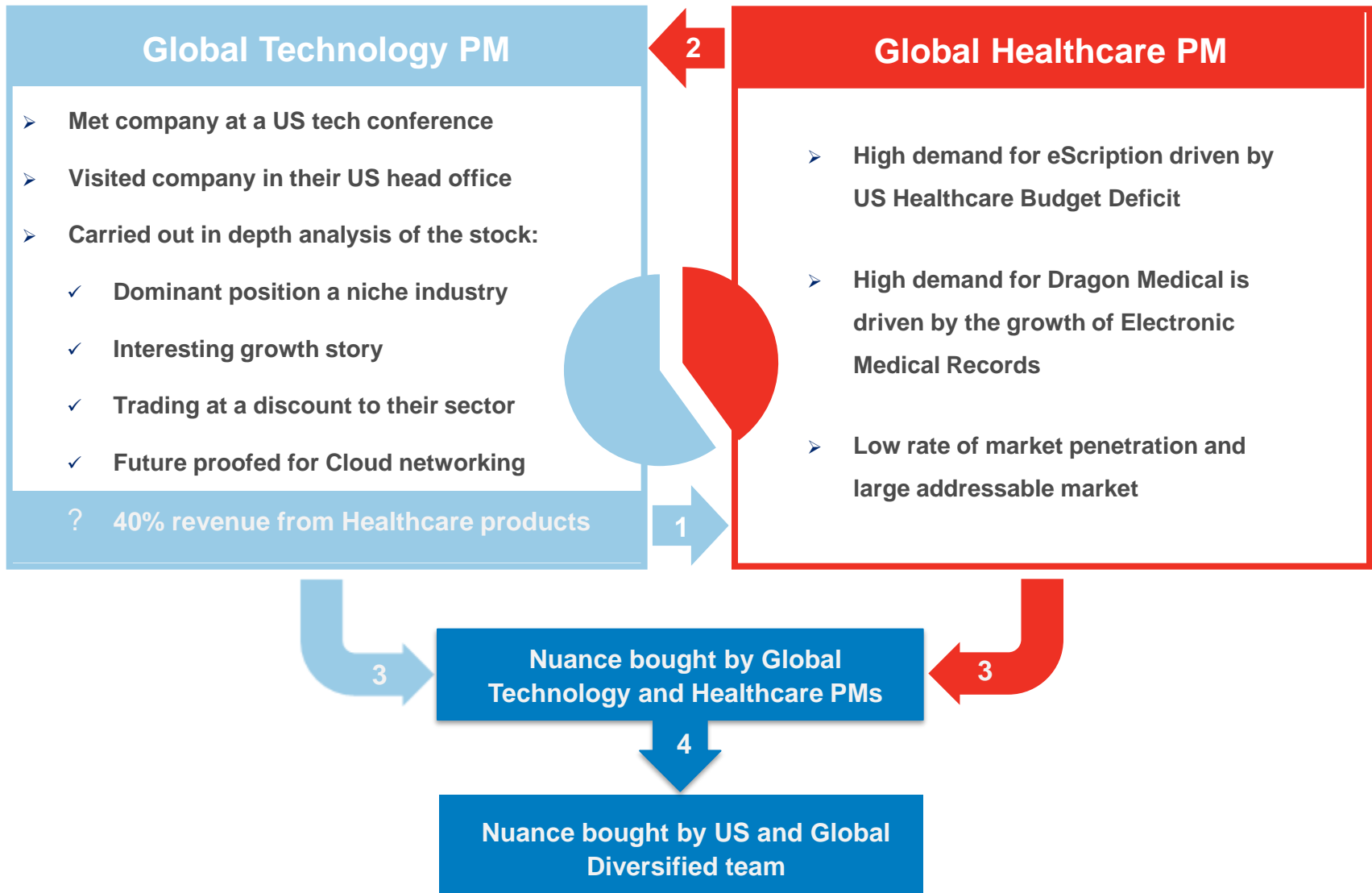
Reduces contact centre costs

➤ Reduces transcription costs

Despite being a technology stock, Healthcare an important growth engine

Don't be constrained by artificial constraints

The team work together to unlock the stock's potential



Knowing yourself - are you Grinold and Graham.....

- Grinold & Khan, Active Portfolio Management (1994) building on Ben Graham The Intelligent Investor (1949) – the ‘generalized’ version of Grinolds Law of Active Management:

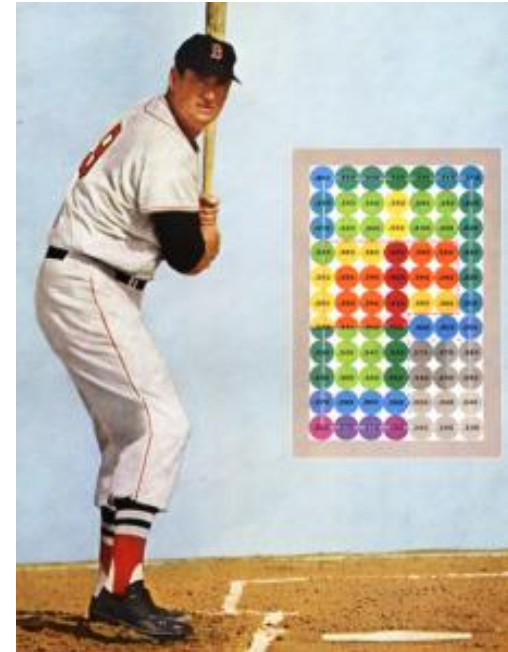
$$\text{Excess Return} = B \times HR \times R$$

- Where
 - **B** = Breadth of Opportunity Set
 - **HR** = Hit Rate
 - **R** = Reward for each correct decision
- Rough translation – hit lots of balls to reduce the possibility of stock selection error and let your skill come through

...or are you Buffett?

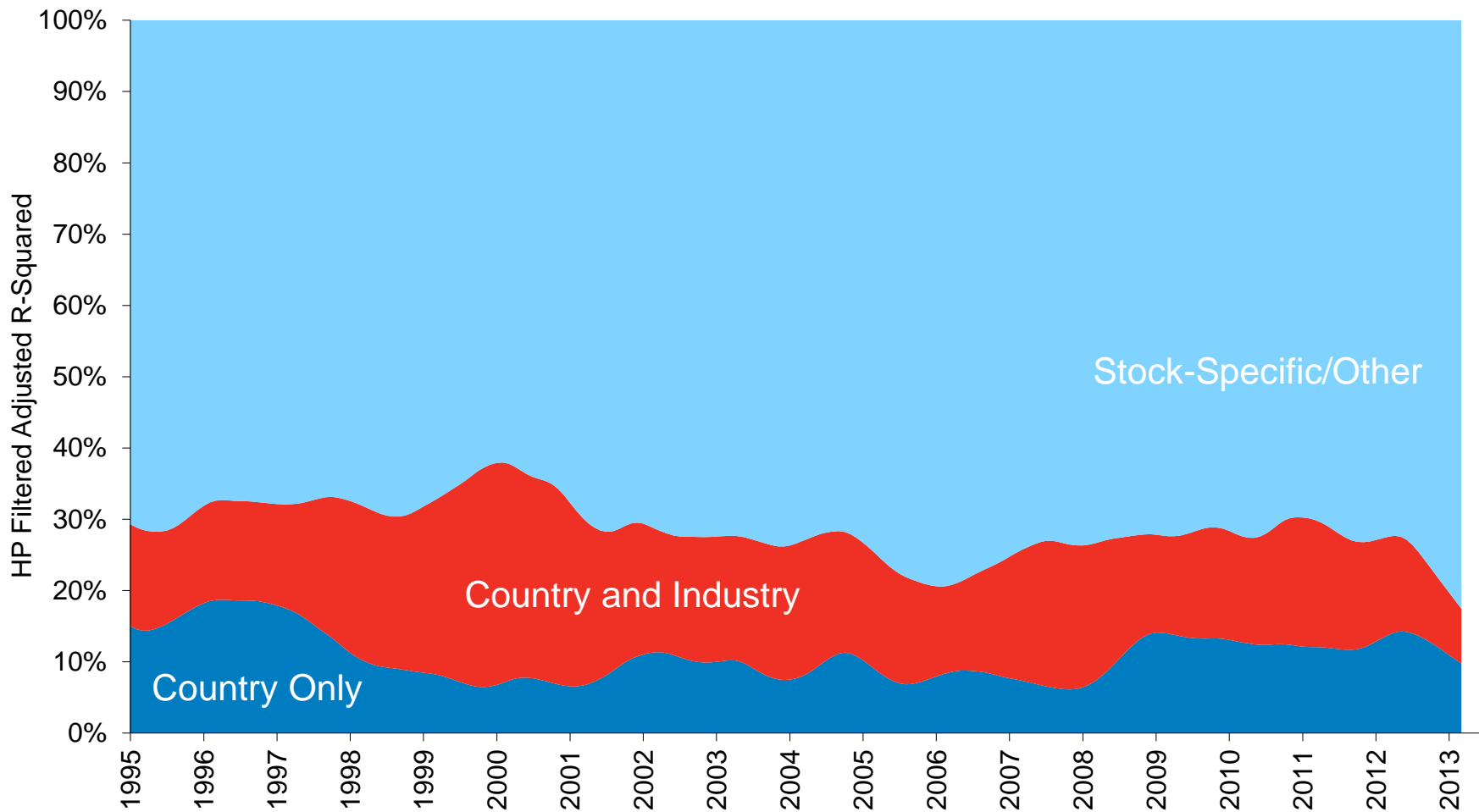
“I call investing the greatest business in the world ... because you never have to swing. You stand at the plate, the pitcher throws you General Motors at 47! U.S. Steel at 39! and nobody calls a strike on you. There's no penalty except opportunity lost. All day you wait for the pitch you like; then when the fielders are asleep, you step up and hit it.”

- Warren Buffett Interview in Forbes magazine (1 November 1974)



Stock specific 'behavioural' factors still predominate

Through time, Stock Specific factors dominate

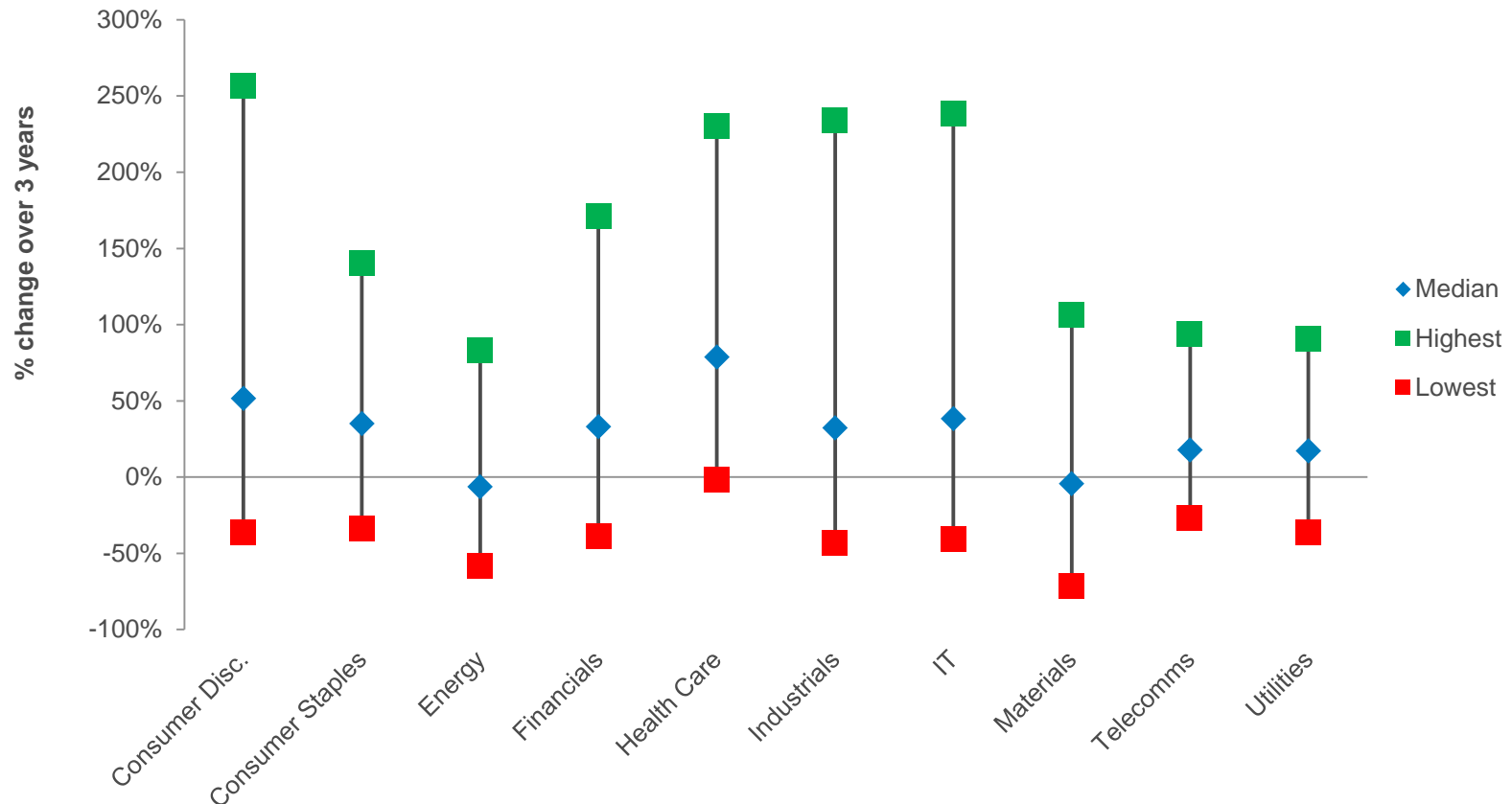


Source: Citigroup MSCI AC World March 2014

Explains why sector dispersion is so enormous

Greater dispersion = greater potential for excess return

3 Year Returns Dispersion (USD) - to 31/10/2014



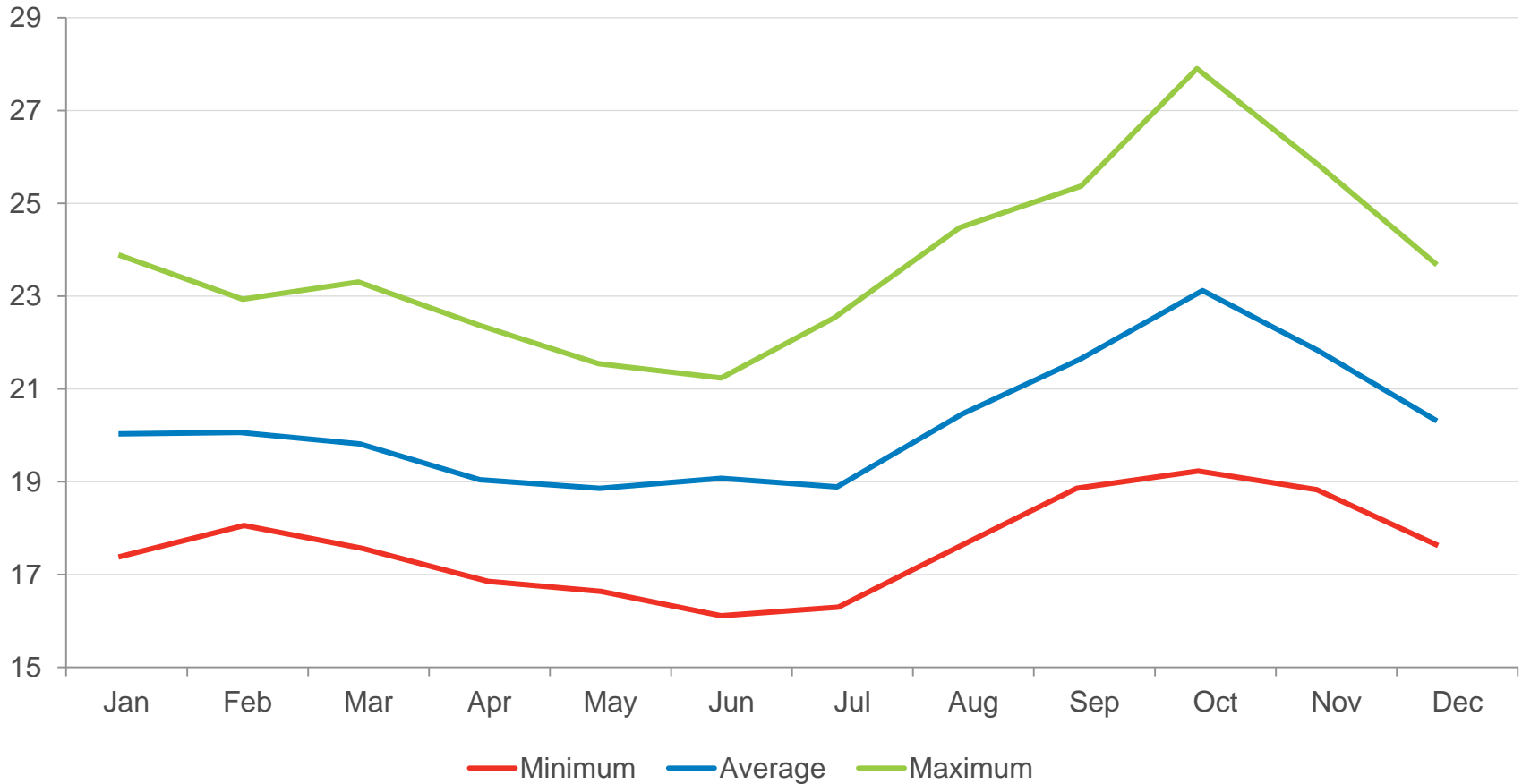
Source: Datastream & Fidelity Worldwide Investment 31/10/2014. Dispersion of stock returns: The maximum and minimum returns of constituents of the MSCI AC World as at 31/10/2011, grouped by MSCI Sector and excluding the 10 largest returns and 10 smallest (most negative) returns in each sector. Sector dispersion shows the maximum and minimum returns for the 10 MSCI AC World sector indices. All returns are capital only in US dollars for the 3-year period 31/10/2011 - 31/10/2014.

Volatility is a volatile commodity

Why behaviourally are markets volatile in October?

VIX Monthly Averages Since 1990

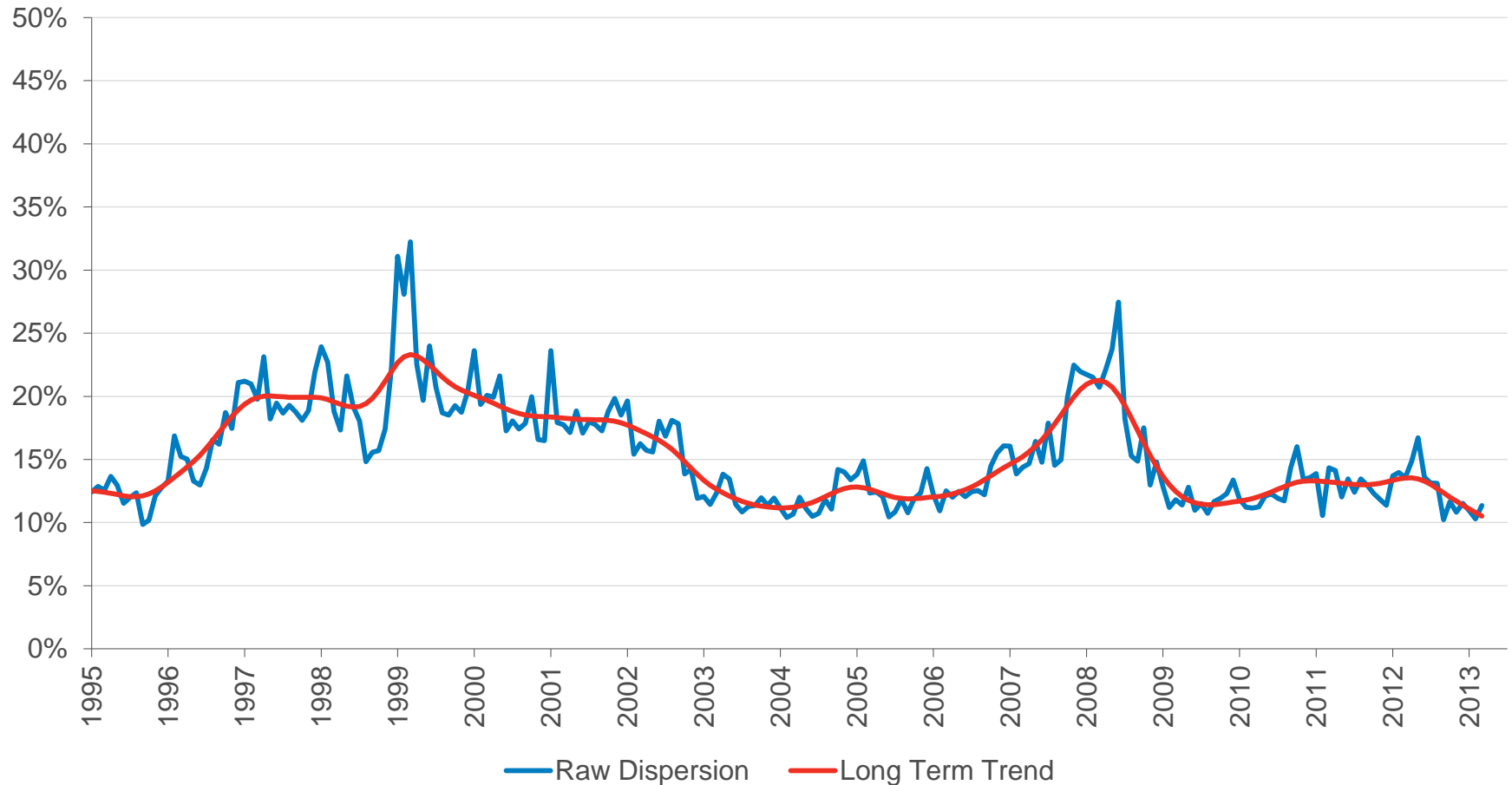
VIX = index of implied option volatility on the \$P500 index



Bloomberg January 1990 – December 2013

And indeed there are times when buying an ETF makes sense

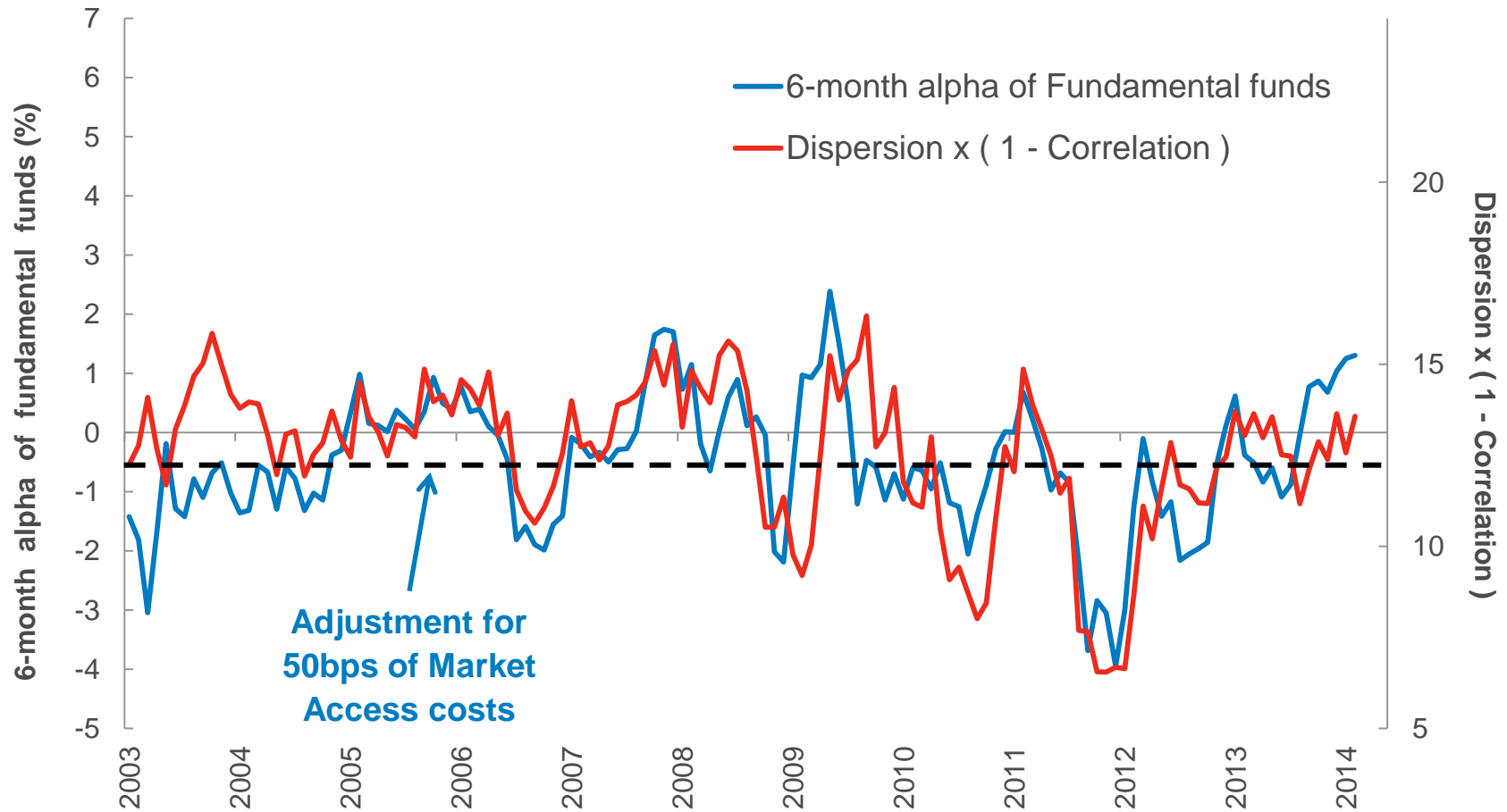
Cross Sectional Standard Deviation



Source: Citigroup MSCI AC World March 2014

There IS a correlation between Alpha and Dispersion

Active returns in the US Equity Market

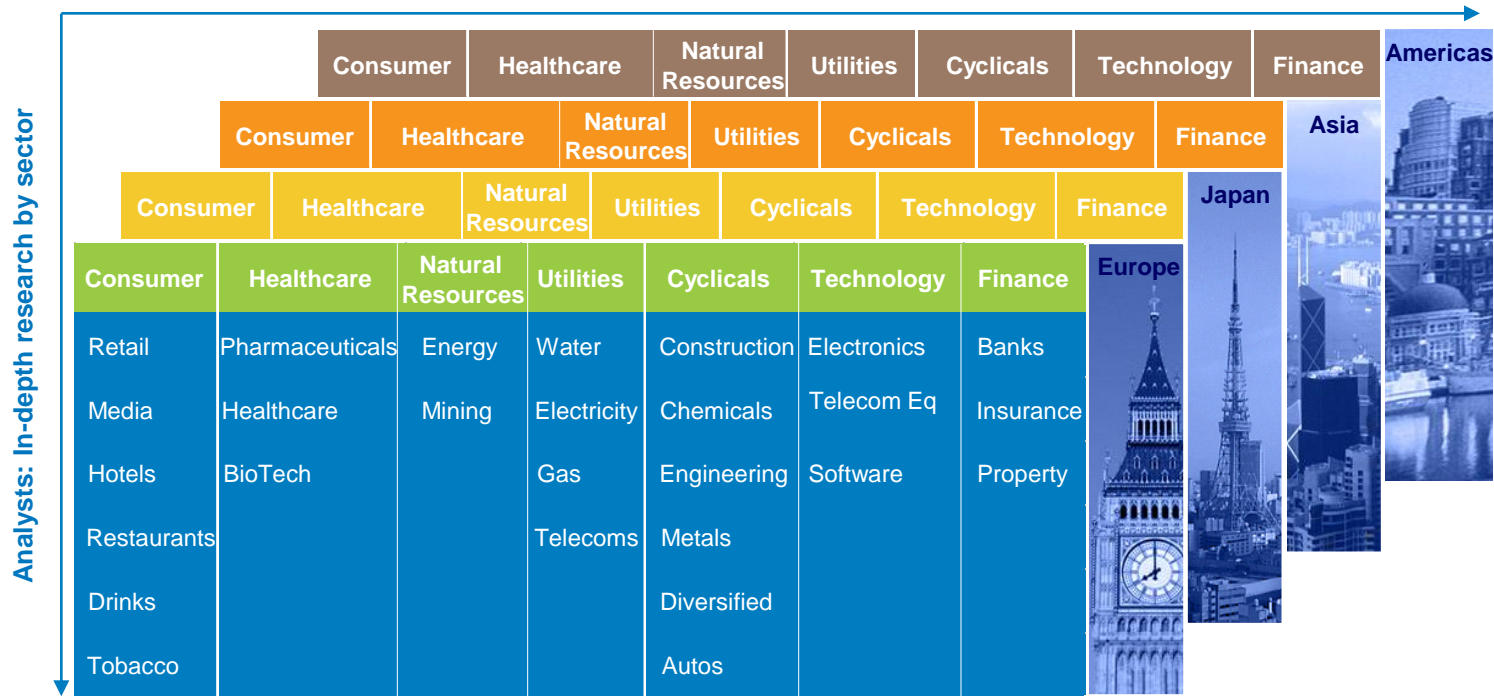


Source: Nomura ;Russell 1000 index 28.02.14

How do you structure your thinking?

Sometimes by geography, sometimes by sector – sometimes both

Portfolio Managers: Company analysis and broad market view

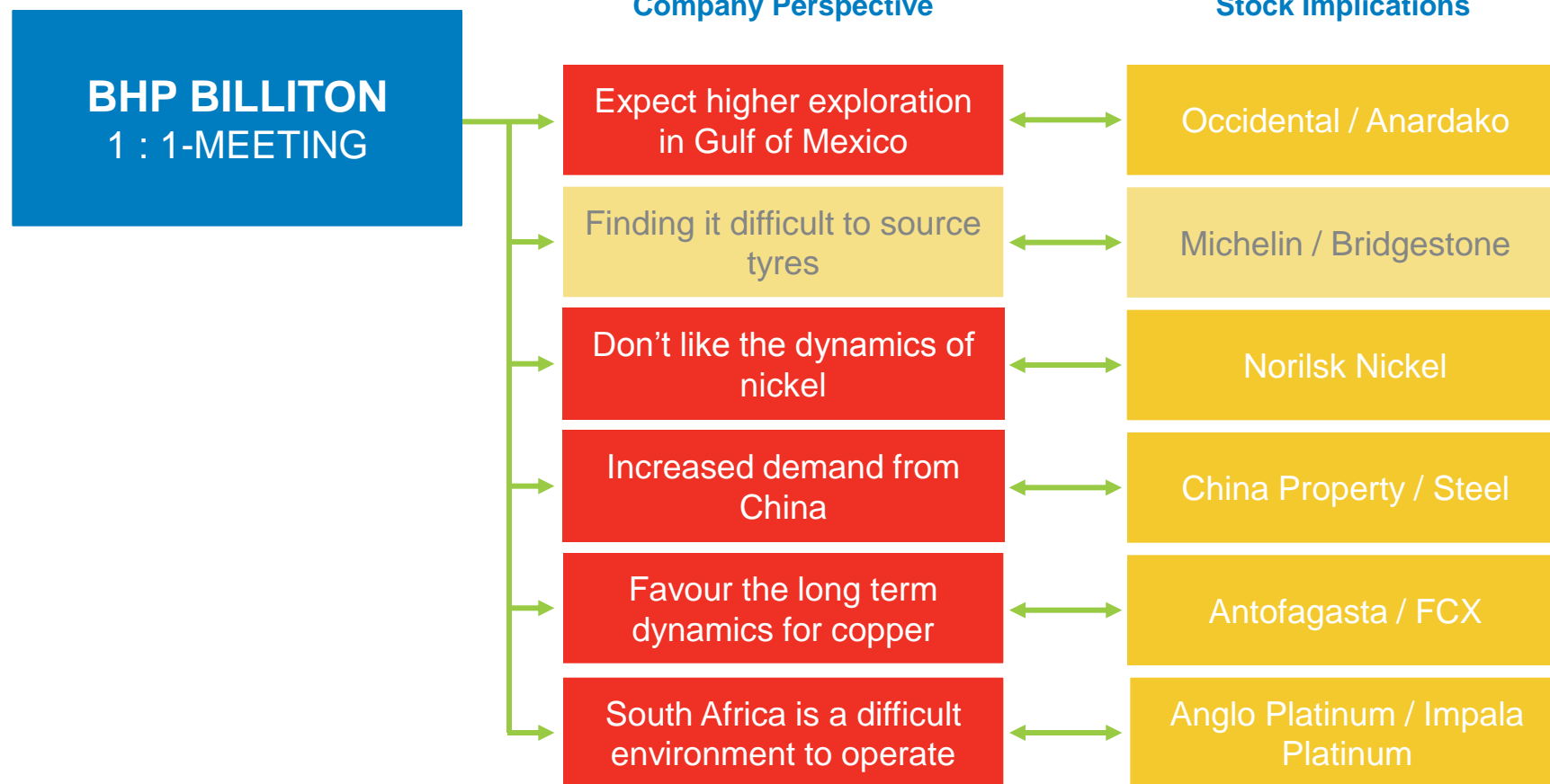


Organise the chaos – but don't organise the chaos out

Source: FIL Limited and FMR LLC, 31/12/10

Why do company research in the first place?

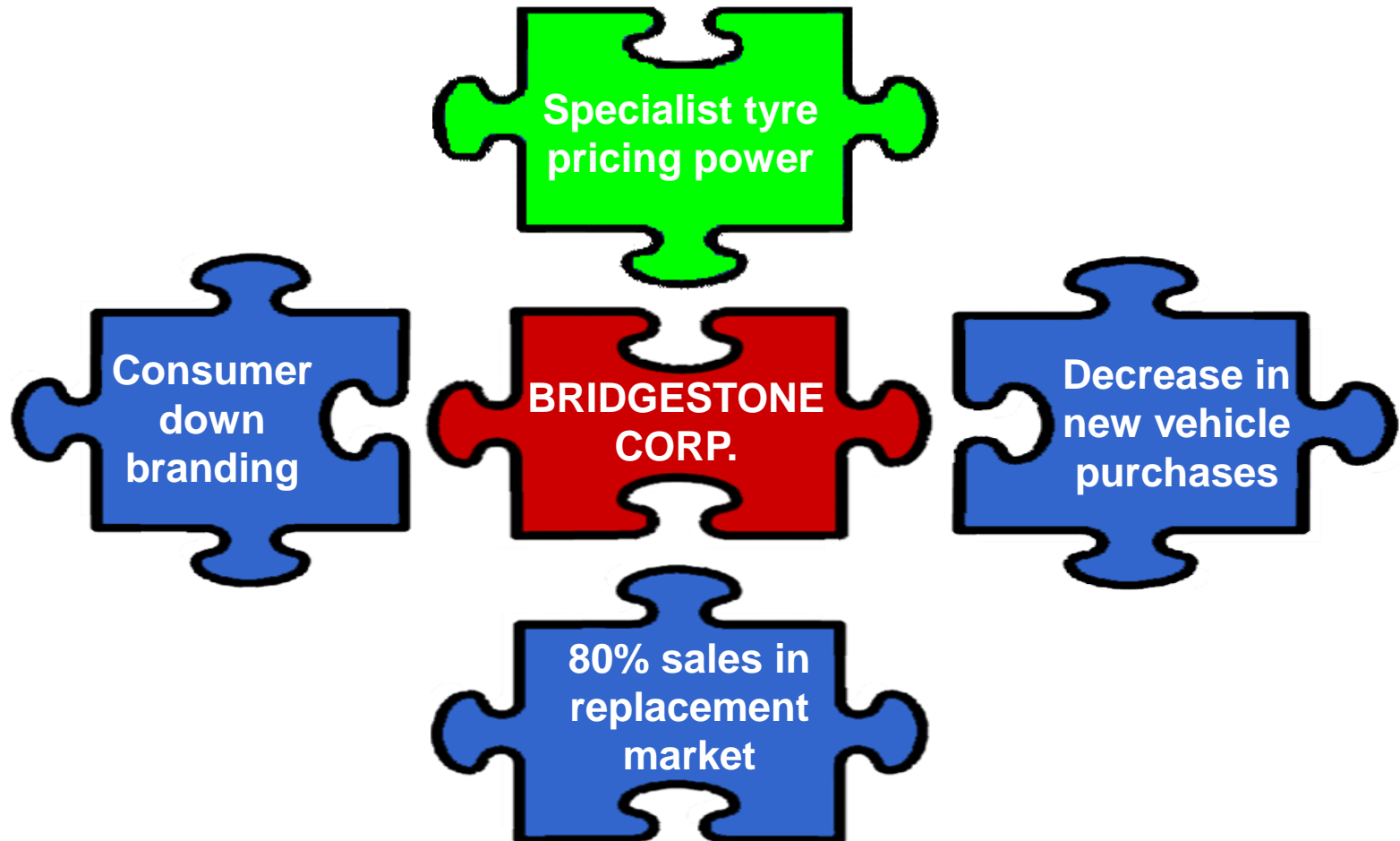
A real world example



Source: FIL Limited, 31/07/2009. Reference to individual companies is for illustration purposes only and does not constitute a recommendation. Reference to specific securities should not be construed as a recommendation to buy or sell these securities, but is included for the purposes of illustration only. Investors should also note that the views expressed may no longer be current and may have already been acted upon by Fidelity.

'Only connect'

Meet a UK miner, buy a Japanese tyre manufacturer



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Equity investing and the behaviour of Investors

The four most important things to remember!

- **Equity investment is both a Science AND an Art**
 - You need to be able to do the ‘math’, but the math on its own is not enough
- **You have to be brave enough to make the leap from what you know to what you don’t know**
 - And accept that you will very often be wrong, and be open minded enough to learn when you are
- **Organise your thinking – Data does NOT equal Information**
 - There is no shortage of data, but your time to assimilate it is a rare and precious resource
- **Only connect**
 - Think the unthinkable, and work collegiately

Equity Investment – a marathon, not a sprint