# Schroders TalkingPoint



# Lessons from the last 40 years for the next 20

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#### Introduction

In place of my usual Crystal Ball looking at the year ahead, I want to take a longer perspective and think about the lessons we can take from the last 40 years. The period from the end of the 1973/74 bear market, through the Great Financial Crisis to the present day, encompassed not only widely different market conditions but also a period of rapid development in the asset management business. It also happens to span my career in the City. As I reflect on this extraordinary period (or is it?), I do believe there are a number of lasting lessons we should take on board to help guide us through the next 20 years.

- During this time there have been many completely unforecastable events and developments. How should we respond to the unexpected?
- There have also been developments we could foresee with reasonable certainty. How should we respond to those?



- Time and time again we are reminded of the obvious. The best predictor of future returns is the price we pay for an asset! How can we control our many natural behavioural biases so that we do actually buy low and sell high?
- Our understanding of risk has developed a great deal. Volatility is not in my view the best measure of risk.
   Indeed volatility can present opportunity. Importantly volatility presents different issues for different types of investors.
- We are often guilty of making things too simple, and at other times too complex! It is important to understand
  the difference. Time-weighted returns are simple but can often mislead us, and regulation has a nasty habit of
  producing complex unintended consequences that drive us to be pro-cyclical. We had all better understand
  that.
- Finally, as an industry we can organise ourselves better. There is a great opportunity for those who are ready and willing to grab it, whether as an asset owner, asset manager or consultant. We can deliver better outcomes.

### **Expect the Unexpected**

Are you ever surprised by coincidences? Well you shouldn't be! A world without coincidences would be a very strange place indeed. While any one coincidence may surprise or even delight, we should really worry if there were none at all. The same is true of the unexpected. Unforecastable events happen all the time. As an investor we need to recognise that. We should all be quite humble about our ability to predict. I am not just talking about political or geological events such as 9/11 or the Indian Ocean Tsunami that caused so much devastation in 2004. Disruptive technologies, which almost by their name come out of left field and surprise us, can have a huge impact. In the late '60s and early '70s the concept of the Nifty Fifty was prevalent. These were stable, large cap stocks that you could "depend" on. You could buy them and put them in the drawer and forget about them, or could you? By what hubris did we imagine that we had any idea what the competitive landscape would be like for Kodak and Xerox just a couple of decades later? In fact, if



you look at the constituents of the S&P500, only 3 of the top ten in 1980 were still present by 2013, and two of them by merger!

	1980	1990	2000	2013
	IBM	IBM	GE	Apple
	AT&T	Exxon	Exxon Mobil	Exxon Mobil
	Exxon	GE	Pfizer	Google
	Standard Oil of Indiana	Philip Morris	Citigroup	Microsoft
	Schlumberger	Royal Dutch	Cisco	GE
	Shell	Bristol Myers Squibb	Wal-Mart	Johnson & Johnson
	Mobil	Merck	Microsoft	Chevron
	Standard Oil of California	Wal-Mart	AIG	Procter & Gamble
	Atlantic Richfield	AT&T	Merck	JP Morgan Chase
	GE	Coca Cola	Intel	Wells Fargo
Mkt Cap Top Ten	\$0.2tn	\$0.4tn	\$2.7tn	\$3.1tn

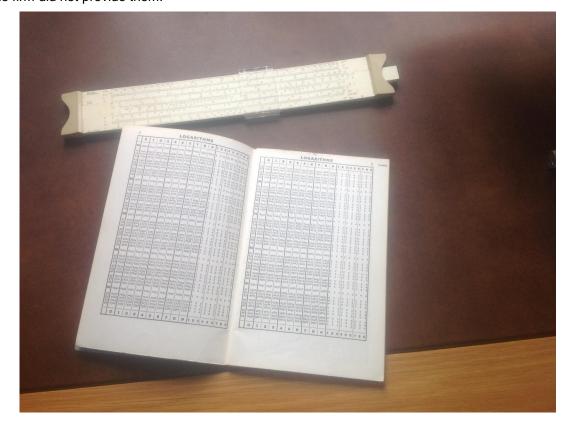
Source: ETF Database

One event had a particularly profound impact on the investment industry and was not well anticipated. Strictly it does not qualify as an unexpected development as it was in fact predicted by Gordon E. Moore, founder of Intel, in his 1965 paper. Moore's law predicted that computing capabilities would double approximately every two years. At the time, he was referring to the number of transistors on a chip. More generally, it is now interpreted as meaning that speeds and memory will double every two years while prices will halve. This has really stood the test of time well.

Before joining the City, I worked as a physicist and used a Univac 1108 mainframe computer. The Univac 1108 was introduced in 1968. In most configurations it had 500 kilobytes of RAM (Random Access Memory) and it cost \$1.68 million in 1968 money, about \$11.5 million in today's money. My Apple iMac desktop at home has 4 gigabytes of RAM and costs about \$2,500 in 2014 money. If you do the maths, that's exactly what Moore's law predicted. My Apple iMac comfortably sits on my desk. The Univac 1108 filled a room, a large room.



On first entering the City in 1974, I provided my own technology, a slide rule and a set of log tables. I still have them. There simply was no generally available computing power. In fact I remember buying my first, very simple, calculator because the firm did not provide them.



This exponential growth in computing power and affordability has had a profound impact on our industry. Not just in terms of the products and capabilities of the companies we invest in, but also on our own technology and understanding.

Harry Markowitz won the 1990 Nobel Prize for Economics for his pioneering work in Modern Portfolio Theory (MPT) first published in 1952 (Portfolio Selection). It was his work which introduced the concept of mean variance efficient portfolios where risk was defined as the volatility (standard deviation) of returns. An efficient portfolio was one which gave the highest return for a given level of risk. All this was well and good in theory but it was impossible to implement at the time as we simply did not have the computing power to handle the large scale matrices of returns, volatilities and correlations involved.

Roll the clock forward and Bill Sharpe, who also won a Nobel Prize for Economics in 1990, published his seminal paper describing the Capital Asset Pricing Model (CAPM) in 1964. The ideas set out finally made the concepts of Markowitz's work tractable. Sharpe made the entirely plausible assumption that return and risk were linearly correlated. After all why would an investor accept higher volatility if it was not compensated by higher return? This simple idea allowed Sharpe to introduce a single risk measure, Beta, the volatility of an asset relative to the market. In so doing the computational limitations of Markowitz model were overcome. Falling out of this work were two other conclusions. Returns should be IID (Independent and Identically Distributed) or follow a normal distribution. And crucially the market portfolio provided the highest possible return to risk ratio. It is hard to overstate the significance of this. It led to the start of the index, passive fund business when Wells Fargo launched the first fund in 1975. Since then trillions of dollars have been invested on this basis through passive funds and of course more recently through Exchange Traded Funds (ETFs).

What is important to remember is that almost all models are in some way approximations, or abstractions from reality. When Isaac Newton explained in one set of equations the movements of billiard balls and planets, in fact everything that was observable at the time, he had the humility in Principia Mathematica to acknowledge that if masses were too big or too small, or speeds too fast, his set of equations might not stand up. That was pure genius! Move on to the 20<sup>th</sup> century and Albert Einstein developed the general theory of relativity for which he was awarded the Nobel Prize for Physics in 1921.

As Moore's law rolled forward not only did computing power grow exponentially but so did the data we had on stock prices and markets, so allowing us to test Bill Sharpe's assumptions. What we found was that:

- Returns and volatility were not linearly related
- Returns were not independent and distributions were not normal; they were leptokurtotic (fat tailed, high peaked).

Both of Bill Sharpe's key assumptions were wrong. That does not mean that the market portfolio is easy to beat. It isn't. We still have the truism that the return to all investors is the market return minus costs. Investors as a whole must earn less than the market.

The fact that returns are not normally distributed, but are instead fat tailed, means that we should expect outlier returns, tail events, to be far more common than we would expect from an efficient market as described by Markowitz and Sharpe, and that is exactly what we have experienced to our cost.

We also observe that returns are far more episodic than we might expect. Taking the longest data set I can find of US equity returns going back to 1802 we can see that secular bull and bear phases lasting between 8 and 20 years are the norm. This in itself creates very serious problems for investors trying to build assets to meet, for example, their retirement needs. I shall return to this issue in greater detail, but for the moment, I want to continue exploring the impact of Moore's law.

The growth in computing power and data is seductive. In 1974 the challenge was to get information. In 2014 the challenge is how to make sense of all the data we are bombarded with. Today the talk is all about Big Data. We are encouraged to believe that it holds the key to the universe. The reality is that too many of us misuse and abuse our computing power. If I measure the temperature in the room, and then repeat the measurement 1,000 times in the next minute, I am not likely to learn anything useful. More data is not necessarily more information. Too many of us are seduced by the apparent sophistication of our models with the result that we put far too much reliance on them and their ability to give us precise answers. As a physicist I was always taught never to display answers to more significant figures than were significant! That is a lesson those of us working in investments would do well to bear in mind.

(Secular Bear Markets)		(Secular Bull Markets)			
Period	Duration	Annual real return	Period	Duration	Annual real return
1802–1815	13	+2.8%	1815–1835	20	+9.6%
1835–1843	8	-1.1%	1843–1853	10	+12.5%
1853–1861	8	-2.8%	1861–1881	20	+11.5%
1881–1896	15	+3.7%	1896–1906	10	+11.5%
1906–1921	15	-1.9%	1921–1929	8	+24.8%
1929–1949	20	+1.2%	1949–1966	17	+14.1%
1966–1982	16	-1.5%	1982–2000	18	+14.8%
Overall	95	+0.3%	Overall	103	+13.2%

**US** Equities

Source: Stock Cycles: Why Stocks Won't Beat Money Markets Over the Next Twenty Years, Michael A. Alexander, 2000

# **Expect the Expected**

While we are often surprised by the unexpected, we really shouldn't be surprised by the expected! By way of illustration, there are at least two fundamental developments (the reader may think of many more) that we should expect with a high degree of certainty, ageing demographics, and climate change.

I think everyone accepts that an ageing population in the developed world is baked in the cake for the next 40, 50 years or so. It does not take a rocket scientist to realise that this will have serious implications for our populations and place significant strains on our savings systems. It is self evident that all GDP is made only by our workers. To the extent that non-workers, children, unemployed and pensioners get to eat, there must be a transfer of income from workers to non-workers. As the dependency ratio deteriorates, the inter-generational strains grow. We are not powerless to do something about this and certainly in many countries there is an acknowledgement of the problem. We can see this in some of the policy shifts being made for example here in the UK in recent years, but it remains a tough sale to the electorate as many of our degrees of freedom are deeply unpopular.

It is not particularly controversial to introduce policies which increase female participation in the workforce, but it is if you seek to increase the age of retirement or otherwise degrade the pension promise. Immigration, another potential degree of freedom, is an explosive issue.

The overwhelming majority of scientists believe that the climate is changing and human activity is having a significant effect. We should expect that this will lead to efforts to both mitigate and adapt to the problem. What does that mean? It means that our environment is likely to be stressed with disruptive weather patterns and potentially more droughts, floods and crop failures. In one form or another, businesses and individuals are likely to have to pay more for the externalities they create. It means that we should at least contemplate the possibility that stranded assets on energy company balance sheets may need to be written off.

But it isn't all negative. We should look out for the disruptive technologies that will help us mitigate or adapt. Ford has developed a 1.0 litre EcoBoost 3 cylinder petrol engine. It is about the size of a sheet of A4 paper and delivers as much power as a 1.6 litre conventional engine while using 21% less fuel. We should celebrate these successes and indeed seek them out. History is littered with examples of where disruptive technologies have made whole industries obsolete. One good example is nitrate mining in the Atacama desert.



**Humberstone Mine** 

Nitrate mining was a major industry in Chile for around a 100 years. Saltpetre was used in a variety of products most notably perhaps in the production of fertilisers and gunpowder. During the first world war Germany developed a process for producing ammonia from the atmosphere and then on to saltpetre. By the 1940s synthetic saltpetre had almost completely taken over the market. Now the old mines stand rusting away (very slowly given the dry atmosphere) in the Atacama desert and have been declared a World Heritage Site.

As investors we should look out for the emergence of disruptive technologies and we need to recognise that the risks and opportunities such technologies create are not captured in any form by volatility, beta or any other backward looking statistical measure.

# Remember the blinking obvious

It may be a statement of the obvious, but it seems to be one that we often forget. The best indicator of future returns is valuation. When prices are high, future returns are low, and vice versa! Why is this? If we take equities, P/E ratios are bounded. They cannot rise or fall for ever. So when P/E ratios are at extremes either the numerator or denominator must correct. If high P/E ratios were a leading indicator of accelerating earnings growth, P/E reversion to the mean might happen through the denominator. The sad fact is that this is rarely the case. Almost by definition, trend rates of growth don't change very often which means that more often than not P/E reversion happens through the numerator. I will come back in a moment to think about why it is that we so often ignore this fundamental relationship.

First though, there is another lesson from history we would do well to remember. What goes around, often comes around. Paradigms change. In the '70s, it was the German and Japanese model that was lauded. In the 80's and 90's the Anglo Saxon model prevailed. By the time we got to the Great Financial Crisis, once again Germany was heralded. Six years later, the Eurozone is perilously close to slipping into Japan style deflation, and the Anglo Saxon model is back in fashion.

Over the years, we have seen Keynesian ideas give way to Monetarism and then swing back to Keynesian. Today there is an over-reliance on (unusual) monetary policy to fix our problems. It is almost as though once we settle on an instrument of policy it begins to lose its effectiveness. Perhaps that shouldn't surprise us. When Newton worked out how apples fell out of trees, we could be reasonably confident that they would continue to do so in the same way century after century. With financial relationships, that is not the case. As soon as a relationship is discovered it begins to be arbitraged away.

To continue with the Physics analogies, what we have is a financial form of Heisenberg's Uncertainty Principle. Heisenberg's Uncertainty Principle effectively states that the more we know where something is, the less we know where it is going, and vice versa. The financial equivalent is that to truly know the price of something you have to trade it, but in trading it you change the price!

# Lessons we (should) have learnt

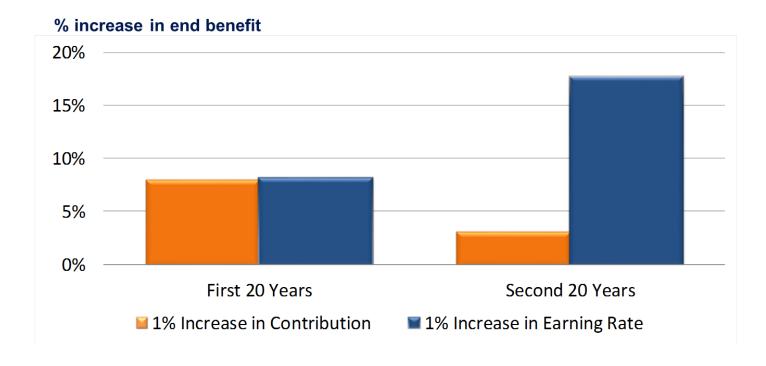
I am reminded of the father who asks his child "What did you learn at school today?" **Answer:** "Apparently not enough. I have to go back tomorrow!" There is the old market adage that "in the short run we learn a lot; in the medium term we learn a little; but in the long run we learn nothing".

For my last Physics analogy, I call on Einstein who reputedly said "We should always make things as simple as we can ... but no simpler!" We are definitely guilty of that!

Why do we think that standard deviation, or volatility, is in anyway an adequate description of risk? First, mathematically standard deviation and mean variance optimisation treat upside risk the same as downside risk. In forty years in the business I have never met a client or a fund manager who believes that. More than that, upside and downside valuation risks impact different types of investor completely differently. For the long-term investor accumulating assets, rising valuations represent re-investment risk and reduce future returns. For an investor in the decumulation phase, rising valuations are a Christmas bonus.

Another example of where we make things too simple is in our use of time-weighted returns. The asset management industry spends almost all of its time thinking about time-weighted returns (where the return in each period is given equal weight) as opposed to money-weighted returns where each return is weighted by the amount of money it acts on. Time-weighted returns are simple and convenient, but it is money-weighted returns that matter to an individual and the difference can be dramatic.

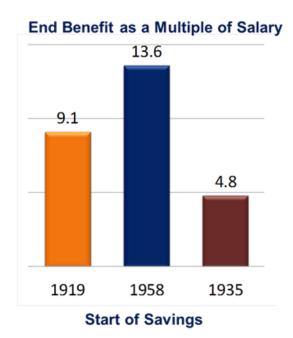
Given some plausible investment and savings assumptions, it turns out that in the first 20 years of a savers life a 1% change in contributions has about the same impact as a 1% change in investment returns. But in the second 20 years, when the returns are acting on a much larger pot of money, a 1% change in investment returns has about six times the impact of a 1% change in contributions.



Source: Schroders. 40 Year contributions at base contribution rate of 9% of salary, indexed at 3% p.a. Annualised earning base rate 8%p.a.

This immediately highlights a very difficult problem. For an individual targeting a real level of assets to retire on, it will be extremely difficult to manage the outcome by varying contribution rates alone as changes in investment returns in the final years will overwhelm, for better or worse, the effect of any changes in contributions. This is, of course, the key reason behind lifestyle type savings plans which migrate a saver's asset allocation to less "risky" structures in the final years before retirement. Such programmes do however, come with their own costs, particularly when government bond yields are extraordinarily low, or negative in real terms, as they are today in many developed markets. The problem is worse than that. It clearly matters a great deal as to the level of real returns experienced during a saver's life, but the order of returns matters also. There were two forty year periods (starting in 1919 and 1958) in Australia where a saver would have experienced nearly 6% real returns, but the outcome can still vary enormously. In one instance the final savings pot would have been 13.6X final salary, in the other only 9.1X. In the first instance, the higher returns were experienced later in the saver's life and so acted on a larger pot of money. There is of course no way for an individual to know the saving's environment they are going to experience, either in terms of the level of returns or their order.

There were also periods when real returns were much lower at around 2% and then the final savings pot would have been only about 4.8X final salary.





Source: Schroders

There are no easy answers to this. However, as more and more individuals have to take responsibility for their own savings and bear the investment risk, we need to educate them as to the realities they face and we need to try as hard as possible to build strategies which, while unlikely to eliminate the problem, will at least help to mitigate it. This will not be easy. If the first 20 years of a saver's experience happen to coincide with poor investment returns, it will be challenging indeed to try and persuade them that this could be the best possible outcome if the next 20 years turn out to be a secular bull market! All the evidence is that this is a chronic problem. As we showed earlier, secular bull and bear markets are the norm.

#### Behavioural Biases

In my opinion, at the root of many of these issues lie behavioural biases which are almost hardcoded in our DNA. It is well documented that we are far too confident of our ability to predict the future. It is also clear every day that you read market reports that rising prices are "good", and falling prices are "bad". Really? Not so fast. When we walk down the high street and see something we have always wanted offered 25% off in a Sale, we buy it and go home feeling good. But when we wake up in the morning to find that our favourite share or market is offered 25% cheaper, most of us feel sick to our stomach. Our gut instinct is to sell what we have, not buy more. That is very revealing, but why the different reaction to falling prices? If we were buying stocks for the good old fashioned Graham and Dodd reason of wishing to acquire growing dividend and earnings streams, surely the fact that we could buy them more cheaply would be good news. Instead what we are doing is buying stocks in the hope of being able to sell them on at a higher price. So finding ourselves in a 25% hole is clearly bad news. We instinctively have a trader's mentality, not an investor's.

Helping our clients and ourselves resist this bias is probably the single most important thing an asset manager can do, and it is not easy.

# Unintended regulatory consequences

Regulation is another area where we should not make things too simple. There can often be complex, unintended, and sometimes adverse consequences.

Nothing did more to boost executive compensation than when disclosure requirements were increased. No company comes out and says that it plans to pay its Directors 3<sup>rd</sup> or 4<sup>th</sup> quartile compensation. They almost all come out and say they plan to pay 2<sup>nd</sup> quartile. That puts remorseless upward pressure on compensation, not perhaps the desired or contemplated result!

Closer to our investment home, when JP Morgan invented VaR (Value at Risk), they gave themselves a competitive advantage. When VaR became the risk measure of choice for the industry and regulators, we gave ourselves systemic risk. Why? VaR encourages pro-cyclical behaviour. Volatility mean reverts. When volatility falls it encourages investors or investment banks to take on more risk, just at the time when volatility may be about to increase. When a VaR limit is breached for one investor or investment bank, it is likely to be breached by many. Realistically the only way to get back within a VaR limit is to reduce the size of your exposures. The market becomes a seller for choice and is open to gap (crash) risk! Something similar happened when seat belts were introduced in the UK. It is hard to believe now, but the wearing of seat belts did not come into force until 1983, after the legislation passed (on the 9<sup>th</sup> attempt!) in 1981. The perverse result was that drivers felt safer and ended up driving faster. Not exactly the behaviour the legislators wanted!

Something as simple as a solvency margin requirement for an insurance company or a funding ratio target for a pension plan can have similar adverse effects, encouraging damaging pro-cyclical behaviour. Andy Haldane from the Bank of England made a speech at the London Business School (April 2014) that regretted that the asset management industry (asset owners, asset managers, consultants) failed to behave in a long-term, counter-cyclical manner during the Great Financial Crisis. He immediately acknowledged that regulation and accountancy rules made it very difficult indeed for an asset owner to act counter-cyclically. He could have gone on to say that the nature of most of the mandates given to asset managers, where we act as component part suppliers to a plan created by the consultant and asset manager, makes it impossible for an asset manager to act counter-cyclically. If the asset class or market that I am tasked to invest in becomes over-valued, it is very difficult indeed to retreat to cash (or fixed income) if I am going to be judged by my return relative to a market benchmark.

That brings me to my last topic.

# The industry can organise itself to deliver better outcomes

What do I mean when I say the industry is badly organised to deliver? It is always fun to blame the Americans. To that end, I point to a piece of legislation passed in 1974, ERISA, the Employee Retirement Income Security Act. It was this Act that spawned the investment consultancy business and led to the benchmark based best practice model that is pretty much standard today, but not I hope for much longer.

What then is the best practice model I so dislike? It is essentially a five stage process:

- Conduct an asset/liability study to determine a strategic, market based benchmark
- Construct an implementation plan around that benchmark typically combining a mix of specialist managers in both active and passive strategies
- Conduct a manager search to fulfil the implementation plan
- Fund and monitor the managers
- Repeat every three to five years

If you will accept that as a short hand description of what we do today, how could anyone find fault with something so apparently reasonable? Unfortunately, it is riddled with problems.

# The 80:20 rule

Today's best practice model devotes most of its effort to controlling the risks from the portfolio of managers to the benchmark that came out of the asset/liability study. Only every three to five years do we manage the risks from the benchmark to the liabilities. Yet surely the lesson of the last fifteen years is that the risks from the actual portfolio relative to the strategic benchmark are small, sometimes trivially small, whereas the risks from the strategic benchmark to the liabilities are large, sometimes very large.

In short, we have the 80:20 rule completely back-to-front. By spending most of our time worrying about market benchmark relative returns, we are missing the point that you cannot pay pensions out of relative returns; we need to be much more focused on the benchmark that really matters, and that is the liabilities. Not doing so has cost us dearly. As interest rates have declined over the last thirty years, pension liabilities have grown dramatically. By holding fixed income assets of much shorter duration, in line with the market benchmark, we have missed out on a compensating increase in asset values.

#### Our risk appetite never changes!

But it's worse than that, much worse. Implicit in a relatively static strategic benchmark is that our risk appetite remains unchanged even as our wealth (funding ratio for a pension plan) changes or as forward-looking risk premia (return expectations) change. This makes no sense at all. Surely we can all agree that our risk appetite should respond to changing return prospects, and surely most of us will acknowledge that our risk appetite does in fact change as our wealth rises or falls, even if the manner in which it changes will be different for different investors.

#### Asset/Liability modelling (A/L)

There is more. The great risk with modelling is that it is all too easy to get caught up in the sophistication of the model and the precision of the numbers that emerge. Yet the 'GIGO' principle holds, 'Garbage In Garbage Out'. The return assumptions used, are of course, critical. Typically, an A/L model will use something close to the current redemption yield as the forecast for bond returns. For equities the model will use something similar to a Gordon Growth Model. The Gordon Model simply says that the long-run real return from equities will equal the current dividend yield plus the long-run growth rate. Essentially the idea is that in the very long-run, returns are dominated by income, dwarfing changes in valuation. The current dividend yield is observable, and the long-run growth is usually derived from looking at long-run historical growth rates in earnings or GDP.

The problem is that, in every decade since the 1970s and quite likely before, a Gordon model forecast would have been way away from reality. In the last decade and in the 1970s, the forecast would have been far too high, and in the 1980s and 1990s, far too low.

#### Gordon growth model versus reality

Annualised Real returns on the S&P 500	Strategic Forecast (Gordon Model)	Actual
1970s	7.2%	-0.1%
1980s	7.6%	12.6%
1990s	5.1%	14.8%
2000s	2.7%	-2.1%
1970s to 2010	7.2%	6.5%

Source: Strategic Forecast data from Robert Shiller, Used in "Irrational Exuberance" Princeton University Press, 2000, 2005, updated. Actual data from Global Financial Data, Thomson Datastream, Schroders, February 2012, for illustration only.

For most, if not all of us, being way off target for periods as long as ten years is simply unacceptable.

# Component Part Suppliers

Now I said earlier that the asset management industry had been reduced to being component part suppliers. What did I mean and why does it matter? Clients in the main come to Schroders to ask us to manage a segment of their portfolio, perhaps UK equities. We are not asked to help with the holistic problem of delivering the return that will allow the fund to pay its pensions. As a fund manager we are asked to either match, if we are passive, or outperform, if we are active, a market based benchmark. First, this is a negative sum game in that the return to all investors in a market place is the return of the index less costs. So, while any individual may succeed in beating their benchmark, the odds are stacked against the industry as a whole. We have created a target that is unachievable in the aggregate.

# A better best practice model

#### So what am I advocating?

I am not advocating abolishing all benchmarks; certainly not. I am advocating replacing market based benchmarks with real world benchmarks directly linked to a fund's purpose. So for a pension fund that might be its funding ratio and the funding ratio's volatility. For an endowment it might simply be a real rate of return goal after all fees and charges.

To be clear, this does not mean eliminating market benchmarks entirely; it just means relegating them to a secondary, much more minor role where they belong. So after you have looked to see if you have met your funding ratio goal, it is entirely reasonable to then go on and ask the question "did I make the most of the opportunities the market presented"? Was this an environment when, say, equities were performing well and how did my holdings do against the opportunity set out there? For that you will want to keep an eye on market benchmarks, but this is absolutely secondary to understanding first the evolution of the funding ratio.

There is another very important benefit that comes from adopting a real world benchmark in place of the strategic benchmark. It frees up asset allocation, allowing it to be more dynamic and to really work for the fund. To be clear, I am not talking about some high turnover, Tactical Asset Allocation programme. I am talking about responding to the extreme over- and under-valuations that occur far more regularly than the Efficient Market Hypothesis would suggest (Remember those fat tailed distributions). Let's remember that the idea of efficient markets and CAPM lay very much at the heart of the asset/liability model that lies behind the whole idea of strategic asset allocation studies. Yet nobody today believes that the EMH represents anything other than an abstraction of reality.

Think back to the main valuation outliers we have experienced in the last 25 years. I can think of four of them.

First, there was the Japan equity bubble of the late eighties. This is the last time I can remember the industry actually responding in a timely fashion to a bubble. By the way, the credit goes to the asset owners, not the asset managers. Here, I am thinking of US pension funds. They simply could not believe that Japan represented 45% of the world or something like 85% of the World ex US. They used every device under the sun to reduce the weight of Japan in their portfolios. They moved to regional weightings, GDP weightings or equal weightings. The goal was always the same, to reduce the weight of Japan in their portfolios. What a good decision that was.

Then when we had the TMT bubble at the end of the '90s, most funds just rode the bubble up and down.

When the fantastic opportunity came in Investment Grade credit at the end of 2008 and into 2009, how many funds really took advantage?

How many really responded to the bubble in developed government debt which took gilt yields down to just a little over 1 ½% last summer?

#### Plan Ahead

I would be the first to acknowledge that what I am suggesting is not easy. First, any change in allocation away from the comfort zone of the "Strategic Asset Allocation" solution will potentially take a fund away from the consensus, never an easy choice to make. Going down this path has significant skills and governance implications for fund boards. Dynamic asset allocation necessarily means doing something different to other funds, the consensus. That is an inherently uncomfortable act for many. It is also inevitable that in doing something different to the typical fund there will be periods when headline returns are worse. The governance structure needs to be able to withstand that pressure. A robust, sustainable governance structure will need to have the following three elements:

- A highly skilled investment committee. Key investment decisions are going to have to be made jointly. For all parties to the decision to be comfortable, everyone at the table will need to be able to contribute.
- Representation by all key stakeholders. Everyone with a material interest needs to be at the table, the
  sponsor, the Trustees (or their Investment Committee), the fund's consultant, and the fund's lead asset
  allocation manager/adviser. In order to be able to withstand the pressures of being on the wrong side of the
  median fund from time to time, it is important that key decisions have been collective so that they are a shared
  responsibility.
- **Detailed records.** Memories can be fickle and 20:20 hindsight is a wonderful thing. It is important that detailed records are maintained of the reasons behind key decisions. When those decisions are questioned later on, it is important to be able objectively to judge whether the assumptions behind them have turned out to be false (in which case the strategy must change), or whether they remain valid (in which case it will probably be right to tough it out and wait for the strategy to come good).

This kind of an interaction between stakeholders, particularly the collective nature of decision making, is very different to, and rather more complex than the typical modus operandi for most funds today. The prize, if we do this properly, is a strategy which responds to the highly cyclical returns from markets and is genuinely tailor-made to the circumstances and risk appetite of the individual fund: Better funding ratios, better outcomes.

#### **Predictions!**

What I conclude from this look back over the last 40 years is that going forward successful asset owners and asset managers are going to listen to Einstein and stop making things too simple. They will acknowledge:

- that tail events are much more likely than a normally distributed world would suggest, and will not be surprised by them.
- that naïve use of volatility as a risk measure serves little purpose, either in strategic asset allocation studies or in day to day management. Plain vanilla mean variance optimisation will become a thing of the past. We will use the power that Moore's law has given us to move our models closer to reality which means:
  - Moving from time- to money-weighted returns.
  - Recognising that valuation risk is investor specific
- that there are risks and opportunities that no backward looking statistical measure will ever capture. However we will be foolish in the extreme if we do not try to take into account in our portfolios things that we really should expect to happen. What will be our excuse for having ignored climate change when disruptive technologies make large parts of our portfolios obsolete? To do this we really will have to think and act as long-term investors.
- our behavioural biases. Admitting that such biases exist is the first and most important step to being able to overcome them.

If our regulators allow us, the smart part of the industry will start to act in a counter-cyclical fashion. That after all is how you buy low and sell dear. To do that asset owners and asset managers will need to reorganise themselves and adopt a different governance model. Market related benchmarks will become secondary Real world outcome benchmarks will take their place centre stage. That should be welcomed by asset owners and asset managers alike.

It will be a different, more challenging and more exciting world. Good luck!

#### Important Information:

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