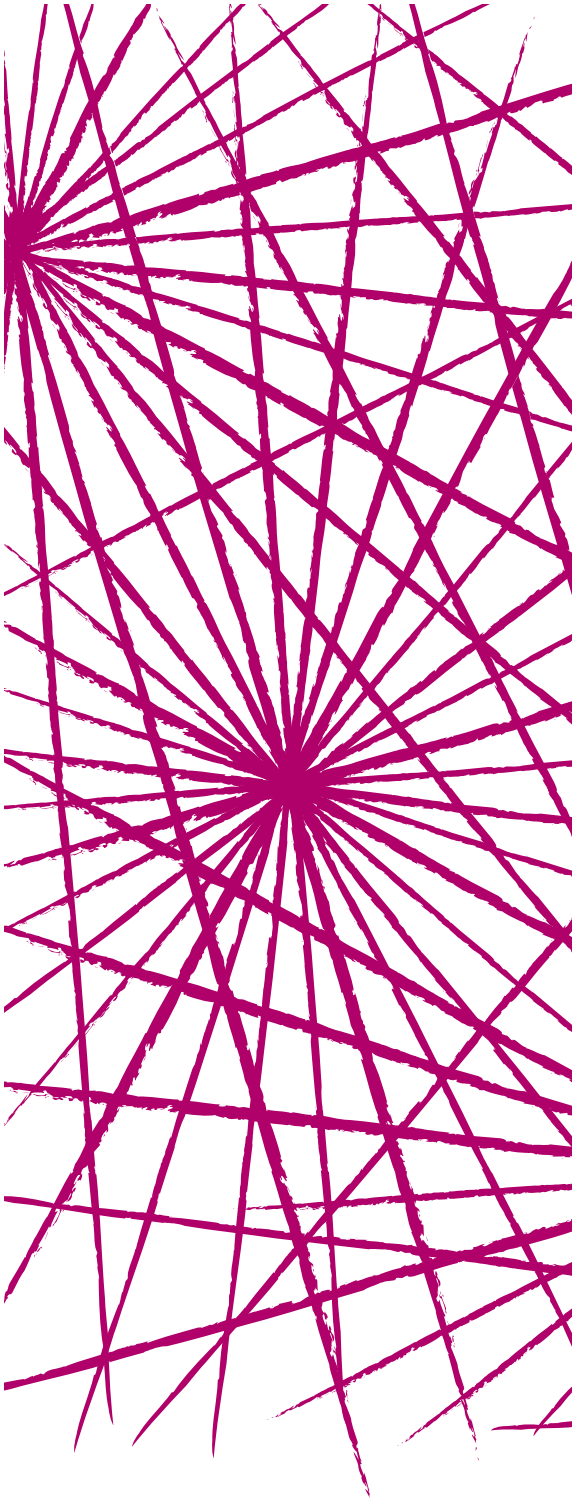
TOWERS WATSON

Thematic investing

How we see the world



"A good hockey player plays where the puck is. A great hockey player plays where the puck is going to be."

Wayne Gretzky
(this quote was often used by Steve Jobs to describe what Apple tried to do)

In summary

This paper has roots. We first wrote about investment themes in a publication called Macro factors.[1] We reviewed how our thinking was performing three years later[2], and more recently we noted that the concept of thematic investment was beginning to attract interest among institutional investors.[3] In this paper we briefly review why we think thematic investing is a good idea and set out how we currently view the world. While this world view will identify the themes we believe will be important for the foreseeable future, this will necessarily be a high-level overview. The detailed work that is required to establish how, precisely, to exploit these themes and also to ensure that they are not already "in the price" will follow in future papers.

Why thematic?

We are living in a rapidly-changing world. Whether it is the emergence of a new disruptive technology or the rise of an entire nation, we are witnessing the playing out of powerful financial and economic trends faster than ever before. Investing has been and will continue to be shaped by mega trends. These global mega trends or powerful seismic shifts will provide opportunities to investors who can take a long-term view and identify the beneficiaries of those changes in advance of them becoming widely recognised.

Thematic investing is about capitalising on future trends – identifying (and profiting from) the winners and, just as importantly, avoiding (or underweighting) the losers. Its forward-looking nature stands in clear contrast to the more widely used approach of market-capitalisation investing where it is implicitly assumed that the past winners will continue to win out and therefore deserve more attention and weight in the portfolio.

While theoretically possible to build an entire portfolio from a number of themes, thematic investing is typically more about overlaying a series of positions on top of an existing asset allocation (whether asset-class based, or return-driver based). The degree of conviction in a theme influences the size of the position used, subject to risk management disciplines. Obviously, the objective is to generate superior returns by tilting the portfolio to overweight the future winners and underweight those losing ground. Done well, this should be possible without any material increase in risk.[4]

Prediction is difficult

One of the key challenges of thematic investing is that the successful identification of themes will not necessarily lead to successful investments. History is littered with examples of industries moving from highly fragmented to concentrated – bicycles, cars, aeroplanes, computers – but gives no guide on how to predict which of the numerous initial companies will come to dominate the industry. (For a slightly quirky take on this see 'The Mona Lisa' opposite.) Consequently, we need to redefine success given that picking the individual winner will be too difficult. Instead success for us will be identifying the broad theme and a number of different ways to access that theme. This immediately suggests that successful thematic investing is more about selecting appropriate baskets of investments rather than trying to pick single securities.

However, even the identification of themes is not easy and we do not believe there is any process which will guarantee results. Our preferred approach is to ensure our minds are open to considering any lateral idea, irrespective of sector or geography. Essentially an asset owner is seeking to build a level of conviction in a working hypothesis – that the future will be different in the following way… because of these reasons… While it is important to test these hypotheses as far, and as quantitatively, as possible we must remember that the point of thematic investing is to be an early adopter. Therefore there will be no definitive proof in advance.

The Mona Lisa

Why is the Mona Lisa the world's most famous painting? Is it that enigmatic smile? Is it some instrinc superiority of the brush strokes? Does it capture for all cultures, across all time, some underlying essence of the human condition? Or is it 'merely' famous for being famous?

Imagine we were back in 1852 and our task was to predict which painting would be the most famous by the end of the 20th century. How would we go about this? Is there any reason why we would select a painting within the Louvre in Paris rather than any other gallery around the world? Let's assume we selected the Louvre, whether by luck or judgement, how would we now assess its paintings? If we decided to go by value we would see an estimate of market value of 90,000 francs – but some of the works of Raphael were valued at up to 600,000 francs. Data on vistor numbers is not available, but there is nothing in the written record to suggest that the Mona Lisa was a particular draw.

The current hypothesis is that the Mona Lisa became the world's most famous painting through a process of cumulative advantage heavily influenced by luck. It was stolen in August 1911 by an Italian and taken 'home', generating a very human story involving love, justice, patriotism and international negotiations. It just so happened that this occurred at the time that newspapers were first able to print photographs, causing a wide distribution of the now famous image. Consequently, when Marcel Duchamp was looking for an image to parody in 1919 he chose Mona Lisa – which only increased the painting's fame. Subsequent treatments by Salvador Dali and Andy Warhol further added to the cumulative advantage to the extent that people will now go to the Louvre in order to look at the backs of people's heads who are looking at the Mona Lisa.

Our conjecture is that if we rewound history and let it play again, it is likely that a different painting would become the most famous.

How to implement?

The degree to which asset owners can implement thematic thinking varies as suggested by **Figure 01**. The simplest option is engagement with their current active managers. This approach will not increase the governance requirement much but there is limited scope for the client's own thematic convictions to feed through into the portfolio. At the other end of the spectrum, asset owners with high governance capability and a well-defined process to select and define

Figure 01. How to implement thematic thinking

Implementation route	Traditional active	Thematic manager	DIY
Governance burden	Low	Medium	High
Exposure to theme	Low	Medium	High
Reflects your convictions	No	?	Yes
Capacity	High	Limited	Reasonable
Ease of measurement	High	Medium	Low

the relevant themes can take a do-it-yourself approach. In this case there are likely to be problems with performance measurement – who is accountable for which components of the return? In the middle is the route of employing dedicated thematic managers which solves some of the problems although the capacity of such products can be limited.

How we view the world

Having briefly reviewed the attraction of the concept as well as some of the practical issues associated with thematic investing, we turn now to consider how Towers Watson looks at the world. From this we will be able to identify a number of themes we consider are worthy of future review.

We look at world in terms of six categories: finance, economics, politics, society, environment and technology (see **Figure 02**). These categories are large and broad and significant exploration can be done within each. However the categories are not independent – they are deeply interconnected and this interconnectedness both increases the difficulty and the interest of the analysis. For example, during the Thatcher/Reagan years finance and economics was generally perceived to be independent of politics, but post-2008 it is hard to envisage when such a degree of separation might be seen again. Politics is now heavily intertwined with both finance and economics. Similarly we can see that it is likely to be fruitful to explore the overlap between technology and the environment. What happens here is, in turn, likely to impact on society and politics and vice versa. Many other threads could be drawn any number of ways through these categories.

For the avoidance of doubt, we are not suggesting that this is the only way to categorise the world, or even that it is the best way. For example, someone else may want a category for 'science', 'medicine' or 'arts and culture' because that suits their purposes. Our aim is to better understand investment and so our focus is more on the functioning of economies and markets. Consequently, for us, science (or medicine) is only interesting to the extent that it impacts one of the other categories.

Possible themes

Figure 03 overleaf shows how thinking about the categories and their overlaps starts to throw up possible long-term trends or investment themes. For our exploration we will start at '12 o'clock' with finance and work clockwise. As noted at the start of this paper, we are only trying to identify possible themes at this stage. The analysis necessary to turn this thinking into practical, investment opportunities will follow.

Technical aside

Thinking of the world in terms of categories can be helpful but it lacks theoretical rigour. We would argue that a properly developed world view should have an underlying theoretical foundation. Theories can be tested and, if necessary, replaced. This process should yield more robust world views. Here we contrast two competing theories:

1) General equilibrium[5]

To the extent that the investment industry has a theoretical foundation, the equilibrium-heavy concepts of traditional economics and finance are it. In this traditional framework 'agents' or 'players' (people and organisations) are assumed to be 'rational' and know all there is to know. Macro-level results follow in a deterministic manner – we know how the parts behave and so we can predict how the system behaves. In this framework markets produce an optimised mix of price and quantity, hence the supposed difficulty with outperforming the market. A strapline for this system could be **'incredibly smart people in unbelievably simple situations'**.

By construct, equilibrium theories describe a world that is either at equilibrium (stationary), or dynamically moving back towards equilibrium (largely predictable). There is a serious question here about whether either situation is compatible with thematic investing. In the first case, everything knowable is already priced-in to the market – emerging themes would be known and hence there would be no prospect of price appreciation. Similarly, the second case also offers limited scope for prices to trend systematically over long periods of time.

2) Adaptation/evolution

Equilibrium thinking contrasts significantly with the new thinking based on the field of complexity economics. Here, agents know much less. Their interactions produce complex behaviours which are non-linear and cannot be explained by summing the parts. Because the system now exhibits non-linear behaviour, the idea of markets finding an equilibrium goes away. Instead markets act as 'search engines' looking for the next profitable opportunity. Anticipating what the market will decide is the next new opportunity, or what is in secular decline, becomes a potential source of outperformance. We can characterise such a system as **'believably simple people in incredibly complex situations'**. This theory is inherently compatible with thematic investing.

Figure 02. Our six categories

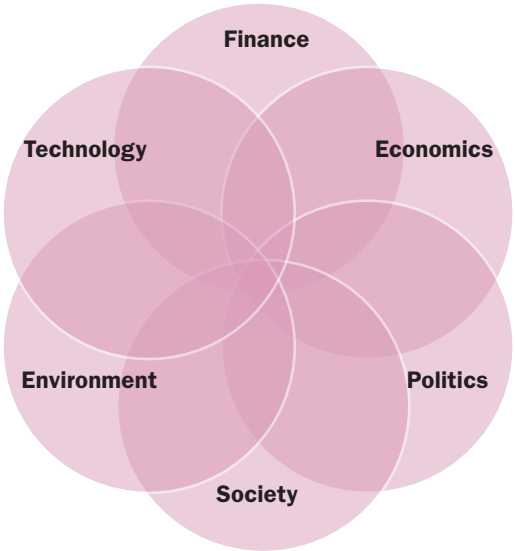
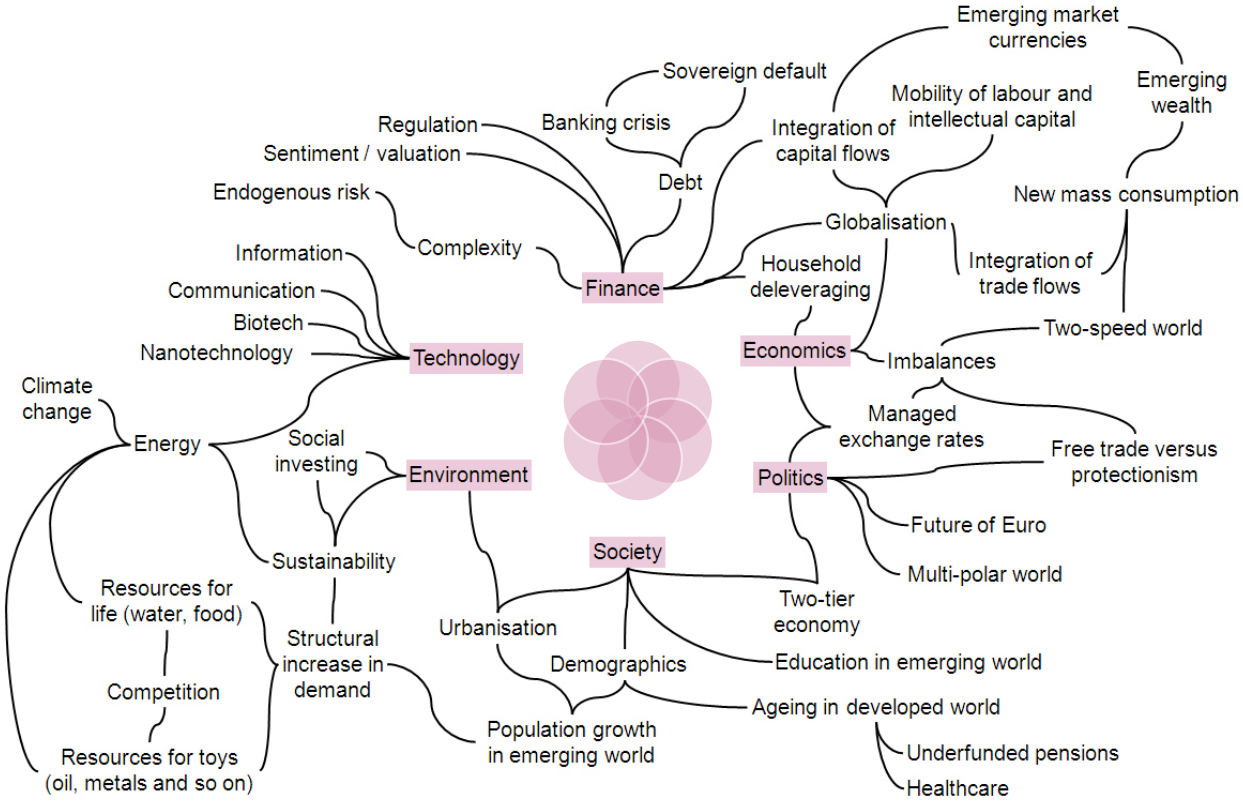


Figure 03. Long-term investment trends



Finance

Financial complexity

Our first observation is that the financial world is becoming ever more complex.[6] Globalisation within finance has proceeded rapidly with products created in one country being sold around the world, large banks creating huge global branch networks, and continued growth in the foreign exchange and derivatives markets. Along side this there has been another trend of increasing knowledge transfer. This is the 'technology set' for finance and we would argue that the advance has been accelerating rather than merely growing steadily. The combination of these trends has meant that the networks of relationships between financial entities has become significantly denser (more firms are connected to more other firms), while the speed of transacting across the networks has also shot up. We have left behind the era of T+x days to settle an equity transaction and are now in the age of high-frequency trading undertaken by algorithms on computers co-located with the stock exchange's own computers and connected by a fat, fibre optic cable. We would argue that we are now in a world of 'endogenous' risk, risk from inside the system. In the old world risk was exogenous, from outside the system. An outside shock (oil price spike, declaration of war) would cause the economy to fall into recession, causing bankruptcies, bad loans and a potential systemic cascade. Endogenous risk acts to either amplify the exogenous shock, or can cause its own systemic cascade without an external prompt (the failure of one financial firm can now, due to the connectivity and speed of transfer, bring down its counterparties, which bring down their counterparties…).

Sentiment valuation

We first highlighted the possibility of sentiment being a long-term theme in Macro factors. We argued that 'rational beliefs' is a better description of reality than 'rational expectations' in that it allows swings between aggregate optimism and aggregate pessimism. These swings can be seen in the historical data where market valuations change considerably over successive 10- to 20-year periods. Given the extraordinary change in valuations over the 1980s and 1990s it was relatively easy to predict that valuations would contract over the subsequent 10 or 20 years. Now that we are more than 10 years past the peak in valuations and are at or below the historical average, the question for long-term investors is whether equity valuations now start to increase or continue to decrease until they are significantly below average.

Regulation

While some significant regulatory changes were already in process (such as Solvency II, Basel III) we have seen an increase in new regulation following the global financial crisis (such as the Dodd-Frank Act) and we expect more to come (such as a European transaction tax). Understanding the long-term ramifications of these regulatory changes on individual business models, and hence future earnings prospects could be an interesting investment theme.

Debt (banking crisis, sovereign default, household deleveraging)

We would argue that debt is the single biggest underlying issue confronting the world at present. The Euro crisis, budget constraints and political tensions are all essentially different manifestations of the same problem of too much debt. An unsuccessful resolution of debt levels could trigger a further banking crisis or sovereign defaults. A successful resolution is likely to create distinct categories of winners and losers and hence an exploitable investment theme.

Economics

Globalisation

Globalisation has three primary components; the integration of trade flows, the integration of capital flows and the mobility of labour and intellectual capital. The integration of trade flows has largely happened. China became a member of the World Trade Organisation 10 years ago and, with the notable exceptions of Iran and North Korea, it is largely possible for any country to trade with any other. However, as far as capital flows are concerned integration has much further to go. The obvious example is China, which has not yet opened up its capital account, but there are numerous other examples of local laws and restrictions preventing the free flow of capital around the world. We would also assess the current mobility of labour as muted. Further thought needs to be given to how it would be possible to invest to benefit from an improvement in these trends.

Imbalances

In addition to debt and budget deficits we see many other imbalances in our world. There are large balance of payments surpluses and deficits, countries that over-invest and under-consume and even imbalances in terms of growth rates. We define an imbalance as a situation that cannot persist. For example, Germany cannot run an external surplus forever unless it is happy that the IOUs it is given in exchange for its goods become worthless as they cannot be repaid. Similarly China cannot grow at 8% pa forever if only exporting when the importing countries are only growing at 2% pa. If an imbalance cannot persist then we are interested in (a) when it might reverse, and (b) whether it will reverse gradually or dramatically.

As far as growth rates are concerned, it is possible that widely differing rates could persist for a significant period of time. This idea is connected with the development of large new consumer markets in 'emerging' countries and with the emerging wealth theme that we have discussed for a number of years now.

Managed exchange rates

Connected with imbalances is the issue of managed, or not-freely-floating, exchange rates. Here the issue is whether the real exchange rate adjustment occurs through currency appreciation (which investors can profit from) or through inflation within the undervalued country (much less likely to produce profitable investment returns).

Politics

Free trade versus protectionism

Above we noted that the integration of trade flows had largely happened. However, this does not mean that the integration could not go into reverse. Protectionism is the policy of restricting trade with the aim of "protecting" businesses and workers in the domestic economy from the full force of external competition. It would be driven by perceived short-term political necessity overriding long-term economic logic. Ironically, protectionism tends to harm the people it is intended to help as it interrupts the process of comparative advantage and imposes inefficiency on the economy. Nevertheless with budgets under pressure and unemployment being high it is possible that we could see a retreat from free trade.

Future of the euro

The future of the euro is a political decision. The extent to which member countries are bailed out by the others, or the extent to which they are willing to cede sovereignty to a central treasury function are clearly in the realm of politics rather than economics or finance. However, the decisions taken will have important and potentially widely differing impacts on perceived risks and asset prices.

Multi-polar world

The fall of the Berlin wall in 1989 symbolised the shift in power from a bi-polar world (US and Russia) to a uni-polar world with the US as the only superpower. We believe it is likely that the supremacy of the US will be challenged and that power will shift towards a multi-polar world. For the sake of clarity, we do not see a precipitous fall in the US's power but rather a gradual weakening,

combined with a rise in power of other states. Which other states? China's rapid economic rise suggests they will be one of the power players. Russia's abundance of natural resources give it the ability to 'punch above its weight' and further out we could see the emergence of India as a major global power. The shift in power is likely to impact capital flows and risk premia therefore changing return expectations in different asset classes and regions.

Society

Two-tier economy

Analysis shows that the median income (in real terms) in the US has fallen over the last 20 years. In other words, for the first time in the history of capitalism the current generation of (male) workers are less well-off than their fathers. We suspect that the situation is the same, or similar, in the UK. Meanwhile, the wealthy have seen their incomes grow and so measures of inequality show that disparity within society is increasing. It is relatively straightforward to see this as a source of risk – social unrest and potential political extremism – but less clear as to whether investment opportunities can be identified.

Demographics – developed world

The beauty of demographics is that it is the one area where it is possible to forecast far into the future with a high degree of accuracy. The downside is that the future arrives so slowly and because demographic changes are so gradual we have a tendency to seek out more exciting things to worry about. However, we know that the developed world will age over the next few decades, that is the proportion of the population over the age of 65 will grow. An immediate observation is that, unless things change, the provision of pensions and healthcare will become much more expensive.[7] Even though this is entirely straightforward, we suspect that it is not yet priced into all assets and so there is likely to be scope for thematic investment in this area.

Demographics – emerging world

The aging profile for emerging countries is more mixed with China starting to age in the very near term while India stays young for a long time. However the major demographic effect in the emerging world is the growth in the size of the population. This is likely to throw up a number of investment themes including a massive increase in the demand for **education** which will be partly met by provision from privately owned corporations, and **urbanisation**. Urbanisation in turn will impact on the environment by causing a structural increase in the demand for energy and commodities.[8]

Environment

Sustainability

Historically cities were built on the 'best land' which tended to be flat and next to major waterways for ease of transport. This land also tends to be the most fertile arable land, suggesting that policy may need to change going forward. As the world's population grows there will also be a structural increase in demand for water and food. In turn, food production requires water, soil and energy (representing the production of fertilizer and the transportation required). Some believe there are already sustainability issues concerning each of these three inputs with seven billion people on the planet, never mind the projected population of nine or 10 billion people. Irrespective of the precise mechanism that will bring supply and demand into balance, it seems likely to us that large scale investment in new technologies will be required to either increase efficiency or provide viable substitutes. While uncertain, this seems to be a fruitful area to look for thematic opportunities. These opportunities could include **climate change**, **resource scarcity** and **social investing**.

Technology

The final area that we think could provide long-term investment opportunities is technology. Within this category we believe five areas are likely to be particularly promising. The digital revolution means that the volume of **information** has exploded and can explode yet further. It is now possible to capture large amounts of data each time a shopper goes through a supermarket, which quickly builds into a sizable database which can be interrogated to glean a competitive edge. Similarly, user-based insurance will change the information an insurance company can collect from each customer from, say, a handful data points once each year to tens of data points electronically captured every second the customer is driving. Hand-in-hand with increasing volumes of digital information, will be the need to improve **communications** technology to efficiently transfer that data in a timely manner. The opportunities within **biotechnology**, and particularly within genomics following our ability to sequence the human genome, also appear significant. Given our comments above regarding sustainability issues it seems obvious to us that we should investigate **clean energy** as a possible thematic investment. Finally, and as somewhat of a wildcard, we suggest that **nanotechnology** could be an interesting area for long-term investors.

Conclusion

We have set out why we think thematic investing is a good idea and described how we see the world. This has highlighted a large number of potential themes that we believe will be important for the foreseeable future. However, this has only offered a high-level overview. The detailed work that is required to establish how, precisely, to exploit these themes and whether or not they are already 'in the price' will follow in future papers.

We continue to believe thematic investing or just thinking about themes has merits in shaping both the asset allocation and the risk management process. The essential idea is to start positioning portfolios to benefit from tomorrow's trends today. This idea seems to have resonance with institutional investors.

Further information

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Investment

Thinking ahead

This article is written by members of our Thinking Ahead Group (TAG) who are part of Investment at Towers Watson. Their role is to identify and develop new investment thinking and opportunities not naturally covered under mainstream research. They seek to encourage new ways of seeing the investment environment in ways that add value to our clients.

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References

1 *Macro factors – the big stories for global equity markets in the next ten years*, Watson Wyatt, November 2005.

2 *Macro factors – the update*, Watson Wyatt, June 2009.

3 *Capturing long-term themes*, Towers Watson, April 2011.

4 We refer here to a traditional, short-term, volatility-based measure of risk. In a longer-term context, and relative to measures of wealth, it is possible that thematic investing could be considered lower risk than a traditional portfolio.

5 For a comparison between 'rational expectations equilibrium' and 'rational beliefs equilibrium' see *Rethinking portfolio theory*, within *Changing lanes*, Watson Wyatt, December 2004.

6 We use the word 'complex' rather than 'complicated' to mirror the meanings as used in complexity science. An aeroplane is complicated; it would be daunting for us as an individual to build one, but with access to the blueprints, manuals, enough time and a sufficiently large shed we could make one. It is repeatable and predictable. This is because each of the components are inert and do not change. We describe something as complex when the components can change their function or behaviour, and their relationships with other components. It is neither repeatable nor predictable.

7 In *Public policy*, Towers Watson, July 2010, we noted that it would be prudent to expect a much large default, on pensions and healthcare than has occurred to date. Since the time of writing the UK government has brought forward by a decade the raising of state retirement age to 67. There will be more of this to come.

8 Geoffrey West, professor at the Santa Fe Institute, estimates that one million people per week (50 million per annum) will move to cities between now and 2050.

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