TOWERS WATSON

Thematic Investing

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

— Wayne Gretzky (also used by Steve Jobs to describe what Apple tried to do)

This paper has roots. We first wrote about investment themes six years ago in an article called "Macro Factors."[1] We reviewed how our thinking was performing three years later[2] and, more recently, noted that the concept of thematic investment was beginning to attract interest among institutional investors.[3] Here, we will briefly review why we think thematic investing is a good idea and set out how we currently view the world. While our world view will identify the themes we believe to be important for the foreseeable future, this will necessarily be a high-level overview. The detailed work required to establish how, precisely, to exploit these themes and also 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 disruptive new 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 before they become widely recognized.

Thematic investing is about capitalizing 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 capitalization investing, where it is implicitly assumed that past winners will continue to win out, and therefore deserve more attention and weight in the portfolio.

While it's 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]

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Prediction Is Difficult

One of the key challenges of thematic investing is that the successful identification of themes does not necessarily lead to successful investments. History is littered with examples of industries moving from highly fragmented to concentrated — e.g., bicycles, cars, airplanes, computers — but gives no guide on how to predict which of the numerous initial companies will come to dominate an industry. (For a slightly quirky take on this, see "The Mona Lisa," right.)

Consequently, we need to redefine success, given that picking the individual winner will be too difficult. Instead, success for us will mean 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 any one process can guarantee results. Our preferred approach is to ensure that 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, due to certain 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.

How to Implement

The degree to which asset owners can implement thematic thinking varies, as suggested by *Figure 1.* 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 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 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? The middle route is employing dedicated thematic managers, which solves some of the problems, although the capacity of such products can be limited.

The Mona Lisa

Why is the *Mona Lisa* the world's most famous painting? Is it that enigmatic smile? Is it some intrinsic 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 it? 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 judgment. How would we then assess its paintings? If we decided to go by value, we would see an estimated market value of 90,000 francs. But some of the works of Raphael were valued at up to 600,000 francs. Data on visitor numbers is not available, and nothing in the written record suggests 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 same time newspapers were first able to print photographs. This facilitated a wide distribution of the now-famous image.

Consequently, when Marcel Duchamp was looking for an image to parody in 1919, he chose the *Mona Lisa,* which only increased the painting's fame. Subsequent treatments by Salvador Dali and Andy Warhol further added to the painting's cumulative advantage — to the extent that people now go to the Louvre to look at the back of the heads of people 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.

Figure 1: How to implement thematic thinking

Implementation route	Traditional active	Thematic manager	Do it yourself
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

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 how Towers Watson looks at the world. From this world view, we will be able to identify a number of themes we consider worthy of future review.

We look at the world in terms of six categories: finance, economics, politics, society, environment and technology *(Figure 2)*. 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 increases both the difficulty and the interest of the analysis.

For example, during the Thatcher/Reagan years, finance and economics were 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 have an impact on society and politics, and vice versa. Many other threads could be drawn, in any number of ways, through these categories.

We are not suggesting that ours is the only way to categorize the world, or even the best way. For example, someone else may want a category for science, medicine, or arts and culture, because it 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 has an impact on one of our other categories.

Possible Themes

Figure 3 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 above, we are only trying to identify possible themes at this stage. The analysis necessary to turn this thinking into practical, investment opportunities will follow in a separate discussion.

Figure 2. Our six categories

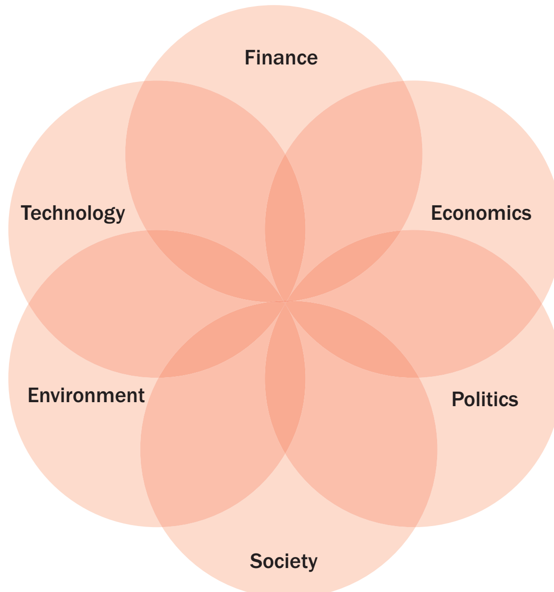
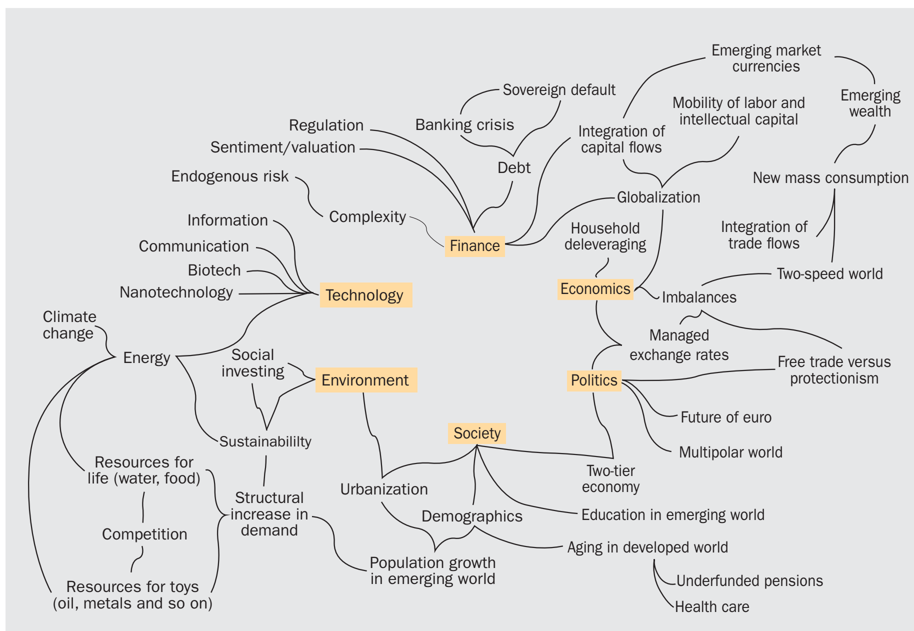


Figure 3. Long-term investment trends



Technical Aside

Thinking of the world in terms of categories can be helpful but lacks theoretical rigor. 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:

I. General equilibrium[5]

To the extent that the investment industry has a theoretical foundation, it is the equilibrium-heavy concepts of traditional economics and finance. In the traditional framework, agents or players (people and organizations) are assumed to be rational and to 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 optimized mix of price and quantity, hence the supposed difficulty of outperforming the market. A tag line 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 toward equilibrium (largely predictable). A serious question arises here about whether either situation is compatible with thematic investing. In the first case, everything knowable is already priced into the market: Emerging themes would be known; 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.

II. Adaptation/evolution

Equilibrium thinking contrasts significantly with the new thinking based on the emerging field of complexity economics. Here, agents know much less; their interactions produce complex behaviors that are nonlinear and cannot be explained by adding the parts. Because the system now exhibits nonlinear behavior, the concept 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 characterize such a system as "believably simple people in incredibly complex situations." This theory is inherently compatible with thematic investing.

Finance

Financial complexity

Our first observation is that the financial world is becoming ever more complex.[6] Globalization within finance has proceeded rapidly, with products created in one country and sold around the world, large banks creating huge global branch networks, and continued growth in the foreign exchange and derivatives markets. Another trend is 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 network of relationships among financial entities has become significantly denser (more firms connected to other firms), while the speed of transacting across networks has also shot up. We have left behind the era of T+x days to settle an equity transaction and have entered the age of high-frequency trading undertaken by algorithms on computers co-located with the stock exchange's computers and connected by a fat fiberoptic cable.

We would argue that our world is now one of endogenous risk — risk from inside the system. In the old world, risk was exogenous: from outside the system. An outside shock (e.g., 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 either to amplify the exogenous shock or to 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 counterparts, which bring down their counterparts, and so on.

Sentiment valuation

We first highlighted the possibility of sentiment being a long-term theme in "Macro Factors." We argued that "rational belief" is a better description of reality than "rational expectation," 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 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 under way (e.g., Solvency II, Basel III), we have seen an increase in new regulations following the global financial crisis (e.g., the Dodd-Frank Act), and we expect more to come (e.g., a European transaction tax). Understanding the long-term ramifications of these regulatory changes on individual business models, hence future earning prospects, could be an interesting investment theme.

Debt

We would argue that debt (e.g., banking crisis, sovereign default, household deleveraging) 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: 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, hence an exploitable investment theme.

Economics

Globalization

Globalization has three primary components: the integration of trade flows, the integration of capital flows, and the mobility of labor and intellectual capital. The integration of trade flows has largely happened. China became a member of the World Trade Organization 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 labor as muted. Further thought needs to be given to how it would be possible to invest and 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-payment surpluses and deficits, countries that overinvest 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 given in exchange for its goods become worthless and cannot be repaid. Similarly, China cannot grow at 8% per annum forever if it only exports to countries growing at 2%. 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 economies and with the emerging wealth theme that we have discussed for a number of years now.

Managed exchange rates

The issue of managed, or not freely floating, exchange rates is connected with imbalances. 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).

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Politics

Free trade versus protectionism

We noted above that the integration of trade flows has largely happened. However, this does not mean that 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 can 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 high, it is possible we could see a retreat from free trade.

The 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 to which they are willing to cede sovereignty to a central treasury function, is clearly in the realm of politics rather than economics or finance. However, the decisions made will have important and potentially widely differing impacts on perceived risks and asset prices.

A multipolar world

The fall of the Berlin Wall in 1989 symbolized the shift in power from a bipolar world (the U.S. and Russia) to a unipolar world with the U.S. as the only superpower. We believe it is likely that the supremacy of the U.S. will be challenged, and power will shift toward a multipolar world. For the sake of clarity, we do not see a precipitous fall in U.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 it will be one of the power players. Russia's abundance of natural resources gives it the ability to "punch above its weight." Further out, we could see the emergence of India as a major global power. The shift is likely to impact capital flows and risk premiums, thereby changing return expectations in different asset classes and regions.

Society

Two-tiered economy

Analysis shows that the median income (in real terms) in the U.S. 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 is less well off than its fathers. We suspect the situation is the same, or similar, in the U.K. Meanwhile, the wealthy have seen their incomes grow, and so measures of inequality show an increasing disparity within society. It is relatively straightforward to see this disparity as a source of risk — e.g., social unrest, potential political extremism — but less clear whether investment opportunities can be identified.

Demographics: The developed world

The beauty of demographics is that it is the one area where we can 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 trends change, the provision of pensions and health care will become much more expensive.[7] Even though this is entirely straightforward, we suspect that it is not yet priced into all assets, so there is likely to be scope for thematic investment in this area.

Demographics: The emerging world

The aging profile for emerging countries is more mixed. China will be starting to age in the very near term, while India will stay 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. This will be met partly by provision from privately owned corporations and by urbanization. Urbanization, in turn, will have an impact on the environment, causing a structural increase in the demand for energy and commodities.[8]

Environment

Historically, cities were built on the best land, which tended to be flat and, for ease of transport, next to major waterways. This land also tends to be the most fertile arable land, suggesting that policy may need to change. 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 sustainability issues concerning each of these three inputs already exist with seven billion people on the planet — never mind the projected population growth to 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:

1. The digital revolution means that the volume of information has exploded and could continue to do so. 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 that 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 of data points once each year, to tens of data points electronically captured every second the customer is driving.
2. Going hand in hand with the increasing volume of digital information will be the need to improve communication technology to efficiently transfer those data in a timely manner.
3. The opportunities within biotechnology — and, given our ability to sequence the human genome, particularly within genomics — also appear significant.
4. Referencing our comments above regarding sustainability issues, it seems obvious to us that we should investigate clean energy as a possible thematic investment.
5. Finally, and as somewhat of a wild card, 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, we have offered only a high-level overview. The detailed work 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 even just thinking about themes — has merit in shaping both the asset allocation and risk management processes. The essential idea is to start positioning portfolios to benefit from tomorrow's trends today. This idea seems to have resonance with institutional investors.

Thinking Ahead Group

This article was written by members of our Thinking Ahead Group (TAG), who are part of the Investment practice 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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2 "Macro Factors — the Update," Towers Watson, 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," Towers Watson, December 2004.

6 We use the word "complex" rather than "complicated" to mirror the meanings as used in complexity science. An airplane is complicated; it would be daunting for an individual to build one, but with access to the blueprints, manuals, enough time and a sufficiently large space, we could make one. It is repeatable and predictable. This is because each of the components is inert and does not change. We describe something as complex when the components can change their function or behavior, as well as 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 larger default on pensions and health care than has occurred to date. Since the time of writing, the U.K. government has brought the raising of retirement age to 67 forward by a decade. 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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