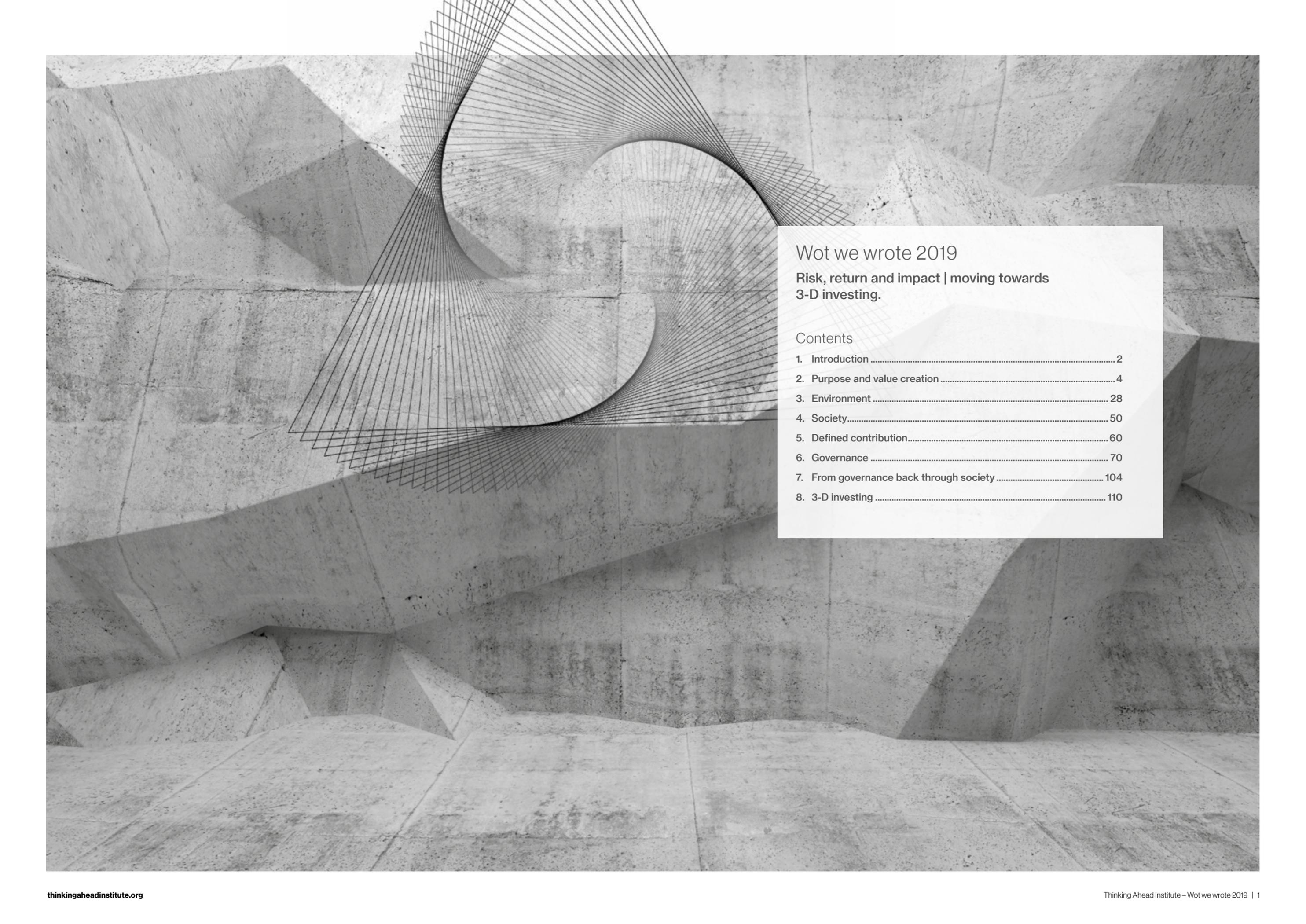


Thinking Ahead Institute

Wot we wrote 2019

Risk, return and impact | moving towards 3-D investing





Wot we wrote 2019

Risk, return and impact | moving towards
3-D investing.

Contents

1. Introduction	2
2. Purpose and value creation	4
3. Environment	28
4. Society.....	50
5. Defined contribution.....	60
6. Governance	70
7. From governance back through society	104
8. 3-D investing	110

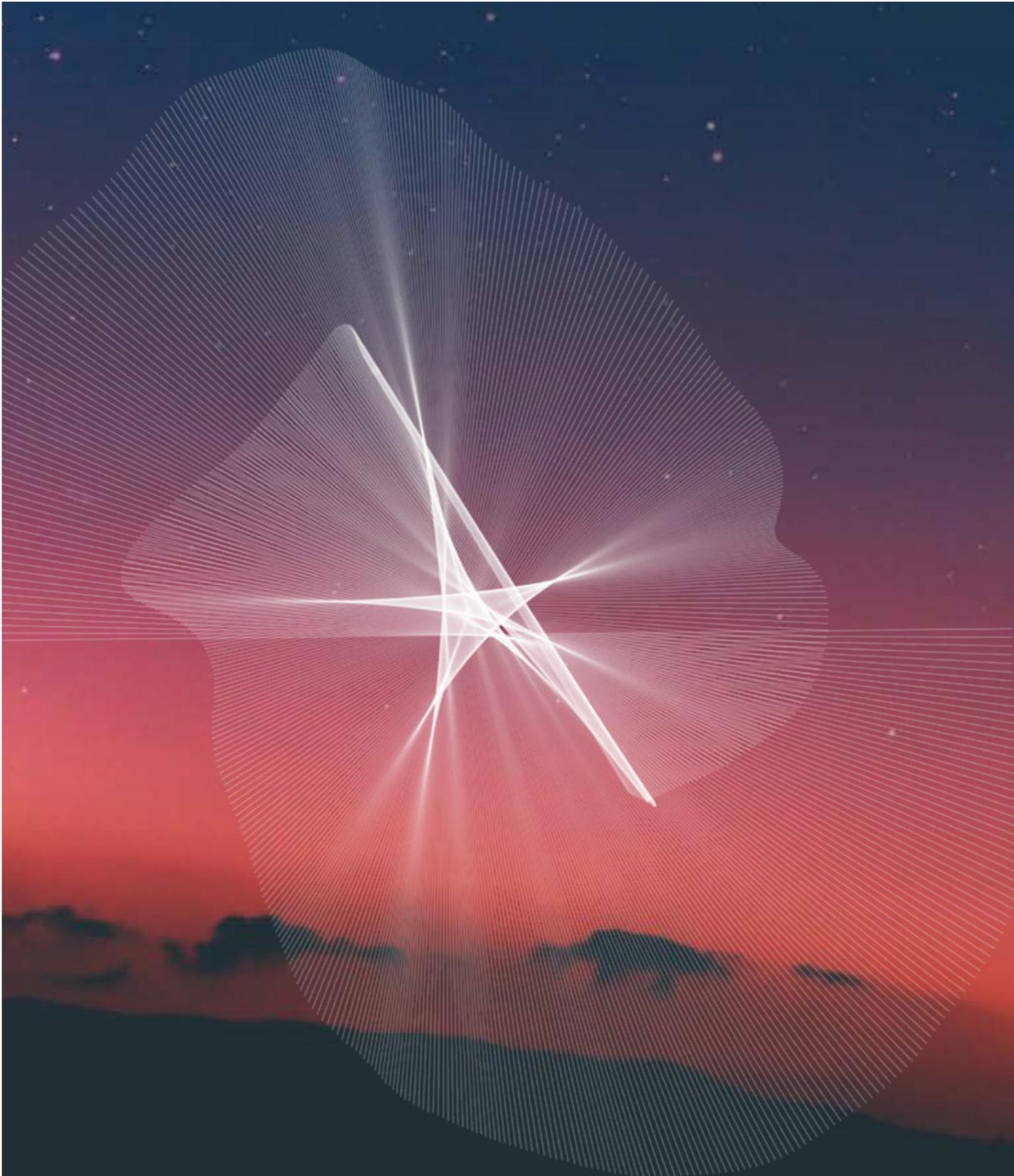
Section 1: Introduction

This map is our preferred representation of these investment insights, and so the exploration of an electronic document as the reader desires should be the most satisfying way to engage with the material. The alternative is for us to choose the route and guide the reader through in a linear fashion. For the linear version we have chosen to start with *Purpose and value creation*.



Key

- Written in 2019
- Written in 2018
- Written in 2017 or earlier



2. Purpose and value creation

The first two insights relate to value created within investment mandates – how to measure it and how to reward it. The second of the two was picked up by GPIF, the world's largest pension fund, and is referenced in [their whitepaper](#) on fees.

1. Cumulative dollars earned (CDE) – a possible new metric	06
2. An alternative approach to asset manager fees.....	08
3. POSIWID: the purpose of a system is what it does	10
4. POSIWID II: What does the investment industry actually do?	12
5. Creating system value: organisational purpose and value creation	16
6. Briefing on insights from the 2018 value creation working group.....	20
7. Publishing our third integrated report	22
8. The value creation boundary	24

1. Cumulative dollars earned (CDE) – a possible new metric

Within the Institute, and even outside it, we (I) have been pushing the idea of money-weighted returns. I would characterise the response as broadly supportive, despite acknowledgement that more effort is involved in calculating them. I wonder whether it is now time to see if we can turn talk into action, especially as this is likely to be another case of ‘the devil lying in the detail’. This could be a situation ideally suited to ‘rapid and distributed prototyping’ or, in English, the best approach might be for a few members to experiment on their own and report back for common learning.

At the 2015 Cambridge roundtable we presented a slide showing returns for a hypothetical hedge fund which demonstrated it is possible to post a positive time-weighted return while losing significant value (dollars) for investors. We could now formalise and extend that idea.

To seed the thinking, I would float the following idea: we could propose a new metric to be included in key information documents for funds – “cumulative dollars earned for investors”. At the risk of appearing somewhat aggressive, we could also suggest “cumulative fees earned for manager” (CFE). The relative scaling of the two numbers could be interesting... The former idea is already calculated by LCH Investments for hedge funds ([link](#)), but we haven’t seen anything for the latter.

As noted, the devil is likely to lie in the detail. How should cumulative dollars earned (CDE) be calculated? Presumably beta- and leverage-adjusted – but what if part of the value the manager adds comes from deliberate management of beta through the cycle? Should CDE be quoted as a monetary amount, favouring larger, longer established (and successful) funds? Or quoted as a percentage of assets – in which case, how to calculate the appropriate asset value over time?

It should be relatively easy to calculate an estimate of the CDE (and CFE) for public funds using monthly AuMs and monthly returns. Segregated accounts would be a different matter altogether, and may only be calculable by the asset managers, or asset owners directly. I have a hunch that these calculations could provide additional information that we are currently not seeing – but it is only a hunch, and I could easily be wrong. I would appreciate hearing views on whether throwing a bit of effort at this is felt to be worth it.

2. An alternative approach to asset manager fees



In the previous [article](#), I argued for a new metric – cumulative dollars earned ‘CDE’ (and for this to be compared to ‘cumulative fees earned’ by the manager). Secondly, my colleagues at Willis Towers Watson (WTW) have long argued that a fair asset manager fee would be no more than one-third of the gross value created. This balances the need to compensate the agent for their skill with the recognition that the principal is supplying all the capital at risk. It is time to combine these ideas.

Sticking with the status quo ad valorem rate arrangements for the time being, how do we approach the principle of the fee should be no more than 33% of the value added? There are two choices: (1) predict the manager’s future gross alpha and agree to an annual fee representing one-third of that amount, or (2) use a performance fee mechanism to calculate payments after the event. Clearly, with the first option, actual experience in an individual case is likely to differ from initial expectation – for better or for worse. In aggregate, however, given that alpha is a zero-sum game then we know that this approach will mean the asset managers take more than 100% of the value created, which is not the intention.

Does this mean we have to go down the performance fee route if we are to solve the macro issue? Regrettably, because I dislike the complexities necessary to correct for the unwelcome side effects of traditional performance fees, I think the answer is ‘yes’.

Therefore we need a less-complex solution, and I believe that paying a share of cumulative dollars earned offers a fair and transparent alternative. In principle, we measure the CDE and the asset manager is entitled to 33% of that amount. In practice there is a little more complexity but, I would argue, nothing like the complexity needed for current performance fees. I suggest the necessary elements are agreement on:

- **The value sharing** (say 33%, but could be different)
- **Any base fee element** (in extremis this could be zero). An obvious reference point would be the appropriate index-tracking (or perhaps the appropriate smart beta) fee rate. The opportunity could be taken to move away from the basis point structure within the industry and set a dollar payment rate (possibly indexed to wage inflation)
- **A withholding mechanism.** Changing the fee structure will not remove the noise from the performance results, and so there will still be a requirement to protect against cumulative overpayment. One option would be a symmetrical clawback system, where in a subsequent year the manager returns money to bring the cumulative fees paid back to the agreed share of CDE. On the assumption that this would be too painful for the asset manager, a withholding rate (say, 50%) could be agreed. The earned-but-not-paid part of the fee would be carried forward to the next calculation date. I am aware that there are some (but not many) performance fee structures with such mechanisms already in place for long-only equity mandates, but it is different from the current arrangements in the alternatives field and so there may be implications (such as tax crystallising) which could make this unworkable. Of course in private equity there are 100% withholding mechanisms – the problem there is that fees are paid on total return rather than alpha.

The mechanics of calculating the fee are then (fairly) straightforward. At the end of the first year the value of the benchmark portfolio is calculated – this is a notional portfolio that starts at the same size as the real portfolio and changes in value in line with the benchmark or index (and is adjusted to mirror the cash flows into and out of the real portfolio). The difference in the dollar value of the actual and benchmark portfolios is the dollar value created (or detracted) by the manager (the CDE). The share accruing to the asset manager is then calculated, say $0.33 \times \text{CDE}$. From this, the dollar value of the base fee paid over the year is then subtracted, leaving the dollar value of the performance fee element. As suggested above, a proportion would be paid immediately and the remainder withheld until the next calculation.

The crucial aspect is that subsequent years are continually added so that the cumulative dollars earned are calculated over the whole life of the account. There are no rolling periods from which bad years can drop out, causing a fee boost, and there is no need for high water marks. If the asset manager adds considerable value over time, they pocket 33% of it (or as agreed). If they do not add any value at any stage, they only collect the low base fee. It is possible for a large fee to be earned in a single year, and for no value to be added after that. If the manager is terminated at that point, they may have earned more than the agreed 33% share, but the asset owner will have been partially protected by 50% of the pay-out being withheld.

Of course there is the complexity of how the accrued but unpaid performance fees are released on termination, but again this is relatively straightforward.

I think this is a fairer, better aligned mechanism. Anyone up for it?

“If the asset manager adds considerable value over time, they pocket 33% of it (or as agreed). If they do not add any value at any stage, they only collect the low base fee.”

We now broaden our consideration of purpose and value creation. The next two articles consider the purpose of a system and ask what the investment system actually does.

3. POSIWID: the purpose of a system is what it does

The history

In the Thinking Ahead Group we have spent well over a decade thinking about investment as a system. We are at least as interested in the macro behaviour of the industry, as we are about the micro behaviours of the various agents. Then we formed the Thinking Ahead Institute with the stated purpose of changing the investment industry for the benefit of the end saver. In effect we wanted to encourage the industry to (re)align itself to better serve a social purpose – to strengthen its licence to operate.

The painful recognition

In 2017 one of the Institute's research streams was investment as an ecosystem. We held a couple of topical days as part of the exploration. One of my personal goals was to understand whether an ecosystem could have a social purpose. Professor Mark Pagel was very clear that biological ecosystems had no intrinsic purpose. The fact that they happen to produce oxygen, tasty protein and recycle waste (amongst other 'ecosystem services') is very convenient for us humans. But nothing in a biological ecosystem is aiming towards those goals. He therefore suggested that this, in an absence of over-riding purpose, was the starting point for considering human-made ecosystems, such as the investment industry.

Even with this helpful guidance, I still didn't get it. It has only been in pursuing our research this year into value creation that I have run into the acronym POSIWID – the purpose of a system is what it does. I think I get it now. But the realisation that I am a slow learner has been painful.

What does it mean?

The essence of POSIWID is to counter the notion that we can infer the purpose of a system from the intentions of those who design, operate, or regulate it. The originator of the phrase, Stafford Beer, stated that it gave a better starting point for understanding (rather than attributing good intentions, moral judgements or even knowledge to the system). In turn, for the investment industry, this means two things:

- It is beyond the power of any agent, even a regulator or a government, to impose a social purpose on the industry, and
- If we want the investment industry to pursue a better social purpose, then we need to change what the industry does.

Where to from here?

I believe that POSIWID is powerful insight for us and the working group to consider in the value creation research this year. For example, in response to the first point above, we should accept that no single agent can impose a purpose – but that doesn't mean an absence of influence. Could a sufficient number of purposeful investment professionals influence a sufficient number of investment organisations to change the industry? How large might that coalition need to be, to be successful? How much effort should be spent persuading regulators or governments to add their influence?

And the second point above is potentially deep, and throws off a number of questions, such as: what do we think our industry does? What does our industry actually do? If these answers are different, why is that? (Spoiler alert: I think the answers will be different, because we think our industry still does what it once did, such as allocate capital, but the passage of time and the adaption of the system means what we actually do is now different (listed equity markets are now net returners of capital). What should our industry be doing? And what would we need to change to accomplish that?

4. POSIWID II: What does the investment industry actually do?

In our article, [POSIWID](#), we argued that:

1. It is beyond the power of any sole agent, even a regulator or a government, to impose a social purpose on the investment industry; and
2. If we want the investment industry to pursue a better social purpose, then we need to change what the industry does.

These assertions beg the question: what does the investment industry actually do?

The primary functions of the investment industry

The myth of capital allocation versus the reality of risk management

Commentators often describe the core function of the investment industry as “the efficient allocation of capital”, but as we, and many, have argued, adaptation by the system means that the focus of what the industry does now looks very different.

The Bank for International Settlements (BIS) [notes](#) that since the early 2000s, there has been a reduction in the amount of equity capital raised by corporations. This follows a global trend in developed countries where funds withdrawn from the market through acquisitions for cash and share buybacks have routinely and considerably exceeded the amounts raised in rights issues and IPOs. Many large firms quoted on the stock exchange no longer rely on the equity markets to raise cash to fund capital expenditure and indeed, over the 20-year period to 2016, the number of [listed equities in the US has fallen](#) by almost 50% and [in the UK](#) by 26% (or by 57% if you include the AIM market). A powerful case study of this shift is the capital expenditure of four of the world’s largest tech companies: Alphabet’s Google, Amazon, Facebook and Microsoft. Over the 12-month period to March 2018, [Bloomberg](#) reported that these companies collectively spent \$60bn on capital expenditure and capital leasing – up by 48% on the equivalent figure from 2017. The bulk of this was directed towards so-called hyperscale computing, which enables rapid access to heavy duty processing power on demand and is vital to the tech behemoths’ pursuit of dominance of the cloud. From a financial point of view, the remarkable aspect of this vignette is that the firms were able to deploy this amount without tapping equity markets. According to [John Kay](#) “as a source of capital for business, equity markets no longer register on the radar screen”.

“Many large firms quoted on the stock exchange no longer rely on the equity markets to raise cash to fund capital expenditure...”

Over the past two years, S&P 500 companies have spent \$1.1tn on share repurchase programmes according to a [recent FT article](#). Proposed changes to the US tax regime expected to trigger a repatriation of offshore funds are likely to increase this number significantly. The BIS [argues](#) that “share buyback booms in the US have typically coincided with surges in net bond issuance, suggesting that the former have been financed, at least in part, through the latter”. Professor Mihir Desai, in his article [Capitalism the Apple way vs capitalism the Google way](#), points to the corporate trend of using borrowed funds to distribute cash to investors. In response to shareholder pressure to distribute more earnings, Apple began to issue debt and borrow funds. Over the 4-year period to March 2017, Apple released \$200bn via dividends and buybacks, partially financed by \$99bn in new debt. Apple has not been alone in this approach. According to Desai, “the dominant corporate-finance pattern for the last decade has been Apple’s. Companies have been distributing cash via share buybacks and have borrowed money to finance these distributions at a rapid rate. As American stalwarts such as Deere, IBM, Amgen, and 3M cede power to investors, it’s like watching leveraged buyouts unfold in slow motion”.

According to a [Fitch ratings report](#), share buybacks have exceeded free cash flow after dividends since 2014, “with most companies using debt to cover the shortfall, underscoring a more aggressive stance across the sector”. In other words, the managements of listed companies have inflicted financial engineering on themselves in the same way that private equity firms inflicted it on non-listed companies¹.

So what exactly is going on? There was a time where the purpose of the investment industry was acknowledged to be the efficient allocation of capital. Money directed to an equity portfolio is predominantly applied to buy ownership rights in the secondary market². Bonds that are issued are increasingly being used for financial engineering versus investment in real growth. If investors are no longer performing the oft told tale of efficient capital allocation directly, we go back to our first question, what does the investment industry actually do?

We would suggest that the most significant observed activity within the industry is risk management – specifically the construction of portfolios to suit the asset owner’s risk budget, or risk tolerance. While it is true that asset managers can influence the use of retained earnings by companies through stewardship and governance, it is difficult to suggest that they are directly responsible for the generation of return as this is done by the investee companies themselves³.

Arguably, the business model of asset managers of private securities means that they have a greater influence over the return received by investors. These managers are often able to control the use of investee company earnings, typically by having representatives on the board of directors. However, given that private equity assets under management [hovered at around \\$2.5trn](#) compared to the [approximately \\$69.1trn](#) total run by the asset manager universe, even if this was all used for primary investment, this would represent only a small fraction of total activity.

¹ These actions are often deemed to be ‘efficient’ as bond interest is paid before tax but equity dividends are paid after tax. However, borrowing necessarily reduces the resiliency of the organisation and the system. Managements and shareholders are therefore changing the shape of the return distribution (increasing returns a little in most outcomes; massively increasing losses in tail outcomes) rather than creating value in aggregate. The call by some for interest and dividends to be treated equally appears to have merit.

² As a brief aside, the accumulation of large pools of internal capital seems to be an evolutionary phenomenon, and is far more noticeable in developed than emerging markets, where equity is still a major source of financing for new capital projects.

³ The role of investee companies is to allocate capital provided by stakeholders to generate wealth and improved well-being. These ‘asset creators’ fund new assets from retained earnings or the sale of securities to raise cash.

In short, the industry spends less of its time efficiently allocating capital and more on (facilitating) financial engineering and the shuffling of ownership rights. Pitt-Watson and Mann describe the management of risk as one of the [core functions of finance](#), whether it be to provide us with a pension until we die or to control the risk of failure to meet an investment return objective. One of the key roles of the industry is manage investors' risk through time, an activity conducted to a greater or lesser extent by asset owners, fiduciaries, asset managers and consultants within the industry. We would suggest, however, that the incentive structures and mandates prevalent in the industry mean the vast majority of effort goes into managing cross-sectional, or point-in-time, risk – rather than through-time risk. Capital allocation does occur at the margin, but this is subservient to the behemoth of risk management.

Stewardship is gaining traction but can be done better

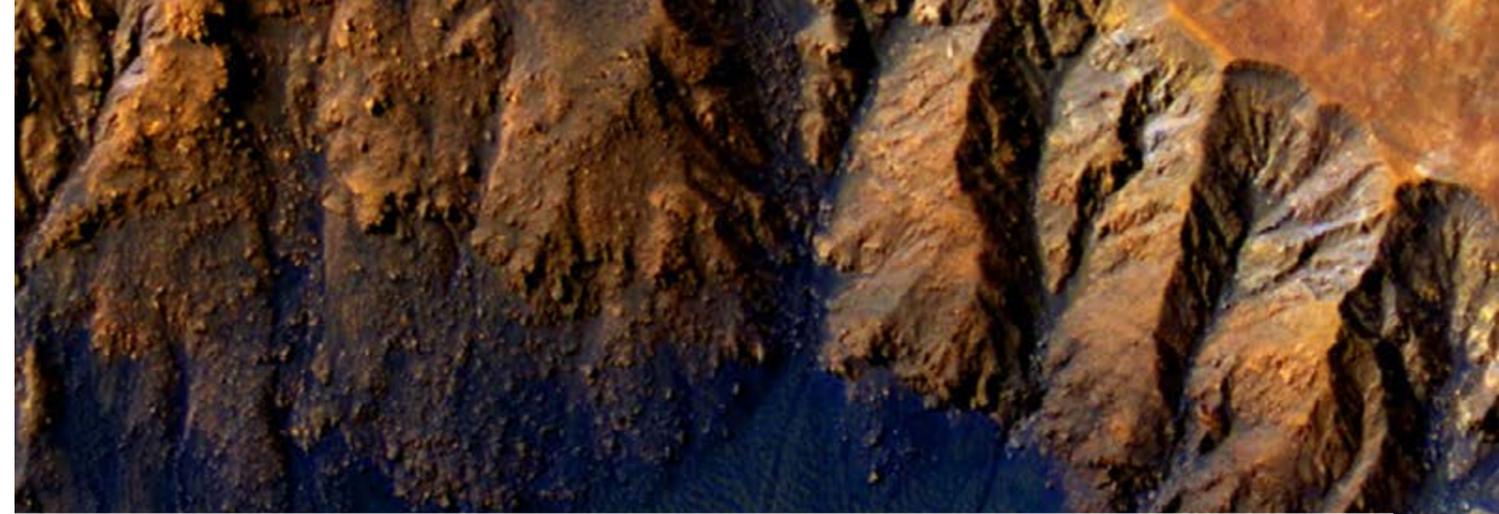
As John Kay argues in his book, [Other people's money](#), even if there were no new investment in capital stock, there would still be a need for the investment industry to nurture and maintain the existing stock of assets through a stewardship function. Society needs mechanisms for transferring wealth over time and trade in securities is one such mechanism. As previously argued, most large quoted companies are self-financing and so the relationship between these companies and the long-term investor must be one of stewardship. In other words, one of the key roles of the investment industry should arguably be to engage with company management on the best ways to generate sustainable long-term growth and manage the risks that might impair a company's prospects.

So how does the investment industry fare against this objective?

While difficult to measure, there is increasing empirical evidence to support the value of stewardship⁴. This has led to a growing number of investors exercising active ownership policies, fuelled by the [growing adoption of stewardship codes](#) in many countries such as the US, UK, Switzerland, Japan and the EU. At the same time, the number of signatories to the UN Principles for Responsible Investment (UN PRI) continues to rise. However while a number of asset owners integrate stewardship into their investment practices, more work is needed to be done. According to the 2017 Future Fund and WTW global [research](#) of the 'Top 15' asset owners, opportunities are being missed by asset owners in the overlapping areas of sustainability, ESG, stewardship and long-horizon investing. Additionally, the UK's Investment Association [notes](#) that while most asset managers and asset owners consider influencing business strategy as a key priority for engagement, most actual engagements with companies are around executive remuneration. This is consistent with the trend that executive remuneration continues to dominate the dialogue between investors and companies.

Grewal et al., in their 2016 working paper on [Shareholder activism on sustainability issues](#), note that while a growing number of investors are engaging with companies, 58% of the shareholder proposals studied were filed on immaterial ESG issues (filtered using guidance from SASB) suggesting that a significant number of shareholders were unaware of the materiality or were pursuing objectives other than enhancing firm value. The paper argues that pressure on companies to address ESG issues that are not financially material destroys financial value. While the rise in stewardship and engagement activity is welcome, investment firms need to continuously distinguish between material and immaterial sustainability factors to avoid destroying value.

“One of the key roles of the industry is manage investors' risk through time, an activity conducted to a greater or lesser extent by asset owners, fiduciaries, asset managers and consultants within the industry”.



The 'meta' functions of the industry

We recognise the interconnectedness of the investment industry and its role in providing wider societal value. For example, the industry contributes to the wider economy through supporting jobs, communities, product innovation and capital and infrastructure spending. However, the fulfilment of the industry's purpose should be judged by the net value it creates, a function of how aligned its participants are to the end saver, how much they cost the system relative to their value and how effectively they operate. In March 2018 the Thinking Ahead Institute conducted a joint investment industry survey with the International Integrated Reporting Council (IIRC) to better understand how the investment industry delivered its value proposition across these areas. The score of 4.2 out of 10 by the investment professionals surveyed suggests that the industry still has substantial room for improvement.

Conclusion

If the above represents what the investment industry is actually doing (primarily risk management), then this provides a challenge for investment professionals to consider the question: what should the industry be doing? This question is likely to require consideration of individual, organisational and industry purpose – and the notion of a licence to operate. We discuss this further in the related thought pieces, [Creating systems value](#) and [The purposeful investment professional](#).

⁴ See "Active Ownership", Dimson, Karakas, Li, Review of Financial Studies, 2015. Also, "ESG Engagement in Extractive Industries: return and risk", Hoepner, Oikonomou, Zhou, 2015.



From purpose, we move to consider value creation – first with early thoughts in the life of the working group, and then as a retrospective on what we learned through the thinking journey.

5. Creating system value: organisational purpose and value creation

There is a fundamental shift occurring in the relationship between companies and society. Whereas previously, profit maximisation was seen as the dominant purpose of a business, increasingly it is now being regarded as an outcome of a company's broader purpose. The idea behind 'creating shared value' was discussed in Porter and Kramer's 2011 work where it was argued that the competitiveness of a company and the health of the community around it are mutually dependent. This bridged the gap between the long held dichotomy of creating value for shareholders and creating value for stakeholders. Robert Eccles also [tackles this idea](#) by noting that companies have two basic objectives: to survive and to thrive. He argues that shareholder value should not be the objective of a company but the outcome of the company's activities. In other words, rather than profit being the purpose, profit comes from pursuing a purpose that benefits society.

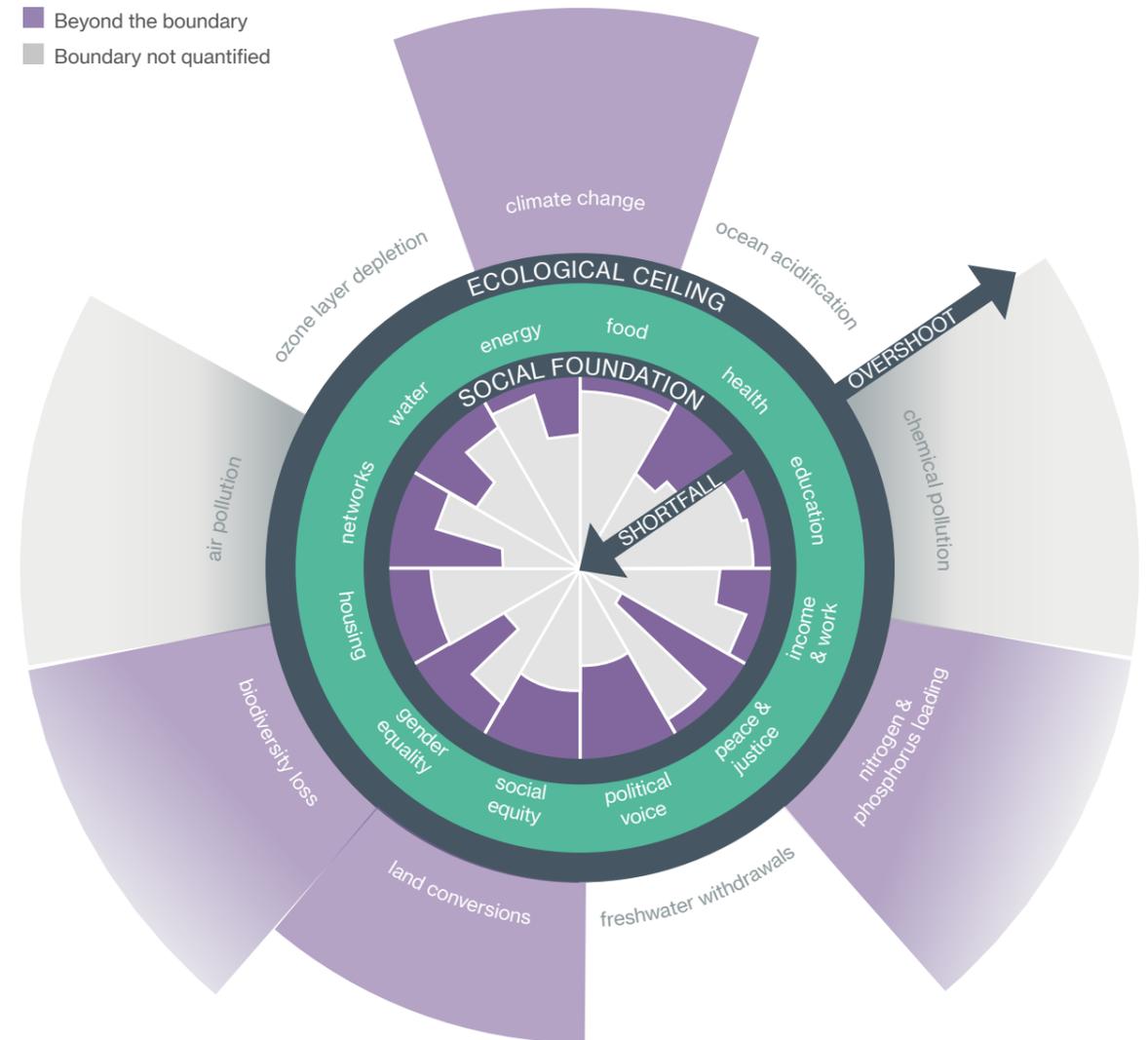
These considerations are shockingly important when you consider the size and impact of some companies. In 2016, 69 of the world's 100 top economic entities were corporations rather than countries and the world's top 10 corporations had a combined revenue greater than the 180 poorest countries combined (a list which includes Ireland, Israel, South Africa and Greece)⁶. These 69 corporations clearly help shape the social foundation of our societies⁷. The investment industry has an immense opportunity to influence how these corporations are run, and perhaps even, fund the 70th.

Building a better social foundation for societies

Kate Raworth, in her book *Doughnut Economics*, sets out a visual framework for sustainable development by combining the complementary concepts of planetary and social boundaries. In 2009, Johan Rockström, executive director of the Stockholm Resilience centre, outlined nine planetary boundaries that are critical for keeping the earth in a stable state beneficial to life as we know it and attempted to quantify how much further we can go before there is a risk of "irreversible and abrupt environmental change". Human survival clearly requires the sustainable use of these planetary resources and complementing the planetary boundaries are social foundations below which there is unacceptable human deprivation. The 'doughnut' (shaded green) represents the safe operating space for humanity: a social foundation of wellbeing that no one should fall below, and an ecological ceiling of planetary pressure that we should not go beyond.

"The returns we need can only come from a system that works; the benefits we pay are worth more in a world worth living in"⁵.

Figure 1 – Doughnut economics – balancing planetary and social boundaries



Source: Doughnut Economics, Kate Raworth, 2017

⁵Dutch pension fund. Source: Roger Urwin, Thinking Ahead Institute roundtable

⁶Source: "10 biggest corporations make more money than most countries in the world combined", Global Justice Now, September 2016

⁷All companies will have an impact on their local community

For a clear statement of what societal wealth and well-being includes, a good place to look is at the UN's sustainable development goals (SDGs). This universal set of goals, targets and indicators has been agreed by 193 member states and covers a broad range of social and economic development issues expected to frame government agendas and political policies at least until 2030. The SDGs address the most pressing systemic social, economic and environmental challenges in our world today and are arguably the most objective reference point for determining what is good for society. With goals such as ending poverty and hunger, achieving gender equality and improving access to clean water and sanitation, the SDGs point to a common language which the great majority of economies (and hence industries and organisations) can rally around.

However, it is estimated that meeting the [SDGs will require \\$5trn to \\$7trn in investment each year](#) from 2015 to 2030. The UN has put out a strong call to action for the private sector to play a fundamental role in achieving these SDGs. While government spending and development assistance will contribute, they are expected to make up no more than \$1trn per year and so "new flows of private sector capital will be key, either through new allocations or by re-routing existing cashflows".

In their 2017 report, [The SDG investment case](#), the UN PRI argues that investment organisations should consider the SDGs when making strategy, policy and active ownership decisions based on a fiduciary duty to consider the risks and opportunities generated by sustainability risks. In short, the SDGs can be used as a framework through which investment decisions can be made, in keeping with an investor's fiduciary duty, while offering opportunities for global economic growth that could lead to better investment outcomes for beneficiaries over the long term.

Creating system value

The idea of shared value has since been extended by the concept of creating 'system value', a term first introduced by the Future-Fit foundation⁸. A system value perspective places a business within society – it is a subcomponent – and places society within the environment. The logic is unarguable. And the perspective shows that a business cannot be considered as independent from either society or the environment. It will affect both of them – for better or for worse.

To understand how an organisation creates system value, one has no look no further than how it designs its business strategy and executes its operations to benefit stakeholders, using its various sources of capital (financial, human, social, manufactured, intellectual and natural). Admittedly the bar for achieving true system value is high, however we believe that organisations can contribute to this target by pursuing activities which help create better societies and a more sustainable environment.

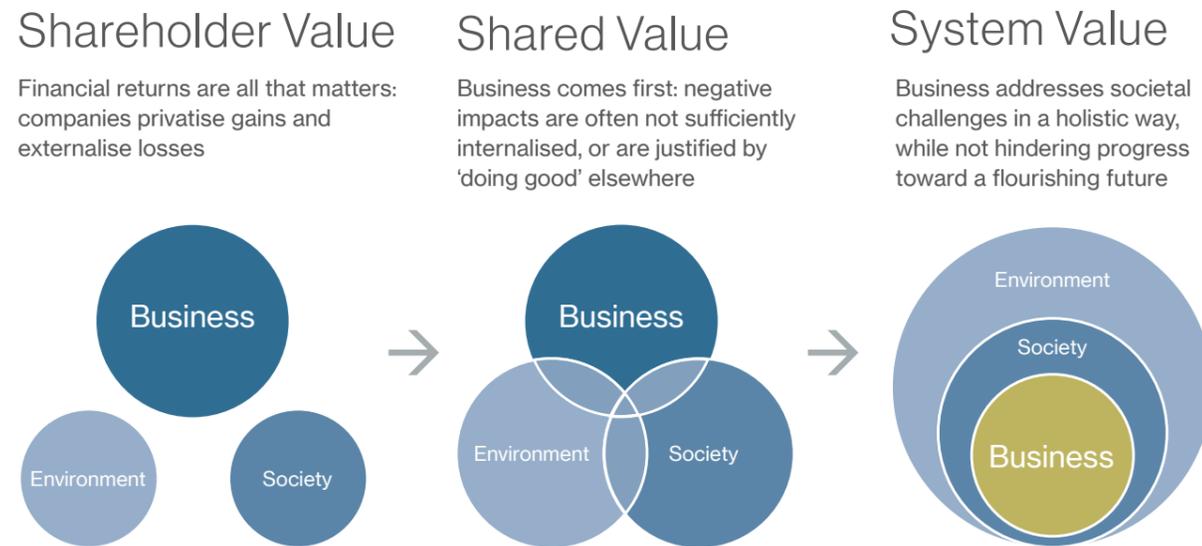
"A system value perspective places a business within society – it is a subcomponent – and places society within the environment. The logic is unarguable".

An example of achieving system value within the investment industry

System conditions	System value principles		
<i>The conditions that must be met for society to flourish</i>	<i>Principles an investment firm can follow to create system value (increasing levels of impact)</i>		
Nature is not subject to systematically increasing degradation.	The firm eliminates its contribution to environmental degradation. (e.g. carbon offsetting, sustainability focussed investment)	The firm helps others to avoid environmental degradation. (e.g. collaboration with other firms to promote LH investing)	The firm acts to reverse the effects of environmental degradation. (e.g. industry coalition to actively divest/strand assets and lobby governments to regulate)

Source: Adapted from Future-Fit Foundation

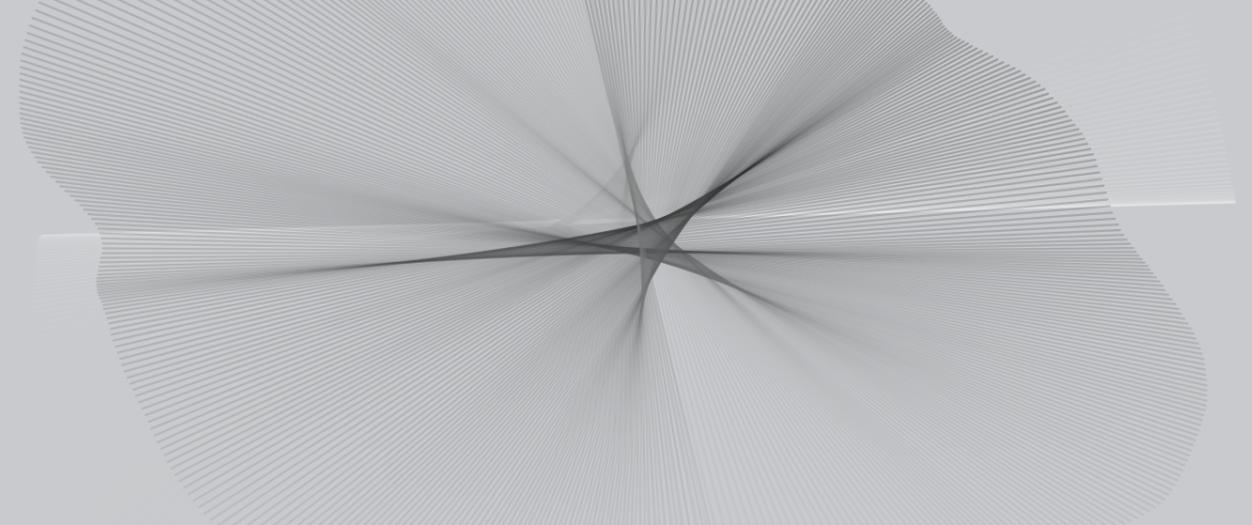
Figure 2 – from shareholder value to system value



Source: Future-Fit Foundation

⁸For further information, see paper, "Creating system value: concept note", Future-Fit Foundation, April 2017

6. Briefing on insights from the 2018 value creation working group



Background

In 2018, the TAI carried out a research project to address the question: “how should the investment industry create value?”. With input from investment professionals across seven member organisations⁹, full findings from this research are summarised in two research papers hosted on the Institute’s website: [Connecting the dots: understanding purpose in the investment industry](#) and [Mission critical: understanding value creation](#). This briefing summarises key insights from our research.

What is the purpose of the investment industry?

The theory

We believe that the investment industry as a whole should be viewed as a complex, adaptive ecosystem¹⁰. In short, this implies that while the industry is made up of a number of connected and interdependent organisations (which compete with, and rely on, each other), these organisations are a product of, and an influence on wider society. In the same way that biological ecosystems have no governing purpose¹¹, an ecosystem perspective of the industry has two significant implications: (i) it is beyond the power of any agent, even a regulator or a government, to impose a social purpose on the industry, and (ii) if we want the investment industry to change, then we need to focus on what the industry does.

The practice

The above observations led us, as a working group, to look at some of the key functions of the investment industry to address the question of its purpose. In short, two of the most commonly observed functions of the industry are risk management (specifically the construction of portfolios to an asset owner’s risk budget) and stewardship activity. Risk management is primarily focused on managing cross-sectional, or point-in-time risk, and stewardship (arguably, across-time risk management) is gaining traction but can be done better. The often-cited function of efficient capital allocation is observed to a much lesser extent across asset classes.

Society is increasingly asking the investment industry to play its part through investing sustainably – balancing time horizons and stakeholders. The social licence to operate for all asset owners and asset managers is a tacit social contract that gives legitimacy to the industry depending on the impact of their actions on wider society. This licence is only maintained if organisations create value for these stakeholders.

Does the investment industry create value?

The theory

At the end of 2018, the Institute’s value creation working group settled on a definition of value creation:

Value creation is an increase in the stock of monetary and non-monetary resources used to create future wealth and well-being for stakeholders, as judged by observers, mindful of the passage of time.

This definition is packed with powerful insights. Perhaps the most important one to draw out here is that the value created by investment organisations affects a wide group of stakeholders that goes beyond shareholders, employees and clients, but also includes companies, wider society and the planet. In setting an organisation’s mission leadership, either implicitly or explicitly, creates a boundary between those stakeholder groups which benefit from the value created and those for whom value is destroyed.

We mention two additional insights from this definition. Harkening to the adage “beauty is in the eye of the beholder”, there is a necessary subjectivity in the determination of whether value has been created. Value creation cannot unilaterally be declared by the organisation undertaking the activity. Stakeholders will have their own perspectives on how organisations’ resources should be used and transformed to create wealth and well-being. And this value emerges, or erodes, over time. These signal the need for companies to develop strategies that focus on (1) anticipating, understanding and responding to stakeholder needs and (2) the development of long-term relationships. It also calls for companies to self-assess and be transparent in reporting how value is created.

The practice

It is difficult for us to unequivocally determine whether the investment industry has added value to the future wealth and well-being of the vast range of its stakeholders, over multiple time horizons. Instead, as a working group, we attempted to: (i) understand perceptions of the value added by the activity of the investment industry, using the viewpoints of investment professionals within it, and (ii) set out three practical self-assessment tools which organisations can use to better define, measure and monitor the value created.

There was a belief by the working group that the investment industry, in many ways, has contributed positively to society through the creation of wealth, providing risk management services and increasingly ensuring that capital allocated to companies is effectively stewarded. However, the results of a joint industry expert survey, conducted with the International Integrated Reporting Council (IIRC) in March 2018, suggested that there was substantial room for improvement, particularly in the articulation of the industry’s purpose and in understanding how value created is distributed among stakeholders. Participants observed that the industry continues to suffer low levels of trust, asymmetries of information between end savers and itself and, in many cases, misaligned incentive structures and mandates¹².

How should the investment industry create value?

As a working group we set out a bold vision for the industry:

The investment industry should aim to provide whole-of-life, whole-of-balance-sheet management for end savers. At a minimum, this activity should cause no harm, and will be truly valuable if it contributes to a world more fit to live in.

As such, the industry has a duty to ensure its provision of new capital, and its stewardship of existing assets add value to the end saver, wider society and the planet both now and, as far as it is able, into the future.

Achieving this vision is likely to involve a broader interpretation of fiduciary duty than is currently practiced. It involves moving fiduciary duty from its current framing of risk and return to a broader interpretation that also includes impact.

In our paper, [Mission critical](#), we also set out five guidelines for organisations that wish to report on their value creating activities and introduce a self-assessment framework and monitoring scorecard. However, overarching these tools we point to two necessary signatures of the value-creating organisation: (i) intentionality – aligning the organisation’s mission, policies and behaviours with its intention to create value for stakeholder groups and (ii) transparency – clarity in reporting value creating activity, narrowing the gap between stakeholder expectations and ultimate outcomes.

An organisation cannot be considered as independent from society or the environment. It will affect (and be affected by) both of them – for better or for worse. If we are to improve the value proposition of the industry, we as investment professionals need to be the drivers of that change. This can be achieved through a better understanding of our own purpose-driven motivations as investment professionals and how they collectively contribute to the well-functioning of our firms and the wider industry.

⁹ Craig Horvath, Dimensional Fund Advisors; Jeroen Rijk, PGB Pensioendiensten; Marc Bautista, Willis Towers Watson; Philip Palanza, State Street Center for Applied Research; Tracy Burton, Coronation Fund Managers; Vishal Hindocha, MFS International; Wynand Louw, Old Mutual Group.

¹⁰ For further details on investment as an ecosystem, see the Thinking Ahead Institute paper, [System thinking and investment](#), including some relevant investment case studies.

¹¹ The recycling of carbon dioxide, produced by mammalian respiration, back into oxygen by the photosynthesis within plants is a happy accident – not the purpose of plants.

¹² The survey attempted to understand how the investment industry delivered its value proposition across three key areas: (i) alignment, (ii) costs and (iii) efficiency, as perceived by key stakeholders within it. Investment professionals surveyed rated the industry 4.2/10.

7. Publishing our third integrated report

So that's the theoretical take on purpose and value creation. The next piece suggests we try to eat our own cooking where possible – it highlights why we produce an integrated report on ourselves.

Back in November 2016 our London roundtable meeting included a presentation from the International Integrated Reporting Council (IIRC), and commentary from a member that is required to produce an integrated report. Looking back, the concept was unfamiliar and therefore difficult – and so perhaps it was naïve of us to ask for members to volunteer to submit themselves to an integrated reporting process. As no-one stepped forward we decided to produce one on ourselves – the Thinking Ahead Group.

We have now published our third integrated report (the reports can be found on the member website under these links: [2016](#), [2017](#), [2018](#)). We think we are getting better at understanding what we do, and at writing the reports. We also think it is a valuable exercise. Even if no one else reads the report, it forces us to consider what we do, and how we might improve – how we might try to create more value. That said, we are a small team and what we do isn't that complex. Even so, collating the data to support our value creation story seems harder than it ought to be. In other words, we strongly believe in the value of the integrated reporting approach, but we recognise that considerable effort would be required for a large organisation to start down this road.

What is integrated reporting?

Integrated reporting, <IR>, aims to be the vehicle an organisation chooses to use, to report on its value creating activities. It brings together material information about an organisation's strategy, governance, performance and prospects in a way that reflects the commercial, social and environmental context within which it operates. It leads to a clear and concise articulation of the value creation story which is useful and relevant to all stakeholders (covering multiple capitals, multiple stakeholders, multiple time horizons).

Based on our own experience since that original introduction to the concept three years ago, some of the challenges and benefits we observe are:

Issues with <IR>

1. Intangible information means subjectivity, in presentation and interpretation.
2. Information in an integrated report may be hard to verify. Assurance for non-financial information is still in its infancy.
3. The report may not truly reflect business reality if the group doing the reporting is separate from the business (leading to a 'saying-doing' gap).
4. There can be a temptation to pad out reports, hindering investors' understanding of the true drivers of the business.
5. If the report becomes merely a PR exercise, its value is severely limited.

Why bother with <IR>?

- a. <IR> encourages more integrated thinking and hence better strategy, although to our knowledge there is no empirical evidence of <IR> companies outperforming peers.
- b. Further, there is the argument that better informed providers of capital lead to a lower cost of capital.
- c. At core, however, some organisations will be more aligned with the multi-stakeholder, multi-capital, multi-time horizon philosophy of the <IR> framework and view reporting this way as simply 'doing the right thing'.
- d. <IR> fosters trust in a business through its recognition of its connection and responsibilities to wider society, hence supporting the entity's social licence to operate.

It's integrated thinking that really matters

Clearly the IIRC would like to achieve world domination with their reporting framework. To us it is not the brand on the framework that matters. It is the mindset. For us, an appropriate mindset means one that sees:

- money as just one of the capitals necessary to operate a business
- the running down of a non-financial capital as just as risky as running out of money
- a wide set of stakeholders as having a legitimate interest in the operations of the business
- value accruing and/or being destroyed over multiple time horizons not just the most recent year [reported profits for the banking sector in 2007 look less impressive after taxpayer bailouts].

Our past work on long-horizon investing, sustainability and value creation all lead us to consider wider and longer framing to be essential. We can no longer view a one-year, finance-only result as meaningful – there is too much information missing.

In addition, we believe the *zeitgeist* is shifting such that society will increasingly expect corporations to take greater responsibility for a wider set of issues affecting a bigger group of stakeholders. A multi-capital, multi-stakeholder, multi-time horizon approach to reporting seems to be the natural way to go.

We now bridge between purpose and value creation and the environment, with one article either side of the section header. The value creation boundary is a core component of the value creation work within our **Mission critical paper** referenced above. It links the externalities of our economic activity to the impact on the environment (and society).

8. The value creation boundary

It is worth stating up front that, for us, the value creation boundary is an abstract concept rather than an actual, discoverable thing. It is more of a thought experiment and so its value lies in how it might change our thinking and worldview.

We start by asserting that we value order in our lives. We will pay to have our homes cleaned, but not to have them messed up. It is similar for goods. We will pay up for the highly-ordered final product, but not for the raw materials it is made of. Next, we note that economics has long recognised the concept of externalities – costs or benefits that fall on people not directly involved in the economic activity. From here two things follow. First, that there is a value creation boundary which lies between these innocent bystanders, and the parties involved in the economic activity. Second, that value is created inside the boundary and destroyed outside it¹³. In other words, the externalities are, in aggregate, negative. Several questions spring to mind: who are the insiders, and who are the outsiders, and do they tend to be the same people? Where should we draw the boundary, and are there consequences to that decision?



The planetary reality

The tightest local boundary we can draw is around a single individual, for a single good or single service. So I derive value from my home being cleaned but tend not to think about the impact outside my boundary. These impacts include, first, the production of chemicals used to clean my home, and their escape from my home as waste; second, my share of CO2 emissions from the electricity powering the vacuum cleaner; and, third, the fact that most of the vacuum cleaner will end up in land fill at the end of its life. Having considered my impact outside the boundary I have a choice to ignore it, or to adjust my cleaning mandate (only lemon juice and vinegar? More sweeping and less vacuuming?).

Switching to the widest pragmatic possibility, we could draw the boundary around the earth's atmosphere. Expanding the value creation boundary to this fullest practical extent echoes the logic of ecological boundary conditions. Further, I would argue it is the true heart of sustainability. In this framing, we recognise the earth as a largely-closed system (so a good idea to maintain the life-support systems) with the free input of solar energy, and the ability to costlessly dump excess heat into the universe¹⁴. If I adopt this mindset then I probably do need to limit my cleaning chemicals to lemon juice and vinegar, and in aggregate we will only be able to extract lemon juice at the rate the earth is able to replenish the crop. In addition, I ought to ensure my electricity comes from renewable sources, and that my vacuum cleaner was designed with a circular economy mindset (rather than a linear use-then-throw mindset).

Where to draw the boundary?

If we were employed in almost any other industry we would have a product or service and we could consider whether to draw our boundary around just our customers, or whether to include their families, their communities, the local ecosystem, or take a whole of planet, whole of humanity stance. As investment entities we start there, and then need to consider our portfolio and the investee companies represented within it.

The logic of the value creation boundary is that the more tightly we draw it, the larger the domain over which we are having a negative impact (this doesn't mean the negative impact gets bigger). Further, this engenders an adversarial, negative-sum environment. To create value for our small group, we need to be able to dump harm on some other group. However the other groups know this, and have the same incentives. In case this is too abstract, think about the choice between divestment and engagement. Divestment is nothing other than the discovery of a value creating opportunity for my group by dumping the unattractive securities on another group. Not wrong, but not positive sum either. Engagement runs the risk of still holding securities with a collapsing value before business models can be adapted. But it can be a positive sum activity, and it signals a 'wider boundary' mindset.

¹³ This second statement should be challenged by any enquiring mind. If we have stated that externalities can be costs or benefits why do we jump straight to a net cost? First, we could breach (or amend) our first statement and move any defined subset of bystanders that are net beneficiaries within the boundary. In this case we reinforce value being created within the boundary and leave all the value destruction outside. Second, we could introduce the passage of time and recognise that short-term, positive externalities can become negative in the long term. Third, we could argue that any economic activity produces waste alongside the intended output. The intended output is priced and sold inside the boundary, the externality is unpriced waste which is dumped outside the boundary. If those arguments fail to satisfy the enquirer, the author would resort to an argument invoking the second law of thermodynamics. In this case, by analogy, the value destruction is the outside-the-boundary increase in entropy which must be at least as big as the value-creating reduction of entropy within the boundary.

¹⁴ Given the size of earth relative to the universe this would appear to be a sustainable strategy for the 5 billion or so years before earth is consumed by the expanding sun. We also obey the second law of thermodynamics as the increase in entropy (our excess heat) is carried by the universe.

The more we expand the boundary the more of humanity we include. This carries the advantage of reducing the antagonism between groups, but the substantial disadvantage of removing cheap dumping grounds for the waste of the economic activity we invest in. We return to this thought below.

If we choose not to draw the value creation boundary that widely, we are identifying that we hold one or more of the following beliefs or values:

- My investment time horizon is sufficiently short that I do not have to worry about potential negative consequences over the longer-term
- I am subject to fiduciary duty, which I interpret to mean my responsibility is solely to maximise the next period's risk-adjusted return
- I am powerless to influence externalities so there is no point expending any such effort
- I recognise the importance of addressing externalities but prefer to be a free rider on the efforts of others
- My ideology does not support this action. I believe unconstrained free markets produce the best outcomes, so if the externalities matter that much someone will create a profitable business to address them
- My values do not support this action. I care passionately about my group [ie clients / members] but have no regard for anyone outside this group.

The above list is not our values and beliefs, but they are valid – at least somewhat. The point is that the value creation boundary is a thinking device. Each investment organisation, whether asset owner, asset manager or other service provider, will need to work out where to draw their own. In the next section we disclose our values and beliefs in this matter – and 'our' here includes the authors and the members of the value creation working group.

Back to the planet

There is a growing recognition of the validity of ecological boundary conditions. The ecological ceiling representing the outer ring of Kate Raworth's 'doughnut'¹⁵ is based on the scientific paper published by Johan Rockström in 2009¹⁶. Due to the scientific foundation of these boundary conditions we do not need a values-based discussion to support them. We accept that beliefs may differ but, by definition, valid beliefs must be consistent with the available data, and so the range of disagreement is constrained.

If we return to people, then drawing the value creation boundary around the atmosphere includes all of humanity. We are saying that value must be created for all humans, not just subsets. This is the social foundation, and inner ring, of Raworth's doughnut. It is also the UN's sustainable development goals. Accepting some degree of responsibility for these social goals is necessarily (but not exclusively) values based. And values can legitimately vary widely. For our part (authors and working group), we believe that all investment organisations should develop the beliefs and values to support this social floor, as well as the ecological ceiling.

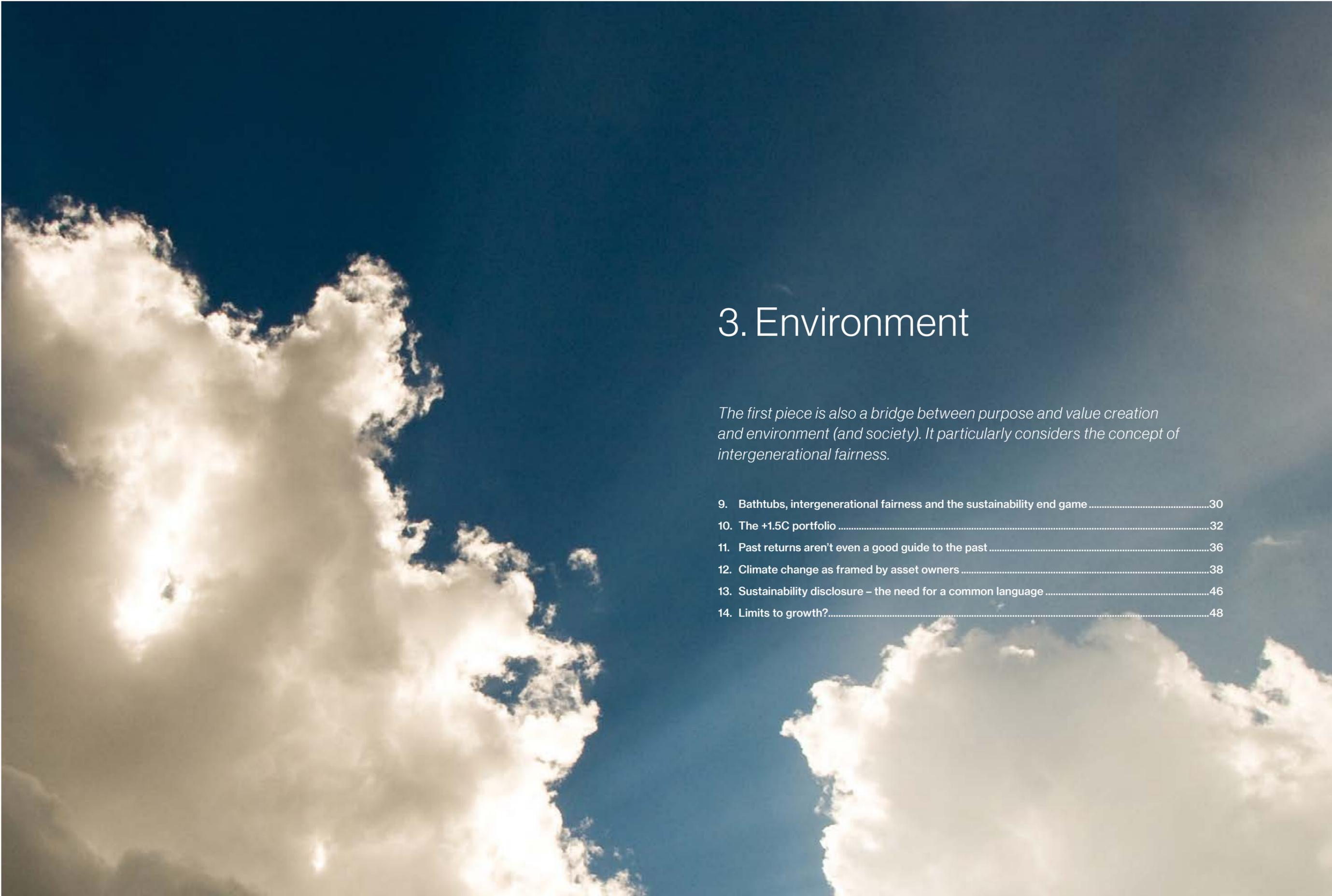
So what?

Where we choose to draw the value creation boundary will clearly have implications for our subsequent actions. It will determine which business models are appropriate to be in the portfolio, and which should be excluded. It will influence decisions over the provision of new capital. And how seriously to take voting and engagement. It may influence new thinking over the structure of incentive arrangements. And quite possibly have other effects we haven't documented here. But that seems enough to be getting on with for now.



¹⁵ Doughnut Economics, Seven Ways to Think Like a 21st-Century Economist, Kate Raworth, Penguin Random House, 2017

¹⁶ A safe operating space for humanity, Rockström et al, 23 September 2009 (linked here)



3. Environment

The first piece is also a bridge between purpose and value creation and environment (and society). It particularly considers the concept of intergenerational fairness.

9. Bathtubs, intergenerational fairness and the sustainability end game	30
10. The +1.5C portfolio	32
11. Past returns aren't even a good guide to the past	36
12. Climate change as framed by asset owners	38
13. Sustainability disclosure – the need for a common language	46
14. Limits to growth?.....	48

9. Bathtubs, intergenerational fairness and the sustainability end game

fairness | noun | impartial and just treatment or behaviour without favouritism or discrimination

In this article I explore the concept of intergenerational fairness. For us in the Thinking Ahead Group it is a necessary condition for sustainability. For example, I would argue that the lack of sustainability of the vast majority of defined benefit pension funds was, at heart, a failure of intergenerational fairness – with the current generation taking the credit for the assumed returns and the future generation holding the risk of the returns not being realised. I start with a thought experiment where a bathtub represents an endowment received by a generation and eventually passed on to the next. But before we dive in, a quick note on the language. I am using the word 'fairness' and have provided a definition above. I am not using the word 'equity'. As the father of a child with Down syndrome I do not have the luxury of treating my children equally. I am forced into the squishier and more difficult world of treating them fairly.

The thought experiment

I will use a bathtub as an analogy for intergenerational fairness. But let me begin with my preferred definition of sustainability. A resource or a system can be said to be sustainable when the rate of extraction equals the rate of replenishment. So the level of water in our bathtub will remain constant when the rate of inflow from the tap equals the rate of outflow through the plughole. Clearly, for long term sustainability we should put the plug in and turn off the tap – but that is simply setting both rates of flow to zero. And all analogies are imperfect.

We have created for ourselves a sustainable bathing environment. When we turn to consider intergenerational fairness, however, the waters get murkier. We are now ready to hand the bathtub on to the next generation. The simplest definition of intergenerational fairness would require us to hand over the bathtub with the same depth, temperature and quality of water as we inherited. This would be intergenerational equity. But, if we have used our 'bathing endowment' then under reasonable assumptions the depth will be shallower (we splashed or carried some water with us when we exited), the temperature will be lower, and the water quality degraded. It follows that satisfying an intergenerational fairness test will cost us, in some way.

Regarding the depth, we would need to buy more water to replenish what we lost. If no more water is available, then the proper action is very careful stewardship of the endowment during our period of use. Similarly for the temperature, we will need to pay for the energy required to heat the water to the original level. When it comes to the quality of the water or, in less polite terms, removing the pollution then presumably we are in for significant cost. We either need to build a purification plant next to the tub to keep the quality constant, and/or we need the ability to remove all the water, clean the bath and re-fill with purified or new water. The point of this analogy is to show that when viewed through the lens of intergenerational fairness, the use of endowments are far from free. And just in case it is necessary to spell it out, the endowment we are really talking about here is any natural resource found within the earth's atmosphere.

From equity to fairness

So far we have used the simplest definition of fairness – like for like. Let's try something harder in order to introduce a second important point. In this case we realise that the time is approaching for us to hand on the bathtub to the next generation, but we decide that baths are for dinosaurs and the new generation would much rather inherit a shower. Instead of paying to top up and heat the bathwater, and to build the purification plant, we will instead pay to have a shower fitted. Yes, the next generation inherit a degraded 'bathing endowment' but they also get a brand new shower. The question is, is this fair? And the answer, I will argue, lies along a spectrum.

To simplify things, I will consider the analogy through two scenarios. In the first scenario our generation is virtuous, and the second we are the opposite. Therefore in the first scenario we can presume that we have strong cause to believe that the next generation genuinely would prefer a shower, and I will assume that we spend at least as much on providing the shower, as we would have done on restoring the bathtub to its original condition. This seems fair.

In the second scenario we are lacking in virtue, and so our motivations are cynical. In effect, we realise how much it will cost to restore the bathtub, decide we are not willing to make ourselves that much poorer for the sake of the following generation, and so spend the least amount possible on fitting a shower – and the PR campaign to convince the inheritors that they really do prefer showering. This is the unfair end of the spectrum.

Now we place ourselves in the shoes of the new generation. We know the previous generation only had a bathtub, and we know that we have a bathtub and a shower. We don't know, but we might suspect, that their water was warmer and cleaner. How are this generation meant to decide where to place us on that spectrum between fair and unfair? This is the second important point about intergenerational fairness¹⁷. Because of the multiple factors involved, and the changing of the conditions, it is extremely difficult – I suspect impossible – to definitively assess fairness. It will be a subjective and nuanced judgement most of the time. Unfairness will occasionally be obvious – and we will now get to that as we consider the sustainability end game.

The link to sustainability

I started this piece with my preferred definition of sustainability, but I need to qualify it slightly. We need to distinguish between the cases where unsustainable practices don't matter, from those that do. For example, we might completely exhaust a natural endowment. If we convert that endowment into a better set of assets or capitals for future generations (e.g. a shower) then the unsustainable use of that endowment arguably doesn't matter. This connects to our point immediately above – how do you tell, in a complex, adapting system, whether your 'package of stuff' is better or worse than a different package at a different point in time?

Where sustainability does matter, and where intergenerational unfairness is obvious, is the 'end game' of this piece's title. Along with endowments of fossil fuel and rare earth elements, we also received an endowment of ecosystem services. These services are quite literally life support systems for us – and all other animal life. If we do not hand on intact ecosystem services to subsequent generations then we raise the prospect that there will be a final generation at some point. The hard logic of this, and I am sorry to go here, is the extinction of all customers at that point. And so the terminal value of all businesses within our portfolios is zero. The investment game is then about the horizon over which we can still expect to receive cash flows. If sufficiently long, we can leave the end game problem to a future generation and carry on as before. However, this looks a bit like a game of chicken to me.

The alternative is to change the investment game. To grapple with sustainability and intergenerational fairness and, as a consequence, seriously change our stewardship efforts. Quality foundations for the thinking are being laid by the likes of Johan Rockström, Kate Raworth, and the Future-Fit foundation to name three highlighting the importance of planetary boundary conditions. It is now up to us to build on these foundations and work out if we need to change our portfolios, or how we steward our assets.

¹⁷ There is a third important, but more technical, point. With intergenerational fairness there is no external arbiter of the fairness – you can't take the previous generation to court. Therefore the 'impartial and just treatment' required by the definition at the top of this piece has to be exercised by the current generation, over itself. In game theory terms, future generations are always under-represented at the bargaining table and therefore always disadvantaged. Your belief in the primacy of greed or altruism within human nature will affect your optimism or pessimism about the sustainability end game.



First, I would like to note that the original title of this opinion piece used a figure of +2C because I can't (currently) bring myself to believe that +1.5C portfolio feasibly exists. But my colleagues were insistent: the world needs to limit warming to no more than +1.5C; +2C is too risky. Second, by 'portfolio' I mean the global stock of productive assets, most of which are owned outside of our industry¹⁸. By defining the portfolio this way I am allowing a lot of wiggle room; the investment industry owns a subset of the assets, and individual asset owner owns a subset of that. So this framing preserves individual freedom but introduces a collective objective to shape the stock of assets so that global temperature stabilises at +1.5C.

I guess I should do the 'third' up front. Third, under business as usual, the current global portfolio is consistent, in my view, with a +4C world. If we are serious about a +1.5C objective, then transformational change is required. In truth, this transformational change will extend way beyond the borders of the investment industry. Our part will be to mobilise capital to secure a sustainable future.

To build my argument, I need to lay a couple of foundation pieces.

The 4321 PIN code

Mobilising capital will require the application of influence. Our [4-3-2-1 PIN code](#) describes how an arbitrary 10 units of influence is allocated across society: 4 units go to the public sector (legislation and regulation), 3 to corporates, 2 to the investment industry, and 1 to individuals. The trick is to recognise the interactions. The 1 unit of influence for individuals typically involves choices over recycling, consumption and what products to put their savings in, but it can also exert serious pressure on the public sector – think Greta Thunberg and Extinction Rebellion. This offers a model for the investment industry to use its 2 units to influence both corporations and public policy.

Allocating capital

I have often seen and heard the justification that the investment industry adds value to society by allocating capital to the right places and, by implication, keeping it away from the wrong places. I have usually argued with this view by invoking the ideas Keynes outlined in chapter 12 of his *General Theory*¹⁹ Keynes called capital allocation 'investment', which entails handing over cash to a risky venture (constructing a building, expanding a factory) that will only generate cash flows at some point in the future. What we currently call capital allocation looks more like the buying and selling of shares; Keynes called this 'speculation'. Our more considered argument regarding the relatively small role of capital allocation can be found in our paper [Connecting the dots](#).

For our current purpose I need to revisit and deepen the argument. While I believe it is true that in the current era of share buybacks there is less capital allocation going on than claimed, it is also true that there were capital allocations in the past that led to the current shape of our economic machine. Let me suggest that some of those capital allocation decisions were active – a prospectus was issued, considered and new capital was raised – and some were passive – investee company managements were left alone to decide over the reinvestment of cash flows. This highlights the importance of stewardship and engagement. If we do not steward our assets and engage with management then we have no influence over ongoing capital allocation decisions. Because of the wonder of compounding, it also highlights the importance of the initial decision to fund a business model.

“While I believe it is true that in the current era of share buybacks there is less capital allocation going on than claimed, it is also true that there were capital allocations in the past that led to the current shape of our economic machine.”

¹⁸ The value of these assets are estimated at around \$530trn, of which the investment industry manages about 1/6th, or \$90trn. See The Global Capital Stock: Finding a Proxy for the Unobservable Global Market Portfolio, Gregory Gadjinski, Markus Schuller and Andrea Vacchino, The Journal of Portfolio Management, 2018[2] The General Theory of Employment, Interest and Money, J M Keynes, 1936

¹⁹ The General Theory of Employment, Interest and Money, J M Keynes, 1936



So, moving towards the +1.5C portfolio will involve the direct allocation of new capital, and a new level of engagement regarding the reinvestment of cashflows by investee companies. It could involve engaging with the public sector – not only on legislation and regulation, but also on the management of state-owned assets.

What are we aiming for? / the scale of the problem

To illustrate the scale of the problem, I will use a single reference point. It is estimated that the world's existing energy infrastructure will release 650 gigatonnes of carbon dioxide over its remaining working life. Add in energy infrastructure in planning, with consent, and under construction and the figure rises to 850 GtCO₂ – more than enough, on its own, to take us through 1.5C of warming^[3]. In fact, in her address to the UN Climate Action Summit on 23 September 2019, Greta Thunberg stated that the remaining carbon budget before we breach +1.5C is only 350 Gt. The scale of the problem is almost unimaginable.

Much of this energy infrastructure (valued at \$22trn) is owned in the \$530trn global portfolio, rather than the \$90trn invested (investment industry) portfolio. The issue I am seeking to highlight is this: to keep the world under +1.5C of warming we need to change the global portfolio, and yet the invested portfolio is only a small part. Is there any reason to assume these two portfolios will de-carbonise at the same rate? Can the investment industry play chicken and assume the state will do the necessary de-carbonising for them? Or are there attractive returns to be had from carbon-negative assets?

It's those darn externalities

Let me step back briefly, because it's not just about the carbon. In 2018 the Thinking Ahead Institute published [Mission critical](#) which explored the subject of value creation. Amongst other things, the paper introduced the notion of the value creation boundary; value is created within the boundary, and it is destroyed outside the boundary. It therefore matters where the boundary gets drawn. In case you are thinking "nobody sets out to destroy value", I agree. And yet it happens. Viewed from 50,000 feet (an uncomfortable metaphor) we see increasing carbon in the atmosphere, plastics in the ocean (and food chain), and phosphorus and nitrogen in rivers and lakes²¹. The economic machine we have built is absolutely

destroying value, as well as creating it. The externalities are everywhere – and externalities in this context, are the costless dumping of waste into an environmental sink. The trouble is, the environmental sinks are now full.

So, whether I view it from the perspective of the economic machine avoiding the proper costs of dealing with its own waste; or whether I view it as the running down of our endowment of natural capital to convert it into financial capital – I reach the same conclusion. It looks to me as if historical investment returns are over-inflated, relative to what they would have been had we run the economic machine on a sustainable basis. By this I am raising the possibility that correcting the machine may cost us. A carbon tax, in my opinion, is the right way to go; it starts to internalise one of the externalities, but it will raise the cost of doing business. At least, relative to the cost we are paying now – but maybe not relative to the cost we should have been paying.

So what do we need to do?

We are aiming for a sustainable future. The scale of the problem is stupendously large. It will take a massive collective effort to make the changes required. It is our belief that no-one, ourselves included, can possibly know all that is needed. Consequently, we believe we need to harness all the collective wisdom we can. In this regard we have two initial ideas: (1) a large-scale working group, possibly with several subgroups, and (2) the possible launch of a +1.5C portfolio competition. The latter will take some logistical planning and we are likely to ask members to serve on a judging panel – but it should garner quite a lot of attention.

If you would like to be part of the working group, please let me know. If you have any comments, questions or objections – same. In the meantime, we will work on the details needed to launch this initiative.

²⁰ We need to shut power plants early to stay under 1.5°C warming, NewScientist, 1 July 2019 – reporting on a paper in Nature.

²¹ In a longer paper I would add in social dimensions such as child labour and modern slavery which are other ways of destroying value, and which lead to the world's other great problem – inequality

11. Past returns aren't even a good guide to the past

The argument in this article is simple, but relatively aggressive: past returns are too high because they were based on false profits.

The Thinking Ahead Institute's work on value creation led us to propose the concept of a value creation boundary. Value is created inside the boundary and is destroyed outside it. There is discretion as to where to draw the boundary. Drawing a tight boundary concentrates the value created for the fortunate insiders, and means the value destruction for any particular bystander will typically be very dilute. So dilute, perhaps, that they do not even realise they are suffering any value destruction. However, collectively – and over time – the value destruction accumulates and becomes highly visible.

Taking this from the abstract to reality, our lived experience has been within an environment of shareholder primacy, which is nothing other than the drawing of a very tight boundary. Shareholders were the insiders and everyone and everything else fell outside. Now the value destruction has accumulated and is staring us in the face. It is the carbon in the atmosphere, the plastics in the oceans, the phosphorus and nitrogen in our rivers and lakes; it is also visible in the fight for living wages. In fact, if you are willing to allow me some slack I would argue that the UN's sustainable development goals are a manifestation that the economic machine has caused multiple problems for the masses lying outside the boundary.

So far, so clear. But what has this got to do with past returns?

The value destruction outside the boundary is simply different language for the term economists use – 'externalities'²². Both versions refer to the dumping of waste into environmental sinks, rather than paying to dispose of it cleanly. In other words, the true cost of production in our economic activity was understated, and hence profits were overstated. It is therefore my contention that past returns were inflated relative to what they should have been, based on these false profits²³. In effect we have run down our natural resources and converted them into financial returns, as if that was normal behaviour.

All this would be of no more than academic interest if nothing was likely to change. If we can continue to avoid accounting for the true full cost of production, who gets to declare that the profits are false? So, can we continue to costlessly dump our waste into environmental sinks? It is my belief that the sinks are now full or, with a global population of 8bn people, will be full in short order. And by 'full' I mean in a practical, rather than literal, sense – it will be perfectly possible for greenhouse gases to further accumulate in the atmosphere long after most biological life, including us, has gone extinct.

If the sinks are full, then the cost of waste disposal will need to be internalised and profits will fall. And what if society demands that the sinks be cleaned? Hold that thought...

Does the overstatement of past returns matter, and should we care? To answer this question I will simply quote from the FT's Moral Money email of October 2, 2019: "the influential Wall Street lawyer Marty Lipton argued that business was underestimating the potential litigation risks associated with ESG issues. "When significant costs to society from climate change and the depletion of resources are tallied, as they will be, an armada of regulators and plaintiffs' lawyers will appear," he warned. ... risks were far from abstract, Lipton warned: directors may be held personally accountable if their oversight was deemed in hindsight to have been insufficient." So, even if we leave aside the moral aspects, and look at this question purely in financial terms, it looks like shareholders should care as returns could be clawed back. And directors should care a lot.

In summary, it is my belief that past returns were overstated. The implication is that future returns will be lower²⁴. It might be possible, as with the global financial crisis, to get taxpayers to pick up the internalised costs. But taxpayers are also employees and customers, so it is hard to see how corporations dodge the bullet completely. It turns out that drawing the value creation boundary tightly, and acting as if the earth can absorb limitless amounts of waste, is not a game we can keep playing forever.

"...it will be perfectly possible for greenhouse gases to further accumulate in the atmosphere long after most biological life, including us, has gone extinct."

²² Properly viewed through a wide frame and over a long horizon, there is no such thing as an externality in a closed system

²³ The only way for past returns not to have been inflated would be if market prices already incorporated the knowledge that profits were overstated, and had done the adjustment for us

²⁴ More accurately, total value created will need to increase for shareholders to retain the same amount of value as previously

12. Climate change as framed by asset owners

The returns investors need can only come from a system that works

A notable outcome from 2018 was increased sensibilities on climate change both across society but also in the asset owner and corporate world. How the asset owner is framing the climate change issue was the subject I addressed in the article below, taken from the OP Trust Climate Change Symposium. This event was expertly convened to deepen the understanding of a difficult subject and get asset owners aligned to actions that are legitimate, proportionate and effective.

Keynote from Roger Urwin, Global Head of Investment Content, WTW | OP Trust Climate Change Symposium Toronto | 19 November 2018

It's a privilege and honour to be here. And many thanks for enabling my escape from the Brexit pit of misery - a case of values awry, common sense missing, liberal democracy unworkable and politicians just mean and nasty.

The spectacle from our House of Commons - MP after MP laying into our resilient Prime Minister is truly our tragedy of the commons, in which the freedom of opinion has squeezed out the quality of thought.

That's not what I'm talking about today. I am going from a tragedy of the commons to a tragedy of the horizon, and our Mark Carney and his phrase for the climate challenge²⁵ and the finite and shrinking window of opportunity to address it, ouch.

This talk has an asset owner focus. I'll try and mix content with a bit of brevity. And I am calling out four action points of 'WISDOM' - what I should do on Monday. And one killer fact - watch for it - that I hope sends you home wiser, which in a world of fake facts is a bonus.

I have the privilege of working with many of the world's largest asset owners. OP Trust is one of the best examples of course. The asset owners of the world invest over \$10,000 for every adult alive on the planet²⁶. I'll start with a powerfully simple idea that they are increasingly expressing.

1. The returns investors need can only come from a system that works

I'll explain a bit more. We live in a complex ecosystem - think of Kate Raworth's doughnut here²⁷ - the inner ring of social foundations and the outer ring of planet, containing the doughnut itself - the healthy society. Never before has the need been greater to understand that ecosystem and work in a savvy way with the grain. To achieve a balance - well expressed in Chinese yin and yan.

2. Right time for investors to do the right things to address that

I increasingly hear from asset owners that the right thing to do is investing sustainably, balancing time horizons and stakeholders. I contend it's the right time for investors to play their part in achieving this balance for several reasons.

First, it's that society is asking this of us. The social license to operate for all asset owners and asset managers is the tacit social contract granting legitimacy to asset owners. After all, we as individuals may or may not have our money managed by them, but we certainly feel the effects of their investment footprint - for better or worse.

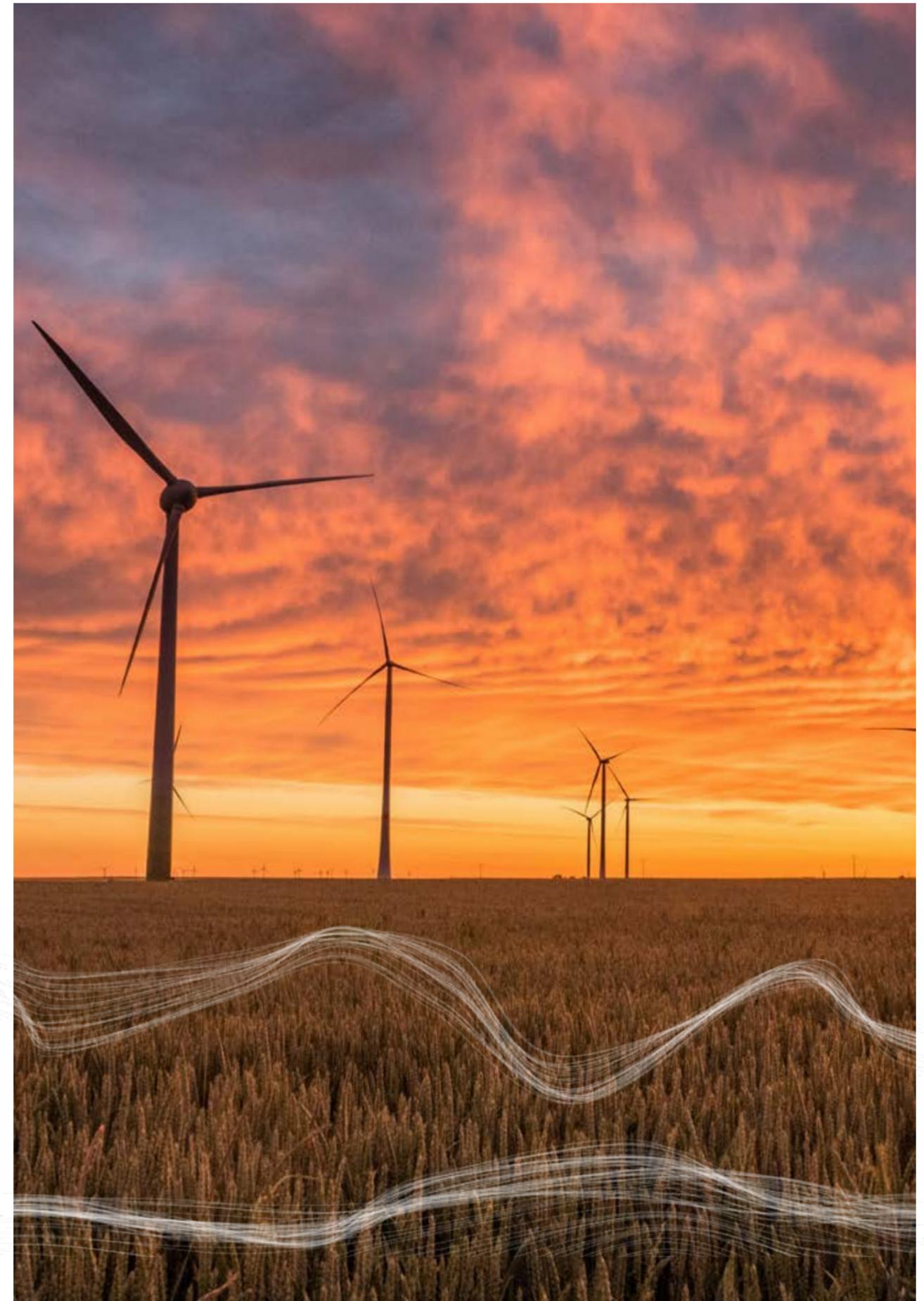
Second. This is a planetary crisis with a diminishing window to avoid the train wreck outcomes that are visible ahead. In my nightmares, I see this train cab in which a bunch of people are at the controls, but most are looking out the side window. No pressure, but in my opinion we look like we are on a pathway to the mother of all train wrecks. There is a right thing to be done here.

Third, asset owners now truly get it that the returns they need can only come from a system that works. And the benefits they pay will be worth more in a world worth living in. We are in the fortunate position that we can do the right thing and be successful financially.

²⁵Mark Carney, Bank of England Governor and Chair of the FSB | Tragedy of the Horizon (2015)

²⁶Roger Urwin | The World's Most Influential Capital (2018) | <https://www.top1000funds.com/2018/11/the-worlds-most-influential-capital/>

²⁷Kate Raworth | Doughnut Economics (2017)





3. This is the universal ownership concept

Universal ownership is when investment organizations (and the assets they invest in) integrate their wider purpose alongside their profit motivations. Dollars and financial impacts lie in the dominant position but real-world impacts count as co-benefits alongside financial benefits and ESG and sustainability principles kick in.

Big asset owners are getting better at what they do and becoming more influential and are adding focus to longer-term value creation and sustainability. They are working together in a club of sorts. And they are acting on this mantra: 'the returns we need can only come from a system that works needing us to address the co-dependencies of the economic, social and environmental factors'.

Universal owners are large-scale, long-term, leadership-minded funds that invest in a hyper-integrated way* – E.g. New Zealand Super Fund, GPIF, CalPERS, OP Trust.

They manage the value and utility of member wealth integrating financial and extra-financial exposures over the short-and long-term, integrating financial and real-world impacts. This is a bigger mission than they've worked to in the past and needs an upgrade in investment model.

What we need is for asset owner to adopt **the Universal Owner re-purposing** to meet participant goals while respecting wider stakeholders in an accountable environment applying hyper-connected principles. *Action item 1.*

4. That will follow S-shaped paths applying T-shaped skills

How will they do this? We need some fresh, shiny, innovative answers and the good ones go through a lifecycle and a test of time that is an S-curve – they start small with innovation; they get a big bigger with some early brave participants; they get socialized, they form a network effect, they grow and pass the point of inflection when a lot of people buy-in. We are early in this sustainability S curve but it is pointing upwards and it's accelerating because important organisations and leaders are joining the band-wagon.

But its future will depend on our ability to deepen our perspectives and our accompanying cultures here. The complexity in sustainability make it hard for anyone to be a master of this system. But the best people do build on their specialisation (the vertical 'I-shaped person') and add to it the wider context (the horizontal line of the 'T-shaped person'). T-shaped people connect dots well, connect well with other people and are critical to our ability to thrive in the future.

A great example here is Mark Carney whose T-shapedness comes from wide experience and mindset as exemplified by the tragedy of the horizon thinking and his ability to be at home with any financial or non-financial context ('Carney at home giving views on topics ranging from Scottish independence to Bitcoins and bank bonuses' – FT coverage of Davos World Economic Forum – January 2014).

But we are struggling with being T-shaped in our hyper-specialised world of siloes. All organisations should be training their people more this way as a point of culture.

Action item 2: The 10% T-shaped learning rule – the key is that your job is spending 10% of your time on a lateral agenda in the present to build the ability to thrive in the complex future. Climate science, anthropology, brain science, data science, game theory – could all be part of that program.

5. This requires investing to undergo its own transformation

Sustainability and long-horizon investing are currently practiced by asset owners in a relatively shallow way. While most asset owners are in a position to take longer-term positions, imperfect mind-sets and misaligned incentives frequently get in the way. A soft fact – the commitment of resources in the industry to stewardship and active ownership is less than 1% of all resourcing. That can't be a sensible figure.

We often lack the set of sustainability beliefs that are needed to drive your investment model forward here – the principles and assumptions about what we hold to be true across the spectrum of issues in front us; here both our context and our content that guide our actions and decisions. OP Trust has some nice stuff here.

The transformation is to use beliefs and further thinking to engage, allocate to risk, hedge, maybe even divest in the sustainability area. So example: Hedge = Investors allocate capital to investment strategies specifically designed to perform well in a low-carbon economy.

Such as companies involved in energy efficiency, renewable energy and clean technology to capture upside potential of climate change, employing beliefs as likelihoods not certainties that comprise the ecosystem. And engaging.

Sustainability and ESG are newish disruptions. Technology and data are playing a big part in this area. The subtlety is that big data in ESG is a lot more about so-called soft data or soft facts than the classic sort – basically information that is indirectly observed and in need of interpretation and its provenance is critical – think accuracy, biases, and materiality.

Let's try an example of a critical belief. The one I want to try is this strawman: 'The financial impact of climate change in investment outcomes over the next 20 years will be 'negligible, moderate, substantial or extreme'. In WTW research work²⁸ with 40 investment organisations and a sample of 550 investment professionals, 12% said they didn't know, and the spectrum ran 6%, 30%, 44% and 8%. In my view 8% had the good answer.

"Sustainability and ESG are newish disruptions. Technology and data are playing a big part in this area. The subtlety is that big data in ESG is a lot more about so-called soft data or soft facts than the classic sort..."

6. Scenarios and narratives are critical

Scenarios and narratives are arriving on this scene. To overcome the prediction challenge, we should focus on understanding what could happen, instead of trying to predict what will happen. Scenarios are a great tool to explore strategic choices.

Investment decision making is largely about group decision making, which requires ideas to be effectively communicated. Stories and narratives are much more effective when communicating than facts and numbers. Narratives can provide a more systematic understanding of why things happen and how they are connected to each other. Anyone working in complicated space has to *complicate to understand, simplify to act*. We have *action item 3* – the **scenarios and narratives uplift**.

What are the features of the best scenario and narratives? A recent example I really like is a William Nordhaus podcast²⁹ for New York Times. For climate you have to connect dots by being T-shaped for understanding and brutally simple for communication.

- **Climate change issues and landscape:** Climate outlook, current level of change and natural trajectory; other impacts like population migration
- **Climate change policies/interventions/influences:** Paris and what follows; carbon pricing; science and technology; societal zeitgeist and media evolving
- **Fund landscape and climate connections:** Exposures to physical risks and transition risks; mitigation costs; catastrophe costs and responses.

It's a lot. Many of the back stories to this are how much we are producing dots (impacts) and yet how badly we join the dots – understand the seriousness of the issues and the non-linear impacts which brings increasingly extreme weather down the pipeline; and the inter-connections residing in food and water security; population displacement; land degradation and coastal erosion.

²⁸WTW Thinking Ahead Institute | Sustainability in investing | Values and Beliefs Project (2016)

²⁹William Nordhaus | New York Times The Daily | <https://www.nytimes.com/2018/10/19/podcasts/the-daily/climate-change-un-report-carbon-tax.html>

7. The new investing model will take skill and judgement, data and technology

The new investment model – a paradigm shift – comes in these points:

- **Mitigate Risk:** reduce exposure to stranded assets and long-term environmental risks
- **Capture Disruptive Opportunities:** increase exposure to companies providing environmental-friendly technologies and solutions
- **Promote Stewardship:** shifting behaviour of companies to develop sustainable long-term strategy
- **Index methodology:** a strategy building block to help investors access opportunities and manage risks
- **Drawing on a data lake:** extending the sources of data, both hard and soft, to provide the scientific underpinnings
- **Innovation:** an exploding list with examples – climate scenarios, energy transitions, prediction markets, Total Portfolio Approach, catastrophe modelling.

But it's going to be hard and again it's going to need T-shapedness.

8. Try to complicate to understand, but simplify to act

We have to do some hard work to understand this. The significant problems cannot be solved at the same level of thinking with which we created the problem was Einstein's suggestion.

I firmly believe that the future presents a stream of seemingly insoluble problems that conceals a torrent of opportunities. This is desperately exciting for good people that can apply T-shaped thinking and leadership to what they do. We have moved investing from a two-dimensional state risk and return, to a three-dimensional state with impact in the mix – that's complicating.

In this leadership opportunities, the pathway is about letting 100 asset owner flowers bloom together.

And we have to build better connections between like-minded organisations. There is an increasing pay-off to scale in stewardship. Ride the S-curve. Get others seeing things the way you see them. Build the asset owner network. And chip away.

By approaching problems with what might make things a bit better, not setting yourself up with how to solve this mega-problem. Exploiting T-shapedness in understanding.



9. Understand how our feelings and thinking clash

Here is a quick primer on some new research. This work draws heavily on Jonathan Haidt – Righteous Mind³⁰ and Francis Fukuyama – Identity³¹. This is T-shapedness in integrating attitudes and behaviours.

Haidt first. Our actions as people depend more on moral emotion than moral reasoning – feelings first. And feelings are generated by the need for respect for self-identity or 'coherence' motives (preserving a coherent and worthy identity and sensible worldview); and 'relatedness' motives (relating to managing impressions of your identity with others such that they give you respect; e.g. you want to manage your image in a team context and you want to be included and appreciated, a big issue for team effectiveness).

The thinking and reasoning process has repeatedly been shown to be used to create post hoc justifications for behaviours that are not actually correctly describing the reason underlying the choice (e.g. in the US climate change beliefs correlates massively with political preferences and 'fake facts' often backfill the justifications for those beliefs).

So the place in the middle for socialising. The gap between thinking and feeling can only be reached by the people in the inner ring of respect. The problem here is that social media is often where people turn to feed their feelings.

Not politicians, ha. More like the people you respect because you share their values and beliefs. Feelings first, socialising second, thinking third. Feelings trump thinking.

Now the Fukuyama input. He focuses on the deeply-held feeling that the powers that be (the elites) do not give appropriate respect to particular identities: gender, race, religion, and others. Minorities often are marginalised and dis-respected, and their wish is to be brought into equivalence with majorities, a demand for dignity or maybe beyond. Hence identity politics and what Fukuyama calls the politics of resentment.

There is the other half of that story; that felt by majorities that the identity of the majority is disrespected by the special pleading of the minorities which creates the frustration with political correctness. This is very much the story behind Trump support.

This reads heavily into sustainability. ESG policies are to some just social activism. In the US, libertarian feelings make ESG seem like a political indulgence. Evidence climate change beliefs - a science issue - are heavily correlated with politics – over 80% of Republicans do not believe that the climate is serious risk to our futures. Their belief in personal freedoms, nationalism, market solutions, and light government is a dominant feeling that sees RI as illegitimate.

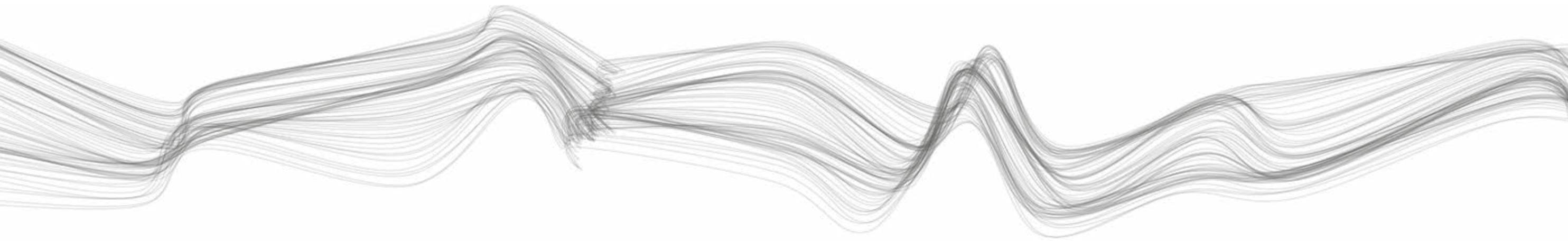
ESG/sustainability in finance is conflated by feelings trumping reason. We have the US asset owners about three years behind the pace being set in Northern Europe, particularly the Dutch and Swedish.

There is an answer. *Action item 4: Beliefs and values process.* These are the socialisation opportunities for groups to achieve real change. And it is CalPERS process that is an excellent textbook version of how to produce beliefs by coming together, documenting and enacting change with faster process, better decisions and deeper accountabilities; and producing the T-shaped team effort.



³⁰ Jonathan Haidt | The Righteous Mind: Why Good People are Divided by Politics and Religion (2013)

³¹ Francis Fukuyama | Identity: The Demand for Dignity and the Politics of Resentment (2018)



10. The leadership examples for us are out there

Asset owners are too important to fail in their mission. They carry a massive burden for the wealth and well-being of billions. They have little choice but to take really seriously their financial stake (remember it amounts to more than \$10,000 wealth per adult) and real-world responsibilities (much squishier but potentially larger still) and to lead from the front and not to shrink away from the big issues.

Example 1. New Zealand Super Fund

1. Evaluation of climate change as an undue risk which goes against the NZSF mandate.
2. Board engagement in the policy and follow up in the One Planet initiative; what the alignment, ownership and integration intentions actually mean, particularly the energy transition opportunities³².
3. Thoughtful index construction to manage carbon intensity. It is clearly possible to use indexes here, very similar to their application to factors, in a sense integrating ESG as part of the risk factors approach.

Example 2. GPIF – the largest asset owner

1. Universal Owner mindset. ‘The inconvenient truth of modern portfolio theory: the more diversified we are, the less exposed to volatility we are but the more vulnerable we are to systematic failure’ (Mizuno).
2. So they pay attention to how the whole portfolio system can be sustainable through ESG and attention to stewardship, particularly in passive portfolios.
3. And their ‘doing the right thing’ phrasing which will get more traction over time.

Example 3: OP Trust

What I like is their positivity around their role and their thought leadership, witness this symposium.

Capitalism’s way of working surely must evolve to be more inclusive. I see scenarios in which the investment industry raises its game with more professional, well governed, ethical, organisations playing their part by acting in aligned-to-purpose and efficient ways. The asset owners have the critical role here.

Forces are gathering behind these drivers. The prior blockages including limited data and the restrictions imposed by fiduciary standards are gradually being reduced. In a world of increased stress on climate, resources and societal cohesion, government and governance - asset owners will be pressured into addressing their wider responsibilities.



11. Time for the killer fact

Here is my killer fact. 90% of the population are tying their shoelaces wrong with a weak form of knot, by doing the granny knot with two identical knots. The result: shoelaces come undone.

If the strong form of knot is used, the reef knot equivalent –one ‘left over right tuck under’; one ‘right over left tuck under’ – the one where the knots are integrated then shoelaces would be tied rock solid.

What’s that got to do with this talk? We have the technology to make the changes we need – the shoelaces. But what we need are the human bits – starting with the wisdom, the better integration of the components and the T-shaped know-how.

We also need the courage and leadership, the imagination and vision to make some changes; and critically, the culture to make change stick. For me, the sustainability journey has been gathering pace from 2005 origins. It has been much more interesting and yet difficult than I expected. It has also turned into a mega personal and professional issue – personal because I am passionately concerned that my wife, children and grand-kids face that mother (nature) of all train wrecks; professional because there are things I can and should be doing to contribute in ways that can make a meaningful difference.

And in the words of Fatboy Slim, it starts right here, right now with ‘what I should do on Monday’:

4. The asset owner adopting universal ownership purpose
5. The 10% T-shaped learning budget
6. The scenarios and narratives uplift
7. The beliefs and values process

Oh and the shoe laces.



“We also need the courage and leadership, the imagination and vision to make some changes; and critically, the culture to make change stick”.

³²Matt Whineray | Responsible Investor interview on climate and the One Planet initiative (2018)

13. Sustainability disclosure – the need for a common language

Imagine opening a manufacturing company's annual report and finding this statement: "We pollute because it is in our financial interest to do so. For the same reason, we hire lobbyists to ensure that the regulatory constraints on our pollution are minimized. And we skirt the rules that do exist: an occasional fine is a good business investment."

That's pretty unlikely to happen. After all, when it comes to PR, [honesty is not always the best policy](#). But, as investor interest in sustainability grows, so do expectations around corporate disclosure. Many companies pollute or discharge carbon into the atmosphere or do things that impact local communities and the environment in a long list of other ways. Investors (and others) have a legitimate interest in the extent to which they do so.

At the Thinking Ahead Institute, we believe that institutional investors need to understand and articulate the impact of their investment decisions on **all** stakeholders, including wider society and the planet, because their long-term sustainability depends on it.

To understand impact, it helps to have data. But data on sustainability is limited and difficult to make sense of. There's an incentive to put a positive spin on it: "we actively engage with regulators" sounds so much better than "we hire lobbyists". Even working out what it is we'd like to know is not straightforward. Increasing the volume of disclosure is relatively easy. But how do we make sure the new data is actually useful?

A thorough analysis of the current state of disclosure (specifically: ESG disclosure) has recently been produced by Nissay Asset Management, in a report commissioned by Japan's GPIF. This is publicly available both in [summarised format](#) and in the [full 241-page detailed analysis](#), and well worth a look for interested readers. I will not restate the contents of these reports here. Rather, I want to highlight one topic it raises: the need for a common language.

The most significant global disclosure initiatives include the International Integrated Reporting Framework (<IR>), the Global Reporting Initiative (GRI) and the Sustainability Accounting Standards Board (SASB).



These initiatives each originated with a different purpose. To some extent, it can be argued that they are complementary. For example, Nissay characterise SASB and GRI as offering normalised information, making comparison across companies easy. <IR>, in contrast, is more tailored, principles-based, with greater emphasis on business models. The principles-based approach allows for deeper understanding at the individual company level, but does not necessarily enable easy comparisons across companies. Hence <IR> is a framework rather than a standard, into which the disclosure items specified by the other initiatives can be incorporated.

At this point in the development of sustainability disclosure, the need for a more common language – standardisation of reporting requirements – is particularly pressing. Disclosure standards allow companies to be confident in what is expected of them and to move away from having to react to a stream of one-off requests from shareholders. [SASB's materiality map](#), for example, identifies which issues are likely to be financially material to each of 77 separate sectors (data security is probably material for a bank but not for an appliance manufacturer, water management for a chemical manufacturer but not for an asset manager). The standards list specific disclosure items relating to each issue.

Standards also ease the development of analytical tools, which turn data into actionable information. And they raise the bar, making it harder for laggards to duck the issue with empty platitudes and cherry-picked numbers.

It's quite possible that one day I will find myself arguing that "it's better to report the right things imprecisely than the wrong things exactly" and that principles are what is needed – but today is not that day. The more companies go beyond the standards and produce meaningful <IR> reports, the better, but the biggest need today is for better baseline reporting from everyone.

Another area of difference between the various initiatives is the breadth of their scope. <IR> and SASB report information that is relevant to a company's operating performance and financial condition, while GRI extends to consider wider impact, including environmental and social effects. The former approach builds on existing norms, focusing on a single set of users; the latter aims higher. As noted above, TAI believes that understanding wider impact is essential. But targeted initiatives such as <IR> and SASB are necessary extensions of current practice.

The developers of the various standards and frameworks recognise the need to work together. The International Integrated Reporting Council, SASB and GRI participate in a corporate reporting dialogue that also includes CDP, ISO and a list of other bodies. The more successful this dialogue, the easier the transition to better reporting is likely to be for corporations, and the faster progress is likely to be made.

In the longer term, the Nissay report argues that "the possibility of mergers or the weeding out of ESG disclosure frameworks/standards cannot be ruled out." That may be driven either by markets or regulation.

In summary, investors need to improve their understanding of the wider impact of their decisions so that they can start to manage it better. That means better corporate disclosure is needed, and common standards are a key element of making that happen. Investors are increasingly focused on the sustainability of their portfolios, but all too aware that [good intentions do not easily translate into meaningful impact](#). Disclosure standards can help to close both the saying-doing gap *and* the doing-impact gap.





We now transition from the environment to society via a link article that considers whether there are limits to growth.

14. Limits to growth?

What is sustainability? The Thinking Ahead Institute has a couple of working groups considering different aspects of the subject and one thing we have learned so far – hold the front page – is that a universally-accepted definition of sustainability does not exist. Each investment professional has their own, legitimate take on the subject. For what it is worth, my take is settling on the notion that sustainability is intrinsically linked to the rate of extraction of resources from a system relative to the rate at which they are replenished. This may sound a little abstract, but it has led me to reflect on different forms of growth ‘dynamics’ (the ‘shape’ of the growth rate over time). I can think of three different types of growth, but there may be more.

- 1. Sigmoidal, or S-curve, growth:** growth starts slowly, accelerates for a while before decelerating to a zero growth rate. This growth dynamic applies to most biological things and explains why trees do not grow to the sky.
- 2. Exponential:** the growth rate is consistently positive up until the point of collapse. An example would be the growth of a colony of bacteria in a petri dish. There is a technical wrinkle concerning whether the point of collapse occurs in finite time (a problem for us) or in infinite time (we can ignore).
- 3. Chaos:** the classic example here is the growth in the rabbit population on an island, with unpredictable booms and crashes.

The common thread across all three is access to resources. Growth stops when the resources can't be extracted from the environment fast enough. In the case of exponential growth, collapse comes when all available resources have been harvested. [And yes, I doubt it will ever be economic to mine resources from passing asteroids and, further, I consider a human colony on Mars to represent failure rather than success – just think of the per capita resources required to sustain life there...]

We now need to tie the two ideas of sustainability and growth together. If the rate of replenishment of the resources is zero, in other words we are gifted a one-off endowment of, say, fossil fuels, then we know we are dealing with exponential growth – eventually the resources will run out. If the rate of replenishment is positive (and there is an existing stockpile), then we know two things: (1) the sustainable rate of extraction, and (2) that we can exceed the sustainable rate of extraction for a period, albeit with a future cost. However you configure it, I am led to conclude that over the very long term, the only sustainable growth rate is 0% per annum. This is not how we appear to be wired – we seem to be wired for growth – so how do we explain this mismatch? Two different strands of thought occur to me.

First, there is history. For the vast majority of human history global GDP growth is estimated to have been between 0% pa and 0.05%pa, and then around 1750 it exploded exponentially. This growth pattern would fit either the sigmoidal or exponential dynamics reviewed above. Arguably the former is the ‘more sustainable’ option – and it is possible to make the case that we could currently be in the deceleration phase. If global GDP is truly exponential, then reasoning by analogy would suggest that positive growth can be sustained until the resources run out, at which point it collapses. In this latter case we would need to define the time frame over which we were concerned about ‘sustainability’ and if the collapse is likely beyond this, then it is outside our frame of reckoning.

The second strand of thought is inspired by Eric Beinhocker's *The origin of wealth*. This book makes the case that wealth is knowledge – so more knowledge equals more wealth. Assuming this to be true, wealth will increase indefinitely if knowledge increases indefinitely. The indefinite increase of knowledge seems plausible, given that the more discoveries we make the more recombinations of them can be made, to yield yet further discoveries. There are two caveats in my mind. Again from history, the lesson from the destruction of Arab centres of learning shows that knowledge (and wealth) can be destroyed – even if that is harder to imagine now that knowledge exists in digital form. Second, for me, the problem of resource limits still needs to be solved. For knowledge and wealth to increase indefinitely it seems to me that both have to be free of any resource constraints – and that is hard for me to imagine.

To conclude, I am settling on a belief that over the very long run the only sustainable growth rate is 0%pa. Given my belief in complex adaptive systems, a steady state seems remotely likely. More likely would be a chaotic pattern of positive and negative growth rates. What does this mean in the real world of investing? With the caveat that there is seldom a simple and direct link between abstract thought and portfolio positions, there seem to be meaningful implications for portfolios. First, equities are call options on growth whereas bonds look more as though they extract resource at a rate more in line with replenishment – so asset allocation could be revisited. Second, there may be implications for risk management – in particular, being mindful of risk over longer horizons, and possibly having a more dynamic risk budget over time. Third, there are clear implications for security (and/or sector) selection. We see the subject of sustainability as continuing to grow in importance – and so we will continue to refine our thinking in this area.

“The indefinite increase of knowledge seems plausible, given that the more discoveries we make the more recombinations of them can be made, to yield yet further discoveries.”



4. Society

Here we present four articles that, apart from their link to society in general, are essentially unrelated. We then consider a cluster of articles that relate to defined contribution, which will link us forward to the governance section.

15. Load up our investee companies with more costs – for higher returns	52
16. To bonus or not to bonus?	54
17. Do we get the investment (eco)system we deserve?	55
18. The tap and the lake – the changing nature of information flows	56



15. Load up our investee companies with more costs – for higher returns

2018's value creation working group ended the year by settling on a definition:

Value creation is an increase in the stock of monetary and non-monetary resources used to create future wealth and well-being for stakeholders, as judged by observers, mindful of the passage of time.

There is a lot in that definition and here is not the place to unpick it (the interested reader can refer to our paper, *Mission critical*). What I do want to explore here is whether at least one aspect of value creation might be counter-intuitive: could more cost lead to higher returns?

Just as success has many fathers, this thought also has several contributors. In addition to the working group mentioned above, there is Larry Fink's 2019 letter to CEOs³³ and, back in 2014, the work of Eric Beinhocker and Nick Hanauer³⁴.

The Fink letter

In his seventh annual letter to CEOs³⁵, Larry Fink raises a number of noteworthy issues, but I will focus on only one of them. Fink exhorts the CEO recipients to step up, noting that "the world needs your leadership". He acknowledges that companies "cannot solve every issue of public importance, but there are many – from retirement to infrastructure to preparing workers for the jobs of the future – that cannot be solved without corporate leadership." In particular Fink singles out retirement, stating that "companies must embrace a greater responsibility to help workers navigate retirement ... [to] create not just a more stable and engaged workforce, but also a more economically secure population in the places where they operate." For the purposes of this article I am going to read this as a call for companies to voluntarily increase their costs.

The Hanauer contribution

Nick Hanauer had the good fortune to be born into a wealthy family, and the even better fortune to be friends with Jeff Bezos – allowing him to become the first non-family investor in Amazon. Refreshingly, Hanauer recognises this good fortune and acknowledges that, had the accident of his origins been different, he would likely be selling fruit at the side of a road in Africa. His contention is that the current extreme inequality shows that capitalism isn't working (as well as being dangerous for him and his fellow 'zillionaires'). A polarisation of an economy into a small number of extremely rich people and a vast number of poor people guarantees that most businesses will have few customers.

In 2013 he wrote an article entitled *The Capitalist's Case for a \$15 Minimum Wage*³⁶ (approximately double the US federal minimum wage at the time). The backlash was predictable: if the price of labour goes up, the demand for labour (employment) will go down. Hanauer's reply was that CEOs used to earn 30 times the median wage, but now earn 500 times and yet there are no fewer of them; in fact, there are probably *more* senior executives now. The typical capitalist wish is for rich customers and poor workers, which might work at the micro level, but at the macro level the workers are the customers³⁷. About a year after his article the city of Seattle passed a \$15 minimum wage and, contrary to predictions, the restaurant trade flourished; waiters could afford to go out for dinner. So again, this is about raising costs on companies for the benefit of the economy – albeit through compulsion.

Are we aiming at the right goal?

The Fink and Hanauer contributions are suggesting there is a positive payoff to increasing costs (sounds a bit like investing now for future returns!). Yet this appears so counter-intuitive because it does not fit with the prevailing assumption that success is about efficiency and productivity; making more with less. But surely success is more about prosperity – the wealth and well-being in our opening definition.

If prosperity is the right goal, then we are changing the role of the corporation away from Milton Friedman's view that its social responsibility is to increase its profits. Can those of us subject to fiduciary duty consider such a shift? While the financial return must come first, investment has always been a three-dimensional problem of risk, return and impact. Business and economic decision making has always had moral and ethical impact even if we have chosen (or been forced) to exclusively consider the monetary impacts.

By viewing the production of portfolio returns in a wider frame and over a longer horizon, we can quickly see that driving up the return on capital by driving down the cost of labour is unlikely to be long-term successful. The workers, the customers and the end savers are, at the macro level, the same people. We do not benefit the end saver by giving them a higher short-term return if we weaken their human capital. This could be presented as a moral case. Fortunately, given the requirements of fiduciary duty, it can also be presented as a case of enlightened self-interest for any investor seeking to produce long-term sustainable returns.

³³ <https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter>

³⁴ Their combined work seeks to redefine capitalism (eg this [McKinsey piece](#)), and is a more scholarly treatment of inequality – whereas Nick Hanauer's individual writing is more direct and personal (eg this [Politico magazine piece](#)).

³⁵ The interested reader may wish to read a defence by Mark Kramer (of shared value fame, with Martin Porter) against a backlash unleashed against Fink <https://hbr.org/2019/01/the-backlash-to-larry-finks-letter-shows-how-far-business-has-to-go-on-social-responsibility>

³⁶ <https://www.bloomberg.com/opinion/articles/2013-06-19/the-capitalist-s-case-for-a-15-minimum-wage>

³⁷ As part of his argument, Hanauer refers to Henry Ford paying his workers \$5 a day 'so they could afford to buy a model T'. Here is a [Forbes article](#) arguing against that received wisdom. The issue is again the micro (higher wages as a competitive device) vs the macro (lifting a population above subsistence living)

16. To bonus or not to bonus?



Towards the end of August 2016 there was great fanfare in the financial media regarding the decision of Woodford Investment Management to cease paying bonuses to their executives. Daniel Godfrey, the former chief executive of the Investment Association, announced similar intentions for his soon-to-be-launched investment trust. We considered remuneration in a 2015 Thinking Ahead Institute (TAI) research piece and floated the fixed-pay-only model as an option worthy of consideration.

Having raised this subject within the forum of the TAI, it is clear that the discussion around compensation is highly nuanced. Remuneration could be structured in any number of ways, with fixed pay at one extreme and (for illustrative purposes) a fully variable compensation package at the other. Arguments on the impact of pay structure on motivation, performance and alignment of interests are likely to run and run – it is difficult to move beyond subjective beliefs and to make categorical statements regarding outcomes.

What seems fairly certain is that a differentiated pay structure, such as that adopted by Woodford and Godfrey, will attract certain professionals to these firm and put off others. Likewise, it may impact on investors' manager selection decisions (although is unlikely to be the primary consideration).

We applaud these moves for a number of reasons:

- If nothing else, they will provide an interesting case study for the industry
- The firms are setting a precedent for others to follow. It requires great courage to break with the compensation status quo – if things go badly a firm risks losing its valued staff and may struggle to attract the people it wants
- We believe that the case for variable pay in asset management is weak, for a number of reasons (see [our paper on compensation and incentives](#)).

In truth, though, these are small, relatively new firms that can start with a blank slate – more established firms will be naturally reluctant to make sweeping changes to compensation practices that affect many employees. And the employees may be even more reluctant to see change.

The industry may be at an 'interesting' juncture, where the inertia on compensation could be tested by the continued pressure on asset managers' fee structures. Arguably, the practice of charging an ad valorem fee as a fixed percentage of AUM creates a clear incentive for asset managers to gather assets, and hence sales staff are remunerated according to how much new client money they are able to bring in. Similarly, the impact of past performance on product uptake encourages a natural link between relative performance and compensation for investment professionals. The consequences for unchecked asset growth on alpha decay are well-documented, and do not serve asset owner interests. So there is a clear alignment issue at stake. It is also an issue that is difficult for asset owners (other than the largest) to address in isolation, and the path to a solution seems to rely on greater cooperation between asset owners and the pooling of their collective buying power.

17. Do we get the investment (eco)system we deserve?

The first research produced within the Thinking Ahead Institute, *State of the industry*, concluded by contrasting five likely futures with more desirable versions of them – the argument being that 'we' the organisations within the system could, if we wished, create a different and better future. One of these was the likely future of 'modified market fundamentalism' contrasted with the more desirable (our view at least) 'inclusive capitalism'. Standing on stages and trying to convince asset owners of \$1bn or so that they had the power to shape the future of capitalism was a tough sell. To attempt it, I argued that the economy was akin to an evolutionary search engine – in this case business models were being selected rather than genetic traits. When a buyer chooses between competing business models, one is rewarded and gets access to more resources, making its future selection more likely. Roll forward through enough iterations and the makeup of the economy reflects our multiple selection decisions. I therefore argued that no matter how small an asset owner's portfolio, their selection of agents still mattered – and therefore they should choose wisely, mindful of long-term consequences.

Moving this thought piece to the present, we have recently hosted a topical day during which we explored whether the investment industry was an ecosystem. In essence we were testing whether my above intuitive argument had any substance. While we have no definitive proof, my assessment is that the attendees finished the day more convinced of the 'ecosystem hypothesis' than they started. What we can say definitively is that there was overwhelming support for continuing this line of research.

A couple of lines from the day seem worth pondering. The first was the statement that the number of listed equities in the USA had fallen from over 7,000 to under 4,000 (see *The Incredible Shrinking Universe of Stocks*, Credit Suisse, March 22, 2017 – PDF widely available on the internet). The second related to the possible growth in allocation to private assets given the return imperative many asset owners are under. Is it a co-incidence that the USA has the most developed private equity industry in the world, and appears to be the only market in the world with a shrinking number of listed equities? Is it possible that asset owners of the past (say 30 years ago), by selecting '2 and 20' private equity business models, have shaped the current ecosystem – where current asset owners are faced with a listed equities market where the industries are more concentrated and the average listed company is bigger, older, more profitable and more likely to return cash? [Aside: '2 and 20' is in quotes to refer to the whole business model, not just the fee rate – a separate debate could be had on whether the fee model implicitly selected has delivered net value]. Are the prospective returns on such a listed market lower than for one comprising smaller, younger, less profitable, higher retention of earnings companies? And, if yes, is this understood intuitively and does it act as a reinforcing mechanism to increase the size of the private bet? But if asset owners continue to allocate more to private equity, shouldn't we expect the number of listed equities to continue to fall? This doesn't have to be a bad outcome – however, the fact that a security is listed communicates a lot of information to an investor regarding transparency, controls and governance. Which suggests that when selecting private equity business models, asset owners should opt for those that offer the transparency, controls and governance that they would like to see as the 'status quo' five or 10 years hence.



18. The tap and the lake – the changing nature of information flows

Explaining the metaphor

I came across the concept of the tap and the lake in a discussion paper on the future of corporate reporting ([The changing flows of corporate performance information](#)). The tap describes historical (and current) corporate reporting (periodic, unidirectional, controlled by the company) while the lake recognises that digitisation has changed the world. Data and information relating to a company can trickle, or flow, in from multiple sources, can arrive at any time, can be accessed by anyone, for almost any purpose, and can be contaminated perhaps.

The discussion paper raises interesting and important questions about how corporate reporting should change as a result of the new reality. I thought I was going to document my thoughts from an investment perspective. But I find myself being drawn to a higher level of abstraction (who saw that coming?!). Surely this metaphor applies equally well to news. Once upon a time the newspaper was the tap, controlled by the publisher, delivering periodic and unidirectional information. Fast forward to our current context and the news lake (ocean?) is fed from millions of sources, not all of which are reliable or well meaning.

Data | information | knowledge | understanding | wisdom

This section's title sets out a clear data hierarchy. Data is some set of symbols (numbers, letters, emojis...); information is contextualised data (so 'C' in one context is the initial letter of a person's name, and in a different context - Roman numerals - represents the number 100); knowledge is organised information; understanding is interpreted information; and wisdom is utilised understanding.

The first point to make, therefore, is that the tap is providing – and the lake contains – information, possibly knowledge, but not data. This is not shocking given the history, as the intended consumer was a human and humans generally do better with contextualised data rather than the raw data itself. But it is also important, as propaganda is nothing other than data that has been contextualised in a particular way, for a particular purpose. I recognise that propaganda is a strong and potentially emotive word, but I use it deliberately. Consider the last published annual report of Enron, or WorldCom, or any other entity, before they declared bankruptcy. What label should we attach to that information? Is propaganda too strong a label, if the intent of the report was to deliberately mislead? Or consider fake news. Is it annoying pollution that is an inevitable by-product of the modern economic machine? Or is it purposeful and, possibly, state-sponsored? In which case we should label it appropriately – as propaganda - designed to mislead us.

How do we progress?

If we accept that the goal is get to wisdom, in order to make wise decisions, and we know that some of the information available to us is contaminated, then what should we do? [Please note that we are not talking about data scrubbing or cleansing here; we are talking about contaminated information, so data that may or may not be clean, that has been wrongly contextualised – whether in error or deliberately].

"...consider fake news. Is it annoying pollution that is an inevitable by-product of the modern economic machine? Or is it purposeful and, possibly, state-sponsored?"

I can see two broad options:

- 1. Accept the current reality** and use the information as best we can. Whether this would involve an attempt to clean the information before analysis, or involve statistical filters during the analysis is outside my knowledge domain
- 2. Change the future reality** by attaching a reliability score to each item of information. Again, this is beyond my sphere of knowledge, but conceptually I am aiming for the equivalent of a record of provenance to attach to each piece of information. Presumably this would require a new internet protocol, which sounds difficult – but it also sounds like an increasingly important public good given the likely digital content of our future lives and economies.

The rise of technological tools

We know that machine learning algorithms are getting increasingly accurate in their labelling of pictures of cats (and other tasks); we have observed the success of two-way buyer and seller ratings on online platforms; and we are aware of firms using algorithms to assign weightings (believability or reliability scores) to employees to improve decision making. In this light, we can envisage that all items of information being added to the lake would be vetted by technology and a tag, perhaps containing its reliability score, would be added. Don't we effectively do this already – albeit in a qualitative and unstructured way – when we chose to emphasise or deemphasise certain elements when making a decision?

In fact, could we imagine a blockchain-like technology being used to more closely resemble the idea of a record of provenance. So a particular item of information would, presumably, have a better provenance if it came from the company directly. And the provenance could be improved if the information goes through an independent audit process (which would also be recorded alongside the information itself).

With some form of public vetting of data having been done, applying distributed ledger / blockchain technology would also make the data uneditable. Everyone would then be free to add their own context and organise the information as they saw best. In essence we are aiming for freely available data – a public good – and competition in the uses to which the data is put.

How would this change corporate reporting?

As already stated, the goal is wise decisions – and the issue I am exploring is whether we can reduce the noise within the data hierarchy, whether introduced by error or malicious intent. The suggested mechanism is to separate out the contextualisation and make it transparent. Corporate reporting would therefore also be split in the same way. The corporate would be one of the many parties contributing information to the lake, and it would receive a reliability rating. It could submit data in real time – how many units of which products left the factory gates at what time; how many units at which price were invoiced to which customer, and when; whether the customer paid in full, and when. The customer, of course, could be submitting equal amounts of transparency to their data lake – and the relevant cross-checks could be made.

With transparency like that, investment analysts could seek to add value for their clients with the accuracy of their modelling – and the accuracy of the context they apply. Meanwhile the corporate can now periodically release a narrative into the lake. The narrative is more likely to take the form of knowledge or understanding – the corporate should know itself better than external analysts. But the narrative can be checked against the data for reasonableness, or the creep of propaganda.

Why would this be better?

The dissemination of information, whether news or corporate report, has always been subject to change over time. However the digital revolution has delivered a huge chunk of change in a short period of time. We now have the opportunity to reorganise the plumbing – to reassign roles and responsibilities to suit the new skillsets. We can now assign much more work to computers, the cloud and the crowd rather than to individual humans. In the near term there will roles for humans in interpreting knowledge and using the resulting understanding – and maybe in the long term too. But a redesign could help us get on the front foot regarding fake news and lead us to better decisions.





5. Defined contribution

Defined contribution has been an active research stream for us for at least three years now. There is therefore a large set of articles in this area to choose from. We have chosen four to illustrate the end saver angle, the remaining problem of paying a retirement income, systemic issues, and the governance challenge DC operates under.

19. The contribution rate as a communication device.....	62
20. Retirement income: why we need to focus on the longevity tail	64
21. People respond to incentives (or, why we are unlikely to see fit-for-purpose DC offerings anytime soon).....	66
22. Wanted: good defined contribution fiduciaries. Cowards need not apply	68

19. The contribution rate as a communication device

I start from a belief that the contribution rate is one of, if not the, most meaningful pieces of information for a DC saver. It reminds them how much current pay they are giving up month in, month out, and how generous or otherwise their employer is. It is certainly more meaningful than an annual statement of the accumulated account balance. However, the thought here is whether we could convey even more meaning through the contribution rate, perhaps via a set standard, akin to performance reporting following GIPS.

The thought was triggered by a comparison between the Dutch and Canadian DB markets. In essence the Dutch system is run on a solvency basis, so the accrued liabilities should be fully funded at all times in case the sponsor suddenly goes bankrupt. The liabilities are therefore discounted at a government bond rate – say 2.5% for indicative purposes. All safe and secure, but the contribution rate needs to do most of the heavy lifting as any mismatch between the assets and liabilities is very risky and can get closed down quickly if things start to go wrong. The Canadian system is run on a going concern basis, where the sponsor is assumed to continue into the future making contributions, and discount rates tend to be around 5.5-6%. Here the heavy lifting of future provision is split between the contribution rate and investment returns. There is much that could be debated between the two systems, but let us instead lift this thought back into a DC context.

A DC saver could smooth their lifetime consumption needs the 'Dutch way' or the 'Canadian way'. For the time being, let's keep the 'pension' the same in both cases. We could therefore offer a choice to our DC saver between a 'zero-risk' pension outcome albeit at a contribution rate of, say, 45% of pay per annum (Dutch) and a contribution rate of, say, 20% (Canadian) but with a higher level of risk associated with disappointing investment returns and sponsor failure (albeit hard to quantify).

While observers may have a strong belief in which is 'better' we have actually set these up to produce the same result. What differs is the risk. And my question is, are we doing a good-enough job in communicate risk to the end saver in terms they can understand? Now I admit, quoting a 45% contribution rate in a DC context may not be the best way to go – in fact it could have the unintended consequence of lowering pension saving ("what's the point!"). But a 45% contribution rate buys you the DB gold standard: retire at 65 on 67% replacement ratio, likely inflation indexed, and payable no matter how long you live. Perhaps we define the DC gold standard at a lower level.

In Australia the industry body, ASFA, publish income levels associated with a 'moderate' or 'comfortable' retirement. We could re-label these as we liked – 'bronze' and 'silver', say – but we could agree a set of parameters that were consistent with a number of retirement outcomes – so 'moderate / bronze' requires a (say) 15% contribution rate, while a 20% rate 'gets you silver'. I am not under-estimating the difficulty of agreeing the necessary parameters / assumptions (mortality, inflation, returns, age of retirement etc) but that would only be necessary if the idea has any merit.

This framework could be developed further. Ongoing member engagement would now be centred on the contribution rate. Imagine the following possible communications:

- "Investment markets have been weaker than expected, so we calculate that you will need to raise your contribution rate from the current 15% to 15.25% to maintain your target of 'moderate / bronze' outcome. Alternatively, you could raise the level of your investment risk and leave your contribution rate at 15% - but this is highly likely to increase the future variability of your contribution rate. If you leave the investment risk at the current level and do not raise your contribution rate by 0.25% now, we calculate that you will need to raise it by 1% in 5 years' time to stay on track."
- "Investment markets have been stronger than expected, so we calculate that you have built a small buffer relative to your target of 'moderate / bronze' outcome. We would advise that you take no action as the buffer is small, but the following options are available to you..." Where the options would include lowering the contribution rate, lowering investment risk (to lock in gains), raising investment risk (buffer), or raising the target outcome (with accompanying contribution rate / investment choices).

To recap: the point of this article is to consider one way to improve member engagement and better empower the end saver, by offering them choices in terms that are meaningful and understandable to them. The underlying belief is that the contribution rate is very meaningful to the end saver. The idea proposed is that we should make more of the contribution rate, and the associated risks it brings or addresses.



20. Retirement income: why we need to focus on the longevity tail

The latest paper from the Thinking Ahead Institute's working group on [defined contribution](#) is now available for members. Focusing on the topical question of lifetime retirement income, the paper argues that the unsolved part of the puzzle is the longevity tail: how do you protect against the risk of living an unexpectedly long life? Isolating this part of the puzzle opens up a path to a wider range of solutions.

Typically, average life expectancy at the point of retirement is around 20-25 years. But that's just the average. Some retirees are fortunate enough to have a retirement lasting 30, 40 or even 50 years. This longevity tail is the reason that lifetime retirement income is proving such a tricky problem to solve in practice. Investment-based solutions alone cannot deal with an uncertain tail: a very long life is a low-probability-high-impact risk, which is the type of situation where the case for insurance is strongest.

The only strategy being widely used to insure the longevity tail at present is the traditional immediate annuity. But annuities don't just cover the longevity tail, they cover the whole of the retirement period, which means they tie up a much bigger portion of a retiree's assets. They're a good solution for some, but have not proved to have broad appeal. Other insurance solutions – focused more narrowly on the tail – are needed.

Isolating the longevity tail allows solutions to be developed that complement, rather than compete with, existing investment-based drawdown strategies. The primary drawdown phase – the period covering typical life expectancy – is already a well-served and generally competitive marketplace. A longevity tail insurance solution *can* also take care of the primary drawdown phase (and traditional annuities, for example, do) but it doesn't have to. There's no good reason that a wider range of approaches shouldn't be available to retirees.

The paper acknowledges the many hurdles to overcome for this to become reality, and for the right role to be found for longevity tail insurance in default options and the wider choice architecture. There are real challenges related to both demand and supply that will need to be addressed, as well as other questions such as potential fiduciary liability to be considered.

In reality, a safe harbour or other targeted regulatory intervention of some sort could well be needed to act as a catalyst and to spur both demand for, and supply of, longevity tail insurance. Such a move would shape plan design, provide an endorsement for action, and redefine perceived norms.

The question of lifetime retirement income is becoming increasingly prominent across all the world's major DC markets. Finding the right solution begins with recognising where the unsolved part of the puzzle lies: it's the longevity tail we need to focus on.

21. People respond to incentives (or, why we are unlikely to see fit-for-purpose DC offerings anytime soon)

The title is Steven Landsburg's four-word summary of economics. It is a quote³⁸ I have used for years to explain why things are as they are. The quote offers hope – we can make positive change by changing the incentives – and it offers despair – if we can't change the incentives no amount of new thinking or goodwill will be enough. This latter thought brings to mind a second quote, this one by Upton Sinclair: "It is difficult to get a man to understand something, when his salary depends upon his not understanding it!"³⁹ And this leads us to Jeremy Grantham: "The central truth of the investment business is that investment behaviour is driven by career risk."⁴⁰ Because I am old enough to have been sent to Sunday school, my mind throws in "what shall it profit a man, if he shall gain the whole world, and lose his own soul?"⁴¹ However, because this has become rather heavy, rather quickly, I should explain what sent me down this path.

It was a conversation with an Australian who pointed out that everything that was great about their defined contribution (DC) system (participation, adequacy and preservation) was due to legislation. Impressive proportion of the population with DC savings? Contribution payments by employers are compulsory⁴². High account balances relative to other countries? Mandatory minimum contribution of 9.5% of earnings – and that is under-pinned by a generous pillar 1 state pension. No leakage from the system? Check – legislation prevents individuals accessing their accounts until at least age 60. As a consequence of this legislation, and a regulatory environment that encourages competition and consolidation, Australia has one of the most admired investment industries in the world. Large and sophisticated asset owner organisations? Check.

However, there are a couple of big holes in the Australian DC system. The first is the absence of 'pot follows member' or consolidation legislation which means individuals typically end up with more than one account, paying too much in fees and insurance premiums (administration is typically a fixed A\$ amount per account per week – so no incentive for superfunds to consolidate as that would reduce revenue). Happily for the end saver, a new law comes into effect on 1 July 2019 allowing the Australian Tax Office to consolidate their accounts for them – another example of best practice being imposed from the outside.

The second hole in the system is that it doesn't provide retirement income. It is an accumulation system that is happy to retain and manage an individual's assets after they have retired, but it is not willing (at least to-date) to tackle the longevity risk problem on the retiree's behalf. We have asked Australian attendees at two recent Institute events whether a fit-for-purpose DC product MUST include a form of longevity protection⁴³. Averaged across the two events, 62% of respondents voted for 'in the default', 36% for 'as an option' and only 2% for 'not at all'.

Given the strength of this opinion from industry insiders, shouldn't we expect to see a number of retirement income solutions being launched in the near term? This is where we hit the gap between saying and doing, and we are forced to circle back to career risk and incentives. The recent Productivity Commission in Australia has increased the peer comparison pressure⁴⁴. In this environment, where is the incentive to do the hard, costly and risky product development to deliver what the member needs but isn't asking for – and which no-one else is offering? We could summarise that the Australian legislation has created an admirable asset management industry, but not a retirement income provision industry.

In case it looks as though I am having a go at Australia, I am simply using that (very good) system as an example. How many examples could we list, across all countries, where the investment industry has done the right thing for the end saver without legislative encouragement? People respond to incentives after all. And they have career risk to manage. So the task becomes to lower career risk and shift the incentives. A colleague has written a previous post on these issues as they relate to [DC fiduciaries](#).

In general terms we can address career risk and incentives via three routes:

- 1. Compensation:** this refers back to the Upton Sinclair quote, if our difficulty with understanding is correlated with the level of our compensation then lowering pay may help. Clearly that won't happen. A slightly more practical option would be to maintain pay at the same level but remove the variability (ie remove bonuses). I have written about this [before](#) so won't rehearse the arguments here – the key point is to redirect the effort an individual spends on managing their compensation towards performing their role. Again, this is unlikely to happen – because of the incentives!
- 2. Sticks:** these options are typically fear based. We would need to find a way to portray the consequences of not acting as greater than the fear of disrupting the status quo. This doesn't look like the best route as it raises the stakes in what is already a difficult situation.
- 3. Carrots:** reward-based options. Assuming that moving the status quo would involve some combination of effort, cost, risk and uncertainty, what rewards could we offer? I see three possibilities: (a) profit – 'doing the right thing' offers a more profitable and sustainable future, (b) enlightened self-interest – a degree of restraint in the short term to avoid pain in the long term, and (b) purpose – a reason for operating that is bigger than making money.

To me 'carrots' is the way to go, and I see the three suggested possibilities as overlapping. In fact, I see sustainable profit as a subset of purpose. The question then becomes whether the Thinking Ahead Institute can find and socialise new thinking on sustainable profit, enlightened self-interest and purpose that is powerful enough to shift the prevailing incentive system...

³⁸ The full quote is "Most of economics can be summarized in four words: "People respond to incentives." The rest is commentary." From Steven E. Landsburg's book *The Armchair Economist*

³⁹ Source Wikiquote https://en.wikiquote.org/wiki/Upton_Sinclair

⁴⁰ Various sources are available, this was copied from a column written by Grantham in Finanz und Wirtschaft <https://www.fuw.ch/article/jeremy-grantham-career-risk-is-likely-to-always-dominate-investing/>

⁴¹ Mark 8:36 King James Version

⁴² Once gross earnings reach A\$450 per month

⁴³ DC summit, Melbourne, 29 November 2018 and Investment organisations of tomorrow, Sydney, 28 March 2019

⁴⁴ This website contains the report and a useful summary: <https://www.pc.gov.au/inquiries/completed/superannuation/assessment/report>. Competition is described as superficial given the presence of 93 sub-scale (<A\$1bn) regulated funds, and the 'best in show' idea would entrench peer comparison of net returns to enter, or remain in the list of top, historic, performers

The last piece on DC is also our link to governance.

22. Wanted: good defined contribution fiduciaries. Cowards need not apply

No matter which particular legislative backdrop you happen to operate in, the fiduciary role is a demanding one. Those who are responsible for managing other people's money are in an unenviable position. In the widely-quoted language of a 1928 New York Court of Appeals judgement, "A trustee is held to something stricter than the morals of the marketplace. Not honesty alone but the punctilio of an honor the most sensitive is then the standard of behavior."⁴⁵

A natural reaction to this heavy responsibility is to become risk-averse. And, in particular, to stick with the crowd. But this is not always in the best interest of the plan participant.

The faint-hearted fiduciary won't create the change that is needed

It's largely a question of incentives. The payoff patterns for the fiduciary and the beneficiary frequently differ. Consider this simplified example: suppose a position is judged as having an equal probability of generating either an extra dollar of gain or fifty cents of loss. This position is, from the point of view of the beneficiary, generally a good position to take: there's more upside than downside.

But the outcome won't necessarily be perceived that way. The fallout from a loss arising from a non-traditional approach can attract scrutiny and criticism, heavily spiced up by the benefits of hindsight. So the downside for the fiduciary is not just the fifty cents of potential loss but also the fallout that would accompany it, fallout which does not have a corresponding benefit on the upside. This can be a deterrent for the fiduciary.

For defined contribution (DC) fiduciaries around the world who want to do the right thing by their plan participants, this is not just a hypothetical discussion. As we've set out in the paper [Proposing a stronger DC purpose](#), most DC plans around the world are trying to solve the wrong problem: instead of focusing on income provision throughout the whole post-work period, too many plans are operating as if their purpose is the maximisation of savings at the point of retirement, which is a much narrower goal.

There's a need for change; the DC world is crying out for fiduciaries to stand up and change the focus of the industry. It's the right thing to do. But it's not the easy thing to do. The faint-hearted fiduciary will hide in the crowd.

I have bad news for the faint-hearted fiduciary. As the old saying goes: sometimes the biggest risk in life is not taking one. Sometimes keeping your head down means that you aren't doing your job. Fiduciaries are expected to make their own interests secondary. They shouldn't be setting their course according to their own payoffs, but according to those of the beneficiary. Failing to act in those interests is failing to live up to the fiduciary standard.



Brave, but not foolhardy

So the truly wise fiduciary realises that there comes a time to step away from the (apparently) safe position of sticking with the conventional approach. That is, clearly, not to be done lightly. So let's be clear that changing the focus of the DC system from savings to lifetime income provision is unequivocally in the interests of plan participants. The reason it's difficult is because the incentives acting on the various actors in the system discourage change. Recognising this and doing what needs to be done to change the picture is what the fiduciary is there for.

And let's be clear, too, that fiduciaries who depart from the conventional approach need to take care to document their rationales; documentation that is made at the point of the decision can be a powerful counter to accusations based on hindsight. Good fiduciaries know that they need to ensure not only that their actions are prudent, but also that they can be shown to be so. That's doubly true in a situation such as this.

The need for good documentation applies, too, to those who choose to stick with the current approach. Some fiduciaries may reach the conclusion that, in their particular circumstances, participants' best interests really are served by a focus on asset accumulation. They too have a duty to demonstrate why that is the case, to ward off accusations of self-interest.

Or is regulation the answer?

One way to shortcut the issues described above could be a regulatory push. For example, in the early 2000s, U.S. DC fiduciaries faced a thorny situation regarding what to do with the savings of those who had been defaulted into the plan and had not selected an investment strategy: a situation with close parallels to the situation we've described in this article. In an aggressively litigious environment, fiduciaries were reluctant to expose assets to any risk of capital loss – and frequently made choices that were demonstrably ineffective as long-term investment strategies as a result. It took a legislative safe harbour⁴⁶ to resolve that particular dilemma.

Perhaps it's going to take a similar intervention from outside the industry to resolve the current situation and re-align the focus of the system. If so, shame on the faint-hearted fiduciaries who left it to others to do their job.

"Good fiduciaries know that they need to ensure not only that their actions are prudent, but also that they can be shown to be so."

⁴⁵Meinhard v. Salmon, 164 N.E. 545 (N.Y. 1928). A punctilio is a fine point of detail. Lawyers being lovers of flowery language, this quote has become, for many, the go-to description of what being a fiduciary really involves

⁴⁶The Pension Protection Act of 2006 created a new category of investment, the Qualified Default Investment Alternative (QDIA), of which Target Date Funds are the best-known example. Fiduciaries who default participants into a QDIA have protective relief from liability in the event of losses

6. Governance

We start by considering the purposeful investment professional. We then consider the organisations, specifically asset owner organisations, they work within. In turn, this will lead us to reflect on culture. We finish our exploration of governance with a set of six pieces considering how to make decision making better.

23. The purposeful investment professional: why we all matter in shaping the future of the investment industry.....	72
24. PDOs: is net value added good enough?.....	74
25. The asset owner of tomorrow	76
26. The most influential capital on the planet	78
Culture	
27. Culture can be a measurable edge for investment organisations.....	80
28. What could a long-horizon culture look like in an investment organisation?	82
29. What have we learnt about effective culture at investment organisations?.....	84
30. Raising our game: from gender diversity to embracing whole identity.....	86
Decision making	
31. The power of thinking right to left	90
32. Create psychological safe zones to improve collective decision-making.....	92
33. Create smart checklists to bring your 'A' game every time in institutional investing	94
34. The output of a decision-making process is more than just a decision.....	96
35. Make meetings matter.....	98
36. Collective decision-making is a skill that can be nurtured.....	102

23. The purposeful investment professional: why we all matter in shaping the future of the investment industry

In the [Creating system value article](#), we argued that organisations are inextricably linked to the wider society and environment in which they exist. In short, if businesses are to flourish they need to ensure the good health of the wider ecosystem. But organisations have no separate existence (except in a legal sense) – they consist of individuals, just like us, who are responsible for setting missions and objectives, driving culture and behaviours, and generally making decisions on how much our businesses contribute (or not) to various stakeholders in society and to the planet as a whole. To borrow generously from [POSIWID](#) if we want to drive change in our organisations, and hence the industry, we need to change what we, as individuals do. We need to examine our own motivations and behaviours and how they collectively combine to drive our firms' and the industry's objectives.

The purposeful self

Intrinsic and extrinsic motivations

Deci and Ryan's **self-determination theory**, points to the fact that we are all influenced by both intrinsic and extrinsic motivations. The former (intrinsic) describes something that is inherently interesting or rewarding while the latter (extrinsic) leads to some separable positive outcome such as high pay or avoidance of punishment.

Table 1 – Intrinsic vs extrinsic motivations

Intrinsic motivations	Autonomy	<ul style="list-style-type: none"> Have control over self; drive; freedom to seek interesting, rewarding work Adaptability and resilience
	Mastery	<ul style="list-style-type: none"> Desire mastery in their field and focus on building competency skill sets – go deeper into issues
	Relatedness/purpose	<ul style="list-style-type: none"> Have a belief that they are contributing to something greater than themselves – connections to the 'nobility' of the profession Goals are aligned with their organisation, clients and wider society
Extrinsic motivations	Explicit incentives – promoting 'good' behaviours	<ul style="list-style-type: none"> Work environment provides clear signals to good behaviours The greater the degree of socialisation and self-integration the more autonomous the motivation

While much debated, several bodies of research question the effectiveness of extrinsic motivations on producing positive long-term results. Princeton academics, Bénabou and Tirole, [note](#): "in well-known contributions, Etzioni (1971) argues that workers find control of their behaviour via incentives 'alienating' and 'dehumanising', and Deci and Ryan (1985) devote a chapter of their book to a criticism of the use of performance-contingent rewards in the work setting. And, without condemning contingent compensation, Baron and Kreps (1999) conclude that: there is no doubt that the benefits of [piece-rate systems or pay-for-performance incentive devices] can be considerably compromised when the systems undermine workers' intrinsic motivation"⁴⁷. In short, being driven by self is a vital ingredient in achieving positive long-term results.

"...organisations are inextricably linked to the wider society and environment in which they exist. In short, if businesses are to flourish they need to ensure the good health of the wider ecosystem."

Purpose-driven motivations

At our March 2018 Sydney roundtable event, the top three responses to the question "what motivates you to perform in your current role?" were: (i) interesting and enjoyable work, (ii) helping clients and (iii) helping to do something meaningful with societal purpose. Interestingly, the lowest ranked categories were 'pay' and 'helping my organisation to achieve its financial goals'. Second, attendees were asked to choose between which of two options they valued more: 94% of attendees chose "my organisation produces more societal wealth and well-being" compared to only 6% choosing "my organisation produces more profits". These results are interesting and suggest that intrinsic motivations that are linked to a positive purpose (such as improving societal wealth and helping clients) are highly valued.

Having purpose-driven motivation is important. State Street Centre for Applied Research's and the CFA Institute's 2016 study, [Discovering phi: motivation as a hidden variable of performance](#), argues that individuals that have a mindset to deliver performance that is driven by purpose and embedded by habits and incentives ('phi') contribute to better organisation performance, client satisfaction and are better engaged. These results suggest that connecting the mission, values and culture of an organisation with an individual's sense of purpose is vital (we discuss this further in the next section).

The purposeful self -> the purposeful organisation

Institutional investment is a team game. Through teams, strategic investment decisions are made, value is added to portfolios (or destroyed) and a progressive (or regressive) culture is built. In our paper, [How to choose: a primer on decision-making in institutional investing](#), we note that collective judgement can be superior to that of any individual within a group subject to three conditions applying: diversity, independence and an effective means of aggregating views⁴⁸.

There is a reflexive relationship between individual purpose-driven motivations and the motivations of a collective team – individual purpose is validated by a strong team culture and a strong team culture is built through the aggregation of individual purposes that drive to a common objective. Effective aggregation requires a careful awareness of social dynamics – perceptiveness by leadership and group members are key. In short, investment professionals need to be not just be T-shaped and technically capable but also emotionally so.

The purposeful self -> the purposeful organisation -> the purposeful industry

We need a coalition

At the Thinking Ahead Institute, we believe in the power of thought leadership to create positive investment industry change for the benefit of the end saver. We strive to achieve this change through a dynamic and collaborative research agenda and through bringing together forward-thinking investment professionals across the globe to discuss solutions that promote (i) better investment strategies, (ii) better organisational effectiveness and (iii) enhanced social legitimacy. As noted in the post immediately above, a purposeful industry can only emerge if there are sufficient organisations which are aligned in their individual purposes. And an organisation is only as good as the people within it. If the dials on the compasses (purposeful people, organisations and industry) do not align then the system will be suboptimal at best. We believe that change can only be effected through a coalition of individuals with a common mission to ensure that the investment industry drives positive social value.

⁴⁷ See "Modern organisations", A Etzioni, 1971; "Intrinsic motivation and self-determination in human behaviours", E Deci and R Ryan, 1985; and "Strategic human resources", J Baron and D Kreps, 1999

⁴⁸ While group interaction can reduce overconfidence and make better decisions in uncertain environments, we note that groups introduce biases of their own. James Surowiecki's three conditions, expressed more clearly in his 2004 book "The wisdom of crowds", are critical to the intelligent design of groups

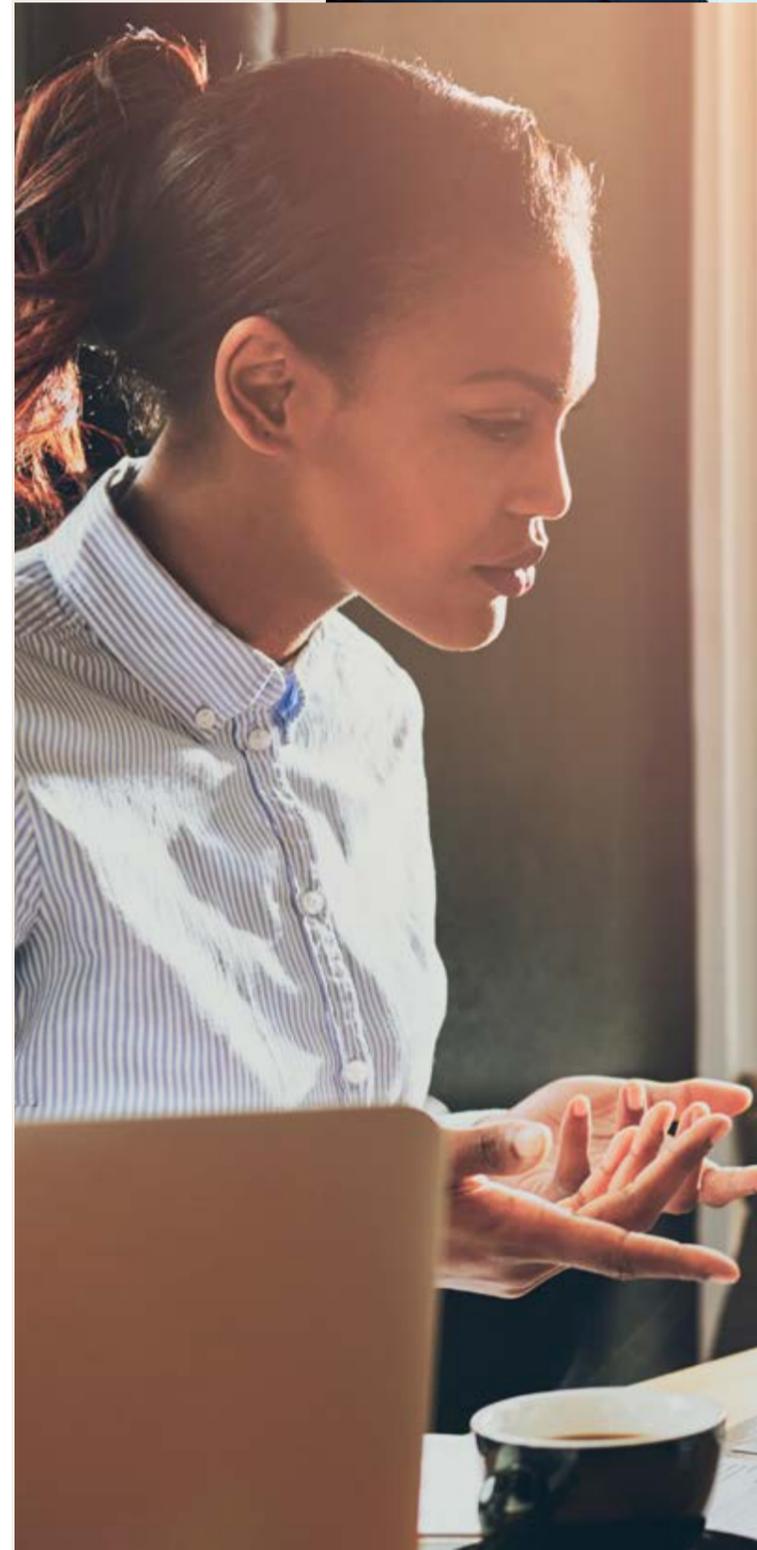
24. PDOs: is net value added good enough?

I recently came across a [piece](#) in which Keith Ambachtsheer argues that you must assess pension funds on value-for-money, and not the absolute level of fees or costs. The point of this piece hinges on a confession – namely that I, wrongly, read Keith as talking about ‘net value added’. This could be semantics, but I want to give Keith the benefit of the doubt as he has repeatedly extolled the virtues of integrated reporting ([I](#)) which proposes assessing value creation through the lens of six capitals (and multiple time horizons) not just in terms of financial capital. Net value added, I would argue, looks very much like a financial-capital-only, single-time-period assessment.

What is the point? Well, I have been thinking recently about the size of pension funds, or ‘pension delivery organisations (PDOs)’ to use another Ambachtsheer term. For defined contribution assets, does any country need more than five (say) master trusts? Enough for viable competition, but sufficiently few to enable economies of scale to be harvested. I am beginning to settle on the belief that, as far as operational aspects are concerned, almost any single-employer DC arrangement is likely to be sub-scale and therefore inefficient. The arguments need finessing when we leave DC, but I believe the principles remain the same.

My beliefs regarding scale and investment performance are less settled – and particularly where the combination of operational economies and competitive investment diseconomies might fall. However it is the growth of internal investment teams within asset owners that I am finding interesting. I assume that the growth of ‘operational’ staff is relatively easy to judge and manage relative to the harvesting of economies of scale (cost per member should fall with scale). But how do we judge or manage the size of internal investment teams? With more staff, asset owners can pursue more complex investment strategies which offer, but do not guarantee, higher returns. But more staff also means more agents and more career risk. At what point do the management / employees capture the PDO and run it for their own purposes? If investment returns are always strong, then maybe this concern never becomes material. The financial capital lens suggests that we can safely ignore the high absolute costs, because the benefits are even higher. But if the PDO’s investment returns are weak for a period then not only will the financial capital lens show red ink, but we may also find that the social capital is in serious deficit too. At that point the governing board could find themselves with a serious headache.

So at the margin I do disagree with Keith, in that I think the absolute level of PDO costs do matter. In most cases PDOs are profit-for-member entities and so are not subject to the market discipline facing profit-for-shareholder entities. It is therefore relatively easy to add cost under the cover of enhanced net value, but I suspect much harder to reduce cost. My thinking up to this point has been about the number of employees, but I can’t resist a brief mention of compensation and incentives. How should a PDO compensate its staff? Let us assume the same base pay and a spectrum for variable pay ranging from 0% (pay for the job) to 200% (pay for performance). Beliefs (and values) can (and do) differ about the extent that the investment return streams will vary as a result of the incentive structure chosen. But when it comes to the difference in the risk of internal agency capture I think there is only one answer. High variable pay means a significantly higher risk that the employees run the PDO for their own benefit.



25. The asset owner of tomorrow

The asset owner of tomorrow faces tougher conditions than those they have faced so far. In particular, they should expect many more disruptions from a combination of stresses that are market-driven and supplier or governance related. They will need to be smart and agile to deal with these circumstances. Will they rise to this challenge? Yes, I think it's clear that they can do so but the critical factor will be strong leadership from their boards and executive teams.

This research view comes from a peer group study: [Smart Leadership, Sound Followership](#) which was commissioned by Future Fund Australia and compares the practices of a group of 15 large and influential asset owners. The big asset owners in the study, by developing strong internal terms, have become very good at what they do. While this work was designed to help these funds, the additional application of this research was to identify their best practice features and allow their good work to trickle down to others. The question of how asset owners across the size spectrum can achieve the same is carried forward in new research, published by the Thinking Ahead Institute, entitled the [Asset Owner of Tomorrow](#).

The increasing speed of changes in technology, demography, globalisation, environment and societal norms is the critical new factor in the picture. Jack Welch of GE put it starkly: "If the rate of change on the outside of your organisation exceeds the rate of change on the inside, the end is near." Looking ahead it is clear that asset owners cannot afford to stand still. How do they need to change?

There are no blank canvasses for asset owners to work from. All situations have unique considerations at work. The art in this challenge is working with evolving best-practice principles and applying them to unique circumstances. We find four areas where future practice should depart from prior versions in leadership, governance, technology and sustainability.

The first suggestion is that asset owners need to attract and develop a stronger leadership layer. Previously, asset management firms have attracted a much greater share of strong leaders from the industry talent pool. But the leadership opportunity is flip flopping. Asset owners have a natural advantage in exercising a prominent leadership role. With their profit-for-members business model, and their close alignment with underlying savers and investors, they have a mandate to advance more purpose-driven practices. These attributes should enable certain positive impacts from leadership such as being a truly long-term investor that acts as an active owner and steward through company engagement. Success with such opportunities require the force of leadership to increase. I believe it will.

We often think of leadership being about executives, CEOs and CIOs. It may be so at the biggest funds. But many leadership opportunities lie in better investment committees and boards, particularly with their chairs. Think of the asset owners of the future with boards at least the equivalent in quality as their counterparts at large public corporations.

Second, we identify the evolving model of governance best practice. The board's responsibility is to get to clear mission, goals, and accountabilities within a far-sighted belief and value system with excellent delivery to stakeholders. So a board should concentrate on applying disciplined oversight and strategic focus. Research shows that most boards struggle with the strategic focus by getting 'too much into the weeds'. The need to delegate complex real-time responsibilities to the executive function of an asset owner has become more critical over time. This does pre-suppose having quality executive capabilities; internally or through external outsourcing. This evolved model improves on prior versions where boards were more hands-on and less strategic.

This is a refocusing on issues of strategic importance. Think of the next board agenda including time devoted to scenarios taken from the big issues that lie ahead: perhaps on technology or social-trend disruptions.

Third, technology disruptions are a new factor that asset owners need to pay particular attention to.

The challenges come in two parts: a technology challenge which will be met within a business and economics context; and a human-skills challenge where the advice to ourselves, and our children, is surely about committing to lifelong learning as well as having a machine-friendly outlook.

Asset owners have always been powered by various data. A new starting point is for funds to have a coherent data strategy that makes sure that data is sourced, validated, distributed and used in effective ways. Decisions will increasingly be dependent on managing data within investment processes that have higher systematised components. Think of a time when the majority of investment processes are powered by smart algorithms devised by very smart humans.

Better technology asks for changed skills but doesn't displace current jobs. Asset owners should be adding to the size of these teams in the next few years. Data doesn't deliver insight; you need skilled people for that. While algorithms can usefully create a map of future known possibilities, they don't deal with the unknowable futures where people with situational fluency are critical. There will always be meaningful work for creative and skilful people. The new paradigm is people plus machine. Top-level thinking on technology, largely ignored by asset owners to date, needs to emerge.

Finally, sustainability and ESG are new disruptions. Technology and data are playing a big part in this area. The subtlety is that big data in ESG is a lot more about so-called soft data than the classic sort - basically information that is indirectly observed and in need of interpretation.

Sustainability and long-horizon investing are currently practiced by asset owners in a relatively shallow way. While most asset owners are in a position to use competitive advantages to take longer-term views, imperfect mind-sets and incentives frequently get in the way. So opportunities are regularly missed in the overlapping areas of sustainability, ESG and long-horizon investing.

Transformational changes will produce a faster-changing risk environment. That may well argue for certain risks to be more centrally-managed, particularly climate risk. Pressures are set to build in the next five to ten years from both the business case, based on sustainability's materiality, and from an implied *license to operate*.

Forces are gathering behind these drivers. The prior blockages including limited data and the restrictions imposed by fiduciary standards are gradually being reduced. In their place funds are being required by regulation to address these issues. In a world of increased stress on climate, resources and societal cohesion, asset owners will be pressured into their wider responsibilities.

To date, boards have been reluctant to engage with the issue and it will be with their leadership that the subject gets appropriate attention.

Asset owners are too important to fail in their mission. They carry a massive burden for the wealth and well-being of billions. They have little choice but to take their financial and social responsibilities seriously, to lead from the front and not to shrink away from the big issues.

26. The most influential capital on the planet

Asset owners are too important to fail in their mission of producing significant wealth and well-being outcomes for all of us who can afford to save. Their assets are worth around US\$55 trillion, under a narrow definition, amounting to more than US\$10,000 for every adult on the planet.

Yet the term asset owner, which first emerged a generation ago, is still misunderstood.

It applies to institutions which are both the economic owners of investment portfolios and have investment management responsibility for the portfolios. This contrasts with asset managers, who are agents, managing the mandates given to them by asset owners, and are not economic owners.

The most significant categories of asset owners - pension funds, sovereign wealth funds, endowments and foundations - manage assets to meet the needs of savers or investors. There is a fourth category: outsourced CIOs and master trusts which manage funds like asset owners, but are strictly speaking agents.

The distinctive feature of all these institutions is their discretion to put capital into any country and any asset class that suits them. Their decisions regarding asset allocation and stewardship shape capital markets and are a key element in the functioning of the global economy. Through their size and role they represent the most influential capital on the planet.

In a Thinking Ahead Institute study, [Asset Owner 100 \(AO100\)](#), we surveyed the 100 largest asset owners, responsible for US\$19 trillion between them (at year end 2017). The largest of the AO100 asset owners is the Government Pension Investment Fund (GPIF) - the Japanese public sector pension fund responsible for managing US\$1.5trillion. The AO100 is made up of 67 pension funds, 21 SWFs and 12 outsourced CIOs, with 44 located in North America, 30 in EMEA and 26 in APAC.

These are complex organisations that are having to adapt to tougher terrain. Many are building their internal teams while looking for deeper collaborations and strategic partnerships with peers and asset managers. This move to streamline intellectual capital is assisted by the increasing use of technology, an area in which asset owners have previously been out-spent by the asset managers. The AO100 group's future success hinges on how well technology and data can be utilised, and also how effectively their talent can be harnessed through creating the right cultures. Smart, motivated people allied to smart, integrated technology is becoming a mantra within their organisations and also in their partner organisations.

The strength of AO100 leadership is increasing markedly as they leverage their scale. It will have to increase further amid greater need to function transparently, to better meet their members' financial expectations, to become more sustainable and achieve a social licence to operate.

This social licence to operate is a new part of the asset owner proposition. It is a tacit social contract whereby asset owners gain legitimacy according to their actions and impacts. We, as individuals, may or may not have our money managed by them, but we certainly feel the effects of their investment footprint - for better or worse.

Asset owners cannot award themselves a social licence to operate, it requires external trust and legitimacy, and must have the implied consent of those affected. Investment has economic, environmental and social impacts, and stakeholders will grant legitimacy based on their view of these impacts. In other fields social licence has been lost, so the AO100 will have to be vigilant to avoid this fate.

The AO100 take their financial and social responsibilities seriously, but they will need an infusion of board talent to cope well with the complex agendas that confront them. And they will need to be more strategic, particularly on sustainability.

The institutions in the AO100 all own a large slice of the markets and the economies underlying them. The returns they need can only come from a financial system that works. They may need to help change the system in some areas, particularly where governance is weak and where portfolio assets may be impaired or stranded by fast-changing circumstances.

GPIF, for one, is leading the way. The Japanese fund sees its main vulnerability as systemic failure so it pursues a sustainability strategy based on managing ESG exposures and by being active stewards of long-term holdings. Like a number of the AO100, GPIF is a large, long-term and leadership-minded asset owner - a 'Universal Owner'. Such funds are the most influential asset owners because of their systemic positioning.

The opportunities for the AO100 to step up to deliver better outcomes for more people are clear. Public policy should align these asset owners by influencing their governance and transparency where more needs to be done.

But this should not be to the detriment of innovation. The investment industry, suitably configured and aligned, is an immense force for promoting the well-being and fulfilment of the good society. And in the ranks of the AO100 there is the technical know-how to get big things done well.

All we need now is for strong leadership to have the courage of its convictions.

Culture

Culture has been another major research stream within the Thinking Ahead Institute and so, again, we have chosen a small subset of articles to illustrate this area.

27. Culture can be a measurable edge for investment organisations

Think of the organisation you work for. If I wanted to understand it – its strength, its durability – would I learn more from studying its strategy, or its culture?

We asked a version of that question to attendees at a recent Thinking Ahead Institute public forum – and roughly 90% chose culture⁴⁹. As the old saying goes: “Culture eats strategy for breakfast”⁵⁰. Strategy is, obviously, important. So is breakfast. But culture... well, that’s where it really all begins.

The importance of culture for investment organisations – both asset owners and asset managers – is something that few in the industry would deny. But culture has tended not to be consciously nurtured, or even given much thought most of the time. That’s a shame, and there are signs that this is changing.

Perhaps the reason culture stayed largely off the radar for so long is that any measures of culture are inevitably associated with soft, rather than hard, data. It’s a bit squishy. But many of the most important things are.

Culture is finding its way onto the radar at an increasing number of investment organisations. Its potential to offer an edge is being taken more seriously, and measurement (albeit soft) is playing a part in that.

The Thinking Ahead Institute’s 2015 paper *The impact of culture on institutional investors* lays the groundwork for organisations who want to be more deliberate in their approach to this area. Drawing on several case studies, this paper found no single best practice – the right culture is context-dependent – but plenty of themes.

One application of that work is described in a new paper *Measuring culture in asset managers* from WTW. The WTW manager research process now formally incorporates an assessment of culture.

Culture begins with values and beliefs. As David Pitt-Watson and Hari Mann noted in the pension insurance corporation’s 2017 *The Purpose of Finance*, “strong culture comes from a strong sense of purpose”. The link between leadership and culture is important, but, unlike strategy, culture is not centrally dictated. It is not amenable to heavy-handed manipulation: leadership’s actions matter far more than its words in determining culture.

As Roger Urwin points out: “Good culture gets to a sweet spot; it is not a respecter of excess. And good culture regresses if it is neglected.” The necessary conditions for a good culture can arise as a by-product of enlightened leadership, but when a conscious and deliberate effort is made those conditions are more likely to arise, more likely to extend throughout the organisation, and more likely to persist.

Looking at investment organisation culture in 2018, two themes have become more prominent since the Institute’s 2015 paper was published.

One theme is diversity, a topic that has moved up the agenda of many organisations in the past couple of years. Culture and diversity are strongly linked. Efforts to improve diversity in the industry are unlikely to be effective if not supported by a shift to a more inclusive culture; respect and common sense go a long way.

The second theme is technology. Here, the link to culture is less direct. But as technology re-writes the rules of how the investment industry operates, there is the potential for a significant knock-on effect in how organisations interact with and deliver value to their clients. And their employees, too.

We have continued to explore the nature and the role of culture within investment organisations, with tools including culture assessment questionnaires and workshops now available. We expect the areas of emphasis to continue to evolve (as they have done in the past few years), but the overall trend is one in which culture is moving from being a by-product to being explicit and by design.



⁴⁹ Thinking Ahead breakfast seminar, October 2nd 2018. In response to the statement: “To judge the strength of an organisation, culture tells you more than strategy”, 37 of 102 respondents (36%) responded “strongly agree”; 53 (52%) “agree”; 7 “neutral”; 3 “disagree”; and 2 “strongly disagree”

⁵⁰ This quote is often attributed to Peter Drucker, and I won’t use up my word count dissecting its true provenance here



The consideration of culture continues in the article below – specifically in the context of long-horizon investing.

28. What could a long-horizon culture look like in an investment organisation?

More and more investment organisations have begun to embrace the distinctly important role of a strong culture and actively build one. So what is culture?

Think genetic code in DNA. It is a set of rules that define the development and function of living organisms. Similarly, culture is the written and unwritten organisational “code” that defines “the way we do things around here”. It is the collective influence from shared values and beliefs on the way the organisation thinks and behaves.

For an investment organisation striving to be a long-horizon investor, what kind of organisational culture should they build?

Let’s not lose sight of the fact that culture is unique to individual organisations. There is no such thing as the best culture model. That being said, I am hoping to offer a few ideas for long-horizon investors to adopt as part of their own “genetic code”.

Let’s start with hiring the right **people**. The foundation of a strong long-horizon culture is to employ people who genuinely believe in long-horizon investing and act accordingly. Extrinsic (monetary) incentive design can influence behaviour. But it is my belief that intrinsic characteristics – innate to an individual’s values, perspectives, knowledge, experiences and way of thinking – is more powerful for achieving alignment and producing desirable outcomes. The tendency to “do the right thing” (as opposed to just “doing things right”) should be a prominent criteria in hiring. For example, this includes the willingness and ability to challenge the consensus position.

Once the right people are hired, the organisation needs to demonstrate long-term commitment to their growth and development. One of the challenges in practice is that the tenure of some long-horizon investments can be a lot longer than the tenure of the individuals involved in the initial decision to invest. That mismatch can be, at least partially, addressed by encouraging longer tenures. When it comes to assessing people, the key is to reward long-term thinking and behaviours instead of short-term investment performance, which is inherently noisy.

Given the right people, it is important to think carefully about how to put them together in a **team**. The goal, in my view, is to build cognitive diversity through team composition and process. Institutional investing is all about group decision-making. Under most circumstances cognitive diversity helps improve investment decision-making.

A long-term investment journey is bound to be bumpy. When adverse performance inevitably comes, a team rich in cognitive diversity supports an environment where non-consensus views are actively solicited and the willingness to “go against the crowd” is encouraged. It can also lead to information-processing advantages and greater cognitive resources (skills, perspectives, knowledge, and information). All these benefits facilitate a more accurate assessment whether the investment thesis is still valid. If the answer is still yes, then staying on course becomes a straightforward decision. If the assessment indeed results in a higher chance of value trap, the organisation should not blindly stay put.

However, it is worth noting that diversity is not completed without inclusion and integration. There is a balance to be found between promoting cultural unity and avoiding everyone thinking and acting the same. Highly diverse teams, without good integration, can indeed lead to more dissenters when times get tough, causing distractions and value-destroying decisions. Patterns of working together within a team should be set early on, and good integration can be fostered by introducing appropriate behavioural checklists.

Leaders are hugely influential in the creation and evolution of culture. Good leaders recognise that left to its own devices culture declines overtime and therefore actively work to maintain its level. They lead by examples they set, what they choose to focus on, and what they are not willing to tolerate. They seek a deliberate alignment of culture to long-term strategy and take every opportunity to advocate the importance of a long-term approach. They engage in building peer-to-peer relationships and mutual respect with the board. In times of underperformance, this relationship ought to provide a buffer and enhance understanding.

They strive to build an environment where career risk is low. They have the willingness to “look wrong” and reward genuine progress towards long-term objectives. They make sure the entire organisation is in sync regarding the benefits of investing for the long run and the expectation of a bumpy ride.

And they communicate clearly and regularly. Lim Chow Kiat, CEO of GIC, Singapore’s sovereign-wealth fund, [spoke about](#) how they are very careful about the exact words they use when they communicate. They prefer “sustainable results” to “consistent results”. They correct anyone who uses or likes the phrase “the long term is but a series of short terms”. In his view, the wrong words can corrode or even corrupt the process.

Long-horizon investing is rewarding and yet challenging. But if there is such a thing as a “secret sauce”, it is about building a long-horizon culture as a competitive edge.

29. What have we learnt about effective culture at investment organisations?

We published TAI research on the culture of investment organisations back in 2015. This research was well-received and has been widely referenced. We have updated our [research in 2019](#). We have incorporated fresh thinking on what makes culture 'effective' – that is how culture can help investment teams to deliver better performance and create more value. In this article we offer three high level thoughts on how culture, as a topic within the investment industry, has evolved over time; and three new ideas as to how culture can play a bigger and better part in our industry going forward.

Conversations about investment industry culture are starting to come to life

Culture conversations were not absent before, but they were often rather shallow. In the last few years there has been a much-increased appreciation of the importance of culture to the effective practice of investment organisations. The growth in understanding of inclusion and diversity has been the most significant factor in this.

In addition, investment organisations have had to work hard to differentiate themselves under head-wind conditions and culture has received somewhat belated recognition as a critical source of competitive advantage. Culture discussions have, as a result, grown in clarity and impact more recently. Ideally they should also have grown in authenticity, but the results on this point are definitely more mixed. However, as we discuss under 'purpose' below, we have some optimism on this.

Previous thinking on culture often had the resigned idea that it was 'fixed', new thinking is seeing it as 'movable' and an opportunity for good design

Investment organisations have either been largely comfortable with their culture or resigned to living with it, thinking that not much about it could be changed. We now see culture more widely referenced in strategy discussions. So the current narrative is more about what does present culture allow to happen in an organisation's business strategy, or what does that argue for as an appropriate target culture if an alternative strategy is preferred.

Connecting the dots from culture to strategy, to beliefs and values, and to vision and mission, has become a critical leadership challenge and opportunity. The art and science of management has developed a long way in the last few years and we now have much greater understanding of how to assess culture and how to adapt it, even in high velocity conditions.

The rise of more purposeful investment firms is of huge significance

This point is addressed to asset management firms not asset owners. Let's face it, purpose was not a big part of the vision and culture of the asset management firm in the past. Indeed, the trends we have seen for some time have been to strengthen the focus on business results with professionalism often giving ground to achieve this. To survive and thrive, purpose in the investment industry is now playing a bigger role. There are two compelling reasons why this makes sense.

First, employees are increasingly drawn to organisations that are purposeful and show social responsibility. This applies to all worker generations but particularly to millennials.

Then, organisations that are purposeful can benefit from more traction with and trust from their clients.

The purpose of industry organisations can be expansive and highly motivating. The positioning of investment organisations as universal owners gives them a unique opportunity to produce inspiring societal and planetary impacts (see [The 4-3-2-1 PIN code](#)). Also think of firms combining a diverse array of talents, in teams, to achieve multiples more than could be accomplished singly, and enabling the best of our values to come to work. This can be dazzling stuff.



Culture set by design, providing opportunities for adaptation and innovation

Let's turn to some fresh ideas for the future.

With industry realities around over-capacity hitting home, organisations must get their sources of differentiation more effectively sized, shaped and socialised. Most cultural signatures I come across read too similarly. There are great opportunities for culture to take on a new 'edginess'. There are a number of candidates for this, but I promote three ideas here.

First, diversity and inclusion is a great opportunity – most organisations are significantly underweight with this cultural attribute but with deliberate leadership action they could be re-positioned.

Second, I think there are big opportunities in the culture of innovation, particularly in process innovation.

Third, there is great potential in an increased culture of transparency and feedback. This last cluster of attributes can take an organisation to much higher performance in learning from experience and development of trust both in inward-facing and outward-facing contexts.

There is a particular role for culture at asset owner organisations

The focus on culture has to date been on asset management organisations. But asset owners have their significant cultural challenges and opportunities as their internal capabilities and team sizes grow. They should see culture as a critical vehicle to meeting their missions. This particularly applies to the bigger and longer-term funds. These are suited to cultures that draw strength from being very purpose driven. The adoption of universal owner thinking is likely to be a key part of their future vision and strategy in this respect.

Leadership's role in cultural effectiveness

Leadership can build cultural effectiveness in three critical states of mind-set and competency: having the leadership awareness to recognise the influences of cultures and sub-cultures embedded throughout the organisation; having the sense of what direction of travel is desirable for culture –that could be in defending culture from dilution or addressing the need for culture to change; having the leadership agility to influence the culture outcomes through formal and informal channels.

We often talk of culture as a secret sauce and that is apt. We often miss the secret that culture is the reflection and creation of leaders past and present. The technical parts of the investment challenge have been substantially shaped over several decades, the human parts have further to travel. The challenge is for leaders to step up, be empathetic, be clear on values and show the courage and determination necessary to achieve important things for society's greater good.

"With industry realities around over-capacity hitting home, organisations must get their sources of differentiation more effectively sized, shaped and socialised."



30. Raising our game: from gender diversity to embracing whole identity

Why even good inclusion and diversity policies (I&D) will miss their mark unless corporates have a better understanding of their employees.

Well-trained company management often tout that employees are their most valuable asset, that people are at the heart of who they are and that they have a strong corporate culture. However, interest by management is often fleeting (“employee engagement survey, anyone?”), focus and policies tend to be weak and emotional intelligence tends to be low, that is they deal with people in ways that de-motivate. The optimist in me would like to believe that it’s not that leadership teams do not care. It’s just that designing effective top-down policies beyond pay and benefits that the average employee really cares about is just really hard to do, especially for large companies⁵¹. This problem is made worse by the fact that very few organisations actually know who their employees are outside of the usual metrics of 70% junior/mid-level, 25% senior and 5% really very senior.

One of my favourite lunchtime hobbies is to read [Work Tribes](#) in the FT. From egomaniacs to altruists, from the ‘sponsor-me’ guy to the ‘superwoman’, this satirical series allows readers to ‘listen in’ on the conversations of various characters in the workplace. *Work Tribes* is a little bit funny and somewhat indelicate, but behind some of the outrageous comments by ‘co-workers’ is an important lesson: in our workplaces we are surrounded by a unique blend of potentially weird yet wonderful individuals. Organisations need to make more deliberate strides to understand the identity of their workforce as a very basic first step in designing sensible engagement and inclusion and diversity (I&D) programmes.

“...few organisations actually know who their employees are outside of the usual metrics of 70% junior/mid-level, 25% senior and 5% really very senior.”

Who are you? An object lesson in identity

Imagine you are management and you have been asked to come up with some new I&D policies (hey, because everyone else is doing it). You decide to be clever and sketch a map of the categories of individuals in your organisations. What does this map look like? While there are many more categories that one could add, we can view work identity as very broadly made up of four basic ‘selves’ (and if you dislike these labels, please substitute your own – you’re management after all).

1 Surface self: this is probably best described as your inherent features which to greater or lesser extents are observable by others. Examples may be your gender, race, age etc. Because some of these features are easily identifiable, they often serve as the basis for both positive policies and discriminatory practices when set against a wider group that form the majority. Even for those features which may be less visible (such as some common disabilities), you are still at the mercy of policies that are not designed for you and have no chance of being so unless you make the difficult choice of disclosure.

2 Personal self: like many parents with young kids I often feel as if I run parallel lives – diving in and out of meetings to attend school events and doing the mandatory clothing check to ensure there is no kid’s cereal on it before leaving the house. Many of us have relationships with friends, family, our pets etc that, at least for me, keep us grounded. We also have views on our personal attributes and how we think about ourselves (I’m kind, I’m helpful, I’m a hard worker etc). This sense of self-branding is important as it affects how we see the world and how the world might see us.

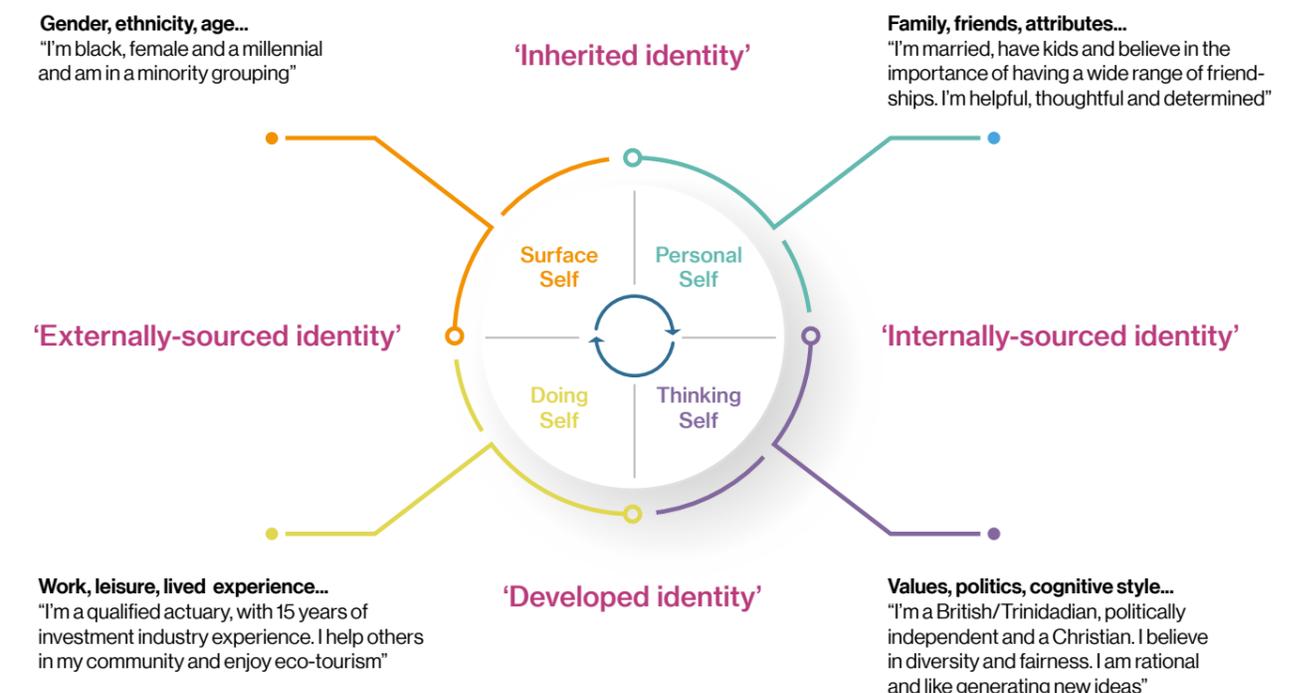
3 Doing self: whether it be that you are a Liverpool fan, a volunteer at a homeless shelter, C-suite level (or all three), for better or for worse, society places currency on understanding what you do with your time. It is interesting that the weight of that currency often depends on whether or not individuals participate in traditionally defined workplaces or do something exciting (where’s an entrepreneur when you need one?). It is the lived experiences of individuals that count; the skills that you have accumulated in your journey regardless of the route taken. We need to be better at embracing the value of those who do not neatly fit into the corporate workplace box.

4 Feeling self: focusses on often less visible areas such as your values and beliefs, how you think and your cognitive style. This category includes your religion, political associations and national (or tribal) identity. It can probably be summarised by ‘what I stand for’, ‘how I feel’ and ‘what I think’. This is where cognitive diversity gets most played out and offers the potential to see diversity in a deep way. Some of your beliefs will creep into how you feel about your surface, doing and personal selves, reinforcing the reflexive and fluid nature of identity.

It is worth noting here that no simple sketch could ever fully encapsulate our identity and describe who we are. There is also discretion applied to which aspects of our identity we share with others and which we keep to ourselves. In filling my identity map, I found myself feeling

limited by wanting to say more (what about my love of talk radio?) and wanting to portray myself in the most positive light (did I mention that I’m very very kind?). But with a few prompts, it did manage to extract some key points about me and got me thinking about the difference between how society views me and how I view myself. This is echoed in Francis Fukuyama’s book *Identity* which compares extrinsic societally imposed identity and that which is intrinsically/self-imposed. Additionally, some aspects of my identity are inherited whereas others have been developed based on my experiences. The map also got me thinking that some aspects of my identity become exaggerated in certain situations. Just think about how you might feel if you were the only white person in a room or the only female, or when your minority self was disrespected. In short, the concept of identity is complicated and nuanced, but should be respected as it speaks to who we are.

Here’s an example of my work identity map.



⁵¹ Indeed, the [Gallup State of the American Workplace](#) 2017 report shows that the 1,000-employee mark seems to be the tipping point for declining engagement within a company. When an organisation reaches this size, “a smaller percentage of employees strongly agree that they have the opportunity to do what they do best every day and that their organisation’s mission or purpose makes them feel their job is important.”

A framework for employers: integrating identity into people policy

The historical approach of dealing with gender first, ethnicity second, disability third or whichever order suits the corporate agenda has lent itself to box-ticking and compartmentalisation of diversity factors. Sometimes I feel like a tired mum, a hard worker, a sympathetic friend, an angry citizen, a black woman or all of the above. Is it fair for a corporate to tick me off as (i) female and (ii) black and then ignore the rest in a diversity checklist? Filling out my identity map, reinforced the inadequacy of any approach which attempts to chop off bite-size identity pieces, and use these as a proxy to understand who I am. This doesn't mean that corporates should not have initiatives around gender, ethnicity etc. It just means that leadership needs to recognise that these initiatives are only a small part of the whole-of-life employee experience.

The goals of organisations should instead focus on sympathetically combining three things:

1. Structuring the diverse array of people that make up the organisation (this is 'diversity')
2. Treating it with decency (this is 'inclusion'), and
3. Exploiting it for business success (this is 'cognitive diversity' or 'business case diversity').

This framework brings out an importance difference between diversity and inclusion. Diversity can be considered a bit more structural than cultural (the current mix is often as a result of past leadership decisions) whereas inclusion is more cultural than structural. Cognitive diversity is roughly balanced between these two factors. Leadership influence on diversity and inclusion therefore needs to consider both structural and cultural elements to effect change.

Diversity is clearly important to organisations. But before we can promote fairness and inclusion in our industry, organisations need a better understanding of who their employees are. One way of achieving this is to engage sensitively with employees and improve knowledge through the use of a framework like the identity map described above. In developing effective I&D policies, sufficient corporate energy should be squarely placed in allowing employees to voice who they are. Otherwise, even the most well-intentioned diversity policies will be destined for failure.



Decision making

Part of governance is effective decision making, and this has been a recent area of research within the Thinking Ahead Institute.

31. The power of thinking right to left

I was quite struck by a line within an article written by Nitin Nohria, the dean of Harvard Business School (HBS), who made a very simple yet powerful suggestion to counter short-termism: think right to left.

Nohria credits the original idea to Jim Champy, author of [Reengineering the Corporation: A Manifesto for Business Revolution](#). What most business leaders (and arguably most investors) do is think left to right ie start by focusing on immediate issues and then think about how to get from here to the goal (left to right).

Champy recommends instead that leaders think more carefully about their long-term goals and then think backward about what they need to begin doing today to achieve these goals (right to left).

Nohria applied this thinking to his role of managing the MBA programme at HBS. Thinking left to right, he argued, would lead to him discounting the threat of online education while thinking from the right about the business education landscape in ten years' time, he could no longer ignore its promise and peril.

I believe this way of thinking has immense implications for those investors who want to build a long-horizon mindset.

Right to left thinking, by design, focuses on the long term because it starts from the distant future and works backwards to the present. It encourages investors to project themselves far into the future, think strategically about long-term end goals, long-term liabilities and / or obligations and resources and comparative advantages they can exploit to achieve these long-term goals.

Right to left thinking improves alignment. When investors start their thinking process from the right, the purpose receives the attention it deserves. For example, engaged in this way of thinking, a defined contribution pension delivery organisation would place more emphasis on achieving sufficient incomes for plan participants post retirement instead of participating in rather harmful short-term "mark to peers" activities. Left to right thinking starts with and focuses on the "what"; in contrast, right to left thinking focuses on the "why". It is the "why" that inspires people and encourages the right behaviour that aligns with long-term goals.

Right to left thinking also enforces discipline for investors to focus on the information that encourages long-horizon thinking. Instead of assuming that the current themes continue to play out and trying to front run markets in identifying winners and losers, right to left thinking encourages the identification of long-term transformational changes that have far reaching implications in the distant future and higher impact on the investment portfolio in the long run. Instead of obsessing about catalysts for near-term price adjustments (flow of immediate results, how earnings might compare with market expectations), investors who think from the right naturally pay more attention to factors like long-term cash flow generation potential, sustainability of competitive advantage and, for universal owners, sustainability of the financial system / wider society / environment and licence to operate issues.

"...right to left thinking encourages the identification of long-term transformational changes that have far reaching implications in the distant future and higher impact on the investment portfolio in the long run."

Last but not least, right to left thinking promotes a long-term approach to risk management. Starting with immediate issues and short-term outlook, investors understandably (but mistakenly) view risk as price volatility. A long-term risk management approach starting from the right recognises failure to achieve mission as the ultimate risk and therefore targets avoiding a permanent impairment in the mission. With a long time horizon, the likelihood of certain extreme risk events become significant enough to receive attention while a short-term left to right approach would dismiss its chance of occurring and ignore its potentially catastrophic impact. A great example of applying right to left thinking in risk management space is so-called pre-mortem analysis. It is designed to ask the question "in 20 years' time, our organisation fails / no longer exists, what happened?" This technique facilitates a deep discussion on potential threats and increases the likelihood that main threats are identified and as a result are prevented or avoided or, at least, managed in some way.

Building a long-horizon mindset starts from thinking right to left.

By the way, the whole article is very good – [download the full publication from this website](#) and head to page 36.

32. Create psychological safe zones to improve collective decision-making

Psychological safety is a rich concept in team management. In a psychologically safe team, members feel accepted and respected. They are encouraged to be themselves without the fear of negative consequences to self-image, status or career⁵². But what does it have to do with making better collective decisions?

In institutional investing, we make decisions together, not alone. However, groups vary significantly in their effectiveness. Some groups successfully correct the errors of their members through interaction, while others actually amplify errors. So what makes some groups better decision-makers than others? In this piece I explore one aspect.

How a group thinks and decides collectively depends on the thought processes inside each member and the interactions between members. One of the underpinning pillars for the wisdom of crowds is diverse opinions.

To be able to access diverse opinions in a group, there are two conditions. First, we need to have a team that is cognitively diverse. That is, the members of the group have genuinely different perspectives and process information differently. Second, members of the group are willing and encouraged to express their own opinions unreservedly, however much they may conflict with other opinions.

Over recent years we as an industry have increased our awareness of cognitive diversity and have established initiatives to move away from a rather homogenous talent pool. Bravo to the good work!

But this is a long and hard process. Change doesn't happen overnight. Also the impact of cognitive diversity on team performance is not exactly linear. As the team becomes increasingly diverse, there is an increased risk of dysfunction in team process and performance when the tension of social differences starts to build up. So I can't quite say to you just go out and recruit more members who are different to your existing team. It really depends.

Is there anything else we can do while slowly pushing the cognitive diversity train forward? The answer is yes. That is to make your team a psychological safe zone for disagreement and diverse opinions.



How can we make this happen? There are cultural aspects you can work on and there are specific techniques you can implement.

Let me start with the team culture. Is your culture focusing on creating harmony inside the team to the extent that it starts to get in the way of bringing out alternative viewpoints? Or is your culture built around idea meritocracy where the team collectively gives a fair share of attention to all ideas, regardless of whose ideas they are?

Your choice will lead to very different team member behaviour. If members are discouraged to share their dissent, what is the point of having a cognitively diverse team anyway? If collectively we focus more on the ideas rather than the source of ideas, the best ideas are more likely to win out, as opposed to the ideas of the highest paid person in the team.

Creating the right team culture normally involves leaders setting the right tone, leading by example, correcting the wrong behaviours and rewarding the right behaviours.

The team I am part of does pretty well on this front. Every now and then a new member joins the team and experiences a cultural shock. The intensity of intellectual argument can lead to a certain level of discomfort for someone new to the environment. But the key is to learn to disagree and debate without descending into heated personal arguments. We might often disagree, but no one is disagreeable. It is ok to attack the ideas. It is not ok to attack the person.

Not every team is comfortable with this high level of openness. There is, however, still the option to use certain techniques to deliberately create psychological safe zones for members.

A pre-mortem is one of them. Gary Klein⁵³ is credited by many to be the first to introduce the concept of pre-mortem as a management practice. "Unlike a typical critiquing session, in which project team members are asked what might go wrong, the pre-mortem operates on the assumption that the "patient" has died, and so asks what did go wrong. The team members' task is to generate plausible reasons for the project's failure".

There are two key benefits of doing a pre-mortem exercise. One, it creates an effective psychological safe zone for team members to openly talk about failure. It can head off fears that discussing things going wrong will be perceived as an attack on leaders' judgement or as evidence of being a poor team player. It takes the team out of the context of defending its plan. In addition, an effective pre-mortem makes team members feel valued for their intelligence and creativity to think differently, a counter to overconfidence and group think. In addition, it actually makes people more creative.

Another technique is 'devil's advocate'. While the conventional interpretation of the role is taking an opposing view for the sake of argument, it is no doubt more effective if someone who genuinely holds an opposing view is assigned the role. In doing so, the value of cognitive diversity is embraced by deliberately empowering the voice of an opposing view.

So here is the final pitch to someone who is managing a team that makes important collective decisions. Keep up the good work on building cognitive diversity. At the same time, make the best use of the cognitive diversity that already exists in your team. Break barriers to openness so people are not cautious about sticking their necks out. Create a psychologically safe space for your team.

⁵²Psychological Conditions of Personal Engagement and Disengagement at Work. William A Kahn, Academy of Management Journal. 1990

⁵³Performing a project pre-mortem, Gary Klein, Harvard Business Review, September 2007

33. Create smart checklists to bring your 'A' game every time in institutional investing

Checklists are a concept that doesn't even need a definition. We all know what a checklist is. But things can be both simple and powerful.

I still remember those days when I was a student, doing all kinds of exams. There were always one or two questions, normally towards the end, which were quite tricky for me. I would normally spend one or two minutes assessing whether there was any hope for me to answer them correctly. If not, I ditched them completely. Instead, I focused the rest of my time on double and triple checking that the answers to the questions I was capable of answering were the correct ones. I normally did pretty well on those exams compared to my peers, despite a few of them actually cracking the hardest questions.

That's a lesson I learned early on. To excel in life, you don't always need to be the brightest or have answers for everything. You just need to make sure that you get things right in the area where you do know the right answers. Checklists help us do exactly that in both our professional and personal lives.

In case you don't believe me, Atul Gawande, in his book *The Checklist Manifesto*, explains two types of mistakes. Mistakes of ignorance happen when we don't know enough to perform the tasks correctly. This type of mistake is unavoidable. Mistakes of ineptitude, however, are completely avoidable. We make these mistakes because we don't make proper use of what we already know. Failures in the modern world, as Gawande argues, are often the result of this type of mistake.

A checklist is a simple but often effective way to protect us from these failures. The function of a checklist is not to improve skill or expand knowledge. It is a mechanism to improve outcomes by applying existing skill/knowledge properly. It is about bringing your 'A' game consistently.

This ought to be valuable to decision-makers in any investment organisations. Decisions made in a competitive landscape need to provide competitive edge. Skill is not the only source of that edge. The edge can also come from making fewer errors than your competitor does.

So what does a good checklist look like? As with many things, a checklist doesn't come with a manual. It involves understanding the specific context and the needs of the users. Justin Fox, in a Harvard Business Review [article](#), talks about different types of checklists in different kinds of situations. A task list, for example, is a step-by-step guide of standard procedures that need to be followed in the correct order. It is suitable for tasks that involve a lot of detail to remember, but not a lot of judgement to make. A discipline list, on the other hand, lays down the procedures we want to follow, particularly for those moments when our judgements are likely to be swayed by emotions – be it excitement or fear.

Good checklists don't spell out every step of the process – they are NOT making the decisions or “flying the airplane” for you. Their primary purpose is to serve as a reminder of the critical steps that are often missed by even highly skilled decision-makers.

“To excel in life, you don't always need to be the brightest or have answers for everything. You just need to make sure that you get things right in the area where you do know the right answers.”



My hunch, backed by many members in Thinking Ahead Institute, is that checklists are under-used in the investment industry. In fact there is a reason to believe that they are under-used in all industries. It is simply not very compatible with our ego. Experts can have a hard time admitting their own fallibility and struggle to believe something as simple as a checklist can help them make better decisions.

There is therefore an argument to institutionalise the use of checklists as standard operating procedure. And that requires organisational buy-in. It would be a futile exercise if merely seen as a box-ticking exercise.

Another pushback I have often heard is that checklists may introduce rigidity to the investment process that dampens creativity and adaptability in judgement, which is crucial to deal with a very uncertain and fast-changing environment.

This is why I think it is important to understand that different types of checklists are used in different situations. Discipline lists, using Justin Fox's taxonomy, are a more appropriate type of checklist in investment decision-making, as opposed to task lists. In this type of decision-making, the greatest value of a checklist comes from creating and embracing a culture of discipline, to protect us from overconfidence and emotion. Not to take us through a process step by step.

And let's not forget that an investment organisation makes a wide range of decisions, across the areas of business, investment, operations and people. I can clearly point to the value of intelligently using other types of checklists such as task lists in areas where there are a large number of routine tasks, eg due-diligence of an investment manager, managing counter-party risks or some HR decisions.

I have a strong belief that using checklists properly makes us a better decision maker. We don't suddenly become more knowledgeable; we just apply what we already know more consistently with the help of checklists. Sounds magical? Maybe. But that is the point of checklists.

34. The output of a decision-making process is more than just a decision

The Thinking Ahead Institute's working group on better collective decisions has, throughout 2018, been exploring the details of how institutional investors go about the business of making choices. The group's first paper [How to choose?](#) came out in June. A second paper is in the works, which will set out several ideas for improving decision-making in practice – ideas that range from planning tools such as the pre-mortem to the dull, but useful, checklist to tips for addressing some of the common challenges around meetings.

In this post, I take a step back from the process itself in order to discuss its output. Which might seem like a short subject: the output of the decision-making process is, surely, a decision.

Well, yes. But it's more than that.

Suppose an investment committee is considering hiring money manager X, or adopting strategy Y. The decision they make may be, at first glance, simple: do it or don't do it. Allocate 5% or 3% or nothing. But the way the decision was reached has knock-on effects, too.

Perhaps the committee was one of those that makes decisions based on the HiPPO principle – that's where decisions boil down to the highest paid person's opinion. (That's a common way to make decisions, even though it's not common to admit that's what's happening.)

Two years on, and perhaps there are some performance wobbles (as there nearly always are at some point). Does the group stick with the original decision, or does it bail? That probably depends on personalities and relationships, on whether the original hippo is still around, on whether the others in the room felt committed to the decision when it was made. So the process that was followed has an impact years later.

Or perhaps the committee followed the other common practice of requiring a consensus. Consensus is a good thing when it's achieved authentically, but if every decision needs to be a consensus decision, it can be difficult to fully explore all possibilities. The awkward questions might not get asked. Perhaps it's only when the performance wobbles happen that those awkward questions come up – two years later than they should have.

Then there are the decisions that are susceptible to being criticised with the benefit of hindsight, the sort of decisions that worry the lawyers. Suppose, for example, that a portfolio management team decides to disinvest from companies with poor environmental records because of the downside risk this creates. Or that a corporate defined contribution plan decides to move significantly away from the peer group average asset allocation in its default strategy, in order to increase the probability of meeting the plan's objectives.

These decisions may lead to losses, even if they are based on prudent and rigorous analysis. If that happens, it's not enough simply to have made a sound decision, you also need to be able to demonstrate that you did so. So the process itself, and the documentation of the process, is a critical output.

There's a danger, of course, that concerns about hindsight-driven criticism will constrain decisions. At its worst, this can mean fiduciaries fail to take actions that are in participants' best interests. We've written [previously](#) about the need for fiduciaries to avoid the temptation to hide in the herd. But it would be foolhardy to ignore the possibility of somebody challenging a decision at some point in the future.

Finally, few investment decisions are standalone decisions. Most groups do not come together to make one decision only. So the way each decision is made feeds back into the group dynamics, and shapes how the next discussion will go. An open conversation creates the conditions for a better decision next time, as the group becomes comfortable with one another. Groups tend to become more cohesive and effective over time. Occasionally, this can go too far, creating the possibility of groupthink – that's when it's time to bring in the outsider view, or to consider shaking up the team (uncomfortable as that may be).

So that's just a few of the ways in which the output of a decision-making process is more than just a decision. Which is even more good reason to work hard at getting that process right.



35. Make meetings matter

This post is a summary of the key messages in relation to more effective meetings in the Thinking Ahead Institute research paper: [Better decision-making: a toolkit](#).

Meetings are a recurring feature of the workplace. Investment organisations are no exception. It is estimated that 15% of a typical organisation's collective time today is spent in meetings⁵⁴.

Most of us in the investment industry would readily agree: our meetings are not run in the most productive way. Many meetings are underprepared. There are sometimes too many meeting participants. Some meetings are over-long, lacking direction and energy. The practice of chairing can also be improved.

How to better run meetings is one of the most discussed topics in management science and practice. The contribution of this article, expressed through the six ideas below, draws on the collective experience of Thinking Ahead Institute's decision-making working group in meetings within the investment industry.

Idea #1 – the pre-meeting ask

Engagement can and, I would argue, should start before the meeting. Part of it is about getting the basic questions out of the way. More importantly, it is about preparing attendees so the actual meeting is run effectively and efficiently.

Netflix takes an innovative approach in its board meetings⁵⁵. Pre-meeting communication comes in the form of a short, online memo that includes links to supporting analysis. In addition, the online memo allows board members to ask questions and provide comments within the document.

The result? The approach has been found to significantly enhance the board of directors' ability to provide oversight to the operation of the company. The meetings are much shorter – only three to four hours compared to all day (or multiple days at many large corporations) – and focus on questions and discussion instead of presentation.

Idea #2 – ditch the data-dump, use narrative

Most of us all have been sent a 100-page PowerPoint deck prior to a meeting, full of charts and tables. Despite the high volume of data, there is typically a lack of coherent narrative which makes it difficult to discern a clear line of thinking.

Jeff Bezos, the CEO of Amazon, has a strong view on this matter. He reportedly bans the use of PowerPoint at Amazon⁵⁶. He says: "Somebody for the meeting has prepared a six-page...narratively structured memo. It has real sentences, and topic sentences, and verbs, and nouns – it's not just bullet points." Research indeed supports that our brains process narratives and storytelling much better than data.

So if you would like a group to consider your excellent proposal, write a story.

Idea #3 – be agile

When the group is too large, the quality of conversation starts to decline: there is not enough time for everyone to participate; we become more guarded and less candid. There are all good reasons why we shouldn't ask too many people to attend a meeting.

Steve Denning explains the concept of agility in his book "The Age of Agile". Agile practitioners, says Denning, work in small, autonomous, cross-functional teams working in short cycles on relatively small tasks. This contrasts with the conventional bureaucratic, top-down setup of teams. There is frequent interaction between teams via meetings. As agile working relies on "the law of the small team", it can help achieve an optimal number of meeting participants.

⁵⁴"Big Mind: how collective intelligence can change our world", Geoff Mulgan, 2018

⁵⁵"How Netflix Redesigned Board Meetings", David Larcker and Brian Tayan, Harvard Business Review, 2018

⁵⁶Jeff Bezos Knows How to Run a Meeting. Here's How He Does It," Justin Bariso, 2018

Idea #4 – give everyone a real voice

Not everyone is able to effectively contribute in a meeting⁵⁷. Left to its own devices, meetings are often dominated by the most senior attendees and those who are naturally assertive.

To create an environment where all meeting participants are given equal opportunity to provide input, a key condition to harness the value of cognitive diversity, there needs to be a deliberate effort to include everyone.

For example, the chair can call on every participant, to impose a mechanistic equal turn-taking, albeit with a varying sequence each time around. Because body language aids understanding, use video conferencing, rather than audio conferencing, wherever possible.

Also give particular consideration to those in a relatively weak position. It could mean letting the minority who join the meeting via telephone speak first, or coming to the most senior people last.

Idea #5 – separate social leader from content leader role

The chairperson plays a key role in the successful running of a meeting. The role of the chair is nicely described in an article by Antony Jay⁵⁸ that I highly recommend. The essence is that the chair's role is to interpret and clarify and to move the discussion.

The chair therefore undertakes the role of “social leader” of the meeting. If the chair – often the most senior person in the meeting – has a strong argument to advocate (ie, acting as a content leader), best practice is to give up the chair role for that meeting. Our working group has experimented with the separation of social leader and content leader and found it to be helpful in avoiding the content leader's voice coming to dominate. It does take a little time and practice to get used to though.

Idea #6 – “parking lot” and daring to be unconventional

This idea is to address the issue of over-long meetings and a related problem that some meetings are lacking energy.

One of the main reasons some meetings become unnecessarily long is that the discussions are side-tracked. In these situations, the “parking lot” concept is a useful device for moving a discussion forward. For example, your team might love to explore new ideas and these important, but out-of-scope ideas get thrown out during the discussion. You shouldn't completely ignore them but shouldn't let them hijack the agenda of the meeting either. Simply use a whiteboard to park (write down) the pending ideas, siphoning them into new channel and new time, and move on.

Of course some meetings are long because it is necessary in order to deal with a long list of important issues. Think Investment Committee meetings in asset owners. These meetings can be a draining experience, both mentally and physically. What can we do about it?

Question whether a meeting needs to be called at all. The most direct and effective way to reduce the wear and tear of meetings is to reduce the total number of meetings we collectively attend. Also, ask if a group is doing something that could better be done by others, ie, delegation.

Try unconventional practice. While not without its own problems, stand-up meetings do present a change to our daily routine⁵⁹ injecting some fresh energy into the meeting. If the meeting involves a small number of people, experimental psychology research⁶⁰ lends support to walking meetings, which are shown to increase creative thinking.

What make meetings in institutional investing different?

You might well point out that issues around meetings aren't unique to the investment industry. Since the key decision makers in all industries are human, it is not surprising that we are dealing with similar challenges.

But I would argue that the environment we operate in is more volatile, uncertain, complex and ambiguous than most. There is less clear sight of what could possibly happen, let alone what *will* happen.

This might mean that the concept of “off topic” needs to be interpreted differently. Ideas and arguments, no matter how absurd they might initially appear, need to be given space to grow and become refined. We sometimes have to take risks in examining ideas and thoughts that are deemed completely off topic via a conventional lens because no-one can say with certainty what is “on topic”.

There is no magic bullet to making meetings a breeze. But I have outlined some sensible incremental and practical approaches that investment organisations can adopt to make meetings less draining and more effective. I hope you find a few of them worth considering.

⁵⁷ “Run Meetings That Are Fair to Introverts, Women, and Remote Workers”, Renee Cullinan, Harvard Business Review, April 2016

⁵⁸ “How to run a meeting”, Antony Jay, Harvard Business Review, 1976

⁵⁹ “Stand-Up Meetings Don't Work for Everybody”, Bob Frisch, Harvard Business Review, 2016

⁶⁰ “Give Your Ideas Some Legs: The Positive Effect of Walking on Creative Thinking”, Marily Oppezzo and Daniel Schwartz, Journal of Experimental Psychology: Learning, Memory, and Cognition, 2014

36. Collective decision-making is a skill that can be nurtured

This article is based on the key messages in relation to collective decision-making in the Thinking Ahead Institute research paper on "[Better decision-making: a toolkit](#)".

Institutional investing is increasingly a team activity. We make decisions together, not alone. For example, in 2010, more than 70% of all US domestic equity mutual funds were managed by teams of portfolio managers compared to only 30% in 1992⁶¹. In the asset owner space, investment committees are responsible for pretty much all the highest-impact decisions of a fund.

Against this backdrop, the concept of collective, instead of individual, decision-making is more interesting and more relevant to our industry. What makes some groups more effective in making decisions than others?

It turns out that this is an area where both management scientists and practitioners largely agree. A wise team tends to have these four traits:

1. Members of the team have a wide range of perspectives and opinions inputting to decision-making
2. The team is very effective in sharing and processing the relevant information
3. Independence of individual judgement is preserved during the discussion
4. There is an effective means of combining individual opinions.

Like any other skills, we can learn to be more effective in making collective decisions. And that starts with stronger practice in each of these four areas.

Diverse opinions

The fundamental source of diverse opinions is cognitive diversity, a subject our industry is increasingly paying attention to. In this post, I will explore another challenge. Assuming that your team already enjoys a healthy level of cognitive diversity, does it mean you will automatically get diverse opinions? That answer is not always.

For example, your team might make decisions based on the HiPPO principle – where decisions ultimately rest with the highest paid person's opinions. This is an environment where diverse opinions tend to be suppressed. Why risk disagreeing with your boss when you know that, at the end of the day, your opinions don't really matter?

The key here is to create a psychological safe space that allows diverse opinions to emerge freely. Creating the right team culture is the first and most important step. Leaders need to set the right tone and lead by examples – ie, encouraging rather than suppressing views to challenge the HiPPOs. There are specific techniques such as pre-mortem or devil's advocate to deliberately empower the voice of disagreement.

Information sharing

A key challenge in relation to information sharing is that it is an interactive process: the information you share will influence and be influenced by the information shared by others. Sometimes these influences are unhelpful. For example you might not feel completely comfortable sharing a piece of information that challenges the consensus, or worse, a point your boss just raised.

The solution is a surprisingly simple one. Why not share the information before the discussion? Use emails, use on-line tools. Share the information you want to share before it gets messy when the social interaction begins. And don't just create a deck of slides with data and charts. Narratives are scientifically proven to be more effective in making an argument that resonates with your readers.

Independence

Committees like consensus building. We prefer to get everyone on board for collective decisions. Granted, if the consensus is authentic, it creates strong collective buy in to the decisions and follow-up actions.

The problem is that, in practice, consensus is a pretty high hurdle. Often, in order to achieve it, either the group itself is too homogenous to start with or opposing views are suppressed. Independence of individual judgements is therefore in jeopardy.

Again, there is a rather simple solution. Let's vote. An informal show of hands, however, doesn't really count because it can still create the similar social tension as consensus building. Modern technology makes anonymous voting very straightforward. So just get on with it.

For really important decisions, a case can even be made to have two rounds of voting: one before the deliberation process and one afterwards. Pre-voting helps collect individual judgements, before the helpful and unhelpful influence of social interaction. Second round gives team members an opportunity to update their opinions.

Combining individual views

So your team took a vote: three voted yes and two voted no. Where does it leave you in terms of the final decision? In practice there is a rich level of nuances in this final step of decision-making.

The team can simply take the result of voting at its face value. There are more yes than no so the team collectively supports the motion.

But maybe the two members of team who voted no happened to be the subject matter experts for this specific decision and their votes were pre agreed to be worth twice as much as the other votes. The collective decision is therefore now against the motion. We are into the realm of reliability-weighted voting here, a theoretically sound concept that individual opinions should be weighted in accordance with their reliability. It is a very difficult idea to implement in practice though.

Or maybe your members were also asked to express their confidence level alongside their votes. If the minority votes carry very high confidence levels individually, they might flip the collective decision.

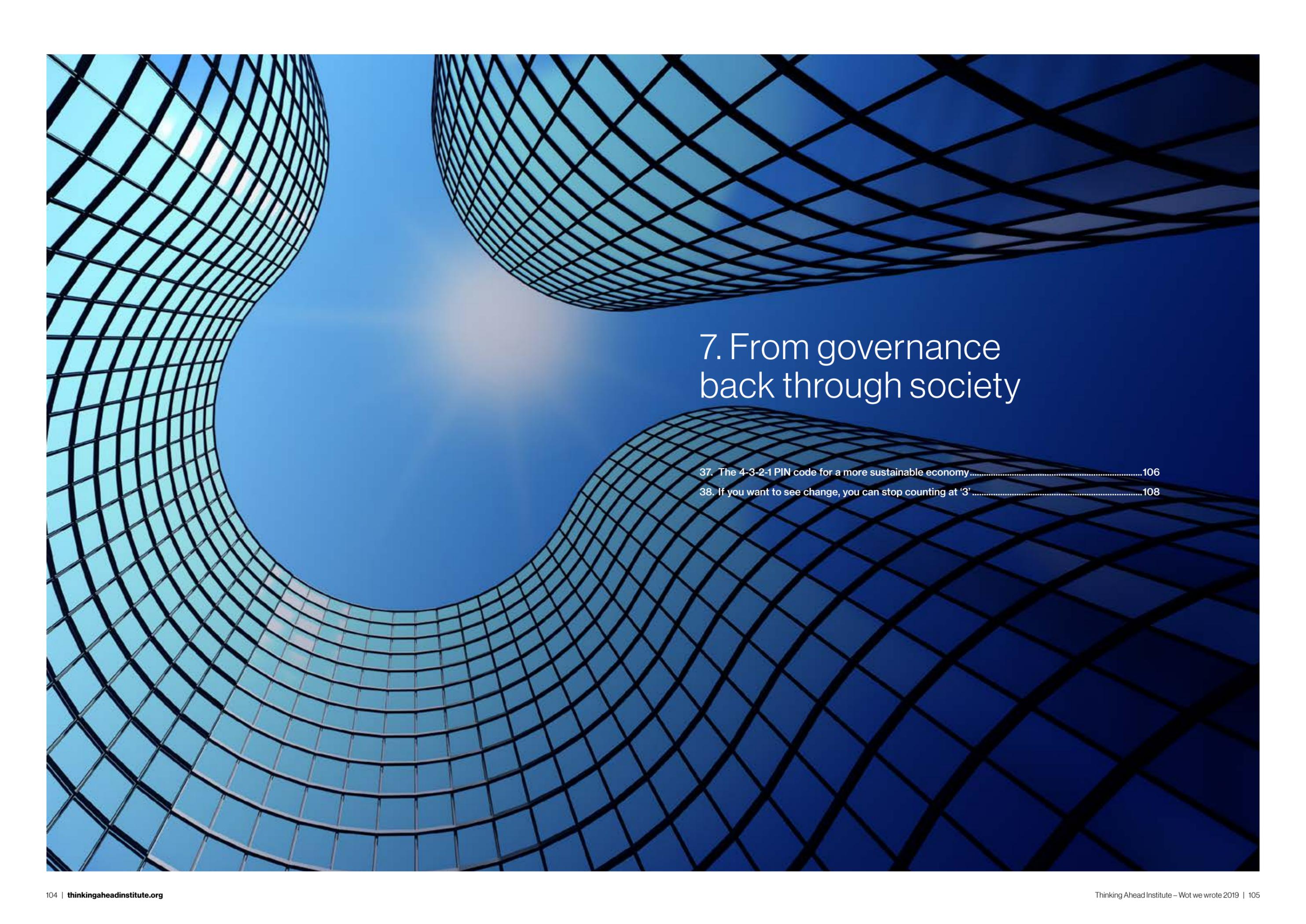
Another common practice is that the voting result not the final decision but instead is used as an input, albeit a very important one, to the team leader to ultimately decide. This might sound HiPPO like but in practice there are legitimate arguments to support this practice, in some circumstances. It promotes clearer accountability. It is less complex and easier to communicate, especially externally. It also addresses the issue of uninformed votes.

This approach would require checks and balances on the team leader, of course. For example, one group I have worked with gives the team leader discretion to make the final decision, unless there is a supermajority (e.g. 75%). Others favour *comply-or-explain*: the team leader remains accountable but is subject to a formal justification process if a supermajority is vetoed.

There isn't really a single best practice in this area – what works best for you is highly context dependent. Make sure you have good reasons to support your choice of practice. And trying to force a consensus where one does not naturally exist is a bad practice you should always avoid.

How a group thinks and decides is an emergent property of individual thought processes, communication patterns, dependencies, relationships and other aspects of interactions among group members. Effective decision-making emerges when the whole is greater than the sum of the parts. It is also a skill a team can learn and develop.

⁶¹"To Group or Not to Group? Evidence from Mutual Funds", Saurin Patel and Sergei Sarkissian, Journal of Financial and Quantitative Analysis, 2017



7. From governance back through society

37. The 4-3-2-1 PIN code for a more sustainable economy	106
38. If you want to see change, you can stop counting at '3'	108

The route we are taking through these articles takes us from governance back to society – unsurprisingly, they are linked. How do we effect change in society?

37. The 4-3-2-1 PIN code for a more sustainable economy

The investment industry is more focused than ever on sustainability. That does not necessarily mean that the industry is becoming a force for positive change, of course. But it's a start.

As so often is the case, there is something of a saying-doing gap. While some firms are focused on working out what to do, others are more concerned about creating a convincing story.

But there's another gap, which is perhaps even more significant here. We might call this the doing-impact gap or, more technically, the intentionality-additionality gap. We may have certain intentions but how do we ensure that our actions create genuine and deliberate additions to what happens? This gap arises because it's not easy to bring about fundamental and positive change or even simply measure it. After all, just how far is it really possible for asset management organisations to truly move the dial on climate change for example?

The fact is no single party on their own can achieve as much as all parties working together. But everyone can play a part. And this dynamic is neatly captured in what my colleague Roger Urwin has termed the 4-3-2-1 PIN code.

The 4-3-2-1 PIN code is an impact framework. The framework assigns 4 units of influence to public policy, which is the single most powerful channel for effecting change. Laws and regulations can directly affect the things that matter most: resource extraction, pollution, emissions and the many other inputs to and outputs of our economic activity that contribute to the sustainability or unsustainability of our economy.

But while public policy is the most powerful, it's not the only channel. The 3 in our PIN code is for the influence of corporations. Corporations have a choice to make. One path is to focus on shareholder value and short-term profitability alone. They can choose to skirt the spirit of regulation. They can game the system, for example by regarding fines as merely a cost of doing business. Alternatively, they can see themselves as part of society, inseparable from the communities that they operate in, sell to and employ. They can reject the poisonous notion that they have no social responsibility beyond the maximisation of profits and instead pursue profits *with* purpose.

And the 2 in our 4-3-2-1 PIN code points to us in the influence of the investment community. Asset owners and asset managers lack the direct power of corporations to effect change, let alone the power of public policy. But investment decisions do have impacts. Asset owners and asset managers are stewards of the system. Shareholders who own, and profit from, corporations that pollute or exploit are not mere bystanders, they are active participants in the system and need to accept the responsibility that role brings. Intentionality on its own can too easily result in nice stories but no real change. Additionality demands that we invest in technologies that have a chance to make a real difference.

And the final unit of influence goes to the individual, the man or woman in the street. They exercise their influence as world citizens in a spectrum - consumers, workers, retirees, voters, travellers, campaigners, etc.

Hence, public policy; corporations; investors; individuals: these are the players in our 4-3-2-1 PIN code framework. Each has a role to play.

But the story certainly does not end there. The roles are interconnected. For example, individuals can influence public policy, hence having a bigger impact than is possible through their own actions in isolation.

The role of investors has arguably the most potential to connect these powerful forces. There are a legion of opportunities for investors to increase their impact by leveraging the two units of direct control into many more units by using their soft power to influence companies and public policy.

The intentionality-additionality gap (or, if you like, the doing-impact gap) represents the shortfall between our desire for a more sustainable economy and our ability to create it. The 4-3-2-1 PIN code is a reminder of the shared responsibility to unlock the impact that society is asking for and critically needs.

“Asset owners and asset managers are stewards of the system. Shareholders who own, and profit from, corporations that pollute or exploit are not mere bystanders, they are active participants in the system and need to accept the responsibility that role brings.”

38. If you want to see change, you can stop counting at '3'

This article is my reaction to, and reflection on, [The 4-3-2-1 PIN code for a more sustainable economy](#) article. The PIN code attributes the 10 available units of influence; four to public policy, three to corporations, two to the investment industry and one to the individual citizen. In addition there is the potential for a multiplier to kick in (individuals vote, and consume) and, further, for a 'multiplier on steroids' from the intentionality of universal owners (within the 'two') working on the system not just within it. My argument here is that, if we want to see real change, we should ignore the 'four' – public policy is not going to lead the change we need.

This is counter to consensus opinion. Or, more accurately, does not reflect the majority of conversations I am part of. When I talk to people about my list of the two things that matter (climate change and inequality) the response is typically that the problems are so large and so complex that we just need policy makers to tell us what to do. Implicitly, my conversation partners are acknowledging that public policy is a 'four' – it carries the most weight; it has the greatest influence. It is also the wrong answer.

It is the wrong answer because public policy cannot lead us out from under the impending crisis that will certainly follow unchecked climate change and/or inequality. Public policy rarely leads. I would argue that only an authoritarian regime would have the capability of genuinely leading. But even an authoritarian regime will operate under a prevailing incentive system. So, we need to understand the incentives.

Abolition of slavery – a case study

Recognising that it is dangerous to argue generalisations from specific cases, let's consider William Wilberforce and the abolition of slavery. Does the UK parliament deserve any kudos for 'leading' the world in the abolition of slavery? In my opinion, no. The UK parliament did the right thing – but way too late. It therefore did not lead. Wilberforce was clearly an important part of the process, but anti-slave-trade activists existed before his involvement – he was recruited to their cause in 1787. Wilberforce then headed

the parliamentary campaign against the British slave trade for 20 years until the passing of the Slave Trade Act in 1807. He continued to support the campaign for the complete abolition of slavery and the Slavery Abolition Act was passed in 1833, the year of his death. I find this shocking. Wilberforce devoted 43 years of his life to campaigning against something that was obviously wrong. (Yes, that is a moral observation – but all of human life, and therefore all of economics, involves morals.) How many other people devoted how many years of their lives to the same cause? There is no way to claim that public policy led on this issue. In fact it looks as though it was positively obstructive.

It's the incentives, stupid

Why did the UK parliament take 50 years or so to do the obviously right thing? Because of the incentives. We know that the slave trade was profitable. We know that it comprised one side of the 'virtuous' triangle (heavy irony within those quotes). UK manufacturers imported raw materials from the Americas and exported finished goods to Africa. Rather than have empty, and therefore expensive, ships sail from Africa to the Americas why not fill them with saleable human cargo? The corporations, the 'three', were therefore pro-slavery and, presumably, the investment industry (owners, the 'two') were happy to receive the financial return and ignore, or deny, the non-financial⁶² impact. In our present-day context, we can only hope that universal ownership will allow us to progress differently through our own contentious issues.

So can we conclude that the 50-year delay was due to a five vs five (public policy plus individuals) stand off? I don't think so. I think the majority of the 'one' (individuals) were probably pro-slavery for much of the period. In addition to the natural status quo bias, some of them would have depended on a pro-slavery stance for their employment, and it is likely that the media channels of the day sent a pro-slavery message. As for the 'four', my bet is that a fair amount of lobbying was taking place. At best, this was about votes. At worst, it was about personal enrichment.

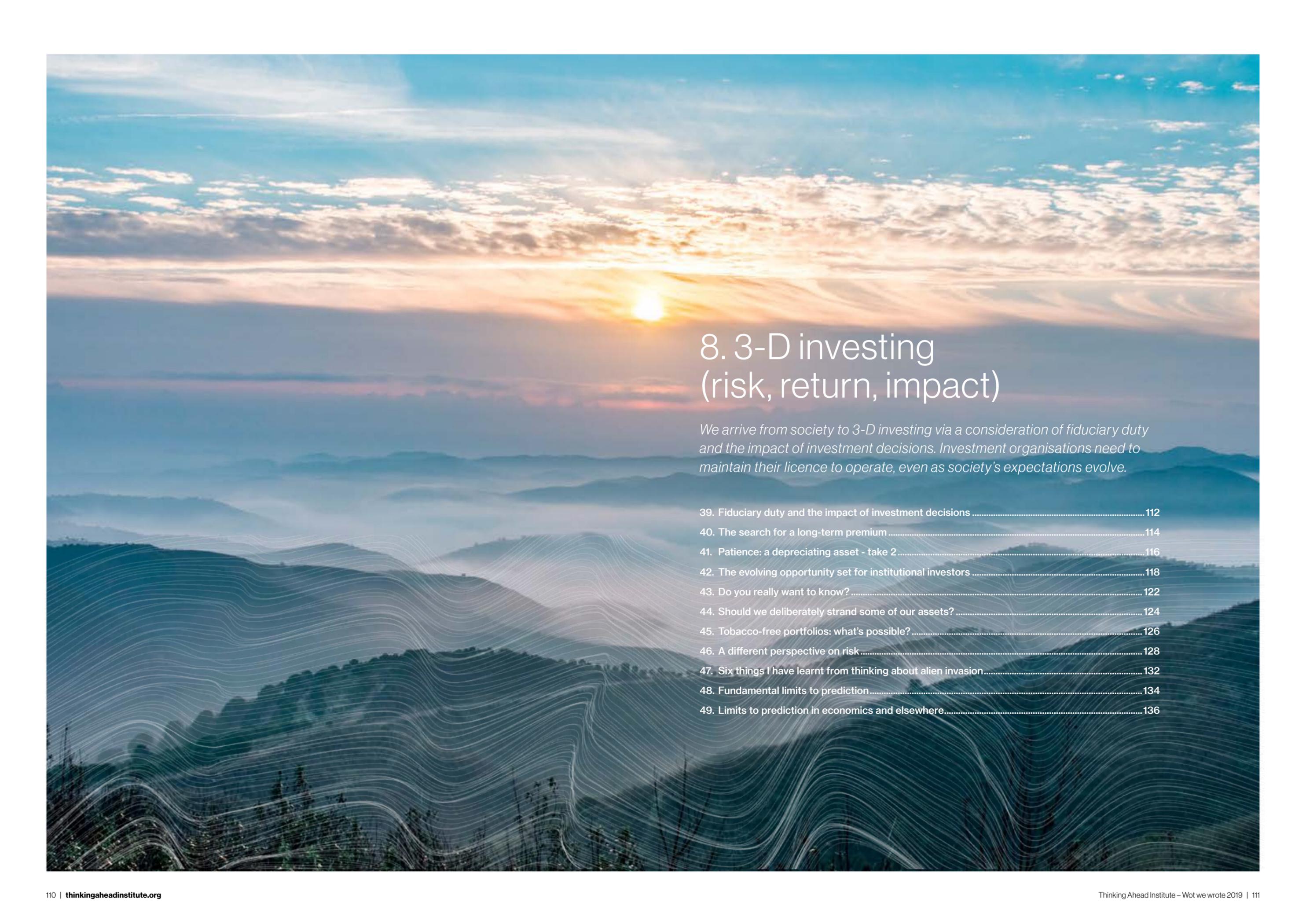
My narrative then, for this slavery case study, is that change started within a fraction of the 'one'. It grew its share of the 'one' and it gained a toehold in the 'four'. There was then a long, and presumably difficult, campaign to convert enough of the units of influence to the cause. Both before and after the abolition of slavery, public policy endorsed what the non-public sector deemed to be best practice. If we look at the incentives politicians face (career risk, lobbying etc) and their short time frames (re-election cycles) could it be any other way?

It's up to us

I have argued that, due to the prevailing incentives, legislation tends to be reactive and, at its best, it tends to enforce adoption of established, voluntary, best practice. I also think this reactivity is close to ideal. If, like us, you believe that economies and societies are complex adaptive systems, then you will know that changes always bring unintended consequences. And sometimes those unintended consequences are painful. There is significant risk associated with public policy inflicting untested change on a system. To put it another way, if you were the proverbial philosopher-king would you be super-confident in the laws you needed to pass to address climate change and inequality?

Therefore change must be led by the 'six' (corporations, investment industry and individuals) doing what the 'six' does best – experimenting, innovating, competing, adapting and connecting. When best practice emerges the 'four' can, ex post, ensure that it is universally adopted thereby accelerating the change.

⁶²I don't believe 'non-financial' actually exists – but if you make the framing narrow enough and the time short enough it is a reasonable approximation.



8. 3-D investing (risk, return, impact)

We arrive from society to 3-D investing via a consideration of fiduciary duty and the impact of investment decisions. Investment organisations need to maintain their licence to operate, even as society's expectations evolve.

39. Fiduciary duty and the impact of investment decisions	112
40. The search for a long-term premium	114
41. Patience: a depreciating asset - take 2	116
42. The evolving opportunity set for institutional investors	118
43. Do you really want to know?	122
44. Should we deliberately strand some of our assets?	124
45. Tobacco-free portfolios: what's possible?	126
46. A different perspective on risk	128
47. Six things I have learnt from thinking about alien invasion	132
48. Fundamental limits to prediction	134
49. Limits to prediction in economics and elsewhere	136

39. Fiduciary duty and the impact of investment decisions

“Management”, according to Peter Drucker, “is a social function. It is, therefore, both socially accountable and culturally embedded.”

And as for the mission and purpose of a corporation, he continues, “Any institution exists for the sake of society and within a community. It, therefore, has to have impacts; and one is responsible for one’s impacts... This responsibility creates a major new challenge – and raises the most difficult problems, both of management and of political theory and practice. But it has become a fact.”⁶³

It is forty-six years since those words were published, and they ring as true today as ever. The zeitgeist is very much that corporations are expected to act as responsible citizens. The claim that business has no social responsibility other than to increase its profits is increasingly falling on deaf ears. Business is expected not only to comply with the law, but also to acknowledge that it operates by a tacit license from society: legality is one thing, but social legitimacy implies a higher bar.

Institutional investment organisations also exist for the sake of society and within a community. Investment decisions have impacts.

This is why, in a recent Thinking Ahead Institute research paper, we argued that “while investment and fiduciary duty has been framed as a two-dimensional problem (risk and return), it has always been a three-dimensional problem of risk, return and impact.” But the recognition of responsibility for one’s impacts, as Drucker pointed out, raises difficult problems. These problems must be faced.

The situation is complicated by the fact that investment organisations generally act as an agent for somebody else. It’s not their money, so organisations are not free to define their social responsibility however they choose. Hence there needs to be alignment in the expectations of end savers, asset owners and asset managers about how

the impacts of the investment process are to be taken into account. For this reason, we believe asset owners will increasingly prefer asset managers whose values and culture and beliefs align with their own. Mission clarity becomes even more critical on all sides.

Arguably the thorniest issue to address is that of fiduciary duty. The fiduciary concept can be traced at least as far back as Roman times and is a key element of consumer protection in much of the financial world. And if investment organisations are to consider the wider impacts of their decisions, they need a clear understanding of how this relates to their role as a fiduciary.

I’ve already observed that corporations are increasingly expected to maintain their social legitimacy. They cannot afford to ignore what Milton Friedman described as the “basic rules of society embodied in ethical custom”. And we are at a point in time where society’s expectations are growing.

So what is the equivalent expectation that society has of the institutional investment community? Is it exclusively to maximise returns, even if that means setting aside social norms and good citizenship? And, if not, is the way in which fiduciary duty is currently defined consistent with that expectation?

Note that I am not beginning here with the question of how fiduciary duty is currently defined: what is demanded, what is permitted. Instead, I am asking the question of what fiduciary duty *ought* to be. There is no fundamental reason that fiduciary duty cannot incorporate the concepts of citizenship and of responsibility for one’s actions.

If we decide that it should acknowledge those concepts, then we can turn to the question of whether it currently does. Answering that question would require a much longer and more technical analysis than I am qualified to offer. The answer would vary between jurisdictions – and different experts may well reach different conclusions within the same jurisdiction.

So I’ve done the easy bit: I’ve asked the question.

And what if the conclusion is that the current interpretation of fiduciary duty does not adequately reflect the need to recognise responsibility for the impacts of investment decisions? That’s the difficult bit, and one blog post won’t get us far. It would include a look at the regulatory trend around the world (short version: largely moving in this direction, although the current US administration is an obvious counterexample). It would require identifying the practical barriers to change and working out the most effective way to confront them. It would require working toward a consensus between savers, society, regulators, corporations and the investment industry.

So nothing will change overnight. But investors, like corporations, need to maintain their social legitimacy even as society’s expectations evolve. And if fiduciary duty truly requires at present that the institutional investment community must set aside the concepts of citizenship and of responsibility for one’s actions in its pursuit of maximum returns – is everybody really OK with that?

⁶³Peter F. Drucker (1973). “Management: Tasks, Responsibilities, Practices.” Harper & Row.

These investment articles encourage adopting a longer horizon, thinking about risk as our lack of ability to predict, and measuring and constructing portfolios.

40. The search for a long-term premium

Jaap van Dam, principal director investment strategy at PGGM, one of the world's largest asset owners that is known for its commitment to long-horizon investing, once [asked](#) what he called 'the million-dollar question: "can we be reasonably certain that we will be rewarded for being a long horizon investor? Because, if we're not, then why bother?"

A sound answer to this question, as Jaap rightly put it, will determine whether long-horizon investing will really take off among asset owners.

Supported by the work we have done in the Thinking Ahead Institute, in particular the long-horizon investing working group, I would propose a resounding yes as the answer to this question.

In our paper, "The search for a long-term premium", we conclude that a sizeable net long-term premium of 0.5% to 1.5% per year, depending on investors' size and governance arrangements, can be exploited by investors with the appropriate mindset and skillsets.

Hunting for evidence of long-term premia is easier said than done. In an ideal world, we would run a regression of net investment returns against investors' time horizons. Sadly, to our knowledge, the data to run this regression does not exist due to a number of obstacles such as how to accurately measure the time horizon of investors.

As a result, an "indirect" approach was conducted, based on the belief that long-horizon investing offers investors both return opportunities and the possibility to reduce drag on returns. This led to the identification of eight building blocks of long-horizon value. Each is practical to implement, albeit with changes required to the investment process. Together, they provide evidence of a sizeable premium from long-horizon investing.

We can split these building blocks into strategies that:

1. Provide long-horizon return opportunities and
2. Lead to lower long-term costs and/or mitigate losses.

Let's start with return opportunities. A [study](#) that examined over 2000 highly-intensive engagements with over 600 US public firms between 1999 and 2009 produced some revealing conclusions. The study showed that engagements with investee companies generate, on average, positive abnormal returns of 2.3% over the year following the initial engagement – clear evidence of the benefits of being active owners to encourage investee companies to take long-term approaches.

When investors are willing to pay for liquidity – in other words, sell assets below "fair value" – someone on the other side of the trade gets paid. [One study](#) suggested that long-horizon investors have the potential to earn additional returns of 1% pa at the expense of shorter-horizon investors by providing liquidity when it is most needed.

Another aspect of liquidity involves the illiquidity risk premium (IRP), which is well established as a source of return for long-horizon investors. When investors accept illiquidity, they accept greater uncertainty about the outcome because they are less able to liquidate the asset. The longer the capital is tied up, the more return investors expect by way of compensation. [Academic studies](#) point to a range of 0.5%-2% pa for this particular premium – and even higher returns might be available to very long-horizon investors.

A fourth return opportunity for long-horizon investors comes from exploiting various mispricing effects via smart betas. [Decades of data](#) suggest that this can add more than 1.5% pa relative to the cap-weighted index.

Investors have long been aware of thematic investing. A belief that education, renewable energy, ageing, technology and so on, are key value drivers, is held by many investors. The lack of consistency in implementation approach means we have been unable to find empirical evidence that categorically demonstrates the success of a thematic approach. However, belief in thematic investing is certainly strong: 93% of attendees at the 2016 Thinking Ahead Institute New York roundtable believed that it was possible to enhance portfolio value by investing thematically.

A long-horizon mind-set can also usefully guide behaviours to reduce drags on investment returns.

A [study](#) of over 400 US plan sponsor "round-trip" decisions (firing and replacing managers) between 1996 and 2003 compared post-hiring returns with the returns that would have been delivered by fired managers. It suggested that by replacing their investment managers, the plan sponsors on average gave up a cumulative 1.0% in the three years following the change – a dear cost they paid for buying high and selling low that can be mitigated by a long-horizon mind-set.

Open-ended fund structures, despite the flexibility they provide, might not be fit-for-purpose for long-horizon investors who do not require nearly as much liquidity as other short-horizon shareholders. In such a structure, long-horizon shareholders effectively subsidise their short-horizon peers for their liquidity needs. [One study](#) found that liquidity-driven trading in response to flows (in particular redemptions) has reduced returns in US open-ended mutual funds by 1.5%-2.0% pa from 1985-1990.

Last but not least, significant savings in transaction costs can be made by avoiding unnecessary turnover as a long-horizon investor.

Capturing the benefits of long-horizon investing is likely to require a major shift of mind-set and significantly expanded skillsets by investors. In many cases, it entails incremental spending – e.g. expanding investment expertise in active ownership by hiring a specialist, or increasing the number of trustee meetings to strengthen long-horizon investing beliefs.

The potential benefits of this additional spending are in many cases return enhancements. In the paper we take two hypothetical pension schemes to develop a reasonable estimate of the potential long-term premium in practice.

The smaller fund focuses its long-horizon efforts on avoiding costs and mistakes. It reduces manager turnover, avoids chasing performance and forced sales, and moves part of its passive exposure into smart beta strategies. The rationale is: if you don't have the resources to win big, at least don't lose. The net benefit of these efforts is potentially an increase in investment returns of about 0.5% a year.

The larger fund has the governance and financial resources to consider all available options for capturing premia. It introduces long-horizon return-seeking strategies while reducing its exposure to mistakes and costs. The net uplift to returns is potentially around 1.5% a year.

In the investment world where there are very few universal truths, it would be hubristic to conclude that we have proven the existence of the long-term premium. We are, however, "reasonably certain" that the costs of developing the mind-set and acquiring the skillsets to address long-horizon investing challenges are substantially outweighed by the potential return enhancements.

If such a premium exists, why are institutional investors not already exploiting it? Our next challenge is to understand the potential obstacles, and, finally, present a range of practical solutions for investors to access that premium.

Having successfully conducted the search for a long-term premium, we now embark on the journey towards building a long-term orientation.

41. Patience: a depreciating asset – take 2

We believe there is a strong link between patience and successful long-term investing, for two reasons. First, patience differentiates between long-horizon and short-horizon investors. Second, patience must be seen as a depreciating asset. Left unmanaged, patience will erode and lose its value.

Our thesis comes from [Patience: not merely a virtue, but an asset](#) – a paper co-written with Geoff Warren of Australia National University and Liang Yin of the Thinking Ahead Institute – and has two main components:

1. Patience has value, because it: (a) supports the ability to invest for the long term, and (b) allows the maintenance of (initially) losing positions.
2. Patience running out is bad, because it: (a) can trigger a value-destructive sale (capitulation), and (b) sends the wrong signals, which can undermine capacity to exercise patience in future.

We consider an investment that has a high chance of delivering a very handsome return. The only problem is that we don't know when. The return could materialise tomorrow, or years down the track. What type of investor would pursue such an investment? Clearly, they must have patience. They must not be too concerned with *when* the payoff might arrive, although they should worry *if* it will eventually occur. They must be able to stay the course if the payoff is delayed. Being able to pursue such investments opens a class of potentially rewarding opportunities that an impatient investor may overlook.

Our thesis suggests a straightforward question: how does an organisation build and sustain patience? The question becomes somewhat more complex when there are multiple levels of two-way relationships, and there is the need for patience to span those levels. Nevertheless we suggest that a simple, generalised model with four elements can be used to explore the question:

1. Two levels – such as principal / agent, or governor / executive – but more generally a high-level party and a low-level party. We exclude the single-level case of the principal investing on their own behalf. The two-level idea applies variously: within asset owners (board and in-house executive); between asset owners and asset managers, and/or within asset managers (boss-employee)
2. The stock of patience resides with, and is controlled by, the high-level party (eg principal)
3. The low-level party (eg agent) operates under a mandate while the stock of patience remains positive. The manner in which this is done influences the principal's stock of patience
4. There may, or may not, be a shared understanding of the presence of patience, let alone agreement over the role it plays. However, we assert that the best relationships and investment outcomes will involve mutual agreement over the need for patience.

It is important to note that patience alone does not lead to investment success. Patience is no substitute for skilled investment analysis but, assuming genuine investment skills are given, what difference would patience make?

An investor has, broadly, three options for allocating their capital:

1. **Risk-free assets:** these give a 100% likelihood of a (very) low return
2. **Price-to-price investing:** this is Keynes's beauty contest game. It entails predicting the movement of psychology of the market. What matters is the price bought at, and the price sold at
3. **Price-to-value convergence:** here there is a high likelihood of an attractive payoff, and skill relates to accurate assessment of the value. But there is also the possibility that price and value remain divergent. The divergence might even get larger before convergence occurs.

Clearly for the first option, patience makes no difference. The second option is a noisy, zero-sum game and so doesn't seem a natural place for patience to make any difference. For price-to-value convergence, however, we argue that patience is everything.

If price diverges from value the investor has three options: (a) sell, concluding that their analysis of value was wrong, (b) do nothing, or (c) add to the position as the prospective return has increased. It is patience, an intangible asset, that allows an investor to pursue options (b) or (c).

We believe the benefits patience brings are an expanded opportunity set; protection against value-destructive short-horizon behaviours such as selling low; and reduced transaction costs as a consequence of lower portfolio turnover.

We assert that, in all but trivial cases, patience will be tested. This is why it should be viewed as a depreciating asset. Hence it is important to understand what causes patience to wear thin, and what can be done to build and maintain it. We recommend organisations build the stock of patience from the very start through: gaining organisation-wide buy-in; creating a long-horizon oriented investment process; hiring the right people; and building a long-horizon culture. The stock of patience then needs to be maintained by: working on retaining trust; offering the right incentives; framing performance in the context of long-term objectives; and having leadership from the top.

We do not argue that long-horizon investing is easy. Nor do we claim that it is the only way to generate strong investment performance. Or that it is appropriate for all. Nevertheless, long-horizon investing can be well worth the effort for organisations that manage on behalf of savers with long-horizon goals, and that are capable of positioning themselves to do so. For such organisations, we believe it is helpful to view the building and maintenance of a stock of patience as a, or the, key foundation.

42. The evolving opportunity set for institutional investors

This post sets the scene for a Thinking Ahead Institute research project I will be leading in 2019. I will pose a question that I believe is important, maybe even mission critical, for institutional investors to explore. I don't have all the answers at this stage (and never will) but in this post I will outline my thoughts on how this question can be approached.

So, without further ado, the question is:

How could the investment opportunity set for institutional investors evolve over the years and decades to come?

What do I mean by investment opportunity set? Simply speaking it is the playground for institutional investors. It is the *investable* universe that consists of all financial securities and real assets that can be owned and traded by institutional investors. So what does this universe look like?

While not a most up-to-date picture, Doeswijk, Lam and Swinkels⁶⁴ proposed a methodology to estimate the total value and composition of the *invested* market portfolio. It is the aggregate portfolio of all investors. A sub-set of this is owned by retail investors but the entire set can be easily accessed by institutional investors ie it represents the institutional *investable* universe. They estimated that as of the end of 2012, the entire invested market portfolio was worth more than \$90 trillion.

What this chart might look like in say 2029 – ten years from now – could have important implications for how an investment firm operates and organises its resources. At the end of the day, these securities / assets are the raw material for investment organisations to deliver their products – investment portfolios that meet the investment goals of their customers. If we anticipate any major changes to the supply of our raw material – say the decline of a traditional asset class or the rise of a new asset class – we had better prepare for it. It might mean organising our resources to target new growth areas. It might also mean building and running our teams in a different way. It will provide important context to the strategically important conversation of whether the organisation's competitive edge will continue to be relevant in an evolving market place.

I see two mechanisms though which this opportunity set can change. And I can see at least five driving forces that underpin the possible changes.

One mechanism is what I would call **organic growth** via new issues and securities retiring. New equities and bonds are issued every year as part of capital formation. A new asset class could also emerge. Equities and bonds can also be retired when they are bought back or reach their maturity date. The overall net effect is continuous change in the investable universe.

Figure 4 – Global capital stocks

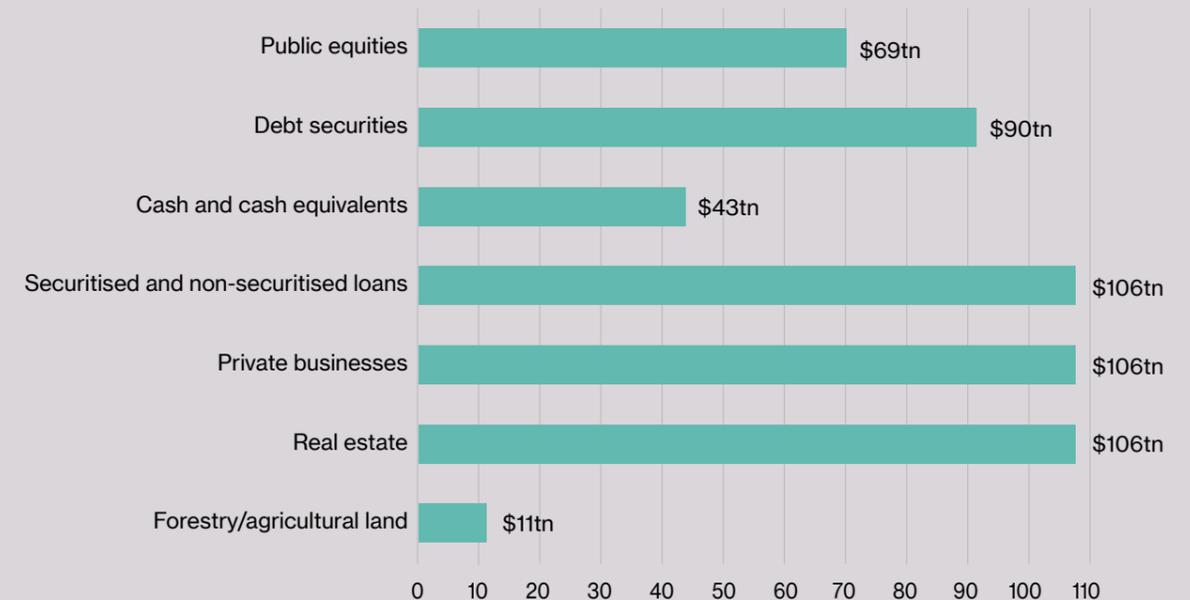
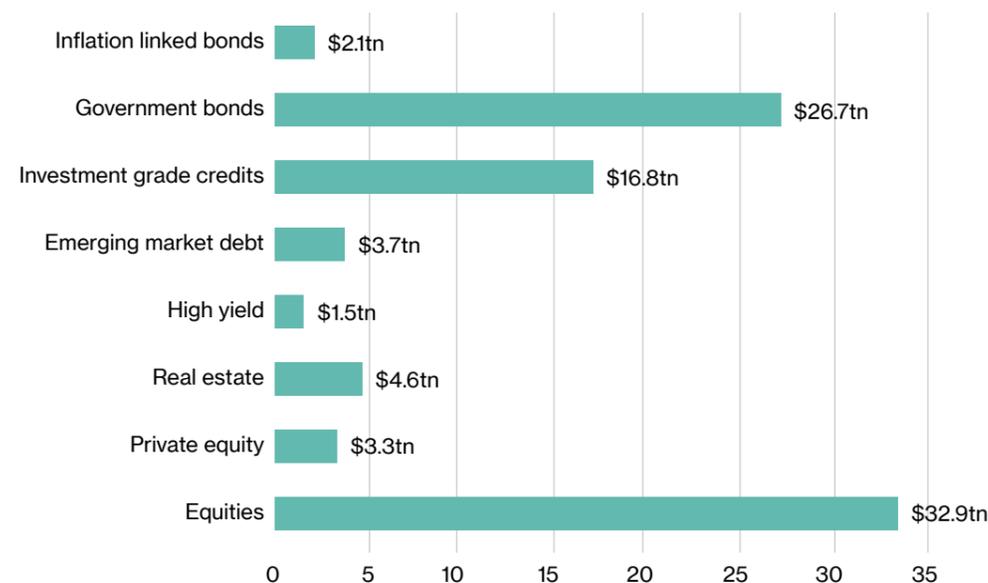


Figure 3 – Invested market portfolio



⁶⁴"The global multi-asset market portfolio 1959-2012", Doeswijk, Lam and Swinkels, FAJ, 2014

⁶⁵"The global multi-asset market portfolio 1959-2012", Doeswijk, Lam and Swinkels, FAJ, 2014

The other mechanism is through **taking over** the ownership of the assets that were previously in the hands of owners other than institutional investors (eg banks or governments). \$90+ trillion is not a small number by any stretch of imagination. But it is actually only a small sub-set of the entire capital stock in the world economy. Gadzinski, Schuller and Vacchino⁶⁵ suggest that in 2016 the global portfolio of "everything" was worth about \$532 trillion.

Private businesses are mainly owned by private owners (in particular outside UK/US) – private equity's penetration into this \$100+ trillion market is still tiny. Loans mainly sit on banks' balance sheets and only a small proportion of them are owned by institutional investors through securitisation and private debt investments. By far the biggest component of real estate is residential properties and there is nothing, at least in theory, to stop an institutional investor from owning a residential house and letting it to a family. So institutional investors can indeed expand their reach by acquiring assets from other owners.

The next question is what could potentially drive the changes in both the "organic growth" and shift of ownership areas? Here are my thoughts on five themes that I consider important.

The rise of the intangible economy

Corporate investment is increasingly in intangibles. Traditional tangible assets, such as plant and equipment, are a very small part of the balance sheets of some of world's most valuable companies (e.g. FANG stocks). It turns out that this shift towards intangible investments can have a profound impact on how companies finance their activities. Intangible assets represent poor collateral for debt, so can lead to a preference for equity financing.

The rise of intangibles is regarded as one of the drivers behind the rapid rise of private equity. Investment in intangible assets are recorded under today's accounting standards as expenses, dragging down earnings. Public markets' obsession over short-term earnings therefore leads to reduced propensity to list. The public market disclosure requirement also presents a dilemma for young firms investing in intangibles: if giving too much detail, their competitors can use the information; if giving too little, investors will pay less for their shares. This all contributes to the established trend (particularly in the US) of firms choosing to stay out of the public market, preferring venture capital and private equity investors as their main sources of equity financing.

Addressing the infrastructure investment gap and achieving global sustainability goals

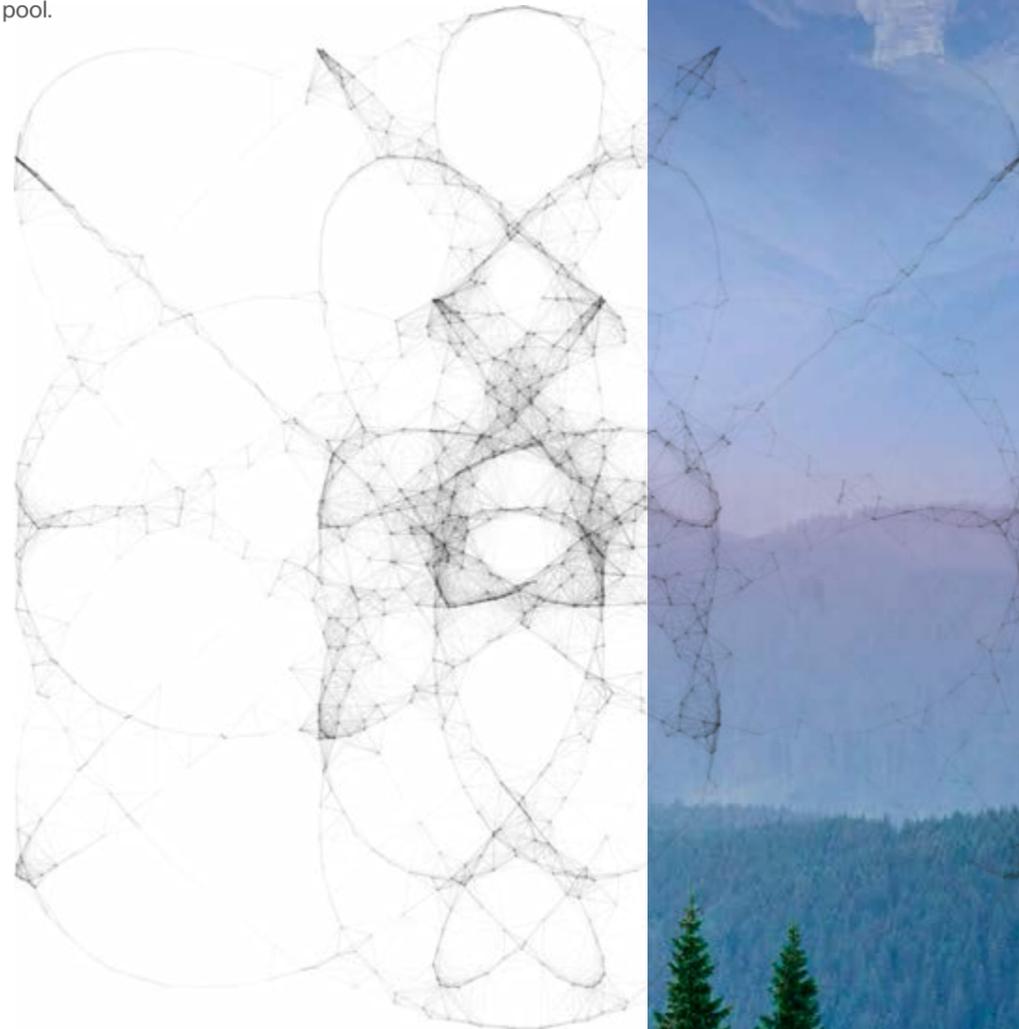
Oxford Economics⁶⁶ estimate that between 2016 and 2040, to support global economic growth and to address the risk of climate change, the world needs to spend \$94 trillion on infrastructure. Current rate of infrastructure investment is expected to fall short of this level. So far institutional investors have not been a major player in this field (Thinking Ahead Group estimate that institutional infrastructure related investment is currently around the order of \$1 trillion). Infrastructure has attractive characteristics that match institutional investors' long-term investment orientation although better risk sharing between public and private sector via innovative investment vehicles is needed to encourage more institutional investors to act as critical players in this space. In fact, blended finance, the term given to the use of public or philanthropic capital to spur private sector investment, goes beyond just infrastructure investment. If a market of trading ESG / impact factors (eg carbon credits) and pricing externalities takes off, this may in effect create a new asset class for institutional investors.

Regulation

Regulation affects the investment landscape, both intentionally and unintentionally. For example, banks were historically the primary holders of illiquid debt, spanning residential mortgage loans, commercial mortgage loans, corporate loans infrastructure loans, trade finance, etc. In the wake of the 2007-08 global financial crisis, banks were forced to shrink their loan book to strengthen their capital base, following a series of regulatory changes. Institutional investors are moving to fill the gap. And regulation (e.g. Basel IV) is expected to continue to drive direct investing in these asset classes in the form of private debt. The term bank intermediation describes the trend that regulatory shift creates a new set of assets that no longer make sense for banks to own and thus will become available to non-banks including institutional investors. In the similar vein, albeit a smaller scale, regulation is driving insurers and reinsurers to increasingly pass on unwanted risk to the capital markets, via insurance-linked securities.

The opening up of the Chinese capital markets

At the end of September 2018, FTSE Russell confirmed that Chinese A shares would be included in their indices. This followed a similar move by MSCI and the expectation that Chinese domestic bonds will be phased into the Barclays Global Aggregate Index from April 2019. Chinese onshore assets increasingly included in indices is driven by an important underlying trend that the Chinese government is committed to opening up its capital markets to foreign investors. Although technically the opening up of the Chinese capital markets doesn't change the global investable universe for all investors (domestic Chinese investors always had access), it will have significant implications for all our Institute members, both from a return-seeking and diversification perspective, as the world's second largest economy joins the global capital pool.



Technology

It is impossible for me to predict with any confidence the implications of a technology that does not yet exist today so I will stick to the *relatively* safe space of extrapolation. Despite the market slump in 2018, cryptocurrency has slowly started to work its way into institutional investing space. Yale University was among investors that helped a new fund focused on digital assets in late 2018⁶⁷ A few months later, two US pension funds also took the plunge on crypto investing⁶⁸. However, while crypto currency is the most-talked-about application of the blockchain technology, it is unlikely to prove to be the most significant for institutional investors. There are other possible routes for blockchain to disrupt institutional investing. Could a new shared ownership model emerge as a result and spur a fractional ownership market for homes or privately-held businesses? That could open the door for significant institutional investment in this space. Indeed, many other types of technologies such as those facilitating peer-to-peer lending have potential to shape investing landscape.

Investment organisations cannot afford to stand still. The only thing I am certain about is that the global investable universe in ten years' time will be different compared to today. It might be significantly different. And that creates both challenges and opportunities for all of us in the investment industry.

⁶⁶ "Global Infrastructure Outlook – Infrastructure investment needs, 50 countries, 7 sectors to 2040", Oxford Economics, 2017

⁶⁷ <https://www.bloomberg.com/news/articles/2018-10-05/yale-is-said-to-invest-in-crypto-fund-that-raised-400-million>

⁶⁸ <https://www.bloomberg.com/news/articles/2019-02-12/first-u-s-pension-funds-take-the-plunge-on-crypto-investing>

43. Do you really want to know?

Unqualified truths are very rare in the world of investment, which is why investment beliefs are critically important for investors, in particular those who view themselves as long-horizon investors.

But let me propose one truth here: all genuine long-horizon investors experience underperformance (if they measure investment performance frequently enough).

Let me start with a colourful hypothetical example borrowed from Nassim Taleb's brilliant book *Fooled by Randomness*. Consider a dentist setting up a trading room in his attic - perfectly rational behaviour, as he is a truly outstanding investor. He is able to outperform short-term bonds by 15% pa, albeit with a volatility of 10% pa. He therefore has a probability of making money in any one year of 93%, which would keep most of us happy. However if we shorten the time frame for measurement, the story starts to sound very different. Measured over a minute, his probability of being ahead shrinks dramatically to 50.17%. Over a second? The very same statistic goes down to 50.02%, basically a coin flip. With this monitoring frequency, all investors will experience underperformance; literally in a matter of seconds.

Of course no investors monitor performance that frequently so let me show you some real-world data. A [study](#) conducted by Brandes Institute examined a sample of 145 international equity funds and their long and short-term performance. It discovered that the top 15 funds with the highest 15-year returns all underperformed the index and their peers significantly during shorter periods. All of them showed up in the worst decile for at least one quarter. When measuring rolling three-year returns eight out of the 15 fell into the worst decile at least once. Their conclusion is that short-term underperformance is "as normal as death and taxes" and simply an inherent by-product of the long-term investment process.

With that I think it is reasonable to argue that for long-horizon investors, short-term underperformance is not something they might encounter; it is something they will encounter.

Unfortunately it is well established that human brains don't treat losses and gains the same. There is a technical term here introduced by Amos Tversky and Daniel Kahneman: loss aversion. It refers to people's tendency to prefer avoiding losses to acquiring equivalent gains - the emotional wear and tear caused by the losses outweighs the boost from the gains.

If we marry loss aversion with frequent performance measurement, we then get another technical term that starts to reveal one of the fundamental difficulties with regards to long-horizon investing: myopic loss aversion.

Remember in our example the dentist has a 50.17% probability of being ahead (ie outperforming short-term bonds) over a minute. Assuming he spends eight hours a day in front of his screen, he will have (on average) 241 pleasurable minutes against 239 unpleasant ones. Not only will our dentist be emotionally drained by the end of each day from the sheer volatility of the ups and downs, but he will feel the losses far more keenly than any boost he gets from gains. Our dentist will simply not survive this emotional onslaught, and heaven forbid may even be tempted to change the portfolio (which if left alone has a 93% chance of finishing the year ahead).

To summarise, myopic loss aversion leads to "selling low" - terminating prematurely a sound long-term investment position - and that is exactly the behavioural trap long-horizon investors should guard themselves against.

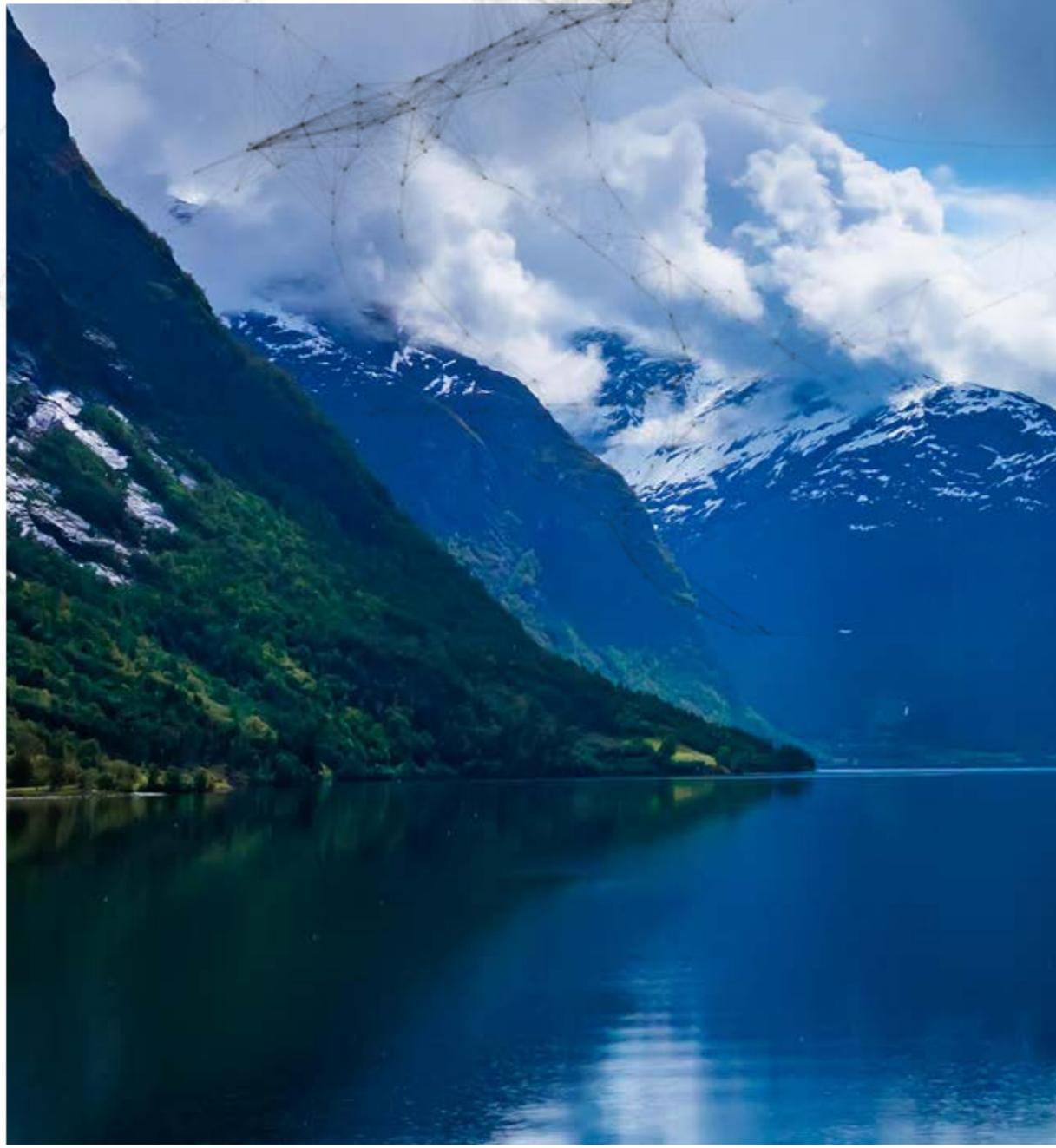
There is a simple solution, at least in theory: recognise the value of inactivity and evaluate investment performance less often. In practice fiduciary duty can make it hard to argue that you are acting responsibly in respect of someone else's investments if you don't even know what the performance looks like. A remedy to that would be shifting the focus of reporting/measurement from short-term metrics to long-term outcomes - e.g. extending the term over which performance is measured. Instead of reading too much into the performance for the last quarter, try to put it in the context of the long term by focusing on for example the average return for the past seven or ten years.

Better statistical tests can be designed so as not to draw erroneous conclusions from data with abnormally high noise. These tests should be pre-specified with an agreed confidence interval and be sensitive to the changing degrees of freedom as we collect more data.

The tension for long-horizon measurement is to stay focused on achieving long-term goals while still providing short-term checks and balances / ongoing review. To overcome the short-term noise issue it is important to incorporate subjective qualitative assessment alongside more objective performance data points. In essence, it requires looking at non-performance elements and seeking to answer whether there is anything about the investment proposition now that leads us to believe it will make a positive (or negative) performance contribution in the future. Has the investment strategy executed been consistent with stated investment beliefs and thesis? Did anything happen to affect the qualitative, forward-looking skill rating of the (both internal and external) asset managers? Has the investment team been stable and has team culture remained positive and strong?

Long-horizon investors should study the past, but it is the past experience that is informative and valuable; not the past performance.

44. Should we deliberately strand some of our assets?



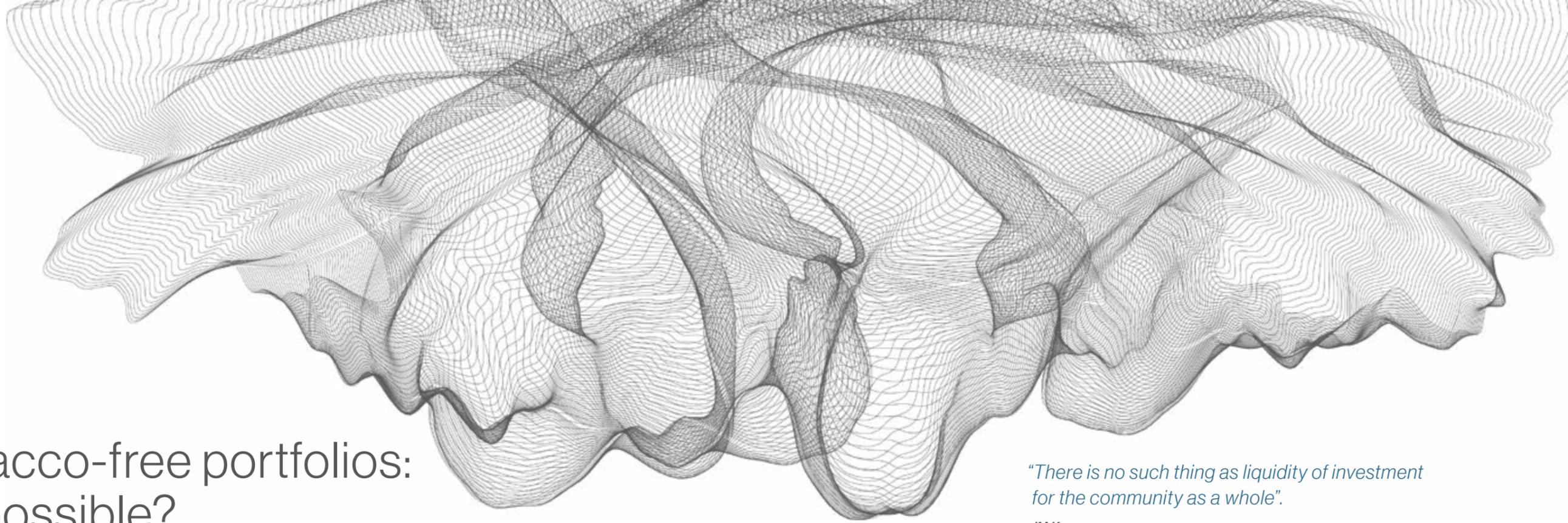
This thought was triggered by a confluence of a relatively [recent statement](#) on climate change by NZ Super Fund, and the relatively old writing of [JM Keynes](#). NZ Super have classified climate change as representing an 'undue risk' which then obliges them to manage it – we believe this marks them out as the leader on this issue among institutional asset owners, and we applaud them for it. The title of the linked article includes the phrase 'multi-faceted climate change strategy' and the article goes on to highlight several ways in which they will change what they do. However, one phrase is relevant for this thought piece, namely "targeted divestment".

In chapter 12 of his General theory of employment, interest and money, Keynes writes about investment. Specifically, in our present context, he writes: "the Stock Exchange revalues many investments every day and the revaluations give a frequent opportunity to the individual (though not to the community as a whole) to revise his commitments". And for emphasis, slightly later he writes: "there is no such thing as liquidity of investment for the community as a whole".

So, let us assume for the purpose of this thought experiment that climate change is real, and that it will materially disrupt business models, seriously harm certain asset values and have other detrimental social impacts. These conditions would also create significant opportunities for new investment. So the ideal outcome for society – the whole of the human race in the case of climate change – would be for some business operations to stop immediately (let's say any that cause carbon to be emitted into the atmosphere) and for others (say zero-carbon) to instantly achieve appropriate scale. It is reasonable to assume that the existing capital stock could not be converted to the necessary new purposes without some cost (possibly complete write-off). Therefore, what society (the end savers) should ask of its agents is to write off the 'bad' assets – this would require shareholders to force company management to shut down the necessary operations, causing the value of the related assets to fall, likely to zero. Simultaneously society should ask its agents to fund new 'good' assets that do not harm, or positively protect the planet.

Clearly the real world does not work this way. NZ Super will address both sides through targeted divestment of 'bad assets' and they "will intensify our efforts to actively seek new investment opportunities" in 'good assets'. If they are correct about climate change and in their analysis, then they will earn a significant first mover advantage – selling assets now that will eventually go to zero (by the assumptions of our thought experiment), and buying assets that will become increasingly valuable. Society however will not be so lucky. The 'bad assets' will still exist and will still be run to produce a financial return. Only now they will be owned by someone else – the community as a whole cannot divest.

If the risk of climate change is real, it could well (eventually) require some degree of deliberate – forced or voluntary – stranding of existing assets. Price action alone may not be enough.



45. Tobacco-free portfolios: what's possible?

"There is no such thing as liquidity of investment for the community as a whole".

JM Keynes

I have previously quoted Keynes on liquidity: "there is no such thing as liquidity of investment for the community as a whole". In fact, this post is an extension of the above post in which that quote appears – [Should we deliberately strand some of our assets?](#) We will deal with this macro position at the end. But first we need to lay out the groundwork.

Arguably the movement to divest tobacco holdings from institutional portfolios can be traced to an individual (well, it makes for better story – multiple influences within a complex system makes for poor narrative). Dr Bronwyn King is an Australian radiation oncologist who was treating lung cancer sufferers and is now CEO of Tobacco Free Portfolios: "It was only during a meeting with a representative of her superannuation fund in 2010 that Bronwyn learnt some of her money was flowing to tobacco companies through the default option of her [superannuation fund](#)." This is a flaw in the narrative, but a perfectly forgivable one. No money was flowing to the tobacco companies. Existing ownership rights were being shuffled between willing buyers and sellers, that's all. Another quote from Dr King takes us back to the narrative: "In recognition of the profound death and disease caused by tobacco, there are 181 parties to the UN Tobacco Treaty, vowing to implement robust tobacco control regulations. In contrast, the global finance industry still invests in, and profits from tobacco. But this is changing..."

So we have an industry that causes harm (yes, it can be argued that individuals exercise free will and harm themselves – true, but we tend not to give knives and matches to very small children). There is therefore an ethical case against the tobacco industry. But most of the global finance industry operates under a fiduciary duty, which comes from a history of ethics-free, finance-only decisions. So what does the financial case look like? History shows that these have been extraordinarily successful investments – if customers are compelled to buy your product (physiological addiction) it shouldn't be too hard to make super-normal profits. So we will need to argue the future will be different in order to build a case against holding these assets. To me there are two, relatively clear components to the future returns. A very attractive stream of cash flows being thrown off by an existing business model supported by tied-in customers. And a very unattractive set of 'externalities' (essentially litigation or regulation) that could take most, if not all of those cash flows away. It would take a brighter mind than mine to combine those two elements into an expected value. My thinking would be more simplistic. I hold a diversified portfolio when I don't know which assets will 'go to zero' (but some of them will). But if I know that a tobacco asset has a positive probability of going to zero over my investment horizon (and the cumulative likelihood grows ever larger as the horizon lengthens) why hold it? Part of compounding wealth is about avoiding drawdown, and there are lots of other assets I could hold instead, so why take the risk? So I believe I can construct a valid, financial-sounding (but in reality, ethics-infused) case for divestment. All good, but we are not done. There are bigger fish swimming here.

Back to Keynes. I can divest tobacco from my portfolio, but society can't. If I sell my securities, I can only do so if there is a willing buyer on the other side. And so the tobacco business model continues largely unimpeded. It's just that the returns and the risks now affect someone else's portfolio. As a bit of an aside, Dr King's superfund contributions were not funding this industry. But a previous generation of financial industry participants did fund it. Only back then, there were credible claims that smoking could even be good for you. The learning points from this aside would include humility regarding the limits of our knowledge, and the importance of genuinely long-term thinking. It is better not to fund an industry that causes harm, than to try to shut it down when it exists (and can lobby). But this would represent incredible foresight.

Back to the main narrative. This, the shuffling of ownership but continuation of operations, is not the result that Dr King desires, I presume. It can be argued that if enough people decide to divest there is an impact on the cost of capital to tobacco companies. Fine, but (1) they are no longer allowed to give money to advertising agencies, and (2) there is no point in capital expenditure to expand production. In short, they don't need capital and so are unlikely to be bothered by a higher cost of capital. The truth is, tobacco is a dead business, and everyone knows it. You can in fact make a case that the returns from tobacco went from merely excellent to extraordinary at the time it became generally recognised that it was a dead business.

There was nothing to do with the cash thrown off by continuing operations other than return it to shareholders. So, for me, divestment doesn't achieve what is aiming for – the ending of this form of human suffering. The answer is to shut down the business model – which would entail a deliberate choice by brave shareholders to strand (short-term) financially-attractive assets. Or..., or... we could persuade governments to nationalise the tobacco companies. This would give society the liquidity, the out, which is otherwise only achievable by stranding. And it would allow a government to manage the asset-liability problem as it saw fit, over the time horizon it deemed practical.

My final point relates to scale. Tobacco is a \$517bn problem (global market cap). To me, fossil fuels are the same type of problem but an order of magnitude bigger (\$5 trn). To the extent that we were able to agree that fossil fuels equally cause human suffering (or are about to), then we have exactly the same private divestment vs public externality problem. Therefore, we should probably start thinking about engaging with governments to nationalise fossil fuels under a mandate to wind them down. The private capital windfall could then be applied to funding new industries – hopefully with greater knowledge of potential future externalities.

The final four articles in this compendium consider risk and prediction. Should risk be defined as our inability to predict?

46. A different perspective on risk

Risk is one of the most talked about topics in investment. Organisations spend considerable resources to measure it, understand it and, most importantly, take it. Yet, often when it matters most the tools of risk management do not provide the answers they need.

Maybe these failings are due to risk being treated as a generic property of assets and markets. Instead, what if we view risk as a manifestation of our personal (or organisational) ability to forecast accurately the future. Instead of investment risk being the variation in price it is our inability to forecast.

A forecast is a belief about a future outcome: that belief may be simple (that a security will increase to a certain price, for example, or that one security will outperform another over some specific time horizon) or complex and specific (that the value of a security will be drawn from a certain distribution, with specified parameters).

This perspective defines risk as being our prediction error. If we can predict an asset's future price accurately then it is not risky, no matter how volatile its price may be.

Of course, precise prediction of the future state of the markets (or any complex adaptive system) remains extremely hard, but viewing risk as prediction error changes what risk is. Riskiness is no longer only a characteristic of the assets we own, it is linked to our prediction capabilities.

Importantly, it suggests that individuals and organisations should establish where their prediction edge is and is not, and then build portfolios that exploit this prediction edge (ie, be paid to own assets that others perceive as risky but which they can forecast) and are robust to the asset price movements they cannot forecast.

Relating riskiness to prediction ability seems intuitive but it is not how most investors think about investment risk.

Many criticisms, few solutions

Many investors (and traditional finance theory) use volatility, or similar metrics, as a measure of risk. The 'risk' that is being measured is the variability of price movements over a period. This approach says an asset with a high volatility (say an individual stock) is necessarily more risky than an asset with low volatility (say a government bond).

Other investors criticise the use of volatility as a measure of risk⁶⁹. Risk, some investors say, is not price decline but permanent impairment of capital. For these investors, an asset with a lower potential for permanent capital impairment is less risky than an asset with a higher potential for capital impairment⁷⁰.

These views of what risk is have strengths and weaknesses but they also seem to be in conflict with each other. Relating risk to prediction ability unifies these competing perspectives around a single concept.

Risk is linked to our predictive ability

As an alternative perspective on risk, what if we simplify the idea of risk to that of being wrong in our prediction about the future.

This connects risk and our ability to forecast. When our predictions are perfect, there is no risk, and when something is unpredictable, it is risky.

Let us explore this idea using a stock and a bond. First, suppose we have a prediction error of zero (perfect prediction) for the daily return of each asset. In this case, is the stock or the bond riskier? Clearly, in this case, they are both riskless investments because we can predict their daily price changes perfectly.

Changing our abilities, let us say that our ability to predict bond prices is no longer perfect; we have a small prediction error. Are both assets still riskless? No, in this scenario the bond is risky (we occasionally get our prediction wrong and lose money) but the equity remains riskless as our perfect predictions mean we never lose money.

⁶⁹We will leave discussion of volatility being an inappropriate measure of potential variation for power-law-like distributions or those without a finite second moment for another day

⁷⁰The potential for a realised capital impairment will be affected by the use of leverage, liquidity requirement and the time horizon of the investor

The conventional view is that stocks are riskier than bonds, but when we adopt this alternative definition of risk, we see that bonds are not necessarily inherently safer than stocks: it all depends on our prediction abilities.

As our forecasting ability declines, our prediction error is increasingly related to volatility. If we have no prediction ability for either the stock or the bond then the stock is riskier due to the likely larger prediction error arising from the higher volatility of the stock. Essentially, if we are wrong about the stock's future price it is likely to be a bigger error than if we are wrong about the bond's future price.

Some investors might think that because they try to own the market portfolio they are not making any forecasts and therefore this notion of risk as prediction error does not apply. However, it is worth considering two things: Firstly, the portfolio still contains forecasts, the forecasts it contains are the money-weighted average forecasts of all market participants. Secondly, it is presumably the case, in general, that the overall portfolio is expected to appreciate in value – so the approach is based on at least one forecast about the future.

Separating the predictions by time horizon

The above examples are based on daily predictions: ie, assuming we have forecasts of all future periods. However, we should not expect prediction ability to be uniform across time horizons.

For an unleveraged investor this lack of uniformity may not present a challenge if they have the ability to withstand any adverse price movements within their prediction horizon, and their prediction is correct.

Where the accuracy of a prediction is not certain, or the investor is leveraged, then the journey matters. This naturally supports the notions that sizing investments and diversifying the predictions in a portfolio is important.

However, it subtly changes the point of diversification. It suggests that diversifying the sources of prediction error is what matters. This may not be the same as diversifying across traditional asset classes.

A different perspective on risk

Viewing riskiness as our prediction ability gives a different perspective compared to a traditional volatility-based approach. It also helps to reconcile the conflicting views of risk as volatility or capital impairment by explicitly incorporating the idea of our confidence in our forecast and prediction ability at different time horizons. Rather than conflicting notions of risk, we see these ideas are related by differing confidence in prediction ability between investors with different perspectives.

When an investment's riskiness is linked to the forecasting ability of an investor, risk is no longer absolute but different for each individual and organisation. It naturally follows that different organisations should have different portfolios that reflect their differing prediction abilities.

“...if we are wrong about the stock's future price it is likely to be a bigger error than if we are wrong about the bond's future price.”



47. Six things I have learnt from thinking about alien invasion

Hopefully that grabs your attention. But I am not actually going to talk about alien invasion per se. Rather, the topic of this article is extreme risks - potential events that are unlikely to occur but that could have a significant impact on economic growth and asset returns, should they happen.

Extreme risks have always been of special interest to us in the [Thinking Ahead Group](#). Our belief is that, in a complex world, extreme risks are more likely than implied by most financial models. Moreover, we live only once, facing problems in series, not in parallel. So when we are confronted with an extreme event, there is no going back in time and diluting the impact with other less negative ones. One must deal with its consequences. Plus, there's a nerdy appeal to having the intellectual freedom to debate what could happen if a hostile extra-terrestrial invasion were to occur...

We have just published our [4th report](#) on extreme risks. The top three extreme risks identified in this latest update are global temperature change, global trade collapse and cyber warfare. It has been ten years since we published the first report in 2009 so I thought now was a good opportunity to reflect on my personal learning journey. Here are my six lessons learnt:

1

Cognitive biases are powerful

In a conference I recently attended, Richard Thaler, the behavioural economist who won the 2017 Nobel Prize in Economics, said people always refer to biases as "what other people do". We all think we are above average in avoiding those biases. And that itself is a bias. Back to extreme risks: in our report in 2009, we called out economic depression, hyperinflation and excess leverage as the top three risks. It's hardly surprising that would be the view in 2009. But were we over-weighting recent experience then? And are we doing so now? Could current concerns and headlines around climate change, trade wars and cyber warfare be drawing attention away from lower profile, but greater existential threats?

2

When it comes to extreme risks, physics envy is particularly harmful

We knew this from the get-go: by definition extreme risks are infrequent, so a quantitative approach is unlikely to be very informative. In 2009 we identified five risks (excessive leverage, depression, currency crisis, political crisis and protectionism) that were believed to have one-in-10-years likelihood. How long of a historical record do we need to build to have confidence, in a statistical sense, in this claim? Much longer than 10 years and probably a lot longer than anyone's career. And even if you successfully build a long enough history, by the time you have it, the underlying driving forces will have evolved so much that a historical distribution may become irrelevant to future outcomes.

3

Understanding cause and effect is the way to go

However that doesn't mean we should give up on understanding these risks. Human intelligence is not limited to learning from observing the past (inductive reasoning); we are also capable of applying generalised truth to circumstances that have not yet occurred (deductive reasoning). Human civilisation has never experienced a climate change at 2°C and beyond. But that shouldn't stop us from trying to understand the potential impact of such scenarios. For example, we have knowledge of the [ice-albedo](#) feedback and other linear and non-linear climate feedback loops. We understand well enough the effect of rising temperature on sea level rise, on frequency of heat waves, on risk of rainfall extremes over land, on global population exposed to severe drought and on reducing crop yields. An event without historical precedent can still be learnt and understood.

4

Turn your "unknowns" into "knowns"

The more time I have spent thinking about extreme risks, the more I am reminded about what I do NOT know. Over the years I have found it useful to make a distinction between knowable parts of the "unknowns" and the unknowable parts of these "unknowns" because the ways to address them are very different. Dealing with the knowable parts requires intellectual curiosity and diligence. We can turn "unknowns" into "knowns" through collecting more information, building more sophisticated models and/or stronger theories and, of course, learning from others. By showing you a list of risk events that you have not thought about before, an opportunity arises to turn your "unknowns" into "knowns". It allows you to eventually construct hedging strategies to protect you from the risks you are unwilling to take.

5

Addressing "unknowables" is about making a portfolio resilient

On the other hand, "unknowables" are the knowledge that is simply out of reach at any point in time. There is no data or theory about them. They are unpredictable. They are the "black swans" in Taleb's terminology. Alien invasion is very much in that territory. But we shouldn't let this knowledge vacuum paralyse our decision-making. It is simply a reminder that our understanding of the world is always incomplete. The existence of "unknowables" means that resilience in an investment portfolio is at least as valuable as efficiency. Take the concept of diversification as an example. An investment portfolio with genuine diversity offers protection not only against unrewarded idiosyncratic risks, but also against our own ignorance.

6

A mind-expanding exercise

At the end of the day, I see extreme risks thinking as an exercise for the mind. They remind us that it is naïve and dangerous to cling to a single vision about the future. Yes, we do not know what the future holds. But our brains are more than capable of imagining multiple versions of the future. And that is the game that investing is ultimately in. As investors, we are trying to navigate a highly volatile, uncertain, complex and ambiguous world. In my view, the extreme risk scenarios described in our report(s) can be turned into useful material to facilitate a collective learning experience for your organisation. The scenarios are most effective when they are used, in a deliberately-created interactive environment, to make explicit – and to challenge – assumptions that underpin your investment portfolios or your business strategy⁷¹.

When I worked on our first extreme risks report, never in a million years did I expect one day to be accused of "[alien-washing](#)"⁷². Seriously or not, it happened. It certainly wasn't an extreme risk – despite very low probability, the impact wasn't anything more than having a good laugh. I do hope, however, that our analysis will be of some value in helping both to prepare for and to respond to extreme risks – whatever form they take.

⁷¹ To truly harvest the power of scenario learning, we hope this Thinking Ahead Institute paper - It's story time: The why, how and what of scenario learning - can help you

⁷² Quoting directly from this report – "Many of the initiatives that were identified seemed to resemble 'alien-washing'. For example, despite the fact that Towers Watson communicated on alien invasion as one of the top 5 extreme environmental risks, there is no evidence that this risk is considered in the context of investment consulting services offered by Towers Watson."

48. Fundamental limits to prediction

A 'Limits to prediction' meeting was held on 9 September 2016 – co-hosted by the Santa Fe Institute (SFI) and the Thinking Ahead Institute.

David Krakauer, the president of SFI, opened the meeting and spoke about the fundamental limits to prediction. Scientists are getting better at predicting the future, but prediction remains an inherently difficult problem. There's good reason to believe that we will eventually face some fundamental limits. Prior to the ACtioN meeting, SFI recently hosted a workshop bringing together researchers who work on the mathematical, algorithmic, and practical aspects of prediction across a wide range of fields, trying to understand these limits.

A classic example of where prediction faces fundamental challenges is in chaotic systems. The evolution of a chaotic system, by definition, is very sensitive to its initial conditions. Krakauer used the weather system as an example where predictions beyond a window of just a few days are incredibly difficult (in fact, not any better than using a historical average) because points that are very close to each other in starting position will diverge dramatically over time. In this case, the exponential divergence in the dynamic system beats the exponential growth of computational power.

Krakauer's view is that the most fundamental limit to prediction is in fact human imagination. He referred to the Dirac equation (for the technically-minded, the Wikipedia link is [here](#)) as a prime example. Dirac's equation simplified reality but also predicted negative energy which was clearly at odds with the current understanding of reality. The subsequent discovery of the positron (positively charged electron), validated the equation and changed our understanding of reality.

Krakauer spoke about the "no free lunch theorem"; because no algorithm is completely assumption free, there can't be a universally-best algorithm for a given problem. There will always be a better specialised algorithm for a specific problem than a general algorithm (mathematically provable). The implication for investment is that searching for an optimal investment strategy to work in all environments is destined to fail. Specialist context knowledge about each specific environment is critical to the solution strategy.

Krakauer does not believe big data can solve all the problems associated with predictions. He suggested that the benefit of data saturates at a certain point and solutions must rely on better models and better theories. This lends support to TAG's approach in advancing the complexity framework as a foundation of better theory for the investment world. The complex and reflexive nature of the investment landscape significantly limits the power of empirical methods, even with increased range and depth of datasets. Our view is that big data will have significant impacts if we can link the step-up in data sources with a step-up in explicit models of reality. If big data is applied to lighter understandings of reality, then we will encounter major issues in data mining and contribute only minor understanding to the field.

49. Limits to prediction in economics and elsewhere

(Doyne Farmer is a professor at the University of Oxford (Institute for New Economic Thinking) and an external professor of the Santa Fe Institute)

Prof Farmer made an early and interesting distinction between forecasting and prediction. He defined forecasting as the prediction of trajectories, and therefore necessarily involving the concept of time. Prediction, on the other hand, is not related to time and is instead concerned with how two things relate. He proceeded to outline his personal credentials with respect to prediction. His first practical experience was as a graduate student when he, and collaborators, decided to take on the casinos at roulette – the game traditionally considered to be the epitome of randomness. They, however, as physicists decided that the ball must obey the laws of motion and therefore its resting point must be at least partially predictable. Through trial and error, and building the first computer that would fit into a shoe, they were able to achieve a 70% success rate on the roulette table.

Later in life, Farmer decided to apply his physics knowledge (and algorithms) to stock market data and formed The Prediction Company (subsequently sold to UBS). Again, through hypothesis testing and honing, they were able to generate a success rate of 60% or more through quantitative analysis (shocking, back then).

These experiences usefully illustrate the two methods for prediction: (1) using a fundamental model, such as Newton's laws for roulette balls, and (2) using a statistical model, or drawing analogues – this relationship between data items could also show up here. As for the limits to prediction, Farmer also proposed two explanations: chaos and ignorance.

Chaos occurs in deterministic systems (which should be 100% predictable, because they are deterministic) that exhibit 'sensitive dependence on initial conditions'. The problem here is our inability to measure the initial conditions accurately enough, and so the error in our prediction gets bigger the further out in time we go.

Farmer used ignorance and noise interchangeably, to describe what we don't know. This could be our inability to measure initial conditions as above, could be estimation error, but also includes our lack of fundamental understanding.

Bringing these thoughts together, Farmer turned to market efficiency – which means that markets are difficult to predict (more likely to be ignorance than chaos, as markets are unlikely to be deterministic systems). Farmer suggested that markets were an example of 'self-organised criticality', meaning that an apparent equilibrium state can change suddenly past a critical point. He highlighted the role of arbitrageurs in promoting market efficiency, which introduced a paradox as arbitrageurs require inefficiency. He therefore concluded that if markets are efficient at first order they are necessarily inefficient at second order (an argument shared by Grossman and Stiglitz in their famous 1980 paper on the impossibility of efficient markets). This led him to suggest an evolutionary theory of the market, where inefficiencies are the food source for trading strategies.

So, these are some of the best articles written to date and we hope you have enjoyed the journey as much as we enjoyed discovering the pathways.

Limitations of reliance – Thinking Ahead Group 2.0

This document has been written by members of the Thinking Ahead Group 2.0. 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.

The contents of individual documents are therefore more likely to be the opinions of the respective authors rather than representing the formal view of the firm.

Limitations of reliance – Willis Towers Watson

Willis Towers Watson has prepared this material for general information purposes only and it should not be considered a substitute for specific professional advice. In particular, its contents are not intended by Willis Towers Watson to be construed as the provision of investment, legal, accounting, tax or other professional advice or recommendations of any kind, or to form the basis of any decision to do or to refrain from doing anything. As such, this material should not be relied upon for investment or other financial decisions and no such decisions should be taken on the basis of its contents without seeking specific advice.

This material is based on information available to Willis Towers Watson at the date of this material and takes no account of subsequent developments after that date. In preparing this material we have relied upon data supplied to us by third parties. Whilst reasonable care has been taken to gauge the reliability of this data, we provide no guarantee as to the accuracy or completeness of this data and Willis Towers Watson and its affiliates and their respective directors, officers and employees accept no responsibility and will not be liable for any errors or misrepresentations in the data made by any third party.

This material may not be reproduced or distributed to any other party, whether in whole or in part, without Willis Towers Watson's prior written permission, except as may be required by law. In the absence of our express written agreement to the contrary, Willis Towers Watson and its affiliates and their respective directors, officers and employees accept no responsibility and will not be liable for any consequences howsoever arising from any use of or reliance on this material or the opinions we have expressed.

Copyright © 2020 Willis Towers Watson. All rights reserved.

Contact details

Tim Hodgson
+44 1737 284822
tim.hodgson@willistowerswatson.com



About the Thinking Ahead Institute

The Thinking Ahead Institute seeks collaboration and change in the investment industry for the benefit of savers. It was established in January 2015 by Tim Hodgson and Roger Urwin, who have dedicated large parts of their careers to advocating and implementing positive investment industry change. It is a global not-for-profit research and innovation group made up of engaged institutional asset owners, asset managers and service providers committed to changing and improving the investment industry. Currently it has over 40 members around the world and is an outgrowth of Willis Towers Watson Investments' Thinking Ahead Group, which was established in 2002.

The Institute aims to:

- Build on the value and power of thought leadership to create positive change in the investment industry
- Find and connect people from all corners of the investment world and harnesses their ideas
- Work to bring those ideas to life for the benefit of the end saver.

It does this by identifying tomorrow's problems and investment solutions through:

- A dynamic and collaborative research agenda that encourages strong member participation through dedicated working groups
- A global programme of events including seminars and key topic meetings, webinars and social events
- One-to-one meetings between Institute member organisations and senior representatives of the Thinking Ahead Group.

These solutions fall into three overlapping areas:

- Better investment strategies
- Better organisational effectiveness
- Enhanced societal legitimacy.

The Institute has a governance board comprising both Institute members and Thinking Ahead Group representatives. For all membership enquiries please contact:

Paul Deane-Williams
+44 1737 274397
paul.deane-williams@willistowerswatson.com

About the Thinking Ahead Institute

The Thinking Ahead Institute was established in January 2015 and is a global not-for-profit investment research and innovation member group made up of engaged institutional asset owners and service providers committed to changing and improving the investment industry for the benefit of the end saver. Currently, it has over 40 members around the world and is an outgrowth of the Thinking Ahead Group which was set up in 2002.

Towers Watson Limited (trading as Willis Towers Watson) of Watson House, London Road, Reigate, Surrey, RH2 9PQ is authorised and regulated by the Financial Conduct Authority.

Copyright © 2020 Willis Towers Watson. All rights reserved.
IC005/01/2020

thinkingaheadinstitute.org

Thinking Ahead Institute
Willis Towers Watson 