

# The Future of Long-term Investing



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IMPROVING THE STATE  
OF THE WORLD

# The Future of Long-term Investing

**A WORLD ECONOMIC FORUM REPORT**

in collaboration with

**OLIVER WYMAN**



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## Introduction

**The recent financial and economic crisis has shaken the foundation of the global financial architecture and raised challenging questions about the future global economy. One of the key questions is whether short-term objectives and considerations have increasingly outweighed a focus on long-term growth and wealth creation.**

Declining holding periods for public stocks, the rise of high-frequency computer trading, shortening average CEO tenures and a disproportionate focus on quarterly earnings are regularly cited as evidence for growing short-termism in capital markets. As a result, the role of long-term investing has received increasing attention.

While it is recognized that short-term investors play an important role in capital markets by providing liquidity and ensuring short-term accountability, recent studies suggest that there is a growing global need for long-term capital in both private and public markets. Today, estimates of global infrastructure needs range as high as US\$ 3 trillion per annum with public finances increasingly unable to meet these needs.<sup>1</sup> Furthermore, the World Economic Forum's Green Investing 2010 report concludes that an average annual investment of US\$ 500 billion is required in clean energy by 2020 if we are to see a decline in CO<sub>2</sub> emissions by then and avoid significant environmental consequences.<sup>2</sup> In addition, the financial crisis has highlighted the important role that long-term investors can potentially play in stabilizing the markets at a time of distress and

enabling corporations to focus on long-term strategic decisions.

Recognizing the increasing importance of long-term investments, this report explores the role of long-term investing and long-term investors in the global financial system. In particular, it aims to provide further insight into questions such as where the world's long-term capital comes from, what might constrain its flows, how and where it is directed and what kind of trends we can expect to see over the next decade. Based on the analysis the work furthermore contains six recommendations to ease the constraints on long-term investing and increase the benefits that flow from it.

The report is the result of a year-long multi-stakeholder collaboration of the World Economic Forum and Oliver Wyman with over 150 leading industry practitioners, policy-makers and academics participating in interviews and workshops around the globe. The review of the academic research was overseen by Josh Lerner, Jacob H. Schiff Professor of Investment Banking at Harvard Business School. The World Economic Forum project team was led by Irwin Mendelsohn and Ari Gontownnik.

Throughout this process, intellectual stewardship and guidance was provided by an actively engaged Steering Committee chaired by Dr Tony Tan, Deputy Chairman and Executive Director of the Government of Singapore Investment Corporation.

We trust that the World Economic Forum's "Long-term investing" project and this publication

<sup>1</sup> As cited in *Paving the Way: Maximizing the Value of Private Finance in Infrastructure*. August, 2010. New York: World Economic Forum USA Inc.

<sup>2</sup> *Green Investing: Towards a Clean Energy Infrastructure*, 2009. New York: World Economic Forum USA Inc.

will provide relevant input and catalyze further dialogue between governments, investors and other stakeholders regarding the role of long-term investing. Moreover, we hope that the insights it provides may contribute towards ensuring that the risks associated with a lack of available long-term capital are addressed.

On behalf of the World Economic Forum we wish to thank the members of the Steering Committee, the interview and workshop participants, the Harvard Business School research

team (especially Josh Lerner and Andrea Hill) and our partners at Oliver Wyman (especially Julia Hobart and Ari Gontownik) for their boundless support.

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## Executive Summary

**Long-term investing has received fresh attention in light of the global economic crisis of the last few years. Discussion has focused on long-term investors helping to stabilize financial markets, impacting the time horizon of corporate managers and funding important long-term projects such as infrastructure and the development of a low-carbon economy. Yet the capacity of investors**

for long-term investing and their ability to play these critical economic roles has in recent years diminished.

This finding prompts a series of questions:

- What exactly is long-term investing? Who are long-term investors? What constrains these investors from making long-term investments? (Section I of this report)
- What is the impact of long-term investing on investors, corporations and society? (Section II)
- What is the outlook for long-term investing going forward? (Section III)

The aim of this report is to shed light on these questions and provide a foundation for the growing conversation about long-term investing. To this end, the report combines the latest academic research on long-term investing with the insights of some 150 leading industry experts.

Long-term investing can be usefully defined as investing with the expectation of holding an asset for an indefinite period of time by an investor with the capability to do so. Investors engaged in long-term investing are less concerned about interim changes in asset prices, and instead are focused on long-term income growth and/or long-term capital appreciation both in their initial evaluation and continued interaction with their investments.

Long-term investing is not appropriate for all investors. However, when executed correctly by the right investor, it can benefit three key constituencies:

- Investors who potentially enjoy better returns through accessing risk premia (e.g. for assuming liquidity risk) and avoiding the costs sometimes associated with short-term strategies (e.g. transaction costs, forced sales, short-term behavioural investor biases)
- Companies who can more easily pursue strategic initiatives with long-term potential and large up-front costs
- Society which can gain from the stabilization of financial markets by countercyclical investors and the direction of capital towards projects where returns are generated over longer time horizons

While the focus of this report is on long-term investing, it is critical to note that there are important benefits of short-term investing such as providing liquidity to the market and ensuring short-term accountability on the part of corporate managers. However, the market does not seem to be lacking in short-term capital.

This report focuses on institutional asset owners with some capacity to invest for the long term including life insurers, pension funds, sovereign wealth funds, endowments, foundations and family offices. As a result, this report does not include a discussion of retail investors or fund managers such as mutual funds or private equity firms. In 2009, long-term institutional asset owners owned slightly under half of the world's professionally managed assets—approximately US\$ 27 trillion out of US\$ 65 trillion.<sup>3</sup> However, our research indicates that

<sup>3</sup> See Appendix A for methodology.

constraints on these investors allow roughly 25% of their assets (US\$ 6.5 trillion) to be used for long-term investing.

The constraints on long-term investors are a key driver of how much long-term capital is available to invest. Most critically, these constraints include an institution's:

- **Liability profile**—the degree to which the investor must service short-term obligations, such as upcoming payments to beneficiaries
- **Investment beliefs**—whether the institution believes long-term investing can produce superior returns
- **Risk appetite**—the ability and willingness of the institution to accept potentially sizable losses
- **Decision-making structure**—the ability of the investment team and trustees to execute a long-term investment strategy

Long-term investors vary significantly in how they manage these constraints, and therefore in their ability to practise long-term investing. Pension funds and life insurers, for example, are the largest long-term investors, but they also have more onerous constraints than most university endowments and family offices.

The global financial crisis has also caused most long-term investors to rethink how much capital they can devote to long-term investing. Many institutions found that their short-term liabilities either increased unexpectedly in the face of the crisis or turned out to be much more inflexible than they had imagined. Meanwhile, the mark-to-market value of their portfolios fell far more than predicted by their portfolio diversification models, forcing some institutions to divest before they expected to.

While the crisis did not generally undermine their belief in the benefits of long-term investing, it has led many long-term investors to reassess the impact of their liability profile, risk appetite and decision-making process on their ability to invest long-term. This includes ensuring accountability across the investment decision chain, improving communication between stakeholders, developing more appropriate measurement systems and

more effectively aligning compensation incentives with the long-term investment horizon of the fund.

Some long-term investors are also implementing new, less granular asset allocation frameworks that focus on more direct measures of risk and return, and rely less on the potential diversification benefits between differentiated asset classes. These emerging asset allocation approaches can enable investors to better understand the source of potential financial returns and to allocate assets to the risks they believe they are advantaged in taking.

Of more immediate importance to the financial markets is that many long-term investors have de-risked their portfolios in response to regulatory and accounting changes, including a move towards mark-to-market accounting and stricter capital requirements, as well as a lower institutional tolerance for risk. This shift has led many institutions to increase their buffers of liquid investments—with some institutions shunning illiquid investments altogether—and reduce the capital allocated to risky and volatile assets. The effect of this shift in asset allocations can already be seen and indicates a clear movement away from equity investments and towards liquid debt investments. In addition, the amount of assets managed by these long-term investors is under pressure due to such factors as a global shift from defined benefit pensions towards defined contribution pensions.

The report concludes that there will likely be a further decline in long-term investing by life insurers and pension funds. This decline will only be partly offset by the increase in assets under management of family offices, endowments, foundations and a number of sovereign wealth funds. Absent changes in the investing environment, both external and internal to the institutions, we expect that there will be an overall reduction in the proportion of global investable assets directed towards long-term investing, with potentially significant economic implications.

As a result, six recommendations have been suggested that could help to ease the constraints on long-term investing and increase the benefits that flow from it.

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## **SECTION I**

# Foundations of Long-term Investing

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## SECTION I Foundations of Long-term Investing

**In this section we define long-term investing, describe what assets are appropriate for this investment strategy and evaluate which investors have the capacity to invest long-term. We then focus on the constraints these investors face in making long-term investment decisions.**

### Overview of long-term investing and investors

#### A. What is long-term investing?

Long-term investing has not proved easy to define as it more closely resembles an attitude towards investing than an investing style that can be captured in a single formulaic sentence. Although there are many different perspectives, long-term investing can be usefully defined as investing with the expectation of holding an asset for an indefinite period of time by an investor with the capability to do so. Typically this long-term investment is expected to be held for at least 10 years or through an entire business cycle. Critically, this definition focuses on the intent of the investor when making the investment and the investor's ability to follow through on that intention in the face of market pressure.

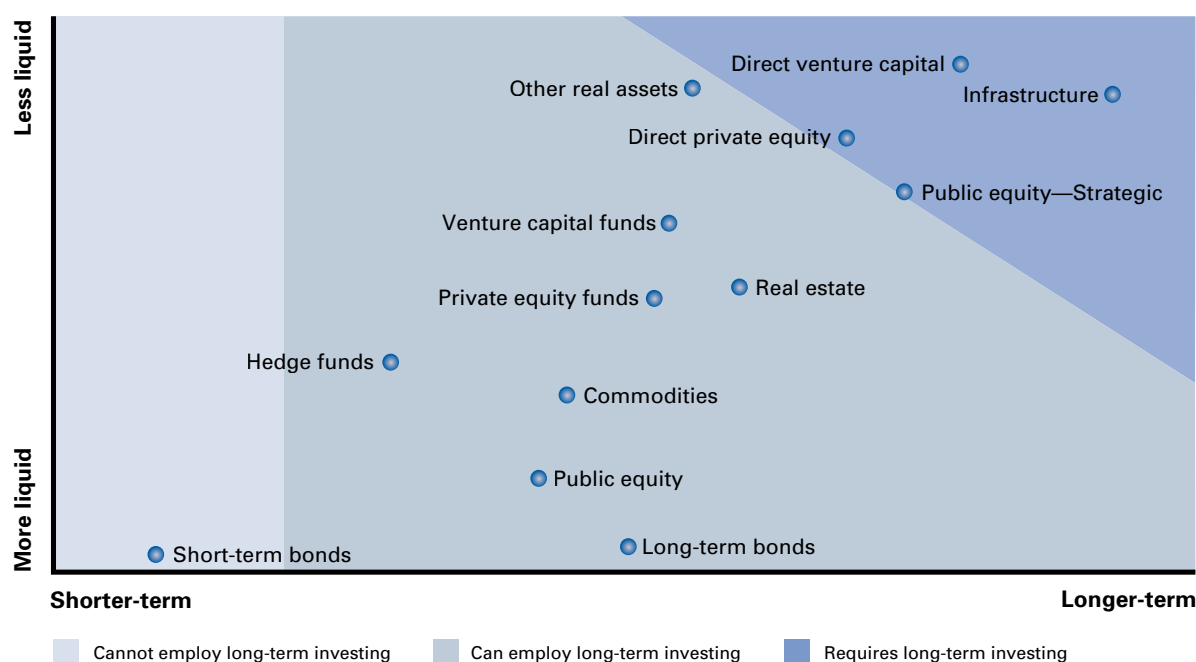
This definition is more flexible than other descriptions in that it encompasses long-term investment strategies that use liquid as well as illiquid instruments, in contrast to many definitions that focus exclusively on an asset's liquidity. Similarly, our definition recognizes that genuinely long-term investments might be sold more quickly if the market puts a high enough value on them, as opposed to others who define long-term investing solely in terms of the length of period the asset is eventually held, whether for three, ten or thirty years.

Finally, making an investment with an indefinite time horizon will require an investor to use long-term factors when evaluating the investment. Some argue that the use of these factors in the investment process is what makes something a long-term investment. In our view, simply using these factors does not make the investment long-term because the investor might still lack the capability to hold on to the investment for an extended period.

An important issue to consider is the fact that long-term investing is essentially an investment strategy that some investors are able to employ in certain circumstances. This does not mean that these investors will always employ this approach, or that its use guarantees success.

Perhaps surprisingly, a single investor evaluating the same investment might consider making a short- or long-term investment. Furthermore, when making this decision the investor might use different factors to determine whether an investment should be made, depending on whether it is meant to be a long- or short-term investment. For example, an institution making an investment in a large public company as a short-term investment might more heavily weight the potential attractiveness of the asset to other potential buyers. On the other hand, if making a long-term investment, where returns would come from the income generated by the investment, the investor might be less concerned about the market's perception of the asset's attractiveness.

**Figure 1:**  
Asset-class liquidity vs. time horizon



## B. Which assets are appropriate for long-term investing?

Assets that are appropriate for long-term investing are generally more illiquid and longer-term, and thus considered riskier. However, as indicated previously, there are assets that can be part of either a long-term or a short-term investment strategy, such as public equities.

Figure 1 shows a range of assets in terms of both their liquidity and their time horizon (each of these assets is described in Table 1).<sup>4</sup> The long-term assets, which include major infrastructure investments, direct private equity and venture capital, and strategic stakes in public companies, have a number of characteristics that attract long-term investors and deter short-term investors, including:

- the need for large upfront costs
- the difficulty to sell in the short term at a price the investor would regard as fair value

These assets generally require an investor with a longer-term or indefinite time horizon as the returns will likely be generated over a long period of time and the investor will have difficulty exiting these investments in the interim.

By contrast, short-term bonds (on the far left of Figure 1) cannot be a vehicle for long-term investing because the investor's capital will, by definition, be repaid far too soon.

There are, however, many asset classes that fall into the middle ground. As Figure 1 indicates, if an asset can be both held for the long-term and sold easily, e.g. public equity, then it could form part of a long-term investment strategy or a short-term one. For some of these liquid assets, long-term investors might still view themselves as possessing an investment advantage, as they have greater tolerance for short-term price volatility.

<sup>4</sup> We recognize that asset classes are themselves not homogenous with regards to their liquidity or time horizon. The chart is intended to be indicative of the general properties of each asset class. For instance, real estate is made up of long-term development projects and shorter-term cash flow generating properties. Similarly, an investor can trade in and out of public equities within seconds or hold the investment for 50 years.



**Table 1:**  
Key asset classes

Asset	Description
Commodities	Basic goods that are most often used as an input into the production of other goods or services, e.g. copper, oil, gas, coal, wheat or corn
Direct private equity	Direct investment into unlisted companies
Direct venture capital	Direct equity investment into early-stage companies
Hedge funds	Investment vehicles employing an array of portfolio management strategies with the goal of generating positive returns irrespective of market conditions
Infrastructure	The basic physical and organizational structures needed for the operation of a society, e.g. railroads, highways, airports and electric grids
Long-term bonds	Bonds with 5–30+ year maturities
Other real assets	Non-financial, physical or identifiable assets, e.g. farmland, timberland and patents
Private equity funds	Third-party managed funds that make equity investments into a portfolio of unlisted companies
Public equity	Shares of a publicly traded company
Public equity – Strategic	Major stakes in public companies often associated with a board position and a potential lockup period
Real estate	Land and buildings either in development or currently generating income
Short-term bonds	Bonds with maturities of less than one year
Venture capital funds	Third-party managed funds that make equity investments into early-stage companies

### C. Who are long-term investors?

In 2009, investors<sup>5</sup> owned approximately US\$ 65 trillion in assets of which approximately US\$ 27 trillion was controlled by potential long-term investors—institutions with suitable longer-term liability profiles, such as family offices, endowments, foundations, sovereign wealth funds, pension funds and life insurers.<sup>6</sup>

In this report we describe the attributes of asset owners who can be long-term investors, rather than the fund managers who might invest on their behalf. As a result, mutual funds, private equity firms and other asset management firms are not

discussed. Furthermore, the focus of the report is on the institutional long-term investor; we do not address the potential long-term investing attributes of retail investors. As the investment processes for and constraints to long-term investing of retail and institutional investors are distinct, they are best dealt with separately. In addition, the managers used by retail investors to invest generally have shorter time horizons, potentially making it more difficult for a retail investor to effectively execute a long-term investing strategy.<sup>7</sup>

As mentioned previously, the potential long-term investors described in this report include:

- **Family offices** that manage the wealth of one or more high net worth families. These investors

<sup>5</sup> Investors include: life insurers, pension funds, sovereign wealth funds, endowments, foundations, family offices, high-net worth individuals and retail mutual funds.

<sup>6</sup> See Appendix A for methodology.

<sup>7</sup> Average yearly mutual fund turnover of 72%. *Investment horizons* (2010)

have the mandate to manage wealth for future generations of family members. We have considered all family offices as potential long-term investors. As a group, they control an estimated US\$ 1.2 trillion of assets under management (AUM).

- **Endowments/foundations** used to fund some or all of the expenses of non-profit organizations. These institutions generally have a mandate to exist in perpetuity and to provide a steady stream of income to their beneficiaries. Endowments and foundations, all of which we consider potential long-term investors, are estimated to control US\$ 1.3 trillion of AUM.
- **Sovereign wealth funds** owned by the state and responsible for investing budget surpluses for the long-term benefit of the nation. There are three types of sovereign wealth funds, each of which has a different mandate: stabilization, development and multigenerational funds.<sup>8</sup> Stabilization funds are generally intended to smooth out the effects of the key national income generators (e.g. oil or copper) on the national economy and budget, rather than deliver superior returns. We do not consider these funds to be long-term investors as they are required to provide large capital inflows to their economy during times of stress, and thus primarily invest in very liquid, low-risk instruments. Development funds channel economic surpluses into the long-term promotion of the national economy. Although not exclusively returns driven, these institutions can make meaningful long-term investments. Finally, multigenerational funds provide financial support for future generations and therefore have a long-term investing mandate. Development and multigenerational sovereign wealth funds control an estimated US\$ 3.1 trillion of AUM.

- **Pension funds** providing retirement provisions for pension scheme members. These long-term requirements allow pension funds to absorb some short-term volatility in the asset prices of their investments. Defined benefit pension plans are

required to pay a set amount to their beneficiaries at a point in the future. Defined contribution pension plans are directed by retail investors who predominantly invest via mutual funds and whose holding period is generally shorter term than some defined benefit plan investments. We have therefore included defined benefit plans as potential long-term investors, but have excluded defined contribution plans. As a group, defined benefit pension funds, both corporate and public, control an estimated US\$ 11 trillion of AUM.

- **Life insurers** paying out to a designated beneficiary or policyholder at some defined point in the future. The area within life insurers that can sustain long-term investment is the core life insurance business, which has fixed requirements to pay beneficiaries in the future. In contrast, unit-linked products such as variable annuities, that promise the client returns in line with a particular benchmark, require the investment manager to invest in the assets included in the benchmark and offer little opportunity to adopt a long-term investing strategy. Life insurers are estimated to control US\$ 11 trillion of AUM.

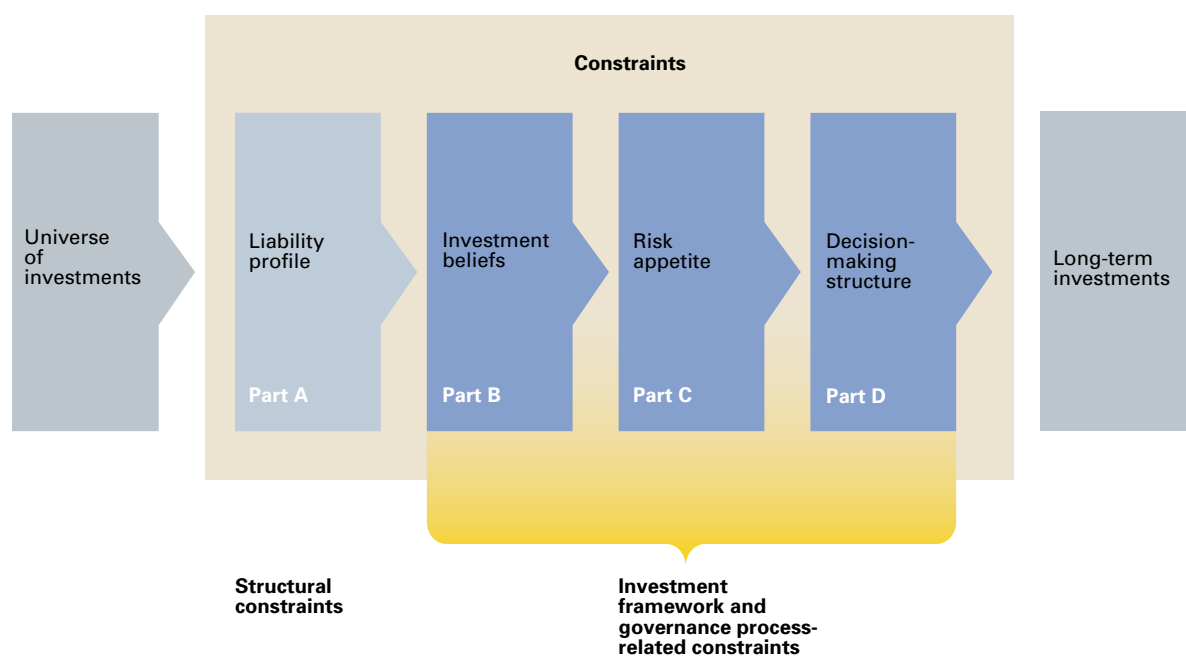
## Key constraints to long-term investing

Given our discussion so far, it is important to understand what might prevent an investor from investing for the longer term. The key constraints to making long-term investments are:

- **Liability profile**—the degree to which the investor must service short-term obligations, such as upcoming payments to beneficiaries. Institutions that might need to liquidate a significant percentage of their assets to meet short-term obligations are restricted in making long-term investment decisions
- **Investment beliefs**—whether the institution believes long-term investing can produce superior returns
- **Risk appetite**—the ability and willingness of the institution to accept potentially sizable losses
- **Decision-making structure**—the ability of the investment team and trustees to execute a long-term investment strategy

<sup>8</sup> Although different from “standard” sovereign wealth funds in terms of how they are funded, we have included in this category, for the sake of this report, state long-term financing institutions (such as CDC and CDP) as they share a focus on both economic development and financial returns.

**Figure 2:**  
Long-term investing framework



**Figure 3:**  
Overview of long-term investors and their key constraints

Ability to invest long-term	Institution	Estimated AUM (US\$ trillions)	Key stakeholders	Liability profile	Risk appetite	Decision-making structure/ agency concerns	Estimated allocation to illiquid investments
	Family offices	\$1.2	Family	In perpetuity	High	Low	35%
	Endowments/ Foundations	\$1.3	Non-profit beneficiaries	In perpetuity with yearly payout requirement	High	Low	20%
	Sovereign wealth funds	\$3.1	Governments/ Nations	In perpetuity	Moderate	Moderate	10%
	Defined benefit pension funds	\$11	Members/ Shareholders	Average duration 12-15 yrs	Low	High	9%
	Life insurers (general account)	\$11	Policyholders/ Shareholders	Average duration 7-15 yrs	Low	High	4%

Positive for long-term investing
  Moderate for long-term investing
  Negative for long-term investing

Source: Celent, NACUBO, The Foundation Center, SWF Institute, OECD, US Federal Reserve Flow of Funds, CEA, Wharton Global Family Alliance, The Monitor Group, Mercer, Capital IQ, Corporate annual reports, Oliver Wyman analysis

Figure 2 illustrates the process by which investors are constrained in making long-term investment decisions and serves as a framework for much of the ensuing discussion.

These key constraints impact each type of long-term investor differently. For instance, the liability profiles of life insurers and pension funds put more pressure on their investment decisions than other long-term investors. Similarly, family offices, endowments and foundations generally have a higher risk appetite and a less constrained decision-making structure than other long-term investors. Investment beliefs, on the other hand, are unique to individual institutions and thus their impact cannot be assessed at the institutional category level.

Figure 3 summarizes how each of these constraints impacts the different long-term investors, and what that implies for their asset allocation.

From the assets column in Figure 3, one can see that life insurers and defined benefit pension funds control the vast majority of the total assets managed by long-term investors.<sup>9</sup> Meanwhile, the colour coding aims to highlight which institutions have the most freedom and ability to invest long-term. The last column is an estimate of the institutions' assets invested in illiquid instruments including real estate, private equity, venture capital and other real assets.<sup>10</sup> This allocation to illiquid investments serves as a proxy for the institutions' propensity to invest in long-term investments.<sup>11</sup> We can see that, as predicted by the other columns in Figure 3, family offices and endowments/foundations do tend to put a higher proportion of their assets into illiquid investments compared to life insurers and pension funds.

In addition to analysing their effects on the empirical allocation to illiquid investments, it can

be useful to assess the impact of these constraints on the potential amount of long-term capital. As this estimation is more art than science, the figures below are meant to show the magnitude of impact and should not be interpreted as exact estimates.

First, we estimate that liability constraints limit US\$ 15 trillion (from the total of US\$ 27 trillion in assets of long-term investors) from being invested long-term. These assets are required to fund obligations in the near term and thus cannot have an indefinite horizon.<sup>12</sup> We then estimate the impact of risk appetite, taking account of funding ratios, capital requirements and mark-to-market accounting as well as softer decision-making constraints such as principal-agent concerns, on the ability to make and hold long-term investments. We estimate that these constraints further limit the available long-term capacity by US\$ 5.5 trillion. As a result, we conclude that long-term investors can employ approximately US\$ 6.5 trillion in long-term investing strategies. This analysis is summarized in Figure 4.

#### **A. Liability profile constraints: Are there short-term obligations to consider?**

The liability profile of each investor determines its level of freedom to invest for the long term. Institutions that are required to pay out a large proportion of their assets in the near term cannot afford to experience short-term volatility. In turn, a long-term investing strategy, which requires the ability to hold on to assets in the face of market volatility, is likely not appropriate.

We have assessed the liability profiles for each category of institution and then calculated their potential funding requirements.<sup>13</sup> Figure 5 offers

<sup>9</sup> See Appendix A for methodology.

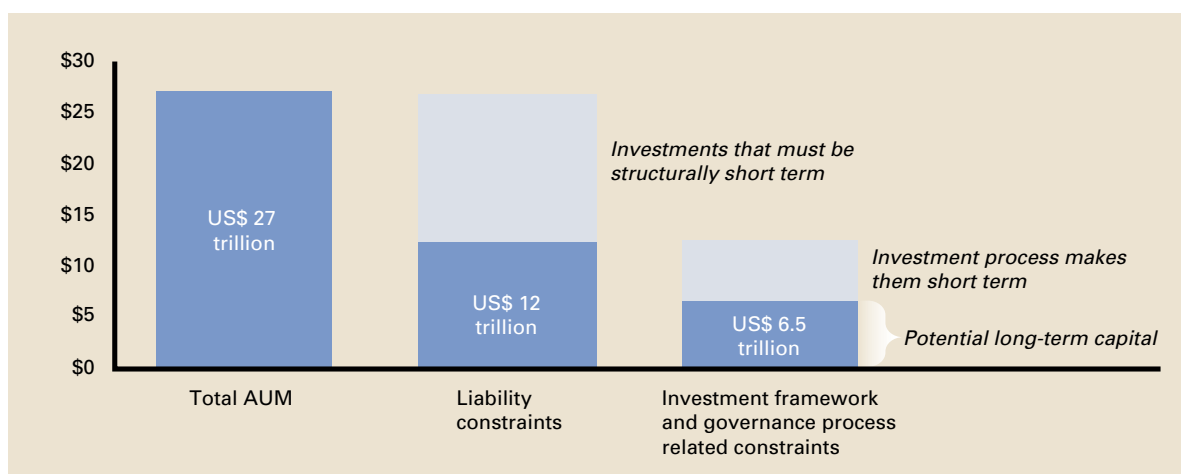
<sup>10</sup> See Appendix A for methodology.

<sup>11</sup> In reality, not all structurally illiquid investments count as long-term investments, as an institution might only intend to hold the investment for say 18 months, while some liquid investments may be intended to be held for decades. However, it is difficult to gather data on long-term investing more directly, not least because there is no commonly agreed definition of what comprises a long-term investment.

<sup>12</sup> For institutions with defined liabilities, e.g. life insurers and pension funds, we have considered the assets needed to fund the first 15 years of liabilities as short-term as they might need to be sold to meet these liabilities. For endowments, foundations, sovereign wealth funds and family offices that have more flexibility with regards to their liabilities, we considered assets needed to fund the first 10 years of liabilities to be short-term.

<sup>13</sup> This assessment is indicative of the group as a whole, but there are significant differences between institutions that will be discussed at the end of this section which will impact their liability structure.

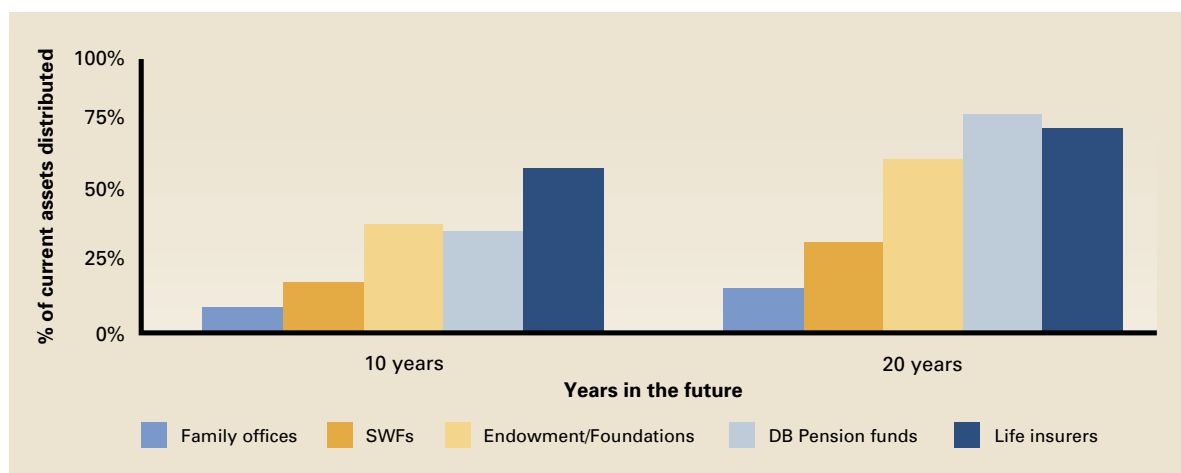
**Figure 4:**  
Investor constraints limit the capital available for long-term investing



Note: Numbers are estimates.

Source: Celent, NACUBO, The Foundation Center, SWF Institute, OECD, US Federal Reserve Flow of Funds, CEA, Oliver Wyman analysis

**Figure 5:**  
Proportion of current assets that will be distributed to beneficiaries within 10 and 20 years



Source: Industry benchmarks, Oliver Wyman analysis

a schematic characterization of this analysis and shows how investment assets might be needed to fund the liabilities of our key groups of long-term investors over the next 10 and 20 years. For instance, within 10 years, life insurers will need to distribute about 60% of their current assets to beneficiaries, making it hard for them to use

those assets for long-term investment strategies. Pension funds, endowments and foundations will each typically distribute close to 40% of their current asset base, although, as described below, pension funds have a lot less leeway in the amount they have to pay out than do endowments and foundations. Finally, many family offices

and sovereign wealth funds have minimal short- and medium-term liabilities. From a liability perspective, they can therefore afford to devote a larger proportion of their assets to long-term investments.

Figure 5 only presents a simplified picture, as it does not account for the dynamic nature of the liabilities of some of these investors. In reality, there are three types of liabilities:

- defined or fixed-obligation liabilities
- liabilities that are defined as a given percentage of the total pool of assets per annum
- liabilities that are theoretically flexible and do not necessarily need to be fulfilled from year to year

Institutions such as pension funds and life insurers possess a set of liabilities that are well defined and that, largely speaking, are not affected by changes in the value of the institution's asset portfolio. In particular, if the investment portfolio falls in value, the liabilities do not reduce in size or become more flexible in terms of payment date. To avoid the risk of insolvency, these institutions know they must minimize the chance of any negative gap developing between the value of their portfolio and their maturing liabilities.

A second group of institutions, including foundations and university endowments, have liabilities that are defined as a percentage of the investor's assets. For example, endowments in the United States are required to pay out 5% of the endowment every year in order to retain their charitable status for tax purposes.<sup>14</sup> This means a US\$ 10 billion endowment would be required to pay out at least US\$ 500 million a year.<sup>15</sup> However, if the value of the endowment were to drop to US\$ 5 billion, the fund would need to pay out only US\$ 250 million. In Figure 5 we have assumed that the asset value of the fund does not drop but, if it did, this would lower the percentage of the original assets that would need to be paid out over time.

<sup>14</sup> Based on the US Tax Reform Act of 1969 and following amendments.

<sup>15</sup> In reality, the 5% of assets is calculated based on the moving average value of assets over a few years. This allows the beneficiaries of these assets to gain a better sense of what the year-to-year changes in distributions will be.

Insolvency is therefore not as significant a threat and these institutions can afford to make decisions without as much consideration for liquidity risk as pension funds and life insurers.<sup>16</sup>

The third class of institutions, which includes many family offices and sovereign wealth funds, is largely concerned with maximizing the return on assets in the portfolio. In many cases, the liabilities of these institutions are flexible, meaning that there are few formal liabilities coming due at a particular point in time. These institutions can thus seek to maximize returns over time, while in theory at least, largely ignoring the price volatility of the assets in their portfolio or the danger of having to sell assets at an inopportune time in order to meet an obligation. As the head of one family office commented: "I do not care when the returns come, just that they come."<sup>17</sup>

These descriptions apply to each general category of long-term investor, but not all institutions conform to their category type. For instance, some sovereign wealth funds are responsible each year for making set payouts to their citizens and must therefore manage a considerable short-term liability. Some of these distinctions will be discussed in greater detail in the last part of this section (see page 28).

## B. Investment belief constraints: Does long-term investing generate higher returns?

Investment beliefs amount to a set of explicit statements, or sometimes implicit common understandings, about the market and where attractive returns can be generated. If a firm is to make long-term investments, one of these investment beliefs must be that the returns generated by making long-term investment decisions will be large enough to justify any relevant risks, such as liquidity risk. As these beliefs cannot be objectively proven in a practicable time

<sup>16</sup> However, foundations and endowments would still want to avoid being forced to sell illiquid assets into a depressed market to meet the reasonable expectations of their beneficiaries. A mistake would not bankrupt them but it may mean that they cannot help their beneficiaries to the extent expected without severely damaging their investment portfolio.

<sup>17</sup> Based on confidential interviews conducted over the course of the project.

**Table 2:**  
Overview of long-term investing beliefs

Investment belief	Counterargument	Acting on the investment belief
There are market risk premia (e.g. equity risk premium) that will produce outsized returns over a long-time period	There are times when particular markets or asset-classes are significantly overvalued and no risk premia exists	Overweight markets with risk premia
Investors are paid a premium for investing in illiquid markets	Any premium that might exist does not justify the liquidity risk	Invest in well understood illiquid markets with attractive illiquidity premia
Skill is critical for making long-term investments in opaque and illiquid markets and we are willing to pay for such skill	It is virtually impossible to find individuals who can consistently produce outsized returns in any market	Spend time, energy and money finding the right people to make specific long-term investments
Long-term investing allows us to increase portfolio diversification by accessing investment opportunities not available to other investors	Non-traditional long-term asset classes do not necessarily expose an institution to different risks than a short-term investor can access	Search for non-classical investment opportunities that the institution is comparatively advantaged to take and that are uncorrelated to financial markets
Integration of ESG criteria into the investment process will produce superior risk-adjusted returns	It is difficult to understand how certain ESG factors will impact financial returns	Consider ESG factors when making investment decisions
Short-term investing incurs costs through suboptimal behavioural biases such as buying high and selling low	Holding underperforming investments for the long-term can adversely impact performance	Monitor turnover ratios and transaction costs and penalize investment managers who breach a certain threshold

period, there are relevant counterarguments to each. Therefore, investment beliefs must be well understood and their implications appreciated, or it will be difficult for an institution to maintain a long-term investing strategy in the face of adversity. The need for principals, trustees and managers to believe strongly in a long-term investment strategy and understand the counterarguments, before investments can be made, is a unique constraint on the adoption of long-term investment strategies.

In Table 2, we lay out some key beliefs that are necessary to drive long-term investing. Each belief has a related counterargument, which, if adopted by a key stakeholder, could constrain the ability of the institution to implement a long-term strategy. Even if all of these beliefs are agreed and acted on, the level of belief in each of these possible sources of investment advantage will help determine the degree and style of long-term investing adopted by each investor.

Importantly, investment beliefs differ between individual institutions and not between institution

types. A pension fund is just as likely to share investment beliefs with a family office as it is with another pension fund.

### C. Risk appetite constraints: How much short-term volatility can be tolerated?

Risk appetite is best defined as the amount and type of risk that an institution is able and willing to accept in pursuit of its goals. An institution that is not willing to accept moderate levels of risk, short-term volatility and/or potential permanent capital loss, will not be able to employ a long-term investing strategy. In addition, an institution that will, in the face of market pressures, divest from their long-term investments irrespective of their stated risk appetite also cannot employ a long-term investing strategy.

For long-term investors, the difficulties of setting risk appetite—and monitoring whether investment managers are sticking to it—are especially problematic in three key respects:

- **When is a loss a loss?**—By definition, long-term investors should be able to hold on to a particular investment almost indefinitely. Furthermore, many long-term investment strategies are built around the idea that the long-term investor receives a premium precisely because they are willing to ride out periods of asset price volatility. At what point does a short-term loss in the value of a long-term portfolio begin to matter, and is this based on the size of the loss or its duration?
- **Measuring downside correlation risks**—In any large and diverse portfolio, the downside risks tend to be driven by the degree to which asset values move together across the portfolio. Diversification strategies are meant to minimize downside correlation and contagion risks, however, as the recent crisis has shown, it is very difficult to understand how correlation and contagion will behave across asset classes in an extreme scenario.
- **Trade-offs between asset risk and flexible liabilities**—Long-term investors have to decide how much of their portfolio it is sensible to invest for the long term, especially given their liability profile. This is rarely a black-and-white decision, particularly where liabilities are somewhat flexible, e.g. a long-term plan to build a new research centre with funds from a university endowment.

Practically, an institution must convert these more general notions of risk appetite into actionable statements around the level of mark-to-market<sup>18</sup> loss it can tolerate in its investment portfolio and still believe that the portfolio can:

- meet its short-term obligations (i.e. short-term and maturing liabilities)
- comply with regulatory and accounting rules
- service debt and maintain a superior credit rating (where applicable)
- retain the faith of its stakeholders
- stay on course to fulfil its long-term remit (e.g. long-term returns target)

Institutions such as life insurers and pension funds, which must honour defined liabilities, tend to be heavily regulated, particularly with regard to their risk profiles and how risky assets are treated in their accounts. This in turn is an important constraint on their long-term investing.

For example, insurance regulators need to know that insurers are behaving in a way that will allow them to fulfil their obligations to policyholders. Under many insurance regulations, investment in common stock or illiquid investments require an institution to hold significantly more capital in reserve than an investment in high-grade corporate bonds. The need to maintain a high capital ratio therefore acts as strong encouragement to insurance companies to invest in low-risk assets.

Similarly, certain pension funds face pressure from regulators to either maintain funded status even in the short term or to make up any shortfall in funding. These constraints, combined with the reporting of pension results to the market on a short-term basis, encourages some pension funds to set a lower risk appetite.

Long-term investors who employ leverage as part of their investment practices must also be concerned with the perceptions of credit rating agencies. In order to obtain financing at a competitive rate, institutions may have to rethink their investment strategy and limit the amount of illiquid or risky investments they make.

Finally, many long-term investors also face pressures from their stakeholders that can be hard to resist and which may make the investors reluctant to use their liability structures to full advantage.

For example, some sovereign wealth funds and large public pension funds need to respond to the concerns and worries of politicians surrounding both the health of the investment fund and whether the investment strategy is beneficial for society in general and these concerns may be genuine. Some politicians may feel alarmed whenever volatility in asset prices leads to a sharp fall in the value of a sovereign wealth fund, whether or not the fall in value has been accounted for in the fund's long-term investment strategy. There are times when these pressures will cause these institutions to divest in the face of market losses. Knowing that this might happen will cause some

<sup>18</sup> Mark-to-market is the current market value of an asset irrespective of whether the investor has locked in this price by selling the asset.



## Box 1 Long-Term Investors and Risk Appetite—Literature Review

In recent years, the academic literature has sought to answer whether long-term investors' portfolios differ from those of the average investor and, specifically, whether long-term investors should pursue a higher level of risk in their portfolio because of the flexibility afforded by their longer investment window. Most of the literature deals with either university endowments or sovereign wealth funds.

Much of the academic debate has centred on whether accepting higher levels of risk in the short term is a safe strategy for the long term, and exactly how short the short term should be. The literature also examines diversification as a strategy for reducing risk and questions whether the increasing integration of financial markets might be reducing the effectiveness of the approach.

The literature comes to a variety of conclusions about risk appetite: Some authors suggest that a high-risk strategy is appropriate for some long-term investors, while other authors argue for a low-risk portfolio. The reason for the disparate conclusions is, in many cases, connected to the liabilities and governance issues laid out in the main text of this report and the particular sample of investors studied in each paper. Below, we present the arguments for different levels of portfolio risk in greater detail.

Brown, Garlappi and Tiu's (2007) paper on university endowments develops a risk-budgeting model to argue that limiting the amount of risk in a portfolio can be artificial, even damaging, to the success of an investor. University endowments have both a low-risk passive portion of their portfolio as well as a higher-risk active portion. The passive portion is managed by simply applying policy allocation weights to benchmark indices for each asset class.

These asset allocation choices are the most powerful at explaining returns over time, but they are not as important as they are for mutual funds or pension funds. The authors find that, for an endowment, the amount of a portfolio that is actively managed best predicts performance. The actively managed portion of a portfolio assumes greater risk in terms of its asset allocation, but the organization's ability to take advantage of opportunity by timing exposure to risk or selecting securities within asset classes here creates greater returns than the fixed asset allocation policy of the passively managed portion of a portfolio. This finding suggests that some managers have the skill to avoid the short-term losses usually associated with a riskier portfolio and create positive returns. In short, some endowment funds underutilize their leadership's active management skills.

Aizenman and Glick's (2008) paper on sovereign wealth funds argues that the utility of funds can be maximized if a sovereign wealth fund pursues riskier investments. The paper approaches the question of how much risk should be in a portfolio from the central bank's perspective. A model is developed to determine the optimal degree of diversification abroad for a sovereign wealth fund by comparing it with the optimal degree of diversification for a central bank. The model reveals that if a central bank manages its foreign investments with the primary objective of reducing the possibility of short-term fiscal shortages then it should choose safe foreign assets. However, if the goal of the central bank is to maximize returns, the central bank should turn the funds over to a sovereign wealth fund that should pursue more risky foreign assets with wide diversification. The mechanism behind this differentiation is the opportunity cost associated with a central bank's limited portfolio diversification; when the opportunity cost of a low-risk portfolio becomes high enough, the central bank should start a sovereign wealth fund to simultaneously manage funds. If the stated purpose of the fund is not to maximize returns and if a low-risk national investor, such as the central bank here, does not simultaneously exist, then Aizenman and Glick's argument may not hold.

Balding (2008) predicts that sovereign wealth funds will invest more in low-risk liquid assets such as highly rated corporate debt and blue chip stocks rather than high-risk, illiquid securities such as private equity and growth stocks. This predicted strategy is said to cohere well with the sovereign wealth funds' long-term goal of smoothing national consumption and investments. In the paper's data set, sovereign wealth funds do in fact demonstrate a preference for safer investments. Roughly 85% of Singapore's Temasek fund is invested in the top 25 market cap companies out of their entire 200 securities. For Norway's sovereign wealth fund, roughly 91% of their investments are in the top quarter of their stocks by market cap. Previous misunderstanding of sovereign motives or their appetite for risk, he claims, could emanate from inaccurate asset counting across countries. While this paper structures a good argument, at times it relies almost exclusively on data from Singapore and Norway, thereby possibly skewing its findings.

Aglietta (2009) echoes many of the points in Balding's paper. Based on a review of the investment strategies of Norway's Government Pension Fund, Singapore's Temasek and China's CIC, Aglietta concludes that sovereign wealth

funds should focus on pursuing safe investments because their primary purpose is national wealth preservation. A volatile portfolio may not be accessible or it may decline; this conflicts with the goal of wealth preservation. Going forward, this will require equity holdings of up to 90% for natural resource funds, negative investment with a country's natural resource or fund source for risky investments, and more diversified holdings in foreign equity investments negatively correlated with sovereign wealth

funds. Specifically, the paper encourages diversification both in asset class and location. Diversification must occur both into sectors other than finance and regions other than the United States. The location element of diversification is often overlooked in favour of asset class. Aglietta notes how some sovereign wealth funds failed to diversify geographically, putting most of their investments into Western markets and economies. This approach led to big losses in 2008.

long-term investors to be cautious about making these investments to begin with.

Similarly, endowments and foundations face pressure from their trustees to perform in the short term, especially as short-term performance will influence the amount the fund can contribute to its beneficiaries in any given year. This pressure has become more pronounced as the reliance on these funds has become greater, with some educational institutions relying on their endowment to fund up to 35% of the operating budget.<sup>19</sup> Pressure from trustees can apply to short-term gains as well as short-term losses. When endowments and foundations experience such gains there is pressure to accelerate the rate of spending in order to distribute gains to beneficiaries, which in turn, inhibits the investor's ability to invest long-term.

#### **D. Decision-making constraints: Is decision-making aligned with a long-term perspective?**

After an institution has developed its investment beliefs and established its risk appetite, it must translate this investment strategy into specific investment decisions. During this process of implementation there are three key challenges:

- **Principal/agent concerns**—the goals and objective of the investment decision-maker might not be aligned with those of the beneficiaries of the investment fund

- **Behavioural biases**—the individual making the decision might be psychologically biased towards making short-term rather than long-term decisions
- **Resource constraints**—the long-term investor might be resource-light—in terms of number of professionals and budget—relative to other investors in the market

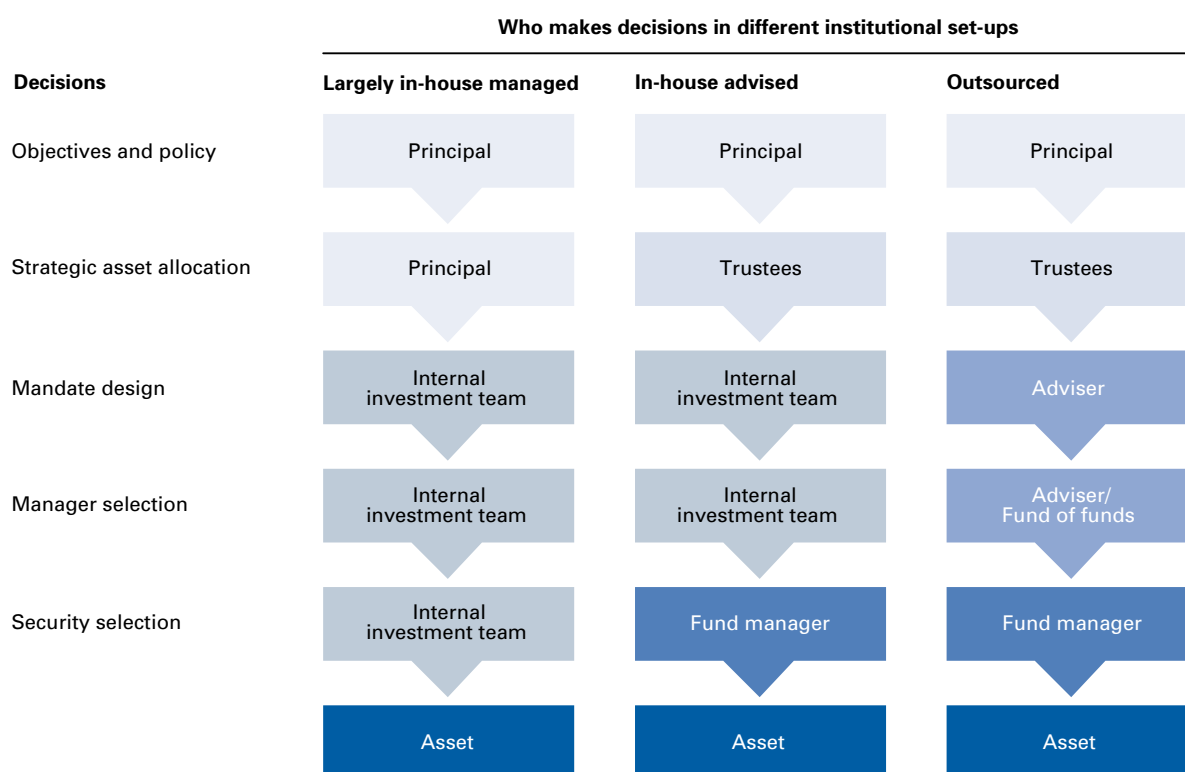
#### **i. Principal/agent concerns**

There is a gap that can exist between the interests of the principals of an institution, such as shareholders in the case of a public company or beneficiaries in the case of a fund, and the interests of their agents, such as executives in a company or investment managers at a fund. Long-term investors face a particularly strong principal/agent concern because of the length of their investment time horizon. Investment managers and other agents are likely to wish to optimize returns over a much shorter term than the investment horizon of the owners or beneficiaries of the fund for three key reasons.

First, bonuses and other forms of compensation will be determined relatively frequently—usually once a year. This incentivizes the investment managers to ensure that the portfolios they manage perform well over that time frame. Furthermore, the performance of investment managers is often evaluated in relation to a performance benchmark or index such as the S&P 500. This can discourage investment professionals from making long-term investments that may perform differently from

<sup>19</sup> Harvard Management Company (2010)

**Figure 6:**  
Illustrative overview of decision-making processes



the benchmark.<sup>20</sup> Likewise, many of the common measures of risk that have been developed to risk-adjust performance tend to penalize the manager who favours long-term investments. For example, risk is often defined as the volatility of the price of an asset over a relatively short time horizon, such as quarterly. This kind of risk measure and performance metric will limit the manager's desire to take on short-term volatility in return for potential superior long-term investment performance.

Second, long-term investing can represent a career risk. The average tenure of a chief investment officer of a public pension plan is four years and the average tenure is generally shorter for more junior staff.<sup>21</sup> The performance of staff during this short period can have a significant impact on their career opportunities.

<sup>20</sup> For example, Cremers and Petajisto (2009) found that the number of closet indexers, managers that claim to be active but deviate slightly from an index, has increased rapidly since 1990.

<sup>21</sup> Based on confidential interviews conducted over the course of the project.

Finally, how investment managers *think* that their performance will be assessed is also very important. If there is a long chain of decision-makers, agents may lack confidence that their superiors will be willing to maintain a long-term investment strategy in the face of adversity. As a result, they may not make investment decisions that have the potential to be overly volatile during a given time period.

As an individual that takes a short-term view will tend to override the longer-term investing intentions of others, an important consideration is the absolute length of the decision chain from the principal to the ultimate allocator of capital. Putting in place a long-term investment strategy requires many discrete decisions, e.g. what are the investment beliefs, what should be the target portfolio and how should it be adjusted for the current investing environment? Which manager should be used to execute the investment strategy and what investment should be made? Finally, how should the performance of the fund and the underlying investments be measured?

Figure 6 illustrates how decision chains vary across a sample of different institutions and the decision made by each person in the chain. The boxes range from white to blue, where the lighter a chain is, the closer the principal is to the decision-making; therefore, more blue boxes involved in the decision-making process indicate higher potential for principal/agent problems.

While there is no standard decision chain for each type of institution, the three chains depicted in Figure 6 generally correspond to particular long-term investors. Some family offices are largely in-house managed, with beneficiaries involved in decision-making. Larger endowments, foundations and sovereign wealth funds are generally in-house advised, as the beneficiaries often include large portions of the population and it is the trustees who make decisions about asset allocation and the internal investment team that executes that allocation. The decision chain is commonly longest at pension funds, where third-party consultants are likely to be hired to allocate assets to fund managers, creating further distance between the final investment decision and the beneficiaries of the investment fund.

## ii. Behavioural biases

For decision-makers, the constraints on making long-term investments may be psychological as well as institutional. These biases tend to encourage people to make short-term rather than long-term decisions.

Many behavioural economists believe that humans have adapted through evolution to make speedy judgments based on limited information using a series of mental shortcuts. These shortcuts may make sense within our physical evolutionary context, but less so when applied to the financial markets—particularly in the case of the long-term investor.

Perhaps the most common investor bias that must be overcome is to buy high and sell low. Investors are prone to assume that other investors have better information than they do and so go along with the majority, leading to herding behaviour and “irrational exuberance” during a

bubble.<sup>22</sup> Furthermore, humans tend to overvalue short-term information and thus investors tend to become a little too optimistic when a stock goes up and much too pessimistic when a stock goes down. Studies have shown that, over time, individual stocks that are sold too aggressively on the basis of short-term information eventually make up the ground they have lost—confirming the suspected investor bias.<sup>23</sup> The increasingly frequent dissemination of news and financial data is likely to exacerbate this kind of short-term bias, making it even more difficult to focus on the information that should drive long-term decisions.

Another reason for the instinct to cut losses during periods of short-term volatility is that humans seem to feel more pain from loss than they feel joy at profit. A growing body of behavioural research suggests that the difference is quite marked—we dislike losses about twice as much as we like similar gains.<sup>24</sup>

## iii. Resource constraints

Many long-term assets, in particular illiquid assets, are not accessible to all investors, as they are marketed as “off-market” deals. As a result, only a select few investors are even made aware of the opportunity and those that are not are unable to use these assets to implement a long-term investing strategy.

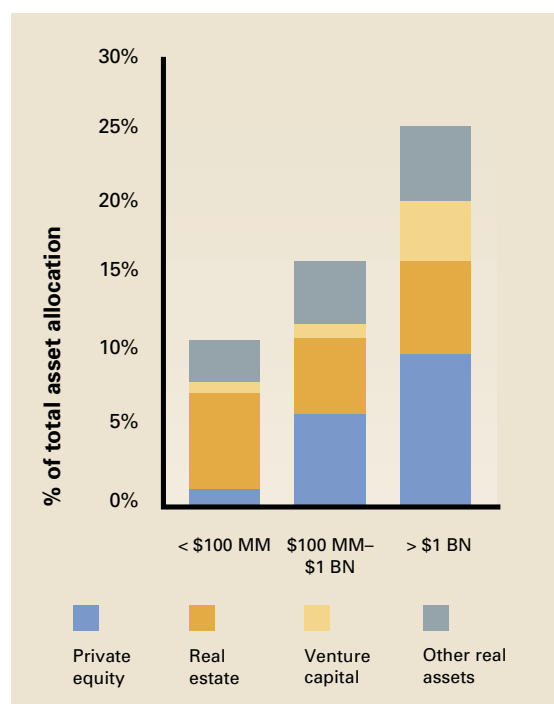
Evaluating a long-term investment opportunity can be especially complicated as the inherent risks that might occur over a longer time period are very difficult to assess. As the market for investing talent is highly competitive, some institutions lack the internal expertise necessary to overcome these difficulties and internally execute an effective long-term investment strategy. This is particularly evident in certain public institutions with restricted compensation levels and relatively fewer staff. Additionally, some public funds face particular budget pressures that prevent them from spending money on certain research tools that would help

22 Shiller (2005)

23 Thaler and Sunstein (2009)

24 Thaler, Tversky, Kahneman and Schwartz (1997)

**Figure 7:**  
Allocation to illiquid investments by size of US endowments



Source: NACUBO, Oliver Wyman analysis

them to execute an effective long-term investing strategy.

Finally, the size of the investment fund, in terms of assets and employees, can impact both an institution's access to investment opportunities and its bandwidth to evaluate those opportunities when they are made available. As a result, some of the smaller long-term investors tend to maintain a more conservative asset allocation and are less likely to take advantage of their specific long-term investing capabilities. This distinction can be seen in the difference in asset allocation between small and large US endowments (Figure 7).

### E. Key constraints by institution type

Each of the constraints to investing long-term described above impacts institutions differently, and the key constraint for one type of long-term investor will be different than the key constraint for another. The primary constraints for family offices making long-term investments are conservative family members with lower risk appetites and

**Table 3:**  
Overview of key constraints by institution type

Institution	Key constraint	Liability profile	Risk appetite	Decision-making structure
Family offices	Familial conservatism	Minimal yearly payout	Focus on wealth preservation but willing to accept short-term mark-to-market losses	Principals are relatively involved in the decision making. This becomes less true in later generations.
Endowments/ Foundations	Significant yearly payout requirements	Yearly payouts are required for beneficiaries but are proportional to the assets	Despite some pressure from the trustees to meet yearly budget targets, willing to accept short-term volatility of illiquid assets	There are minimal layers in the decision-making process, but they do tend to use external managers
Sovereign wealth funds	Potential for short-term public pressure to influence decisions	Minimal yearly payouts	Direct and indirect influence from public opinion limits risk appetite	Potential for decision-making to be influenced by public pressure
Defined benefit pension funds	Liability structure and regulatory pressures	Fixed payments with average duration of 12-15 years	Regulatory and accounting pressures reduce the risk a pension fund plan sponsor is willing and able to take	There are generally many layers in the decision-making process
Life insurers (general account)	Liability structure and accounting pressures	Fixed payments with average duration of 7-15 years	Accounting and regulatory pressures reduce the risk a life insurer is willing and able to take	There are multiple stakeholders with potentially different objectives

■ Positive for long-term investing   ■ Moderate for long-term investing   ■ Negative for long-term investing

yearly payouts for offices with a large number of beneficiaries. For endowments and foundations most short-term pressure is from their yearly payout to beneficiaries. For sovereign wealth funds the most significant limitation is the potential for short-term public pressure to influence decision-making. Finally, for pension funds and life insurers, their liability profiles and the regulatory and accounting pressures resulting from them account for the majority of their constraints. Table 3 shows the key constraint by investor type and describes how liability profile, risk appetite and decision-making structure impact each institution.

### Distinctions within long-term investor types

Until now we have considered each of our institutional groups as largely homogenous when in fact there are significant differences within each group. These differences can manifest within the liability profile, risk appetite and decision-making structure and thus impact the long-term investing capacity of these institutions.

#### A. Family offices

The term “family office” covers a wide range of entities, from those whose assets are primarily directed by a single family to multi-family offices that act more like institutional asset managers on behalf of themselves and other families.

A key distinction impacting the liability structure of a family office is their maturity. For example, recently established family offices rarely need to make a significant yearly contribution to its beneficiaries. These funds have been set up to look after subsequent generations and are usually focused on generating long-term wealth. However, a few generations later, the family may have become much larger and its members may be relying more heavily on the family office to provide a material portion of their yearly living expenses. As a result, these later generation funds have increased short-term liabilities and decreased flexibility to make long-term investments. This limitation is evidenced by the fact that later generation family offices are estimated to allocate 9% of their assets to principal

investment in companies, i.e. direct private equity, as opposed to an average of 14% of assets for first generation family offices.<sup>25</sup>

#### B. Endowments and foundations

The mandate and nature of endowments and foundations can be critical factors in determining their liability structure and risk appetite, as illustrated in Table 4.

Some foundations expect to operate in perpetuity while others, such as term foundations, are set up to disburse their funds within a particular time horizon. In recent years, there has been a trend in favour of term foundations, as some founders believe this will encourage the foundation to focus on its core message. Due to their shorter lifespan, the liability structure and thus the investments of term foundations will be shorter-term.

The degree to which endowments contribute to the operating budget of their beneficiaries is also very important. The increasing size of these contributions puts more pressure on trustees to scrutinize the endowment’s investment strategy. Any short- to medium-term volatility in the value of the endowment will matter more when it threatens the day-to-day operations of the university.

In an earlier part of this section, we mentioned that foundations are largely free from insolvency risk because their liabilities are determined as a percentage of their assets. While this is generally true, the kind of projects that foundations provide funding for may require a constant source of funding irrespective of the market returns the foundation generates. Furthermore, some foundations, such as those intended to alleviate social problems, are countercyclical; the needs of their end beneficiaries tend to rise as the economy wanes. This puts pressure on foundations not to underperform in times of economic instability and reduces their risk appetite. As the head of a major foundation commented: “During the crisis we were the last remaining source of funding for many of our beneficiaries.”<sup>26</sup>

<sup>25</sup> Amit, Liechtenstein, Prats, Millay and Pendleton (2008)

<sup>26</sup> Based on confidential interviews conducted over the course of the project.

**Table 4:**

There are significant differences among endowments and foundations that impact their ability to make long-term investment decisions

Constraints	Drivers of difference	Overview of key differences
<b>Differentiated liabilities</b>	Perpetual vs Term	The time horizon for perpetual foundations, those whose mandate is to exist forever, encourages investment strategies that are long term. In contrast, term foundations, those that are required to distribute all assets by a given time, will pay out a growing portion of the fund each year and need to design an investment strategy to meet these shorter-term obligations.
<b>Differentiated risk appetite</b>	Impact on operating budget	Beneficiaries that are more reliant on the proceeds from the endowment or foundation will exert more pressure and be concerned with year-to-year changes in market valuation.

### C. Sovereign wealth funds

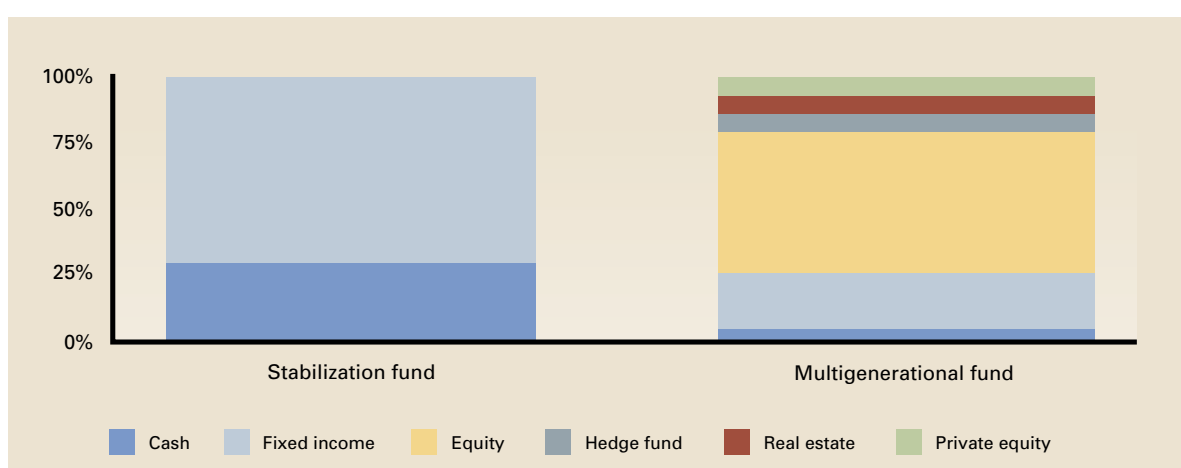
In our earlier discussion, we distinguished between three types of sovereign wealth funds—stabilization funds, development funds and multigenerational funds—and explained how their mandates, liability structure and thus asset allocations are different. The asset allocation differences represented in Figure 8 illustrate why sovereign stabilization funds are not considered potential long-term investors. As can be seen, stabilization funds, focused on their need for short-term liquidity, primarily invest in assets such as cash and high-grade fixed income. Conversely, multigenerational funds have more of

a focus on returns and thus exhibit a more diversified asset allocation with greater exposure to risky assets.

One important development over the past few years has been the signing of the Santiago Principles<sup>27</sup> on the part of many sovereign wealth funds. These funds agreed to establish a transparent and sound governance structure, ensure compliance with regulatory requirements, ensure investments are made on the basis of economic and financial considerations and to help maintain a stable global financial system. Acceptance of these principles by SWFs in some cases opened additional foreign markets for them to make long-term investments.

**Figure 8:**

Illustrative example of asset allocations for two types of sovereign wealth funds



Source: SWF Institute, The Monitor Group, Oliver Wyman analysis

<sup>27</sup> The Santiago Principles are a set of 24 voluntary principles signed by SWFs in 2008 designed to ensure an open international investment environment. They are the result of IMF coordinated discussions with many leading SWFs.



## Box 2 Which Investment Strategies Do SWFs Adopt?—Literature Review

Only a limited amount of information has historically been available regarding the investment strategies of sovereign wealth funds, and this has led to considerable uncertainty about the exact nature of the strategies and how they vary across different types of funds. However, several academics have used the historically available information to discern several key attributes of sovereign wealth fund strategies. It is important to note that the data for most of these studies predates the signing and implementation of the Santiago Principles and post signing more data has become available. The relevant findings from the academic literature are:

1. There is great disagreement about the geographical preferences of sovereign wealth fund investments. The different conclusions reached by different papers include:
  - i) Sovereign wealth funds prefer to invest in the West, specifically, in OECD-based companies.
  - ii) There is mixed evidence on whether sovereign wealth funds prefer to invest at home or abroad.
  - iii) Sovereign wealth funds exhibit a cultural bias towards investments in places with a similar culture.
2. Sovereign wealth funds often make investments in already-developed markets.
3. There is mixed evidence on whether sovereign wealth funds pursue a controlling stake in their investment target.
4. Sovereign wealth funds seem to prefer the financial sector and energy sector, the latter more so if they are from oil-producing countries.
5. Some sovereign wealth funds may be basing some of their investment decisions on economic development goals and not just financial investor objectives.

From this work, one can begin to understand the landscape of investing strategies for sovereign wealth funds. However, it is clearly quite a varied and confusing landscape in relation to long-term investing strategies. For the purposes of the present report, perhaps the clearest conclusion that can be drawn from the academic literature is that many forces work together to determine the strategy of

sovereign wealth funds, in addition to the desire to maximize returns through pursuing long-term investing strategies.

The papers reviewed below lay out each of the five findings in greater detail.

Chhaochharia and Laeven (2008) find that sovereign wealth funds invest more in countries with similar cultures, measured in terms of similarities in language and religion. Geographic proximity is considered as a possible third characteristic of culture, but is surprisingly insignificant. Chhaochharia and Laeven also find that sovereign wealth funds prefer industries similar to their home industries. This preference is especially strong for sovereign wealth funds from oil producing countries; these funds prefer energy as well as financial investments. The paper also argues that sovereign wealth funds prefer to invest at home. At times, this home bias is the result of domestic government restrictions and generally, the bias against foreign investment is less pronounced for bigger companies. The authors, lastly, find that the funds prefer to invest in countries that are major trading partners. All of the investment preferences mentioned, except for culture, are mirrored in the preferences of other global investors such as US mutual funds and pension funds. A cultural bias can also be found among other institutional investors such as mutual funds, but the magnitude is much greater in this paper for sovereign wealth funds. Chhaochharia and Laeven hypothesize that sovereign wealth funds may invest in similar cultures to exploit information advantages or just because they feel an affinity with what is familiar.

Bernstein, Lerner and Schoar (2009) find that sovereign wealth funds often pursue assets at home when domestic equity prices are already relatively higher, and abroad when foreign prices are relatively higher there. A one standard deviation increase in the domestic price-to-earnings ratio increases the likelihood of investing at home by 6.69%. This implies that the funds are pursuing markets where the equity values are high before they invest. Bernstein, Lerner and Schoar also find that Asian and Middle Eastern sovereign wealth funds invest more abroad generally. The opposite holds true for Western funds, which predominantly invest at home. The paper also notes that the average transaction size for the sample presented here is US\$ 351 million. This suggests that sovereign wealth funds are not pursuing controlling stakes in targets, but are rather making many small investments. Funds where politicians are involved in the governance are 36% more likely to invest at home and



to invest in higher price-to-earnings ratio sectors. If a fund has an external manager involved, there is 26% decrease in the likelihood of investing at home and an increasing likelihood of investing in low price-to-earnings ratio sectors. These results indicate that funds with external manager involvement may achieve higher returns.

Nuno Fernandes (2009) notes that sovereign wealth funds generally invest in large, profitable firms. These firms have higher return on equity and dividend yield as well as a lower cash-to-assets ratio. In short, the firms that sovereign wealth funds invest in have proven profitability. This preference is strong across all geographic and size specifications. Sovereign wealth funds in Fernandes's sample also exhibit a preference for visible firms. This finding is based on the fact that sovereign wealth funds seem to invest in stocks with high analyst coverage. Sovereign wealth funds also predominantly invest in countries with strong governance and institutions. Fernandes claims that the quality of institutions is a more important factor for the fund than economic and financial development when they are choosing their targets. Finally, this paper reveals that sovereign wealth funds do not show a preference for high-tech firms. This finding contradicts the often suggested notion that sovereign wealth funds invest abroad in order to import innovation to their home country. Fernandes's large data set appears to document the landscape of sovereign wealth fund investment strategies well.

Bortolotti, Fotak, Megginson and Miracky (2010) find three typical characteristics of all sovereign wealth funds: First, sovereign wealth funds favour investing in companies in the financial sector. Investments in banking and financial services account for 16.6% of all deals in their sample and 54.3% of the value of all acquisitions. Second, geographically, the funds show a preference for OECD-based companies. This preference is especially strong for the United States. And last, the majority of sovereign wealth fund investments in publicly traded companies are privately negotiated, primary share offerings rather than open market share purchases. Norway is the one exception to this, with all of its investments being executed as open market purchases of small stakes in listed firms. This data set and the findings in this paper confirm that Norway is, at times, an outlier among the group of sovereign wealth funds: Separating its holdings from the larger group during any analysis may provide a better understanding of how other sovereign wealth funds invest.

Dyck and Morse (2010) consider two main motives that may explain sovereign wealth fund investment decisions: financial investor objectives, characterized by maximum returns, and economic development objectives, characterized by maximizing state and citizen welfare even if that comes at the cost of returns. In addition, the paper presents statistics that suggest sovereign wealth funds may have a greater impact on global markets for private equities and in regional markets rather than on Western markets.

## D. Pension funds

Pension funds are a more complex and diverse group to assess. There are a number of key distinctions within defined benefit pension funds as summarized in Table 5 that significantly affect an institution's liability structure, risk appetite and decision-making process. These differences result in some defined benefit pension funds investing almost exclusively in high-grade corporate and government debt, while others allocate over 50% of their assets to more risky alternative investments.

**Table 5:**  
Differences between defined benefit pension funds  
impacting their ability to make long-term investments

Constraints	Drivers of difference	Overview of key differences
<b>Differentiated liabilities</b>	Open vs closed plans	Open plans generally have longer-term liabilities and a greater capacity to tolerate shorter-term volatility of asset returns. Closed funds are typically more sensitive to shorter-term volatility between asset prices and liability levels
<b>Differentiated risk appetite</b>	Regional regulatory and accounting differences	Countries that do not yet require mark-to-market accounting of assets and liabilities enable investors to more easily handle short-term market volatility. On the other hand, pension funds in countries with mark-to-market accounting and strict solvency regimes are more likely to minimize risk-taking.
	Public vs private funds	Private funds generally have more restrictive accounting and regulatory guidelines and are more likely to receive pressure from stakeholders to minimize fund volatility
	Sponsor strength	Stronger sponsors can afford to make up any shortfalls caused by short-term volatility and thus can take longer-term risks
<b>Differentiated decision-making</b>	Different governance structures	There are significant differences between pension funds regarding their ability and willingness to pay internal managers to directly manage the fund's assets

## E. Life insurers

With regards to the constraints to making long-term investments, life insurers form the most homogenous group. Although life insurers vary somewhat in terms of product type and regulatory regime, their investment portfolios are relatively similar with a large proportion invested in fixed income or similar investments.

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## **SECTION II**

# Benefits of Long-term Investing

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## SECTION II Benefits of Long-term Investing

**While many believe that long-term investing brings benefits, it has not always been clear to whom and how these benefits accrue. In this section we look at the theoretical and, where available, empirical case for how long-term investing:**

- might offer better returns to certain investors
- could bring benefits to individual corporations
- may be a “social good” by helping to stabilize the financial markets, promote global economic growth and bring wider social benefits

In doing so, we contrast the benefits of long-term and short-term styles of investing. This is not meant to disparage short-term investing. Long-term investing is not appropriate for all types of institutions or for all assets within an institution. Some of our interviewees have argued that one of the key lessons from the crisis is that a structural mismatch between an institution’s set of short-term liabilities and a chosen long-term investment portfolio represents a particularly dangerous investment situation. Long-term investing is rather a tool that certain investors can use to their advantage. However, if this tool is used either improperly or at the wrong time, it can actually be detrimental to the investor. For example, even if a liquidity premium exists, an investor can make poor investments in private equity that will fail to generate above average returns

In addition, there are meaningful advantages that a short-term investing style provides. It can rapidly allocate capital in society in response to new information or a changing economic landscape, can be used to provide liquidity to the market and can ensure that management is held accountable and is operating their companies efficiently. In short, if short-term investing did not exist, we would be arguing for its invention.

The issue is really one of balance and it does not seem like there is currently a lack of supply of

short-term capital. Furthermore, there are some kinds of capital investment and investor behaviour that short-term investors simply cannot supply, and this is where the role of long-term investors becomes critical.

As described in Box 3, empirically assessing the impact of long-term investing on investors, corporations and society is challenging. There is little available data and what data exists for certain long-term investors is not differentiated between their short-term and long-term strategies. We therefore cite empirical evidence when available, but generally develop a framework for assessing how long-term investing can be beneficial.

### Impact on investors

To begin with, we will look more closely at the question of how long-term investing, when executed properly, might help to generate above average returns by accessing risk premia and offsetting certain investment costs. We do so by outlining potential advantages investors with a long-term time horizon might have over the general investor including their ability to:

- access structural risk premia (i.e. market risk premium, liquidity premium, complexity premium)
- take advantage of secular themes/macro trends
- impact corporate decision-making
- avoid buying high and selling low
- minimize transaction and market disturbance costs

### Box 3 Empirical Analysis of Long-term Investing Benefits—Six Key Challenges

Empirical studies that identify and measure the unique and positive benefits of long-term investing are expanding fast but face half a dozen key challenges:

1. Many organizations are secretive about their investments. This lack of transparency is justifiable, as it prevents imitation by other investors, yet it keeps valuable data from researchers as well.
2. Long-term investors often invest in private firms. Returns from these types of investments are harder for outsiders to measure accurately, making reliable analysis a challenge.
3. Long-term investors are a relatively new and changing group. The little historical data that exists is constantly subject to revision, making it difficult to identify and track any trends. This challenge has been compounded by the recent financial crisis, the results of which are not entirely clear in terms of their impact on long-term returns.
4. Long-term investors are often grouped together, but in truth are quite heterogeneous as a group. Pension funds, sovereign wealth funds, university endowments and others are all long-term investors, but in practice these investors may approach investment in unique ways.
5. Even if returns from long-term investors could be meaningfully analysed it would still be difficult to disaggregate the performance between their short- and long-term investments.
6. A few long-term investors have tended to receive the bulk of the attention in terms of empirical analysis. Sovereign wealth funds have received by far the most consideration while university endowments have also drawn some attention. Literature on other types of long-term investors is disappointingly limited.

In spite of these challenges, academics around the world are exploring useful questions about the benefits of long-term investing, with results we summarize throughout this section of the report.

## A. Accessing structural risk premia

### i. Market risk premium

There are various market risk factors that may offer a premium to an investor given a long enough time horizon. These risk factors can be thought of as insurance contracts. Every year, the bearer of this risk gets paid a premium for holding the risk; however, over time, there will be a few extreme events that will cause the owner of these risks to lose a fair amount of money. The long-term investor can afford to suffer the effects of these intermittent extreme shocks in exchange for the insurance premia paid out in the interim.

The most common of these risk factors that investors take advantage of is the equity risk premium. Over a long time horizon, equity has generally outperformed debt, but in the interim, equity prices have been significantly more volatile. Although this has generally been the case, this assumption has been questioned recently in light of

the last decade's market in which equity generated minimal returns. There are additional systematic risk factors such as credit and interest rate risk that an investor can hope to be compensated for if they are willing and able to hold these risks for an extended period of time. Of course, selecting the right assets—sound stocks and good credit risks—is still a vital part of the process.

### ii. Direct liquidity risk premium

Earlier in our discussion (page 14), we charted a range of assets in terms of both their liquidity and time horizon (Figure 1), and identified a set of longer-term assets including infrastructure investments and direct private equity and venture capital. Those investing in these kinds of assets assume a fair amount of liquidity risk and theoretically receive a liquidity premium in return.

Before the completion of such investment projects, it may simply be impossible for a long-

term investor to generate cash flow from the investment or sell the project on to another investor without taking a significant discount on the amount invested so far. This means that long-term investors, to a large but varying extent, give up the option of accessing their capital for an extended period of time. They may subsequently have to turn away other investment opportunities that offer a higher or more certain return. They will also not be able to cut their losses by selling the investment at signs of trouble for the investment or in the market more generally. To give up this optionality, these investors theoretically require a premium.

There have been many attempts by investors and academics alike to assess the premium that investors charge for assuming liquidity risk. Yet the

task is complicated by the lack of clear distinction between liquid and illiquid assets, and the fact that asset liquidity varies over time. However, empirical research does seem to confirm the existence of a liquidity premium. For instance, in a paper published in 2003, Pastor and Stambaugh examined around 30 years of data from US equity markets and found that a liquidity premium of up to 7.5% seemed to exist between the prices of the most liquid and the most illiquid public equities.<sup>28</sup>

While most researchers are confident that a liquidity premium exists in a number of alternative investment markets, such as private equity, this does not necessarily mean that the premium outweighs other potential costs of investing in these markets, as Box 4 explains.

#### Box 4 Alternative, Illiquid Markets May Not Always Signal Success—Literature Review

Academic research has established that the alternative investment markets such as hedge funds, private equity, venture capital and real estate on which many successful long-term investors rely are particularly vulnerable to influxes of capital. Because there are often a limited number of opportunities in a given sector, additional capital tends to be associated with the purchase of securities at higher prices and ultimately lower returns.

The evidence for this can be drawn from papers such as Gompers and Lerner (2000), Kaplan and Schoar (2005) and Ljungqvist, Richardson and Wolfenzon (2007).

Many of the long-term investors with the best track records—particularly university endowments—have most aggressively allocated towards alternative investments. A natural conclusion from this evidence might be that long-term investors with a lagging performance ought to shift their allocations towards alternative assets. In fact, many institutional investors around the world have come to this conclusion: see, for instance, the discussion of how some sovereign wealth funds decided to emulate Yale's allocation when shifting their investment strategy (Sender, 2007). However appealing this alternative allocation may be, the conclusion that more exposure to alternative assets will always lead to better performance may be a false one.

This claim is supported by a variety of evidence, most of which is focused on the performance of endowments.

For instance, among endowments, less elite schools derive fewer benefits from alternative investments than do their more elite counterparts (Lerner, Schoar and Wang, 2008). Similarly, while the returns from private equity investments for the top 25% of the endowments far outperform those of any other class of investor, the other schools have relatively modest returns that are indistinguishable from those of average investors (Lerner, Schoar and Wongsunwai, 2007).

Therefore, we need to be cautious in the interpretation of the association between alternative assets and above-average returns. There are a considerable number of other variables that are likely to drive performance when investing in these illiquid and opaque markets, including:

- Experience** Many of the most successful long-term investors in alternative assets were also among the first institutional investors to invest in alternatives. Experience appears to be very important to the success of alternative investment programmes: There is a great deal of disparity in the returns of individual managers within the asset class, placing a premium on manager selection (see, for instance, the data in Yale, 2006). This problem is compounded when considering private equity investments, due to the long lags between the time when investments are made and when their success can be evaluated; this multiplies the benefits of

28 Other more recent studies such as Korajczyk and Sadka (2008) also establish the existence of a liquidity premium.

skill in interpreting ambiguous data when making fund selection decisions.

- **Access** Many of the most attractive private equity and hedge funds have traditionally been difficult to access for new investors. In the post-crisis environment this has become less of a concern. Thus, one important aspect of having been a pioneer in alternative investments is that these investors enjoyed a “seat at the table” in some of the most elite and desirable investing groups. A long-term investor setting up their first alternative investment programme would historically have been unlikely to be able to access the top, and even, in many cases, the second-tier alternative funds. However, our previous source (Lerner, Schoar and Wongsunwai, 2007) suggests that access cannot explain all of the superior returns of established long-term investors. They found that top endowments outperformed the rest of the investors even when they invested in undersubscribed funds, which suggests that these endowments are able to pick better funds even when there is equal access for all investors.
- **Timing** Viewed as a whole, the past 25 years have been a benign environment for many alternative funds. For example, in venture capital there has been

extensive innovation and, until 2000, a robust market for new issues. Buyouts and hedge funds have benefited from the plethora of “value” investment opportunities in recent years and, until recently, from the ready availability of debt on favourable terms. Whether these conditions will continue to hold in the decade to come remains to be seen.

These concerns are particularly relevant because the strategies of the most successful long-term investors are imitated as never before. In the past, there was often a substantial time lag between the point at which elite investors first began investing in an asset class and the point when other institutions followed their lead. Harvard and Yale began investing in venture capital in the early 1970s, but most corporate and public pensions did not follow until the 1980s and 1990s, respectively. Today, the time lags are much shorter. Within a couple of years of Harvard initiating a programme to invest in forestland, for instance, many other institutions had adopted similar initiatives. The same dynamics also play themselves out at the individual fund level: an investment by an elite long-term investor into a fund can trigger a rush of capital seeking to gain access to the same fund. Aware of these dynamics, fund managers have in some cases demanded a greater share of the returns from their investments (Grant and Buckman (2006)).

### iii. Opaqueness or complexity premium

Illiquid markets have some secondary features that sophisticated long-term investors should be able to exploit. The most important is that they are relatively opaque. The low volume of deals, difficulty in accessing information and challenge of comparing deals that have many unique features all mean that it is harder for sellers and buyers to be certain about the correct market price for an asset. For instance, certain investments, such as investing in a power plant and distribution network to provide electricity to remote areas that have never before had such access, do not generate a clear and dependable market price. These assets may end up being bought and sold at prices that do not properly reflect either their fundamental economic value or the price they would have commanded in a more liquid market.

From a sophisticated investor’s perspective this uncertainty represents an opportunity. The long-term investor can take the time to understand which investments represent value in the long term and which do not. The inefficiencies of illiquid markets, therefore, could permit investment in valuable assets at attractive prices.

Various empirical studies have begun to shed light on the size of this investment advantage. In particular, a recent study by Oliver Gottschalg at the HEC School of Management in Paris looked at the difference in returns from investing in relatively liquid public equity through the stock market and investing in relatively illiquid private equity.<sup>29</sup> Although the median returns in public and private equity are surprisingly close (6.8% versus 7.6%),

<sup>29</sup> Arnold (2010)



the top quartile of private equity investments offered 13.6% returns, compared to 8.5% for the top quartile of investments in the stock market. The implication of this research is that selecting a better investment in the complex and illiquid private equity market can make an investor more money than picking a better investment in the more liquid public markets.

## B. Taking advantage of secular themes/macro trends

The sources of outsized returns that we have examined so far are related to systematic, structural risk premia, which vary over time but should theoretically always exist and be somewhat quantifiable through the use of historical data. However, there is another type of risk that we can call “point-in-time risk”. Point-in-time risk exists as the result of a coming event or economic trend that is likely, at some undetermined point in time, to cause a specific form of disruption in the market. The risk lies in both the uncertainty over whether the event will take place and the uncertain timing of when it would do so. From a long-term investor’s perspective, point-in-time risks could include the rapid integration of China into the global economy, the impact of an ageing society, resource scarcity and the repercussions of mispricing carbon emissions.

Investors with very long-term horizons can try to profit from the way in which such secular economic trends in society give rise to certain opportunities. For example, one large foundation with a long-term investment horizon has developed four core themes to help drive their long-term investing: ageing societies, resource scarcity, the shift from service- to knowledge-based economies and the investment opportunities in developing regions such as Africa and Latin America.<sup>30</sup>

Long-term investors are particularly advantaged in these thematic investments as it is never quite clear when any particular theme will begin to influence the market price of investments. Long-term investors can wait patiently, assuming the point-in-time risk, while a short-term investor might agree with the economic analysis but lack the luxury of waiting.

## C. Impacting corporate decision-making

Long-term investors who invest in corporations benefit from any improvement in the performance of their investments and can play an important part in driving such an improvement. The ongoing debate about the impact of long-term investors on stock prices is presented in Box 5. We discuss this in more detail later in the report (page 42) from a corporation’s point of view.

### Box 5 The Effect of Long-term Investors on Stock Returns—Literature Review

The effect of large long-term investors on both their investments and on the markets generally has prompted a key debate in academic literature. The debate centres on whether the presence of a long-term investor creates an abnormal increase or decrease in returns, how big this change is, and what this means for investors and markets.

Although authors disagree about the size of the effect and how long it persists, there is strong evidence presented in this literature that sovereign wealth funds induce positive abnormal returns for target investments, at least for a short while at the time of the investment.

A number of key, though also contradictory, points can be drawn out of the different studies:

1. The short-term positive abnormal returns following a sovereign wealth fund acquisition announcement range from 1% to 6%.
2. The time period over which the positive abnormal returns persist ranges from 10 days prior to the acquisition announcement to 12 days afterwards.

30 Truell (2007)

3. There is some evidence that sovereign wealth fund acquisitions induce either no or a negative effect on investments in the long run.
4. There may be a sovereign wealth fund premium between 15% and 20% of firm value.
5. There is some evidence that improving transparency or governance measures of the sovereign wealth fund improves the returns from investment by that fund.
6. It is unclear what mechanism induces the positive abnormal returns, but some authors theorize that it is caused by a monitoring effect, similar to that induced by large blockholders.
7. There are also academics who believe that sovereign wealth funds' more passive approach to their investments might therefore be the cause of the evidence for long-term negative returns on average.

As many of the key points contradict each other and present a confusing picture, we explore each in greater detail by reviewing the relevant academic papers below. One further word of caution: As the evidence used in these studies almost entirely concerns the effect of sovereign wealth funds, the results may say little about other groups of long-term investors.

Several studies have found that sovereign wealth fund investment has no significant impact on returns over the long run, but that a significant short-term effect occurs around the time of the investment. Raymond (2008) shows that, on average, there is a positive reaction in the stock of the company on the day of the sovereign wealth fund acquisition announcement. This abnormal increase ranges from 3.85% to 6%, depending on whether outliers are removed. Over the long run, these effects drop to zero, showing that there is neither a lasting positive nor negative effect from sovereign wealth fund investment announcements.

Kotter and LeI (2009) show that sovereign wealth fund acquisition announcements raise the risk-adjusted return of target firms in the short run by 2.1% on average, a slightly smaller effect than that found by Helene Raymond. Kotter and LeI report that the abnormal increase can be further augmented to a 3.5% risk-adjusted return if the fund employs transparency measures such as independent audits or publicly available annual reports. Over three

years, however, they find that target firms do not experience any robust and statistically significant change in their profitability, growth, investment and corporate governance. Because of this discrepancy between the short- and long-run effects, the paper concludes that it is not the fund characteristics that explain the short-term abnormal positive returns. Sovereign wealth funds succeed because they are passive shareholders who simply invest in underpriced securities.

Bortolotti, Fotak and Megginson (2008) also show a significant, positive relationship between the announcement of a sovereign fund's investment and the returns. In the short term, sovereign wealth fund investments in companies induce positive abnormal returns, averaging about 1% on the acquisition announcement day. Looking at the long-term effects of such announcements, the authors find that sovereign wealth funds have a negative impact on firm profitability and possibly even cause a deterioration in firm performance. The mechanism that drives down profitability, they suggest, is the agency costs that sovereign wealth funds impose on targets. Interestingly, this effect does not appear to increase as the share of equity increases, a reasonable extension of the phenomenon. This makes their argument for sovereign wealth fund agency costs uncertain.

One piece of empirical research argues that being a long-term investor, specifically a sovereign wealth fund, generates higher firm value for investments. Nuno Fernandes (2009) documents a 15% to 20% premium in firm value for firms with higher ownership by sovereign wealth funds. In other words, the market pays on average 15% to 20% more for a firm in which a sovereign wealth fund has a stake relative to that same firm if it was owned by another institutional investor. Fernandes explains the premium by arguing that sovereign wealth fund investment is associated with improved operating performance at the firm level measured by return on assets, return on equity and net profit margin. The operating performance increase as the share of equity held by the sovereign wealth fund increases. Fernandes takes this to suggest that the sovereign wealth fund premium is a direct result of value creation by these funds. While the magnitude of the results from this paper is impressive, the results contrast with other papers. This could be because Fernandes uses a unique measure of firm value, Tobin's Q, which is measured as the book value of total assets plus the market value of equity minus the book value of equity, all divided by the book value of total assets.

Chhaochharia and Laeven (2008) find that sovereign wealth funds generate positive short-term returns. They

show that there is a 1.76% average cumulative abnormal return over the window of ten days prior to the acquisition announcement and two days after. This effect is smaller than that found by Helene Raymond, and slightly smaller than that found by Kotter and Lel. This effect drops to zero for any period outside of the window of 10 days prior to the announcement and two days following. These results cohere with previous papers, but the mechanism offered as explanation differs. This paper suggests that sovereign wealth funds, as large investors, may increase firm value temporarily through monitoring a firm's management. This finding would follow from the work of Shleifer and Vishny.

Andrei Shleifer and Robert W. Vishny (1986, 1997) have written several papers arguing that large block shareholders induce a positive effect on firm values. They claim that the market expects large blockholders to monitor their investment more closely than a small investor, taking care to make sure that the business is run well and efficiently. If the blockholder finds that the investment is not performing well, they might take action to put the firm on the right path. This conclusion could potentially suggest a way to enhance returns, if it were found to be true. By advertising its monitoring intentions, a large, long-term investor could enhance its returns.

Dewenter, Han and Malatesta (2009) find that a sovereign wealth fund's announcement of an acquisition induces a 1.7% abnormal increase in return. Similarly, they show that divestment induces a negative return, averaging -1.4%. In contrast to Bortolotti, Fotak and Megginson's paper, the relationship between equity share acquired/

divested and returns is found to be non-linear. If the sovereign wealth fund purchases a larger percentage of the target, the abnormal increase in returns is larger. After a certain percentage of the target is acquired, the returns then decline. This effect is mirrored for divestments. They conclude that the increase in returns as the percentage acquired increases supports the theory that sovereign wealth funds provide monitoring services and general influence. The peak and eventual drop off can be explained, they argue, by the tendency of increasingly large investors to extract private benefits of control and expropriate small shareholders. Dewenter, Han and Malatesta also suggest that good fund governance leads to good performance by their target.

Bortolotti, Fotak, Megginson and Miracky (2009) explore the possibility that sovereign wealth funds do not actively engage their investments and that this has negative consequences. The authors here develop what they term the "Constrained Foreign Investor Hypothesis" to explain why the long-run performance of sovereign wealth fund targets is negative. According to the hypothesis, foreign investors, especially high profile ones such as governments, are reluctant to take an active governance role out of fear of political or regulator backlash. These investors, moreover, will be even less likely to monitor because, if they divest, it will induce resentment from management, regulators and market participants. The authors reinforce their argument with evidence that politically constrained funds purchase larger shares, and that less constrained funds such as Norway will be less inhibited, monitor and achieve better returns.

#### **D. Avoid buying high and selling low**

In the previous section of this report, we mentioned that long-term investors need to guard against human psychological biases that may lead them to make suboptimal buy-and-sell decisions. In particular, investors tend to overweight information that will have a near-term impact on results and exhibit an exaggerated aversion to loss.

Like other investors, long-term investors must make a deliberate effort to overcome these biases. However, their extended time horizon and

emphasis on long-term holding periods generally make this task easier.

#### **E. Minimizing transaction costs and market impact**

In this regard, there are two ways that long-term investing can benefit the investor. The first is the simplest: Every investment incurs transaction costs, so investing less often reduces these costs. The extent of this benefit varies widely from market to market.

The second benefit arises from the nature of most long-term investors. Institutions that make long-term investments are often very large. For instance, the top 10 sovereign wealth funds, pension funds and life insurers each have at least US\$ 100 billion in assets.<sup>31</sup> For an investment to have a material impact on their portfolio, the institution will need to make a relatively sizable investment, which in turn may disturb the market for that investment. In effect, the size of many long-term institutional investors turns liquid markets into illiquid markets. For these institutions, a long-term illiquid investment might prove more attractive than an investment that is liquid for the market generally, but ostensibly illiquid for them.

## Impact on corporations

Corporations and their managers often face considerable pressure to fulfil short-term goals. These pressures can encourage productivity and ensure operational efficiency, but sometimes they come at the expense of long-term value creation. Long-term investors can play a role in directing corporate managers to best manage this tension.

The pressure on corporations and their managers to focus on the short term comes from both within the firm and from investors. Managers, for example, may be concerned with producing tangible short-term signs of success. Meanwhile, investors with a short-term perspective will encourage managers to focus on short-term financial indicators—such as quarterly earnings—that tend to drive the stock price up in the near term. This pressure can have significant impact, as shown in a study among 421 financial executives, which found that “firms are willing to sacrifice economic value in order to meet a short-run earnings target...78% of the surveyed executives would give up economic value in exchange for smooth earnings.”<sup>32</sup>

However, boosting the short-term market value

of the company may be to the detriment of the firm’s longer-term prospects if this focus leads to underinvestment in the maintenance of operating assets, customer loyalty initiatives or employee training.

For instance, take the capital budgeting decisions of a corporation whose stock price is temporarily below its fundamental value. The potential value created from a long-term project will not be fully reflected in the short-term stock price. Short-term investors generally prefer the firm to put such investments on hold and distribute cash. By contrast, long-term investors are more likely to be unconcerned about this temporary mispricing and will be willing to wait until the investment matures or the undervaluation disappears.

This line of reasoning is consistent with empirical research showing that companies with a large share of short-term investors are more inclined to reduce R&D spending to meet short-term earnings goals.<sup>33</sup> Similarly, empirical research has shown that companies with a large proportion of short-term investors are more likely to receive acquisition bids, and for these bids to exhibit a lower premium on the existing market price for the firm than companies with a larger proportion of long-term investors.<sup>34</sup> This seems to reflect expectations that short-term investors will encourage the firm to agree to the acquisition in order to unlock short-term value, even when this may not reflect the likely value of the firm in the longer term.

Nevertheless, a lack of concern for short-term results and an overemphasis on the long term can likewise be detrimental to an institution. When long-term shareholders do not feel the need to put pressure on investors for short-term results, they may not hold corporations accountable for their actions. Long-term investors therefore can have a positive impact on corporations so long as there is a balance between a focus on long-term value and clear and consistent accountability.

31 SWF Institute (2010), Corporate Annual Reports

32 Graham, Harvey and Rajgopal (2005)

33 Bushee (1998)

34 Gaspar, Massa and Matos, Patgiri (2004)

## Box 6 The Costs of Short-termism—Literature Review

Short-termism is the tendency of managers to focus on short-term goals even when they conflict with the long-term interests of their firm. If short-termism can be shown to exist, it offers a powerful argument for the offsetting benefits of activist investors with a long-term horizon. By definition, work on short-termism analyses activities that are hard to measure or observe—otherwise shareholders would become aware of the negative effects and act to prevent them.

The literature on short-termism is well summarized by Jeremy Stein in his work *Agency, Information and Corporate Investment* (2001). This review notes that the reasons managers may focus on the short-term are driven by concerns with labour-market reputations (Narayanan, 1985) or with short-term stock prices (Stein, 1989). Their short-term goals may lead managers to underinvest in maintenance, customer loyalty and employee training, among other hard-to-measure assets. Shareholders perceive the result of this underinvestment as outcomes comparable to positive shocks causing higher profits.

Two papers by Stein were among the first to analyse the phenomenon of short-termism rigorously. The first paper is “Takeover Threats and Managerial Myopia” (Stein, 1988). This paper shows how, theoretically, temporarily low earnings may cause stocks to be undervalued by imperfectly informed stockholders. This increases the chance of takeover at an unfavourable price, and creates incentives for managers to sacrifice long-term interests in order to boost short-term profits. Another paper, “Efficient Capital Markets, Inefficient Firms: A Model of Myopic Corporate Behaviour” (Stein, 1989), shows how managerial short-termism can persist even in the face of a rational stock market. This effort seeks to discredit the efficient market tenet, or the argument that stock market pressure does not have an adverse effect on long-term developments because the market cannot be fooled by inflated earnings. Stein argues that, although the market cannot be fooled, managers engage in short-termism anyway. The market understands that there will be earnings

inflation and adjusts for this when making inferences about value.

Although short-termism is difficult to measure, there is evidence supporting the existence of this phenomenon. Specifically, its effect is most pronounced when managers are most concerned with hyping their stock prices or labour-market reputations, implying that underinvestment will be most pronounced when firms are threatened with takeovers or are preparing to issue new equity.

Other empirical papers are less supportive. Muelbroek, et al. (1990) examine the spending on research and development by firms in states which adopt anti-takeover amendments. They show there is little evidence that these firms increase their spending once the threat of takeover is reduced, as the Stein (1989) model might suggest.

Since the pioneering work by Jeremy Stein, there have been many additions to the literature on short-termism. A particularly relevant recent paper by Francois Derrien, Ambrus Kecskes and David Thesmar, “Investor Horizons and Corporate Policies,” tackles the issue of myopia from the investor’s perspective. They argue that the investment horizon of the investor, short-term versus long-term, is relevant when evaluating corporate behaviour. The time horizon of investors, they show, becomes important to firm decisions. When a firm is undervalued, the presence of short-term investors is associated with less investment and less R&D spending. By contrast, when a firm has more long-term shareholders, they will be better able to resist underinvestment during times of undervaluation. Investment increases as long-term investor ownership increases, strengthening Derrien, Kecskes and Thesmar’s result. This paper improves upon previous explorations of the topic in terms of its methodology: it controls for feedback between the cause and effect variables, using a difference-in-differences approach. The paper is also notable for differentiating between investors and their different time horizons, showing how these differences can affect managerial myopia under certain circumstances.

## Impact on society

Up until now, our discussion has focused on the ways in which long-term investors can improve their own investment returns and the long-term fortunes of individual companies. However,

long-term investors can also provide a social good by helping global financial markets to function more efficiently and promoting sustainable global economic growth and creating wider social benefits.

## A. Stabilizing global financial markets

The first and most obvious benefit to society more generally is the way long-term investors can help stabilize financial markets by providing liquidity at critical times.

For example, when the financial crisis struck some notable long-term investors were the only sources of private capital willing to take on the risk of extending funding to financial institutions while most investors were moving their money out of illiquid and risky markets and into cash.

Furthermore, the ability of long-term investors to buy into a market that they feel represents good long-term value, without worrying unduly about short-term market losses, means they can act as a powerful countercyclical force. In theory, these investors can more easily overlook the near-term financial impact of a crisis on their investments and instead focus on long-term opportunities coming out of it. This idea was echoed by many of the life insurers and pension funds that we spoke to who felt that they have historically played a countercyclical role in the market by buying securities as liquidity dried up. However, they feel that this has begun to change as regulatory and accounting changes over the last 10 years have forced institutions to be concerned with short-term changes in market prices. In response, they argue, the investment strategies and behaviours of these institutions have become more pro-cyclical.

## B. Promoting sustainable global economic growth and creating wider social benefits

The returns generated by long-term investing are beneficial to society as they are often used to fund crucial societal needs. For instance, accumulated returns in sovereign wealth funds can be allocated towards future public works projects. Similarly, increased returns for foundations will be used to fund the activities of non-profit organizations and asset growth within pension funds ensures a comfortable retirement for many people. Yet in addition to the direct benefits of a long-term investor's investment gains, social benefits can be generated by the investments themselves.

It became clear in our interviews that many long-term investors, whether explicitly or

implicitly, are considering social and economic “externalities” when making investment decisions. These externalities are costs that are incurred by the wider society as a result of a firm's activities but which do not have as adverse an impact on the firm itself as the benefits they accrue from them. Many long-term investors recognize that due to their universal ownership—owners of most assets for a multigenerational time period—many of these costs will not be external to them, but instead will have a significant impact on the returns they can expect from their investments and from their portfolios as a whole. For instance, for the universal owner, the activities of one firm, while perhaps in the best interests of the firm itself, could adversely impact other firms within a long-term investor's portfolio. The investor, in this case, will not only feel the benefits from the perspective of the acting firm, but will feel the negative consequences on the general economy. Similarly, activities beneficial now to a company, and thus the fund, may incur external economic and social costs that will eventually affect the future beneficiaries of the long-term investor. Such potential impact can factor into the long-term investor's decision-making process.

In both of these cases, acknowledgement of the impact of such externalities can prompt the long-term investor to carefully choose firms to invest in and monitor the activities undertaken within. Long-term investors might encourage these companies to act in a way that is better aligned with long-term economic growth. For example, firms may choose to use more energy than they need because it is cheaper in the short term than installing energy-efficient equipment; the long-term cost of this choice, in the form of global warming, remains external to their calculations.

In our conversations with institutional investors, some participants stressed another particular attribute of long-term investors: the ability to create investments, rather than look for assets in the market and invest in them. These investors felt they had the ability to look for unmet economic needs and inject capital to meet those needs; this almost inevitably has a positive social benefit. This perspective allows these institutions to make risky investments with potentially transformative qualities.

Some long-term investors have been formalizing this concept and pursuing a sustainable investing approach that looks to integrate long-term environmental, social and governance (ESG) criteria into investment decision-making and how they engage as owners with their investments.

Over 700 investors have signed the UN-backed Principles for Responsible Investment since their launch in April 2006. The World Economic Forum is currently engaged in a project that will explore the topic of sustainable investing in greater detail.





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## **SECTION III**

# Long-term Investing After the Financial Crisis

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## SECTION III Long-term Investing After the Financial Crisis

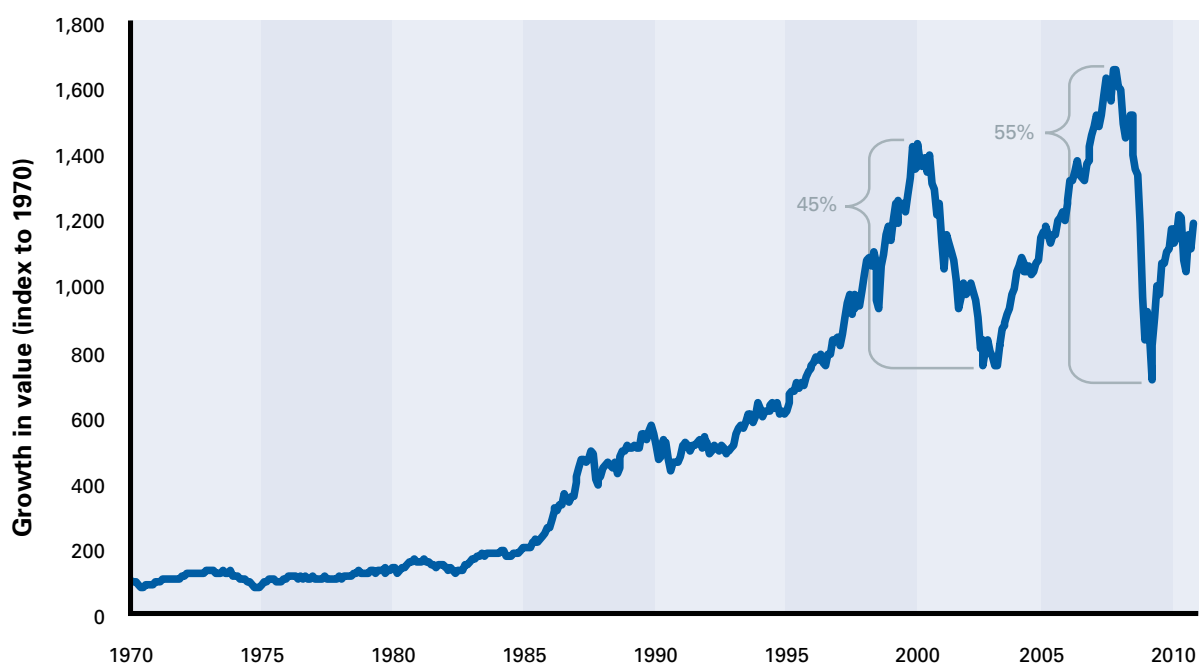
The recent global financial crisis has been a challenging time for many investors. In this section, we first look at what happened during the crisis in terms of the preparedness and response of long-term investors. We then turn to the key lessons that have been learned and what that means

for investment strategies, particularly new approaches to liquidity management and investor asset allocation frameworks. Finally, we try to make sense of how the investor response to the crisis, combined with longer-term trends including impending regulatory changes, might affect flows of long-term capital.

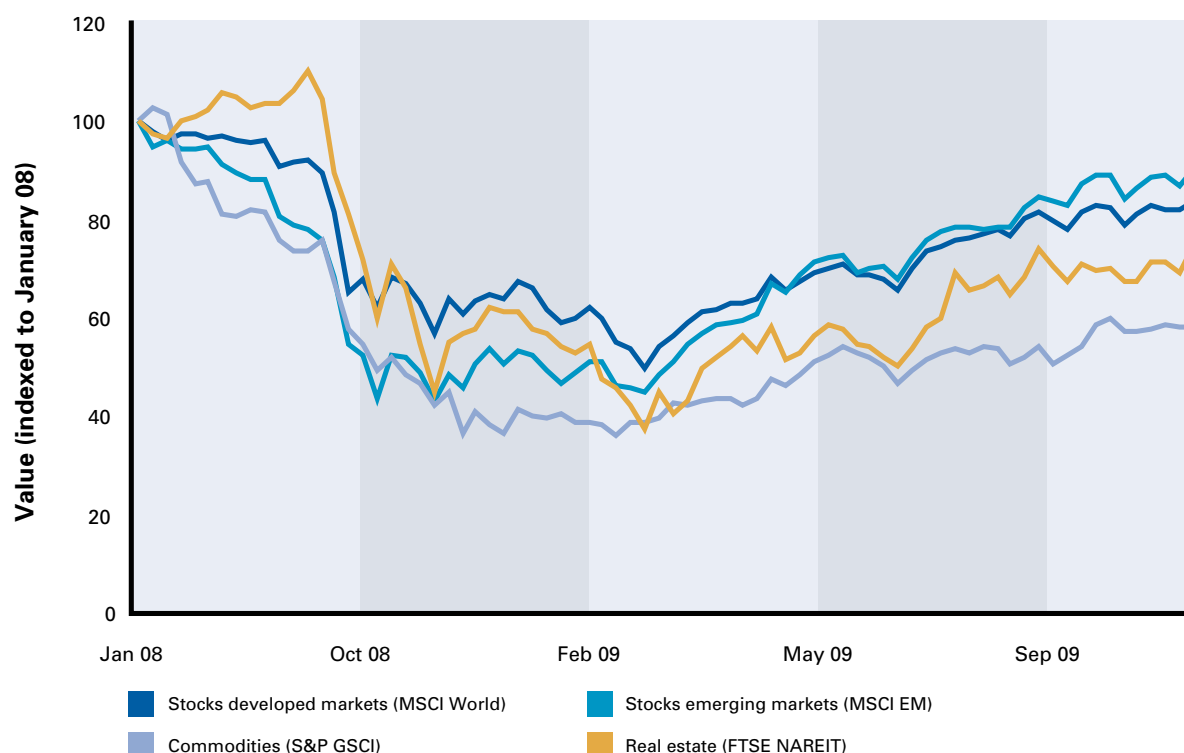
### What happened in the crisis?

The financial crisis caused extreme market volatility in 2008-9. This was the second major equity market crisis in a decade, as depicted in Figure 9. But the key difference in the latest crisis was that most asset classes, not just equities, were affected resulting in higher than expected levels of losses and unanticipated short-term liabilities on the part of long-term investors.

**Figure 9:**  
Market prices during the financial crisis of 2008 were particularly volatile  
(MSCI world)



**Figure 10:**  
Key asset classes were highly correlated during the crisis



In theory, times of market crisis need not be times of crisis for long-term investors that have the right liability management, investment framework and governance process. Nonetheless, many long-term investors did not come out of the crisis unscathed. Many sold positions that prior to the crisis had been considered long-term investments, and failed to reallocate capital to equity when the value of equity holdings dropped—as their asset allocation mandate prescribed.

Questions were also raised about the correctness of fundamental investing assumptions, most notably the role of portfolio diversification. As one CIO remarked: “How was it possible that all asset classes correlated to one? This should have never happened according to modern portfolio theory.”<sup>35</sup> The extent to which different asset classes moved in tandem can be seen in Figure 10.

The stresses felt at each type of institution were slightly different. Pension funds found themselves

underfunded by up to 30% by the end of 2009,<sup>36</sup> causing concern that a further drop in value would make it even more difficult to pay their obligations in full. Determining how to stem losses, while keeping open the chance of participating in a market recovery, became a crucial challenge.

Some sovereign wealth funds, whose portfolios were built around the assumed lack of short-term liabilities, were suddenly expected to help stabilize national economies. Which assets should be sold to fund short-term needs, and how best to balance the short-term needs of the economy with the long-term goals of the fund, became critical issues.

Perhaps more unexpectedly, some endowments and foundations found that they had underestimated short-term liabilities to external managers in the case of such an extreme market event, such as calls for committed capital from private equity funds. These endowments and foundations needed to realize losses to meet these

<sup>35</sup> Based on confidential interviews conducted over the course of the project.

<sup>36</sup> See Figure 12.

liabilities, and adjust their asset allocation in turn.

For some long-term investors, the level of the losses and the failure to anticipate them damaged the relationship between principals and agents. As the head of a sovereign wealth fund said: “There were a lot of very late nights and a fair amount of strong disagreement.”<sup>37</sup>

The crisis, however, was not detrimental to all long-term investors. A minority of long-term investors emerged with portfolios, strategies and reputations largely intact as they experienced only moderate, short-term, mark-to-market losses. From our interviews with institutional investors, those who achieved such resilience appear to have worked harder to communicate their investment strategy to trustees and beneficiaries in advance of the crisis, and they also experienced the fewest surprises in terms of unexpected short-term liabilities. As a result, their asset allocation proved more resilient to market shocks, allowing them to hang on to the relatively liquid assets in their portfolio (e.g. equities) as planned and participate in the market recovery. They were also better positioned to take advantage of depressed prices in many illiquid asset

markets. Interestingly, these “success” stories can be identified across all the key groups of investors; differences in liability profile were less significant than governance process similarities.

For many long-term investors, however, the crisis and the current economic climate have raised tough strategic questions and highlighted the need for rebuilding investment frameworks and governance processes.

### Investment framework and governance process changes

The crisis put significant stress on the investment framework and governance process of long-term investors, forcing some institutions to rethink every aspect of it, including their beliefs about long-term investing, their approach to formulating risk appetites and how they make investment decisions (Table 6). Perhaps surprisingly, investors say the most critical lessons they are taking away from the crisis concern people and cultural issues, rather than investing issues in a more technical sense.

**Table 6:**  
Overview of key investment framework and governance process changes

Investment framework and governance process	Key considerations	What is changing?
<b>1. Investment beliefs</b>	Does a long-term investing strategy generate higher returns?	<ul style="list-style-type: none"> <li>■ Uncertainty about whether the crisis has fundamentally changed the sources of returns</li> <li>■ Identifying and discussing investment beliefs more explicitly, including their implications</li> </ul>
<b>2. Risk appetite</b>	Can short-term volatility be tolerated from an accounting/regulatory/institutional perspective?	<ul style="list-style-type: none"> <li>■ Significant debate within organizations about whether to re-risk or de-risk. Some institutions are re-risking in order to compensate for underfunded liabilities. Others are de-risking in response to liquidity constraints, lower institutional risk appetite and regulatory pressures</li> <li>■ Frequent dialogue with stakeholders (trustees, beneficiaries, general public) to minimize some of the pressures on short-term performance</li> </ul>
<b>3. Decision-making structure</b>	Are decision-makers aligned with a long-term perspective? How should principal/agent concerns be addressed?	<ul style="list-style-type: none"> <li>■ Looking to ensure greater individual accountability</li> <li>■ Developing measurement systems that balance a longer-term orientation with short-term accountability</li> <li>■ Adjusting compensation schemes to better align with a long-term mandate</li> <li>■ When appropriate, institutions have been looking to make more investment decisions internally</li> </ul>

37 Based on confidential interviews conducted over the course of the project.

## A. Investment beliefs: Better communication

The crisis has led many long-term investors to highlight their need to reassess and formalize their investment beliefs and set out these beliefs more clearly as part of an improved governance and stakeholder communication process.

The development of an appropriate set of investment beliefs is complicated by the uncertain macroeconomic outlook and its implications, e.g. uncertainty about the likely level of long-term investment returns and the best areas in which to invest. Some beliefs that underpin traditional long-term investing strategies have been questioned in light of the crisis (Table 7).

Meanwhile, many long-term investors have been struggling in an environment where they expect average future returns to be lower combined with greater interim volatility in asset prices. This unusual level of volatility makes short-term trading strategies more enticing for some investors, if also more risky. Making the right bet on just a few days can conceivably generate the total market returns for an entire year, when in calmer times it would take many times the number of right calls to reach that goal.

Although the debate is still ongoing, most of the investors we spoke with seem to think that the crisis will not fundamentally change their investment beliefs and philosophies that underpin

long-term investing. Instead, they believe that fundamental changes will be seen in the governance and execution of strategies.

In the context of this situation, many institutions have been taking the initial steps towards formalizing these investment beliefs by encouraging a strong debate centred on questions such as:

- What are our available sources of return?
- What are the comparative advantages of this institution?
- What are the positive and negative implications of the investment strategy, and do all stakeholders understand these?

This debate is seen as one way to rebuild trust within the organization. Many long-term investors have been making great efforts to engage their stakeholders in the debate as they further work to enhance the communication of investment beliefs. Some sovereign wealth funds, for example, have directed a mass education effort towards the whole population of the country via academic research and more direct dissemination such as the media.

## B. Risk appetite: Re-risk versus de-risk

A tension now exists for long-term investors when reassessing the amount and type of risk they are willing to assume, i.e. their risk appetite. There are significant opposing pressures, resulting from the crisis itself and from other structural changes, to both decrease and increase risk in their portfolios. For instance, what should a pension fund with shortening liabilities that encourages de-risking and increasing underfunded status (that some argue encourages re-risking) do? Dealing with this tension and taking a stance on risk appetite is a critical step for long-term investors. In particular, should the return targets drive the amount of risk taken or the risk appetite drive the return targets?

In this debate, it is helpful to understand the three options an individual institution can take with regard to their risk appetite:

**Table 7:**  
Long-term investing beliefs—  
five key questions

1. Will equity always outperform debt given a long enough time horizon?
2. Has the timing of entry to financial markets become critical in determining returns?
3. Will returns from long-term buy and hold strategies be historically low for an extended period?
4. Does the market provide enough of a liquidity premium to justify the risk?
5. In an interconnected financial world are there assets that provide true diversification benefits?

## Box 7 What is the Viability of Contrarian Strategies?—Literature Review

The past two decades have been kind to the “contrarian” strategies pursued by many of the leading university and foundation endowments. But it is unclear whether success from these investment approaches will persist going forward. The viability of the contrarian strategies pursued by successful long-term investors in the future is unclear.

As discussed earlier, many of the most successful long-term investors have been considerably less correlated with the market, and have greater exposure to the more volatile smaller stocks. These patterns highlight the extent to which these endowments have been willing to pursue a different investment strategy from the conventional approach. Better understanding these differences, and the extent to which they contribute to these endowments’ performance, is a second challenge.

Understanding the institutional qualities that allow some long-term investors to pursue unconventional investment strategies is particularly relevant given the history of endowment investing in the United States. In a number of past episodes, endowments have pursued strategies that ultimately would have been successful, but were forced to abandon them in the face of initial losses, which triggered media scrutiny and alumni complaints. In these cases, the pressures against contrarian strategies became too great.

To cite one vivid example, the Ford Foundation had encouraged universities to invest more into small-capitalization stocks in the late 1960s. A task force consisting of McGeorge Bundy, the foundation’s president, and a number of distinguished academic leaders reviewed the historical returns data, and wrote: “It is our conclusion

that past thinking by many endowment managers has been overly influenced by fear of another major crash. Although nobody can ever be certain what the future may bring, we do not think that a long-term policy founded on such fear can survive dispassionate analysis” (Advisory Committee, 1969).

While this recommendation, if followed for the next several decades, would ultimately have yielded a very attractive return, it was a disaster for a number of university endowments. Having increased their allocation to small-capitalization stocks at the peak of the 1960s bull market, the endowments’ staffs were bitterly criticized by the media, alumni and their investment committees for their poor timing when returns for stocks in general, and small-capitalization stocks in particular, were poor for most of the 1970s. In the face of unrelenting criticism, these endowments typically abandoned these strategies at exactly the wrong time. More recent examples along the same lines include endowment managers who attempted to hedge out their exposure to venture capital in the late 1990s, but were forced by their investment committees to abandon their positions right before the 2000 technology market collapse, after experiencing several quarters where the hedges lost money.

These problems might be expected to intensify in light of the financial crisis. The substantial losses that many of the most successful long-term investors experienced have led many institutional investors to question their strategies, even if other strategies (such as a mixture of public equities and bonds in lieu of a substantial reliance on alternative investments) would have also led to substantial losses during late 2008 and early 2009.

- Reduce long-term risk to remove the impact of future bouts of market volatility and institutional illiquidity
- Maintain risk levels or risk/return levels at their steady state, pre-crisis level
- Increase long-term risk, i.e. increase exposure to risky asset classes compared to pre-crisis levels

The pressure to de-risk is multifaceted. Many institutions have realized that principals, trustees and other stakeholders will not tolerate the levels of short-term volatility that they thought could be tolerated prior to the crisis. This is

not simply a matter of temporary risk aversion after an economic shock. The crisis helped uncover the true risk tolerances of many long-term investors and encouraged a starker appreciation of the full extent of contingent liabilities. For example, some sovereign wealth funds that operated under the assumption that they were a multigenerational fund plan to ensure that part of their investment fund is accessible for stabilization purposes.

The pressure to de-risk is not simply a result of the crisis. Global regulatory and accounting trends that were already in motion before the crisis have

**Table 8:**  
Long-term investor risk appetites have been diverging

	Increase risk	Maintain pre-crisis risk levels	Decrease risk
<b>Drivers</b>	<ul style="list-style-type: none"> <li>■ Underfunded liabilities</li> <li>■ Increased experience managing risk</li> </ul>	<ul style="list-style-type: none"> <li>■ Risk appetite never changed</li> <li>■ De-risking during the crisis was only meant to be temporary</li> </ul>	<ul style="list-style-type: none"> <li>■ Desire to more closely align assets with liabilities</li> <li>■ Shorter liabilities as beneficiaries age</li> <li>■ Accounting and regulatory pressures</li> <li>■ Institutional decision to be more conservative</li> </ul>
<b>Implementation</b>	<ul style="list-style-type: none"> <li>■ Increased allocation to emerging and frontier markets</li> <li>■ Increased allocation to alternatives</li> <li>■ Increased use of leverage</li> </ul>	<ul style="list-style-type: none"> <li>■ Reverting to historical strategic asset allocation targets</li> </ul>	<ul style="list-style-type: none"> <li>■ Increased use of long-dated high-grade bonds</li> <li>■ Increased use of derivatives to hedge interest rate and inflation risk</li> <li>■ Decreased equity holdings</li> </ul>
<b>Examples</b>	<ul style="list-style-type: none"> <li>■ Some public pension funds</li> </ul>	<ul style="list-style-type: none"> <li>■ Some public pension funds</li> <li>■ Some SWFs</li> <li>■ Endowments/foundations</li> <li>■ Family offices</li> </ul>	<ul style="list-style-type: none"> <li>■ Life insurers</li> <li>■ Corporate pension funds</li> <li>■ Some SWFs</li> </ul>

been pushing long-term investors towards mark-to-market accounting and therefore increasing the sensitivity of these investors to short-term volatility in asset prices. For some long-term investors, this means that the current market value of their assets is under constant scrutiny, potentially negating the key advantage that a long-term liability profile gives to the long-term investor.

Finally, most life insurers and pension funds are subject to structural demographic pressures that are set to increase over the coming decades. Populations in OECD countries—where pension and life insurance assets are largest—are getting older (Figure 11). As a result, the liability profiles for many pension plans in developed economies are assuming a shorter duration, which will encourage these institutions to further de-risk and to place less emphasis on long-term investment strategies.

For those investors that decide to de-risk, the typical approach is to allocate a larger proportion of their portfolio to liquid, high-grade debt instruments and, sometimes, to use derivatives to protect their portfolio from interest rate and inflation changes. However, there is no easy answer to the problem of filling the gap between their long-term commitments and the

likely lower returns from their investment portfolio.

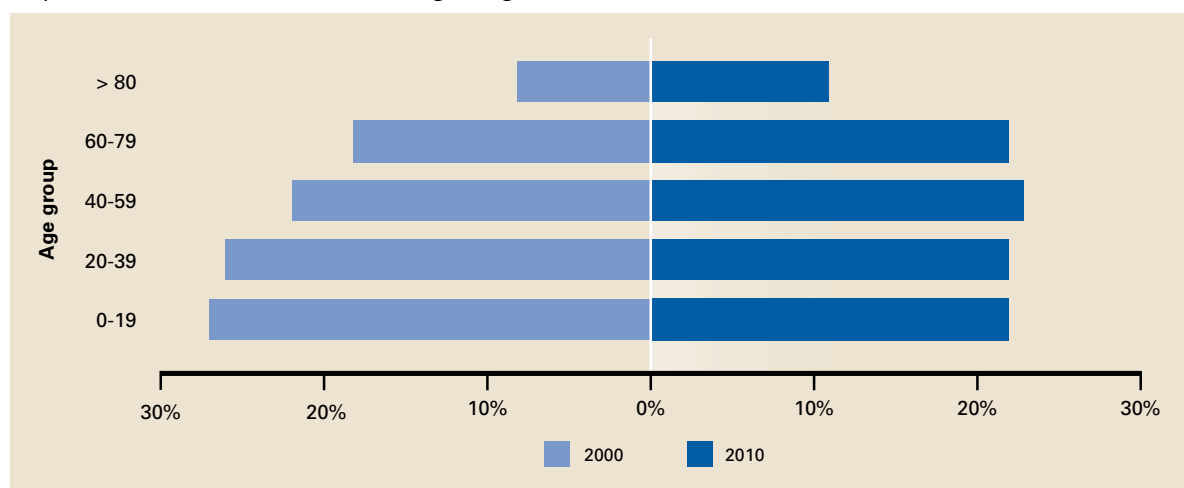
On the other hand, the pressure to maintain returns at pre-crisis levels and potentially increase risk in the portfolio exists and is intense for many long-term investors. It is critical for institutions to have sufficient capital to meet their shorter-term commitments and financial obligations, and the potential for higher returns is a strong motivator to increase risk-taking for those institutions. In the case of pension funds, the crisis has led to a dramatic growth in the gap between current asset values and future liabilities. This is illustrated in Figure 12, which shows that many corporate pension funds around the world are significantly underfunded.<sup>38</sup> Some endowments, foundations

<sup>38</sup> For corporate pension plans, this funding gap raises the question of whether the deficit will need to be pre-funded. Many corporations have decided to do this in order to minimize the disruption of managing a volatile gap between pension fund assets and pension obligations. Some have even used the operational assets of the company to plug the hole, e.g. through pledging assets such as company property.

In the case of public pension funds, the funding gap could mean either an agreed reduction in pension benefits or, at the extreme, outright defaults on pension obligations. An agreed reduction might mean raising the age of retirement, increasing employee contributions or preventing employees from manipulating their salaries in the last years before retirement to



**Figure 11:**  
Populations in OECD countries are getting older



Source: OECD

**Figure 12:**  
Corporate pension funds around the world are significantly underfunded (2009)



Source: OECD

and sovereign wealth funds have also developed their budgets with the assumption of pre-crisis asset levels.

In addition to the need to meet funding targets, some newer long-term investors of various types may also increase risk. As they grow, their analysis of risk and return often becomes more advanced and they are better able to take advantage of higher-return opportunities. For instance, many sovereign wealth funds in their infancy maintain a very conservative, low risk, portfolio and as they mature and generate more credibility in the eyes of their public and build the requisite internal expertise they begin to take on more risk in their portfolio.

Investors willing to take on additional risk in search of increased returns have been increasing their investments in particular asset classes, including emerging and frontier markets and alternatives, such as hedge funds and real estate, and/or adding leverage to their portfolio.

Finally, there are some institutions where the impact of the crisis was less pronounced. These institutions therefore feel that their pre-crisis risk appetite remains appropriate and are likely

boost final-salary based pensions. Across Europe, there has already been some indication of the political challenges posed by pension reform on any significant scale, for example, the waves of protest in France during 2010.

to either maintain their risk levels or return to pre-crisis levels if temporary adjustments had been made.

Even some of the long-term investors who have kept the same risk appetite are now making a clearer distinction between market price volatility and more fundamental economic uncertainties. They are willing to invest in illiquid assets and to ignore short-term volatility in asset prices, so long as they can rely on a stream of income from the investment. For instance, they would be willing to invest in an operational power plant with a steady customer base, but would shy away from an uncertain development project even when the potential long-term returns are likely to be greater.

So far, investors have been split in their decision on whether to de-risk, re-risk or maintain their pre-crisis risk levels (Table 8). In the United States, corporate pension funds, especially the largest ones, have looked to de-risk their portfolios.<sup>39</sup> In a recent survey, 54% of US corporate pension plans stated that there will be a significant shift towards fixed income and/or immunized strategies.<sup>40</sup> In the United Kingdom, the pensions regulator is encouraging the de-risking of pension funds through the movement of investments from risky stocks to bonds and cash that are perceived to be safer.<sup>41</sup> At the extreme, some corporations have been considering selling their pension fund to life insurers that will then invest the fund almost exclusively in high-grade debt instruments to match cash outflows.

In the United States, generally speaking, while corporate pension funds have looked to de-risk, some public pension funds have looked to take on additional risk. According to one study, 57% of US public pension funds are looking to increase returns

by allocating a larger portion of their portfolio to global equities.<sup>42</sup>

Other public pension funds are among the group of long-term investors that would prefer to maintain their pre-crisis risk levels and only adjust their investment evaluation processes. Endowments, foundations, family offices and some sovereign wealth funds have been taking a similar approach.

### C. Decision-making structure: Aligning with long-term interests

The crisis underlined the importance of putting into place a decision-making structure that enables appropriate and successful decision-making by long-term investors. Key themes emerging from our conversations with investors were:

- ensuring individual accountability of decision-makers
- measuring and tracking long-term investment performance
- structuring of incentive compensation systems to align with a long-term mandate
- balancing between internal and external fund managers

#### i. Decision-maker accountability

During the crisis, and in some of the post-mortem discussions that followed it, the question often arose of who was ultimately responsible for a good or poor investment decision. There was not always a clear answer.

In the benign environment leading up to the crisis, many institutions' decision-making powers became diffused between various layers of investment professionals and the trustees. Advisory committees that took a very active role in investment selection pre-crisis tended to create ambiguity in terms of who was ultimately responsible—trustees or the investment team—for the success or failure of the strategy.

39 Boeing Co. shifted pension plan assets towards fixed income, real estate, etc., by cutting its stock holdings from 60% in 2004 to 34% of assets in 2009. As referenced in Browning (2010)

40 *Pyramis 2010 Global Defined Benefit Survey*

41 The Pension Regulator's outgoing chairman, David Norgrove, recently commented: "If we are to avoid the situation where pension funds go from recovery plan to recovery plan, this may require the regulator and business to accept greater restrictions on the complete freedom of maneuver on funding and investments." Norgrove (2010)

42 *Pyramis 2010 Global Defined Benefit Survey*

There is now a strong feeling among long-term investors that individuals must be held better accountable for discrete decisions. Some funds are making it clearer that the chief investment officer is responsible for investment decisions with the advisory committee (or similar body) setting the overall investment framework and serving as a sounding board for the staff.

Additionally, pre-crisis governance pledges of “prudence” and “reasonable” oversight are giving way to detailed risk management programmes. Many institutions have mentioned that making sure that everyone is fully accountable requires clearer processes and guidelines concerning risk management responsibility, risk tolerance levels, portfolio expectations and other factors.

## ii. Performance measurement and benchmarking

Long-term investors face a fundamental tension when attempting to find appropriate measures for the performance of a long-term investment strategy. While interim measurement of long-term investments could unintentionally encourage decision-makers to optimize for short-term performance, short- and medium-term evaluations are necessary to ensure accountability and manage any underperformance that could impact the portfolio. Institutions have been developing interim performance measurement systems for assessing both the individual investment’s and the fund manager’s performance in executing a long-term strategy.

In order to determine whether a long-term investment is performing as expected or whether action needs to be taken, individual investments are assessed at different points along the time horizon. One way to measure the performance of the investment in the short and medium term is to look at changes in dividends or income, in addition to the changes in market price, for a particular investment. Another method of measurement for the near term is “impairment” estimates, assessing whether the assumptions made for an initial investment decision still hold true. Institutions can use these to estimate whether mark-to-market losses in the portfolio represent a change in the

underlying economic drivers of the investment or a change in market perception.

While the performance of investment fund managers can be partially assessed on the collective performance of their individual investments, as mentioned above, institutions have been looking for additional ways to determine each fund manager’s overall effectiveness at executing a long-term investment strategy. Methods to appropriately measure this would not only provide incentives for fund managers to act in accordance with the long-term strategy, but would also hold them accountable in the short and medium term.

Some institutions have been moving to three-, five- and/or seven-year “moving average” performance targets that they believe better reflect the time horizon of a long-term investor. In addition, institutions have been more frequently incorporating absolute return targets that should enable fund managers to make investments without considering what others in the market are doing or how their decisions will compare to those of their peer group.

A second approach has been to assess, over an extended period of time, how fund managers perform in different market environments, e.g. whether they outperform in down markets or in up markets. Certain long-term investment strategies lend themselves to being more extreme than the general market, while others give up some of the excess returns in bull markets in exchange for better protection in the eventual downturn. Critically, it is important to take into account the institution’s investment beliefs so that outcomes in different market environments can be measured relative to expectations.

Finally, some institutions have been more aggressively monitoring the investment turnover ratio of the fund manager, as a low ratio tends to indicate a longer-term investment strategy.

### iii. Compensation

Despite an institution's best efforts, almost by definition the investment time horizon for the decision-makers and for the fund will not be fully aligned, and further steps must be taken to limit any impact of this disparity. Some institutions have been looking to extend the performance horizon over which decision-makers are compensated and to expand the criteria used to measure performance. Based on metrics such as those described above, institutions have been looking to create compensation systems that would align the interests of the fund manager with the long-term interests of the fund.

Our conversations with investors suggest that many have been moving towards compensation systems that include clawback arrangements, in which a percentage of each bonus is put into an escrow account and subjected to a haircut in the event of poor performance within a given period. Another approach under consideration has been placing the employee's bonuses into a "parallel portfolio" that invests alongside the main fund, ensuring the employee is exposed to similar risks.

The implementation of such changes is regarded as important for two reasons. First, the widespread use of such a system could encourage employees to take a longer-term view than in the past. Second, it could ensure that the organization recruits staff who plan to take a longer-term view on their career.

These changes, while important, are only a step in the process and additional work is being done in order to better align compensation schemes with long-term investing.

### iv. External management

An important trend among more established long-term investors has been the shift towards managing investment portfolios inside the institution.

There seem to be three fundamental drivers to this trend. First, there is increasing recognition that the interests of the institution and the interests of their external managers were not always aligned. This is most evident in relation to time horizons.

A private equity fund manager, for example, might be working within an environment which demands that an investment is sold to realize value within, say, seven years, whereas the long-term investors in the fund might be happier to maximize value over a longer holding period.

Second, the liquidity profile of externally managed funds often confounded investor expectations. For example, some hedge fund strategies that looked relatively liquid to the end-investor turned out to be very difficult to trade out of during the crisis due to redemption preventions on the part of external managers. Investors that had regarded these investments as part of their liquidity buffer were left looking elsewhere for liquidity.

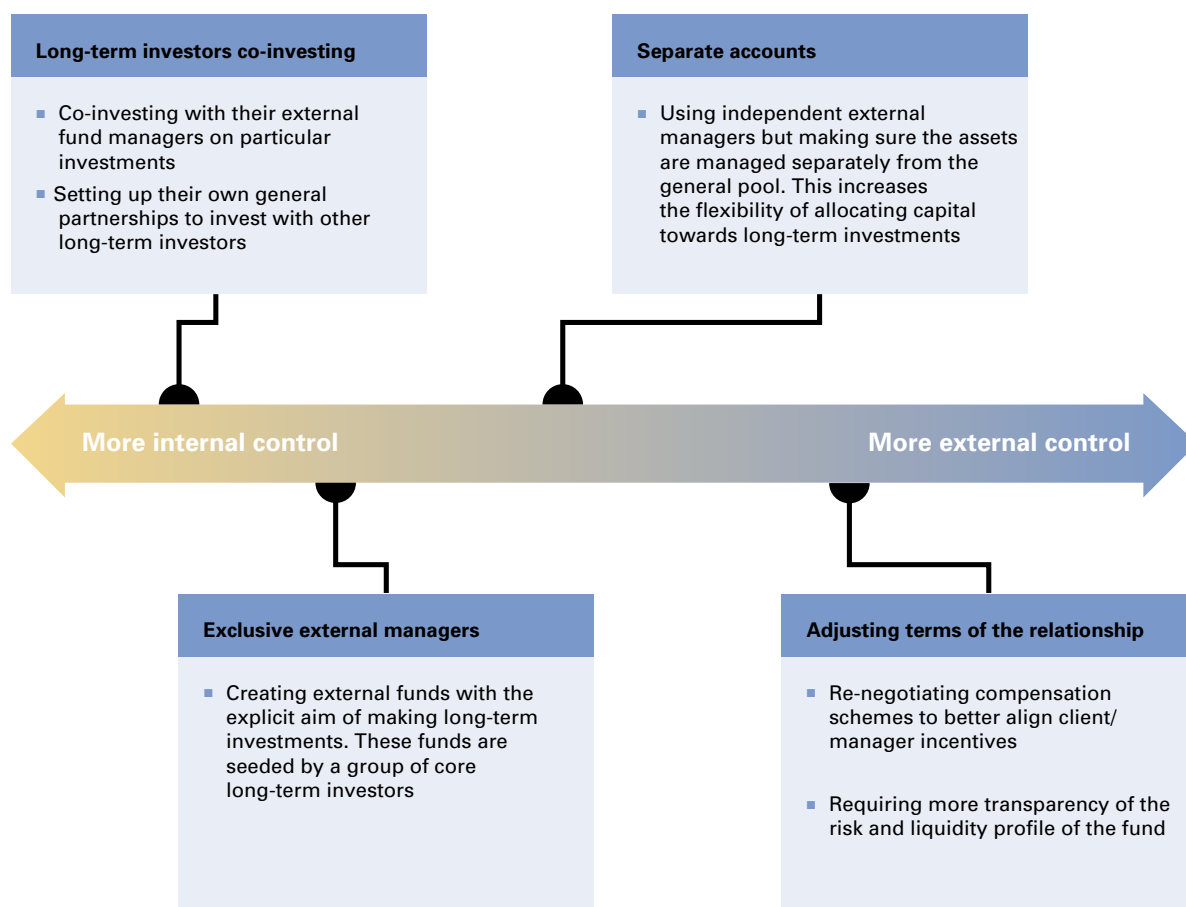
Finally, there is some concern that external managers with unallocated capital might be incentivized to sub-optimally put this capital to work rather than return it to the investors. This is a particular challenge now as many firms are still sitting on capital that was raised prior to the crisis.

Institutions have therefore been trying to find the right balance between taking investment decisions internally and outsourcing them to external, professional fund managers. For those institutions with the capacity to do so, the hope has been that managing investment portfolios in-house will give them much more control over the liquidity profile and time horizon of investments. Even some funds in the US public pension sector, which historically invest via third-party managers, have been moving business in-house.

While managing funds in-house is theoretically of interest, many investors have pointed out that there are significant operational risks to overcome and making this transition for most institutions might fall into the "penny wise, pound foolish" category.

Other funds have continued to use external managers but reshaping the relationship with them as demonstrated in Figure 13, e.g. by creating hybrid structures that take advantage of the expertise and market access of external managers while maintaining some of the control and flexibility of internally managed assets.

**Figure 13:**  
Long-term investors have been rethinking their relationship with external fund managers



### Box 8 Direct Investing Opportunities and Costs—Literature Review

There is today considerable evidence of both the potential opportunities and the drawbacks to direct investing, whether the investment is direct or takes the form of a co-investment with external fund managers.

First, the literature suggests that there is a very substantial gap between gross and net returns from alternative investing. This makes co-investments an attractive option, compared to traditional external management because they are typically executed on a no-fee basis or with sharply reduced fees.

For instance, Gottschalg and Phalippou (2009) estimate that gross of fees and carry, buyout funds outperform the S&P 500 by 3% per year. Net of fees and carry, however, they underperform by 3% per year. This implies

an investment cost of 6% per year. A 6% annual return gap results in a 13-fold difference in end-of-horizon wealth after 50 years—the kind of difference that cannot be ignored by investors with long horizons.

Metrick and Yasuda (2010) also calculate the magnitude of the fees earned by general partners of buyout and venture funds. They estimate, based on 240 mid- and large-sized funds raised in the mid 2000s, the average net present value of the typical payment received per partner per fund. They find that for venture funds, the average is US\$ 17 million; for buyout funds, US\$ 33 million. Since private equity groups raise funds very frequently (18 months to 3 years during this period), these payments represent a huge wealth transfer from the limited to the general partners.

The conclusion from these and related studies is that general partners are skilled enough in deal selection to generate attractive gross returns. However, due to a variety of factors, the industry has been organized so that most the rents (profits) from these skills go to the fund managers themselves, rather than to the limited partners. To the extent that co-investment programmes allow institutions to generate the returns from general partners' skills without the burden of fees, they clearly represent an attractive strategy.

However, the potential attractions must be weighed against the fact that general partners have better information about their investment portfolio than limited partners. Because limited partners typically have limited deal-level due diligence capabilities, they might end up investing only in the below-average deals.

Numerous examples exist of institutions, including some very adept limited partners, stumbling badly with co-investment programmes. In some instances, they have generated far lower returns on their co-investments than

would be anticipated, had they simply invested in a random assortment of their partners' deals.

The literature hints at other problems with co-investment programmes. Bernstein, Lerner and Schoar (2009) look at nearly 3,000 investments by sovereign wealth funds, the bulk of which are direct private equity investments. They show that sovereign funds do more poorly in their domestic investments than international ones. These patterns are particularly strong for those groups with a large presence of political leaders on the investment committee. These groups are more likely to invest domestically, in "icon" industries at a time when there has been a substantial run-up in stock prices already, and just before market downturns.

In summary, there is a powerful motivation for co-investments, based on the substantial fees charged by alternative investment groups. But the anecdotal and academic literature also suggests that this strategy is not a simple one, and investors have often stumbled in their attempt to implement a co-investment strategy.

#### D. Institutional culture may be the key

Long-term investors have also been considering the softer people-oriented changes such as those regarding stability, dialogue and team dynamics. One interviewee mentioned, "I keep my team relatively small and short-term compensation below private fund managers to ensure that everyone knows each other and that the reason people are here is because they buy in to what we are trying to do."<sup>43</sup>

Institutions are recognizing that their trustees, chief investment officers and employees are advantaged by staying with the fund through at least an entire business cycle if they are hoping to think long-term and begin to see the true results of their work. As discussed in section I of this report, the tenure of many key decision-makers is significantly shorter than one business cycle.

We mentioned earlier that there is a push to increase dialogue and involve trustees, stakeholders and beneficiaries in the development of investment

beliefs and fund risk appetites. The wider goal is to ensure that all involved believe in what the fund is trying to accomplish, that any differences of opinion are brought out in the open before a time of market stress, and that the fund's short-term reporting is contextualized within a more complete investment philosophy and measurement system. Meanwhile, stakeholders can provide a feedback loop to decision-makers: Is the decision-making process regarded as robust and are trustees, beneficiaries and opinion formers comfortable with the level of risk?

### Changing investment strategies

In addition to revisiting their investment framework and governance process, investors have been seeking to build:

- investment strategies that take better account of liquidity requirements
- asset allocation frameworks that better capture the fundamental drivers of risk and return

<sup>43</sup> Based on confidential interviews conducted over the course of the project.

However, due to the market swings of the last few years, the advanced thinking on some of these topics only really began during 2010, and new ideas as well as relevant methods of implementation are still emerging.

### A. New approaches to liquidity management

The big lesson from the crisis for many long-term investors was that liquidity management must be incorporated more explicitly into an overall investment strategy and asset allocation framework.

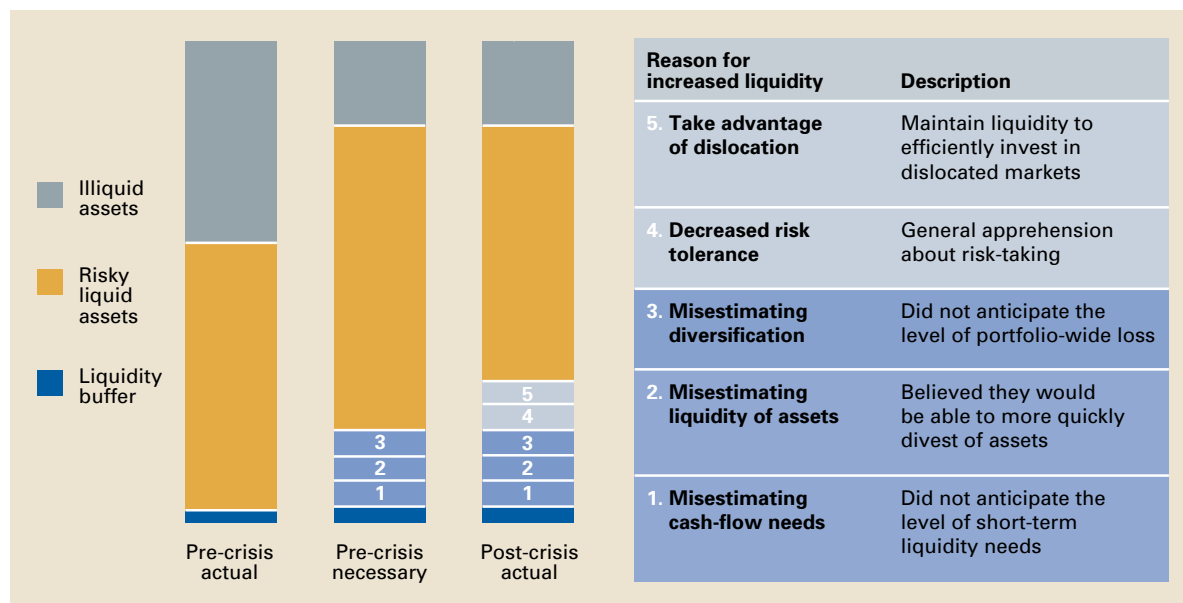
During the crisis, some long-term investors were forced to make suboptimal investment decisions when the available liquidity in their portfolio was insufficient to meet liquidity needs. One reason for this was that they did not accurately anticipate their cash flow, either due to insufficient funding from sponsors or the increased requirements of beneficiaries, external managers or counterparties. Additionally, the market dried up for those assets that might have been considered part of a liquidity buffer, forcing institutions that needed to sell to do so at a deep discount to the asset's perceived fundamental value. Finally, investors expected that diversification would prevent all assets from simultaneously dropping significantly below their perceived value and that assets which did not lose their value could be sold to meet short-term

obligations; instead, investors were faced with high degrees of asset correlation that limited the benefits of this strategy. Increasingly, many long-term investors are likely to allocate a greater proportion of their assets to safe, liquid investments such as cash or high-grade bonds.

In addition to increasing liquidity in their portfolios in response to pre-crisis errors, a subset of long-term investors have been increasing their liquidity beyond that which would have been necessary to weather the crisis. Some investors, either because of external pressures or a change in institutional appetite, have become more conservative. As a result, they have been increasing their liquidity to account for market volatility potentially even more extreme than existed during the crisis. Additionally, a small group of long-term investors have been increasing their liquidity beyond the level necessary to fund their short-term liabilities in order to take advantage of future market dislocations. This capital is positioned to more efficiently take advantage of some of the discounts in valuations that might exist during any future crisis.

Figure 14 presents the reasons why long-term investors have increased the liquidity of their portfolio, distinguishing between reasons based on misestimations prior to the crisis and strategic changes made after the crisis.

**Figure 14:**  
Pre- and post-crisis liquidity allocation  
*Illustrative example*





## B. Emerging approaches to asset allocation

Before the crisis, many investors increased the number of asset classes in their portfolio believing that this would provide diversification benefits and boost risk-adjusted returns. However, the financial crisis highlighted that these asset classes may in fact be correlated during economic downturns. The result has been a shift by long-term investors towards new, more risk-focused asset allocation frameworks that potentially better capture diversification benefits. Going forward, many long-term investors are likely to use a selection of these approaches in conjunction with more traditional techniques. They hope that triangulating between approaches will give them a better and more flexible perspective.

In many ways, the initial focus on diversification emulated an investment approach that had helped leading long-term investors, such as the Harvard and Yale endowments, emerge successfully from the stock market downturn of 2000–2002. Their example suggested that a strategy of diversifying into a broad range of non-traditional assets, such

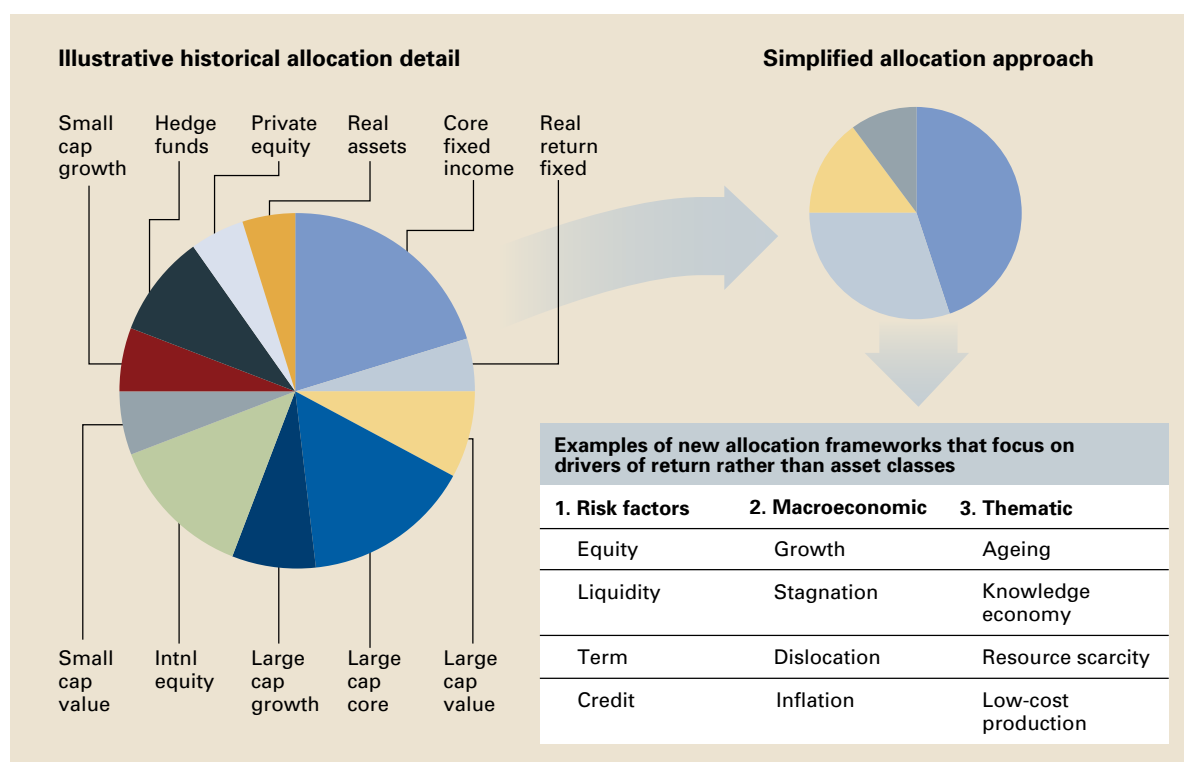
as emerging market equity and debt, private equity, commodities, real estate and forestry, could give investors both higher returns and lower risk than a traditional portfolio.

However, during the more recent crisis, most of the assets that were assumed to offer diversification benefits turned out to be significantly correlated at a time of market stress—both with each other and with more traditional asset classes such as large cap equity.

Many investors felt the pre-crisis emphasis on asset categories focused their attention on choosing more granular asset-class buckets, limiting their insight into the underlying drivers of risk and return in their portfolios. Meanwhile, the stable returns promised by well-diversified portfolios led them to underestimate the reserves of liquid assets they might need to call upon in a crisis and to put an undue proportion of their capital into risky assets. Investors have therefore been keen to find ways of thinking about the sources of risk and return without micromanaging the asset allocation through over-precise modelling and over-involved decision-making.

**Figure 15:**

Many long-term investors have been transitioning from a granular to a simplified asset allocation





Instead, they want to understand how each asset relates to more fundamental drivers of risk and return, and how these drivers interact. This has been leading investors to focus on simplified, less granular asset allocation frameworks that highlight the key drivers of return, such as risk factors, macroeconomic conditions or economics themes (Figure 15).

Even institutions that have not been changing their asset allocation approach have been systematically bringing together individuals from their various investment groups to pool knowledge about risks and opportunities across the portfolio.

### i. Risk-factor allocation

This approach is based on the belief that the risk and return in most asset classes is driven by a small set of risk factors including equity, liquidity, term and credit, and that these risks are significantly less correlated than traditional asset class buckets, especially in turbulent markets. Figure 16 is illustrative of the relationship between asset classes and risk factors, although it is not meant to capture all of the risk factors embedded in certain assets or to be an exact calculation of the risk premia associated with the risk factors shown. For instance, private equity can generate returns

from both an equity risk premium and a liquidity risk premium.

Ideally, the investor would gain a desired level of exposure to each of these risk/return drivers by holding assets sensitive to the relevant risk factors.

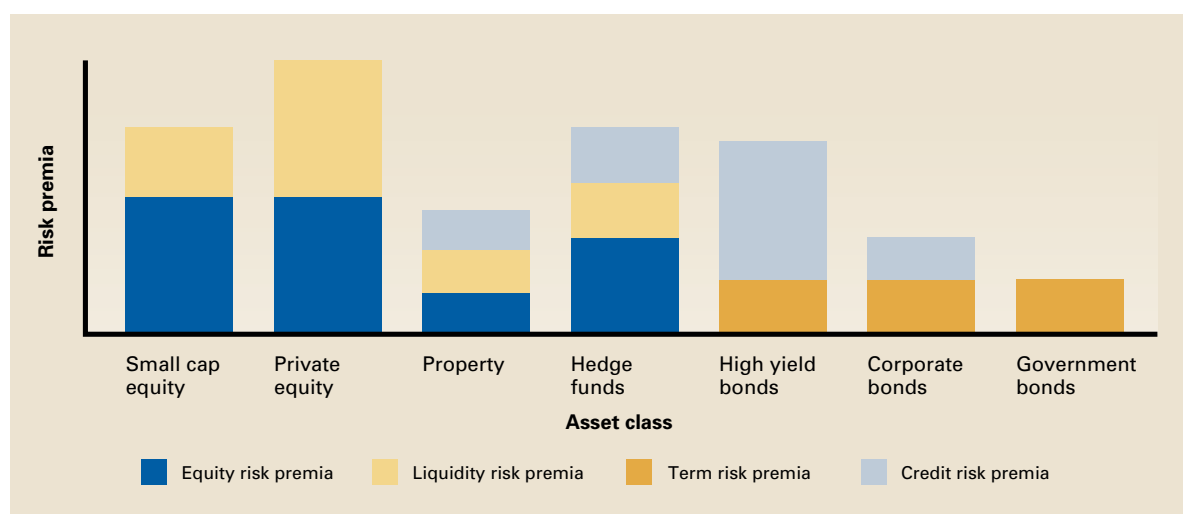
The key difference to traditional investing strategies is that asset types are viewed here strictly as ways of accessing the key underlying risk and return factors. Funds would be allocated in the first instance to risk factors, rather than asset categories, and performance would be tracked against risk-factor benchmarks rather than in terms of the degree of deviance from standard market indices such as the S&P 500.

### ii. Macroeconomic allocation

Using this framework, the investor first determines which types of investment are likely to provide attractive returns under a given range of future economic scenarios, such as high economic growth, stagnation, broad economic dislocation and inflation.

The investor can then devise a “steady state” allocation that protects the portfolio from overexposure to any one macroeconomic outlook. However, the investor can also weight the steady state allocation in particular directions as their perceptions of the situation and of macroeconomic drivers change over time.

**Figure 16:**  
Illustrative relationship between asset classes and risk premia



Source: Schroders, Oliver Wyman analysis

### iii. Thematic allocation

Long-term investors can use point-in-time risks, those relating to the uncertain likelihood and timing of a coming event or economic trend, as explicit drivers of their asset allocation framework in order to isolate themes and secular trends that, over the longer term, should help to drive both risk and return. For example, the fund manager could allocate investment to themes such as renewable energy, ageing populations in developed economies, or scarcity of key commodities. Again, the themes override any asset allocation categories. An investor trying to take advantage of resource scarcity might purchase the actual commodity, a futures contract or public shares of a resources company. The investor might also make an illiquid investment in a mine and buy government bonds of a country that is resource rich. Traditionally, those investments would be viewed as five distinct asset classes; here, they represent one bet on a single theme.

### iv. Tactical implementation of asset allocation approaches

Some long-term investors believe that asset classes and, more importantly, risk factors are valued differently at the different points of the economic cycle for reasons that have more to do

with the vagaries of investor demand than with the long-term performance of the asset class. The implication is that, over time, each asset class can be expected to revert to its long-term mean. Long-term investors can take advantage of this by tilting their allocations towards those assets that are undervalued and away from those assets that are overvalued.

A tilting allocation has become more prevalent among long-term investors. It represents a natural extension of a general trend in asset allocation frameworks to take into account longer economic and business cycles.

Providing flexibility to managers that would enable them to significantly stray from the target benchmarks requires a significant amount of trust in the investment manager, long investment horizons and advanced governance processes because:

- historically it has taken asset classes several years to revert back to their historical mean
- it is difficult to assess the performance of tilting portfolios as there is no neutral portfolio against which to benchmark performance

This approach also demands that part of the portfolio is kept in liquid assets so that the investment manager can take advantage of undervaluations as they develop.

In a parallel development, some long-term

## Box 9 Tilting towards Informational Advantage—Literature Review

An alternative to tilting in response to historical trends is to tilt investment towards classes of investments where the investor has reason to think they enjoy an informational advantage. Lerner, Schoar and Wongsunwai (2007) highlight how learning and adjusting a portfolio in response to useful information, as opposed to rigid adherence to policy, can lead to superior performance. The paper looks at the different returns that institutional investors realize from private equity investments and how these differ across classes of limited

partners. They find that endowments' annual returns are nearly 14% greater than the average in their sample. The likely key mechanism in distinguishing this group, they find, is that endowments proactively use information obtained as an investor. Other classes of limited partners appear less willing or able to use this same information. For example, a rigid adherence to policies, rapid management turnover and inflexible oversight by an investment committee might all be detrimental to the returns achieved by the investor.

investors have been making a more aggressive use of scenario analysis, particularly to manage for tail-risk events. This is driven by the belief that a new environment has developed following the global financial crisis where economic outcomes will follow a less predictable path and worst-case outcomes happen more often. Some investors have been setting up committees to track the macroeconomic environment and look for indications of tail-risk events, using these judgments to help make their investment decisions.

Finally, some long-term investors have been looking to take larger stakes in fewer investments and play a more active role in their corporate governance. These institutions believe that having a smaller number of investments allows them to better understand the particular risks effecting each investment and better decide whether they are willing and able to accept those risks.

Box 9 looks at another kind of tilting strategy in which investment is tilted towards assets where investors feel they enjoy some kind of informational advantage over others.

### C. Investing in broader asset classes and employing new approaches

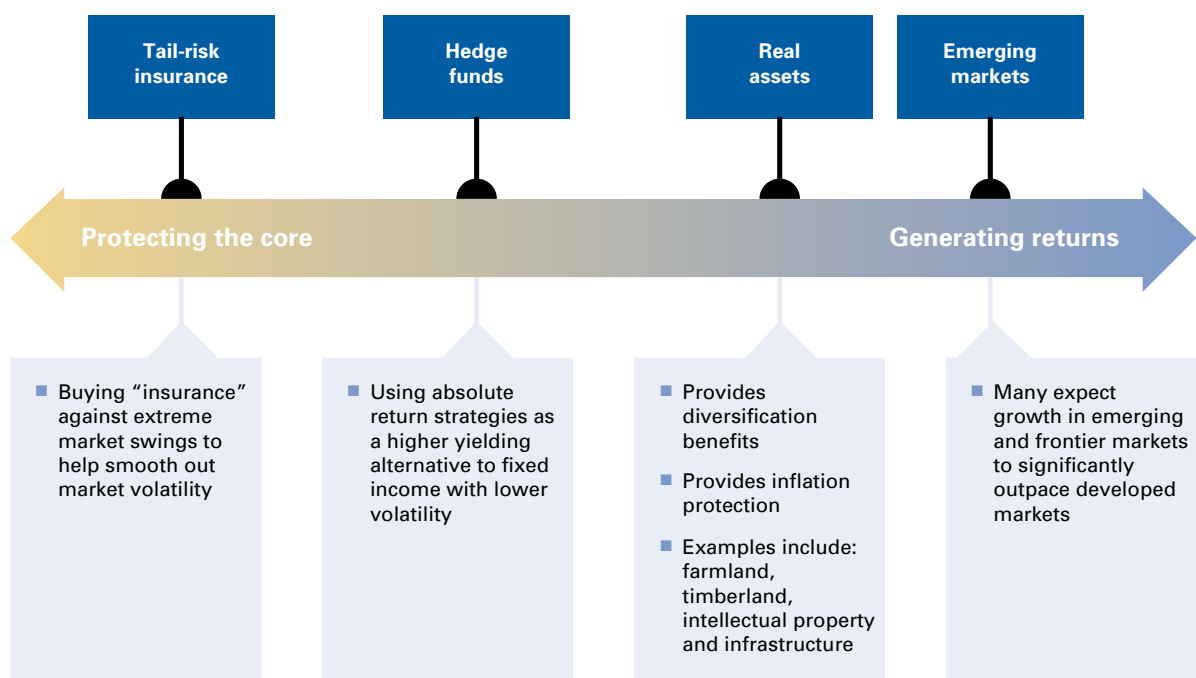
As an extension of the renewed focus on risk management and asset allocation frameworks, institutions have been considering whether certain asset classes might help them to strike the right balance in their portfolio between risk and return. Figure 17 positions some of these asset classes that have gained increased attention post-crises along a spectrum from generating returns in growth markets to protecting core capital from downside risks.

#### i. Role of emerging markets

There is a significant debate within the investor community about the role of emerging markets in a long-term investment portfolio.

On the one hand, many investors point out that outsized growth, and therefore the ability to generate above-market returns, will likely come from emerging markets over the long term as GDP

**Figure 17:**  
Role of select asset classes that have gained attention in the aftermath of the crisis



growth in those countries is expected to grow more rapidly than the OECD countries.

According to one study, over 40% of defined benefit pension plans have stated that they intend to increase their allocation to emerging markets equity<sup>44</sup> with one fund allocating up to 80% of their portfolio to emerging markets. One example of this trend is the investment in a Brazilian investment bank by three of the world's largest sovereign wealth funds, a few family offices and a large public pension fund.<sup>45</sup> This investment is also indicative of the push for long-term investors to co-invest together and pursue strategic stakes in their investee companies.

On the other hand, certain investors believe that emerging markets have become a crowded trade. Investors of almost every kind are looking to the emerging markets as a potential source of outsized returns and some are growing concerned that there are not enough good, sizeable, liquid investment opportunities to accommodate their capital.

## ii. Real assets as inflation hedges

A key mandate of many long-term investors is maintaining or growing the purchasing power of their assets, which means protecting their investment portfolio from inflation. Some investors believe that the value of certain real assets moves in line with inflation. Additionally, real assets seem likely to hold their economic value in the face of any upheavals in currencies—potentially important in the current environment.

Some real assets have held a favoured place in long-term investing portfolios for decades, including commodities (e.g. oil, gold, etc.), real estate and timber. However, investors have been exploring a new set of real asset classes including infrastructure, farmland and intangible assets such as intellectual property. Some of these assets, such as infrastructure, are particularly interesting to pension funds and life insurers that need to match

assets against very long-term defined liabilities. The debt instruments that these investors use to closely match liabilities are not usually available with maturities longer than 15 or 20 years. They have been exploring whether they can set up investment structures that capture the stable part of the cash flow of certain infrastructure projects while channelling the riskier cash flows to other investors.

In addition to real assets, there are some investments that have an explicit financially engineered inflation link. Unfortunately, the number and nature of these products is fairly limited. Typically, inflation-linked assets are government bonds offering low rates of return, making them unattractive to institutions with a mandate to generate high levels of return over the long term. As a result, some investors think the answer will lie in new classes of higher yielding debt that also contain an inflation-linked guarantee. Examples could include infrastructure bonds or a real-estate loans that generate a return higher than the risk-free rate and reset with inflation.

## iii. Hedge funds and portfolio protection

There are also signs that long-term investors have become more interested in select hedge funds for three interrelated reasons. Many investors require “alpha,” or investment-specific returns, in light of the lower returns that are expected from the general market that will likely not meet their return targets. In addition, some investors have begun to treat certain hedge funds as a lower risk and lower volatility alternative to fixed income where returns will be steady, but higher than the fixed income alternative. Finally, some investors view their hedge fund investments as a dampener on the overall volatility of the portfolio, a concern that has become more acute in light of the crisis.

Additionally, some long-term investors have become interested in the role of “tail-risk” funds that can provide downside protection for their portfolios at times of extreme market volatility and help to smooth out the fund return profile. In one recent survey, over 90% of US public pension funds claimed that they needed more downside

44 *Pyramis 2010 Global Defined Benefit Survey*

45 BTG Pactual, 2010

protection.<sup>46</sup> Interest in tail-risk funds, however, has not been universal. Some family offices, for example, say that tail-risk funds demonstrate a concern about short-term volatility that is inappropriate for investors that have a truly long-term perspective.

#### iv. Sustainable investing

As discussed in section II of the report, many long-term investors are, to some degree, “universal” owners, meaning that their returns are inextricably linked with long-term global economic growth. As a result, many long-term investors are realizing that it is crucial for them to consider long-term environmental, social and governance (ESG) issues. The World Economic Forum’s “Sustainable investing” project brought together long-term investors, fund managers and leaders of industry to discuss the importance and impact of sustainable investing. One of the interesting findings of this work was how many institutions across the investment value chain who had not previously considered ESG criteria are making a concerted effort to integrate these criteria into their investment decision-making.<sup>47</sup>

### Aggregate impact of long-term investor trends

Two key factors determine the overall availability of long-term capital from institutional investors: the amount of assets under their control, and the constraints they face in making their investments.

Pension funds and life insurers, noted earlier as the largest and most constrained long-term investors, have tended to become more constrained. The least constrained investors—albeit the smallest ones by assets under management—have been growing more rapidly. Table 9 summarizes this bifurcated picture, illustrating how the investing capacity of each type of long-term investor has

been affected by both changes in assets under management and post-crisis constraints.

The decline in long-term investing by defined benefit pension fund investors has been driven by:

- the global shift in the developed world from defined benefit to defined contribution styles of pension provision
- the maturing of defined benefit pension funds reflecting the closure of schemes and the ageing of defined benefit memberships
- the sale of corporate pension funds to third parties buy-out specialists who usually drive down pension fund risks and reduce long-term investing

However, just as important is the effect of regulatory-driven constraints on the proportion of pension assets under management that can be directed towards long-term investing. Mark-to-market accounting and pension regulations, combined with a general fall in pension sponsor appetite for pension fund risk, are pushing pension fund managers away from long-term investing and away from equities more generally.<sup>48</sup>

If international pension funds follow the trajectory of the United Kingdom’s pension funds, which have led the charge on minimum funding rules, mark-to-market accounting and more closely matching assets and liabilities (Figure 18), then there is the potential for a significant shift out of the equity markets over the next decade.

The shift towards mark-to-market accounting is only one half of the regulatory and accounting pressures facing defined benefit pension funds. For instance, the European Commission has discussed extending Solvency II capital requirements to pension funds.<sup>49</sup> This would

48 For instance, the current proposal of the IASB (Exposure Draft on IAS 19, April 2010) would abolish the existing option of smoothing the effect of unrealized losses and gains in the balance sheet of the sponsoring company to defined benefit pension plans. As referenced in The Eurofi Financial Forum 2010

49 Solvency II is an updated and expanded version of the Solvency I regulatory requirements for insurance firms in the European Union. It involves a broader and more fundamental review of insurance firms’ financial positions, looking at the overall financial position of an insurance undertaking and taking into account current developments in insurance, risk management,

46 *Pyramis 2010 Global Defined Benefit Survey*

47 *Accelerating the transition towards sustainable investing*. Expected publication 2011. New York: World Economic Forum USA Inc.

**Table 9:**  
Drivers of future long-term investing capacity

Institution	Expected change in AUM		Impact of emerging constraints
<b>Family offices</b> (US\$ 1.2 trillion)	↑	<ul style="list-style-type: none"> <li>▪ Sales of family business</li> <li>▪ Increasing wealth of HNW families</li> </ul>	↔ <ul style="list-style-type: none"> <li>▪ Reducing appetite for investments with uncertain long-term outcomes</li> </ul>
<b>Endowment/ Foundations</b> (US\$ 1.3 trillion)	↑	<ul style="list-style-type: none"> <li>▪ Increasing donations from HNW families</li> </ul>	↔ <ul style="list-style-type: none"> <li>▪ Increasing pressure from trustees and beneficiaries resulting in a movement away from illiquid investments</li> </ul>
<b>Sovereign wealth funds</b> (US\$ 3.1 trillion)	↑	<ul style="list-style-type: none"> <li>▪ Excess reserves and account surpluses continue to be transferred to SWFs</li> <li>▪ Numerous countries have expressed interest in creating a SWF</li> </ul>	↔ <ul style="list-style-type: none"> <li>▪ Pre-crisis movement into riskier and illiquid investments has slowed down</li> </ul>
<b>Defined benefit pension funds</b> (US\$ 11 trillion)	↓	<ul style="list-style-type: none"> <li>▪ Shift from defined benefit plans via plan closing, sales and increase in defined contribution</li> <li>▪ Ageing populations in countries with established pension systems increases payouts</li> </ul>	↓ <ul style="list-style-type: none"> <li>▪ Trend towards mark-to-market accounting</li> <li>▪ Stricter funding and solvency requirements</li> <li>▪ Decreased sponsor appetite for pension volatility</li> <li>▪ Maturing liabilities</li> </ul>
<b>Life insurers</b> (US\$ 11 trillion)	↔	<ul style="list-style-type: none"> <li>▪ Increased wealth, in particular in emerging markets, will increase assets</li> <li>▪ Ageing population will increase payouts</li> </ul>	↓ <ul style="list-style-type: none"> <li>▪ Emerging regulation, including Solvency II discourages longer-term risky investments</li> </ul>

Positive for long-term investing
  Moderate for long-term investing
  Negative for long-term investing



Increase in long-term investing



Decrease in long-term investing

require pension funds to survive a 1-in-200 year solvency event, equivalent to a one-year drop in the value of public equities of up to 45% and a drop of 55% for private equity. As a result, pension funds would further de-risk and move a much larger percentage of their assets into cash and fixed income.<sup>50</sup> To maintain the traditional 60% allocation to equities and 40% allocation to debt, these funds would need to increase their capital reserves by about 30%. Although the proposal

has not yet been approved and could not be implemented for another few years, it has already led one pension fund to raise its allocation to cash from 3% to 16% of the portfolio.<sup>51</sup> As one major pension fund manager mentioned: “Solvency II will reduce pension companies’ ability to invest freely. The authorities’ demand for tighter risk management restricts our ability to invest in assets that can achieve better long-term returns. We see bleak prospects for the traditional pension achieving a sensible long-term return from its investments. The price of peace of mind is now extremely high.”<sup>52</sup>

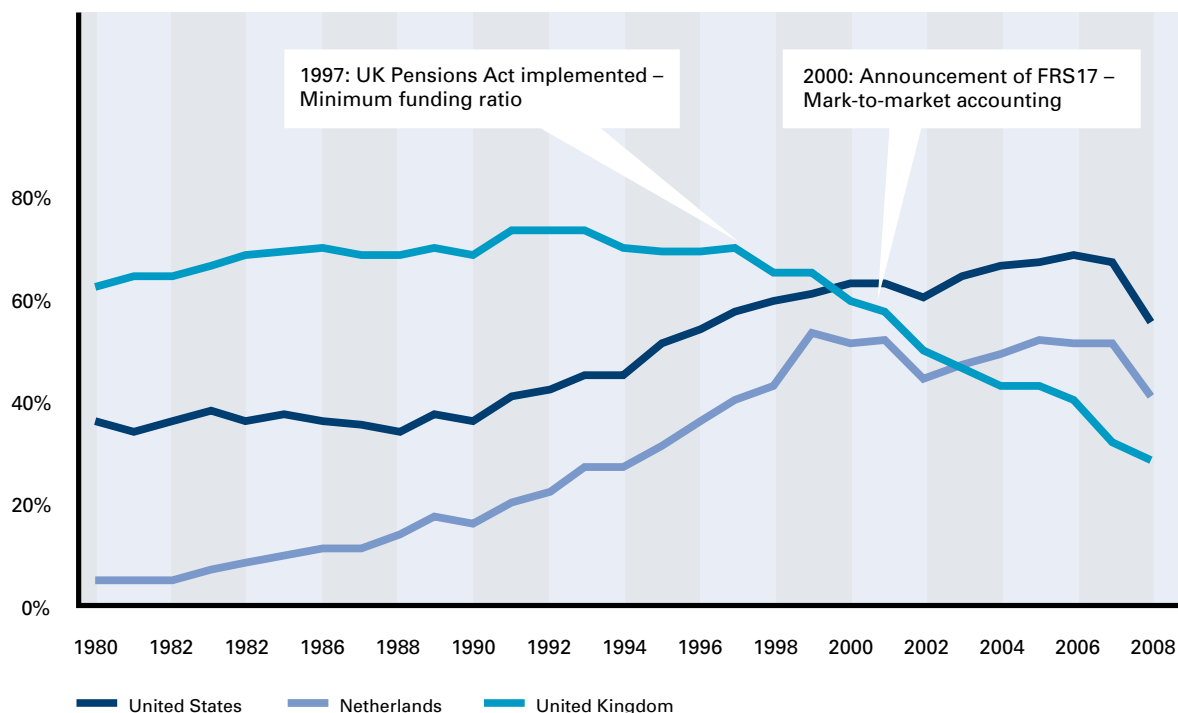
finance techniques, international financial reporting and prudential standards, etc. The reform is meant to ensure consumer protection through solvency capital requirements and to deepen market integration by requiring that European insurers take all types of risk into account and manage those risks more effectively.

<sup>50</sup> A quantitative assessment of the impact of Solvency II on funding ratios and asset allocation was performed by the OECD in 2008. Peek, Reuss and Scheuenstuhl (2008)

<sup>51</sup> Finland’s Suomi Mutual Life Assurance Company, as referenced in Hutchings (2010)

<sup>52</sup> Steen Jorgenson, a director of FSP Pension, as referenced in Hutchings (2010)

**Figure 18:**  
Pension fund exposure to equities  
(% of total assets)



Source: OECD, Oliver Wyman analysis

The life insurance industry offers a mixed picture. Assets under management are likely to increase, partly because of the rising wealth and increased adoption of life insurance by the growing middle classes of developing economies over the next decade. However, as with the pension industry, Solvency II and other regulations will discourage life insurers from making longer-term, risky investments in illiquid markets.

The picture is more positive among family offices, endowments and foundations and selected sovereign wealth funds. We estimate that these entities presently contribute about 50% of global funds available for long-term investing, and that this percentage is likely to rise over the next decade. The volume of long-term investing from these entities is likely to rise in absolute terms and because long-term investment from the pensions industry will become proportionately less important.

Family offices will certainly benefit from the increasing wealth of high net worth families around the world. Industry experts anticipate a

generational effect as family businesses are sold off and the assets are directed towards portfolio investing through family offices. In addition, some ultra-high net worth individuals have begun to move money from large financial institutions into single- or multi-family offices. Meanwhile, many family offices that undertake long-term investing seem to have taken a relatively sanguine attitude to the recent financial crisis. They shifted some investments into safer asset-classes during the crisis; however, their longer-term risk appetite seems broadly steady.

Certain endowments and foundations had a more unsettling time during the crisis. Some emerged with reputations strengthened, while others have had to adjust the way in which they assess their liquidity profile and risk appetite. We judge this segment to be expressing a slightly lower risk appetite overall—in particular, the newer, smaller generation of endowments and foundations have taken a step back from aggressive long-term investing. However, this has been offset by a more aggressive and sophisticated attitude to long-term

investing from selected, usually larger and longer-established, funds. Perhaps more importantly, there has been a recent growth in the creation of foundations and in major donations to endowments that are likely to pursue long-term investing.

Sovereign wealth funds are a growing sector and will likely become the largest contributor of long-term capital. This growth will come from both the number of new funds and the increase in assets under management at existing funds with some commentators predicting that the sector will more than double in size over the next five years.<sup>53</sup> New assets will come from the transfer of some of the excess reserves held by countries that currently have sovereign wealth funds and from new emerging funds being established by many countries.

The potential risk appetite exhibited by these sovereign wealth funds, however, is a more nuanced story. Overall the financial crisis has led to sovereign wealth funds having a slightly lower risk appetite and has led individual funds to think much more carefully about their specific mandates and the implications for risk appetite, and therefore long-term investing. The pre-crisis

trend for sovereign wealth funds to drift towards an emulation of the most aggressive funds, in terms of both returns targets and risk appetite, has now reversed across the more conservative segment of sovereign wealth funds.

Changes in assets under management and in constraints to investment decisions have altered the landscape of long-term investing. Historically, life insurers and pension funds have been the dominant providers of long-term capital in the market, but other long-term investors, including family offices, endowments, foundations and sovereign wealth funds, are continuing to gain in importance.

The need for long-term investors to provide liquidity and accountability to the markets and to finance infrastructure and clean energy is great. However, as the overall capacity for long-term investing is diminishing, ensuring an adequate supply of long-term capital is a crucial issue. To help address some of these concerns we provide six recommendations in the following section that can help ease the constraints on long-term investing and increase the benefits that flow from it.



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## **SECTION IV**

# Recommendations

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## SECTION IV Recommendations

The following recommendations, developed by the steering committee of the “Long-term Investing” project, are intended to inform the decision-making of both policy-makers and long-term investors. These six recommendations—summarized in table 10—are intended to ease the constraints on long-term investing and increase the benefits that flow from it.

**Table 10:**  
Recommendations

	Policy-makers	Long-term investors
<b>Reduce constraints to making long-term investments</b>	<ol style="list-style-type: none"> <li>1. Policy-makers should consider the unintended impact of regulatory decisions on investor ability to make long-term investments</li> <li>2. Policy-makers should mitigate the impact of capital protectionism on long-term investors</li> </ol>	<ol style="list-style-type: none"> <li>3. Long-term investors should develop performance measurement systems that balance fostering a long-term perspective with short-term accountability</li> <li>4. Long-term investors should implement compensation systems that better align stakeholders with the long-term mandate</li> <li>5. Long-term investors should promote among stakeholders a better understanding of the implications of a long-term investing strategy</li> </ol>
<b>Increase positive impact of a long-term investing strategy</b>	<ol style="list-style-type: none"> <li>6. More engaged ownership by shareholders of public companies should be encouraged by policy-makers and long-term investors</li> </ol>	

### Policy-makers: Consider the broader impact of regulatory solutions

Recent regulatory action such as the increasing use of mark-to-market accounting, stricter funding and solvency requirements, and barriers to international capital flows have been introduced to protect beneficiaries and provide market stability. Yet, by not distinguishing between those investors with short-term liability profiles and those with long-term ones, these moves have had unintended consequences for long-term investors and, in turn, financial markets and the economy more broadly. Our recommendations here focus on two issues:

#### **1** Policy-makers should consider the unintended impact of regulatory decisions on investor ability to make long-term investments

Regulators are responsible for ensuring that institutions with contractual obligations, such as life insurers and pension funds, are managed in a sound, responsible and transparent manner. However, new rules intending to promote stability may have unintended consequences that constrain the ability of these investors to make long-term investments, regardless of the term of their liabilities. Mark-to-market accounting, for instance, may encourage investors to focus on near-term

changes in market value, rather than the long-term prospects of an investment. Stricter capital requirements may require investors to hold less risky assets and thus not take advantage of long-term risk premia.

Hence the rules intended to promote transparency and appropriate risk management have a potential inadvertent cost. Long-term investors will generate lower returns due to higher risk aversion than necessitated by their liability structures, and there will be a reduction in the availability of long-term capital. The implications of these regulatory decisions deserve further investigation in order to understand their full impact not only to long-term investors and their beneficiaries but also the costs over time to the broader economy.

Policy-makers may wish to consider alternative solutions that maintain prudent management for the protection of customers/beneficiaries while mitigating the unnecessary costs. One potential solution would be to allow institutions to differentiate between assets that fund short-term obligations and those that fund long-term liabilities. Hence, mark-to-market accounting and a strict solvency regime might be appropriate for the short-term portion of an institution's liabilities, while more flexible approaches could be adopted for its long-term portion.

## **2 Policy-makers should mitigate the impact of capital protectionism on long-term investors**

Particularly since the Asian financial crisis of the late 1990s, many countries have become wary about the nature and extent of investment capital flowing in and out of their economies. The worry some policy-makers have is that “hot money” flows in too quickly as economies begin to overheat, creating an asset bubble, and then capital flows out again very rapidly in the event of a market or currency dislocation, causing the bubble to burst. The response by some countries has been to impose limits on capital inflows from foreign investors. In addition to concerns about “hot money”, some countries have employed capital controls for particular investments that they consider strategic such as ports, railroads and natural resources. These

investments are particularly appropriate for long-term investments.

While this is not the forum for a broad discussion about the merits or demerits of capital protectionism and we do not take a view on that more general topic, we want to point out its potential impact on long-term investors.

Capital limits do not distinguish between investor types but have the effect of discouraging cross-border long-term investments—the kind of creative, patient capital that economies require for stable, long-term economic growth. Long-term investors, meanwhile, want to invest around the world to optimize their returns and increase their portfolio diversification. Therefore, the efficient global allocation of long-term capital can benefit all parties.

To better understand these issues, a closer dialogue will be necessary between policy-makers in recipient countries and international long-term investors. If restrictions are imposed on cross-border investments, policy-makers could differentiate between types of investor and types of projects. Furthermore, regulators may wish to establish regulatory and tax frameworks to facilitate long-term investment by suppliers of long-term capital such as sovereign wealth funds without imposing onerous terms and conditions.

## **Long-term investors: Align decision-making structures with long-term mandates**

One of the clearest findings of the report is that institutions must make sure their investment framework and governance processes are aligned with their obligations and their long-term investing mandate from stakeholders. This leads us to three further recommendations:

### **3 Long-term investors should develop performance measurement systems that balance fostering a long-term perspective with short-term accountability**

One of the challenges for an institution with long-term investments is to develop a measurement system that can appropriately evaluate the

performance of both the investments and fund managers in the short and medium term, while still encouraging long-term investing. Taking advantage of a long-term horizon can be very profitable, but suboptimal long-term investment decisions can significantly drag down the performance of the portfolio. Developing mechanisms that signal how well the investments and fund managers are doing, beyond the monitoring of quarterly and annual investment returns, is therefore critical.

Long-term investors looking to evaluate investments in the interim can look for indications of potential future performance that are not based solely on the current market price. For example, some investors track the dividend payments and income of an investment to determine if a change in the market price reflects a more fundamental change in the economic value of the asset. Similarly, some investors have begun to evaluate and track the fundamentals of the businesses in which they have invested to assess whether the assumptions that underpinned the initial investment still hold. While this assessment is not as clear-cut as measuring pure financial returns, it does allow an institution to balance promoting a long-term perspective with shorter-term accountability.

In addition to measuring the performance of individual investments, it can be critical to track the adherence of fund managers to the agreed upon long-term investing strategy. In order to accomplish this, long-term investors can:

- evaluate performance over a longer period of time (e.g. 3, 5 and/or even 10 years)
- assess interim changes in the income from of underlying investments
- use absolute return or liability-driven benchmarks rather than a market index
- explicitly measure the investment turnover ratio
- evaluate long-term performance at different points of the economic or investing cycle

Performance measurement is an area where additional academic and practitioner research could be very helpful in developing relevant benchmarks and frameworks.

#### **4 Long-term investors should implement compensation systems that better align stakeholders with the long-term mandate**

As described in section I, investment professionals generally have a perspective on their remuneration and career that is shorter-term than the investment horizon of a long-term investor. Long-term investors therefore need to put mechanisms in place to ensure this misalignment is managed and, to the extent possible, corrected. A number of mechanisms are already under active consideration by leading long-term investors in order to align how fund managers are compensated when they reach the performance measurement metrics discussed in recommendation three. Examples include:

- clawbacks to enable the asset owner to recoup past payments if future performance is poor
- investing bonus payments in “parallel” portfolios to ensure that employees are exposed to the same risks as the portfolio

These mechanisms can help to ensure that measurement systems encourage a long-term perspective and that the capital of the investment manager is at risk alongside that of the institution.

#### **5 Long-term investors should promote among stakeholders a better understanding of the implications of a long-term investing strategy**

The fallout from the global financial crisis has already led many long-term investors to recognize the importance of alignment, understanding and dialogue between all stakeholders that can potentially impact the final investment decision.

This will require institutions to ensure that trustees have a more thorough perspective on the relationship between excess long-term returns and risk (e.g. by institutionalizing more frequent dialogue between the trustees and the investment professionals about how key investment beliefs are being implemented). This would allow any points of disagreement or confusion to be discussed and

debated before critical decisions needs to be made and tensions are running high.

In addition, many long-term investors would benefit from a broader educational campaign to make the fund's key investment beliefs and associated risks transparent to a wider group of stakeholders. As the media and the general public have a growing, if indirect, influence over investment strategy, it is important that they have a good understanding of the potential for short-term volatility inherent in a long-term investing strategy.

**Policy-makers and long-term investors: Create an environment that promotes interaction between corporations and long-term investors**

Following the crisis, there has been much discussion about the responsibility of shareholders to hold corporate managements to account. The final recommendation encourages policy-makers as well as investors to promote a longer-term attitude within corporations.

**6 More engaged ownership by shareholders of public companies should be encouraged by policy-makers and long-term investors**

As described in section II, long-term investors can encourage corporations to adopt a longer-term perspective, providing a counterbalance to shorter-term market pressures. It is thus important to stress that shareholders can and should hold management accountable for their actions and direct them to manage their business towards the creation of long-term value.

Although this sounds like an uncontroversial recommendation, many corporations do not necessarily welcome the active involvement of shareholders, irrespective of their investment horizons. Furthermore, many investors do not

exercise their ownership rights by voting their shares or interacting with corporate management. In addition, for sovereign wealth funds, exercising ownership rights has proved a complex affair. Before the crisis, there was considerable concern that sovereign wealth funds might influence the decisions of the companies in which they invested for reasons other than improving financial performance, and therefore sovereign wealth funds were encouraged to adopt an inactive stance on issues such as corporate governance. This limited the involvement of key long-term shareholders in important governance decisions prior to and during the crisis, potentially contributing to some of the adverse events. Ensuring responsible ownership that plays a measured and active role while not exerting undue influence to promote the investor's aims at the cost of the corporations and other shareholders is thus critical.

There are three specific mechanisms that could be used to promote more engaged ownership on the part of long-term investors:

- make the exercise of ownership rights part of the mandate of an investment manager
- investment managers could work with their investee companies to help develop long-term goals and identify long-term risks
- long-term investors could work with each other to promote long-term decisions on the part of the corporations in which they invest

Policy-makers also have a role to play in promoting responsible ownership on the part of long-term investors. A possible template for this already exists in the form of the United Kingdom's new stewardship code, which requires relevant institutions to explain why they do not provide active oversight. Many of the long-term investors we spoke to felt that this was a positive development and that similar efforts might usefully be made at a global scale.

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## Appendix A: Assets under management and asset allocation methodologies

### Estimating assets under management

Assets under management values reflect 2009 data and were estimated using both top-down and bottom-up analysis. Life insurance assets by region were estimated using OECD and CEA data, with industry benchmarks being used to estimate the breakdown between general and separate account assets. Pension fund assets by region were estimated using US Federal Reserve Flow of Funds and OECD data, and country benchmarks were used to estimate the breakdown between defined contribution and defined benefit assets. Sovereign wealth fund assets were estimated using Sovereign Wealth Fund Institute data and Oliver Wyman analysis. Endowment and foundation assets were estimated using NACUBO and Foundation Center data, as well as industry benchmarks and Oliver Wyman analysis. Family office assets were estimated using Celent data and Oliver Wyman analysis.

### Estimating the allocation to illiquid investments

The allocation to illiquid investments includes private equity, venture capital, real estate and infrastructure. As many long-term investors do not publicize their allocation, these numbers are estimates and intended to be indicative of the differences between categories. Furthermore, there are significant philosophical and practical differences even between institutions that fall within the same category, which impact their allocation to illiquid investments, and thus the average does not reflect the heterogeneous nature of these institutions. In addition to the data sources required for estimating assets under management, the approximate allocation for sovereign wealth funds is based on Monitor Group and Oliver Wyman analysis, for endowments and foundations on NACUBO data and industry benchmarks, and for family offices, on Wharton Global Family Alliance data.





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