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DC scheme investment in illiquid and alternative assets



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Executive Summary

This report is informed by desk-research, case-studies, interviews with industry, and consultation with several Government departments.¹

The Department for Work and Pensions (DWP), HM Treasury and the Financial Conduct Authority (FCA) have recently consulted on the best way to enable Defined Contribution (DC) schemes to invest a higher proportion of assets into less traditional asset types. Greater DC scheme investment in illiquid assets, (which lock away funds for a period of time) and alternative assets, (less traditional assets such as privately listed equity and hedge funds) could potentially yield benefits to pension scheme members. Illiquid and alternative assets:

- Widen the range of potential investments, from those only listed on the stock exchange;
- Are not generally subject to the same market forces as publicly listed equities, and therefore may not suffer losses at the same time as other asset types;
- Often provide long-term returns at or above inflation and may therefore be well suited to pension investment;
- Have the potential to deliver a higher, more secure return, net of charges, over time than liquid assets;
- Come with various costs and challenges which have traditionally made it difficult for DC schemes to invest in them.

76% of DC scheme assets are currently invested in bonds and equities, with 5% invested in cash, and the remainder in multi-asset and alternative funds.²

76% of DC assets are currently invested in bonds and equities. Greater DC scheme investment in illiquid and alternative assets could potentially yield benefits to pension scheme members.

Cost, regulatory, operational and governance challenges are preventing some schemes from exploring investment in illiquid and alternative assets.

- **Higher costs:** higher costs are associated with investing in liquids and alternatives.
- **Operational challenges:** less than daily valuations of assets, the sharing of risk and return across different cohorts of the membership, variable charges/performance fees, the lack of immediate access and limitations to the supply of appropriately structured assets on platforms can make it difficult for schemes to integrate illiquid and alternative assets into their investment strategy.

1. Including DWP, HMT, and Department for Digital, Culture, Media and Sports.

2. Law Commission (2017) p. 25, figure 4; Spence Johnson (2016) p. 60

- **Governance and regulatory challenges:** complexity and challenges to transparency can make it harder for schemes to do their due diligence and can interfere with schemes fulfilling their obligations to report on costs and charges. Permitted Links regulations (which describe the characteristics of assets that contract-based pension schemes are permitted to invest in) have been interpreted as not allowing investment in assets which do not allow immediate access to funds, though the Financial Conduct Authority intends to clarify the wording around these regulations to make it clear that investment in illiquid and alternative assets is allowed.

There are available avenues for overcoming challenges:

- Growth, consolidation, fund pooling and the closure of some small schemes could play a key role in overcoming some operational and cost challenges,
- Changes to, and clarification of, regulations may help facilitate DC scheme investment in illiquid and alternative assets,
- There are methods of calculating the proportion of funds which can safely be invested in illiquid and alternative assets while allowing for sufficient liquid capital to meet ongoing expenses,
- An increase in demand from schemes should ideally result in investment and development by platforms, leading to a change to the daily valuation and dealing practices of DC platforms so that assets which are valued less frequently are catered for,
- Advancements in education and a holistic communication approach involving consultants, investment managers, platforms and providers might be necessary to encourage some of the more reluctant trustees to consider less traditional investments.

Increases in scheme sizes, consolidation and fund pooling could play a key role in overcoming operational and cost challenges

Over the next few decades, individuals who have been automatically enrolled will start to accrue larger pots and total DC Assets

Under Management (AUM) are expected to increase from around £280 billion in 2017 to around £1.68 trillion in 2030.³ Larger schemes can generally charge less through efficiency savings, sharing administration costs across larger membership bases and negotiating more competitive deals with external managers. Scheme growth should help make illiquid and alternative asset investments cheaper and more accessible to DC schemes.

Very small schemes are unlikely to increase sufficiently in size to benefit from the cost reductions associated with scale. However, smaller schemes are being encouraged by the Government to consolidate through the introduction of measures which have simplified DC bulk asset transfers.⁴ The Government is also consulting on whether or not to require some small DC trust schemes to publish regular assessments of whether it is in members' interests to be transferred into another scheme, such as an authorised master trust.⁵ Smaller schemes may also be able to get access to some illiquid assets via multi-asset pooled funds.⁶ Advancements in consolidation and fund pooling should make it easier for small schemes to join together, pool funds, or join larger schemes.

Increases in size should make alternative investments cheaper and more accessible to DC schemes. Advancements in consolidation and fund pooling should make it easier for small schemes to pool together, join funds, or join larger schemes.

Changes to, and clarifications of, regulations may help facilitate DC scheme investment in illiquid and alternative assets

Historically, there has been an erroneous perception among some providers and trustees that DC schemes are required to invest in

3. Law Commission (2017) p. 1, para 1.2

4. The Occupational Pension Schemes (Preservation of Benefit and Charges and Governance) (Amendment) Regulations 2018, DWP

5. DWP (2019)

6. Patient Capital Review Industry Panel (2017) p. 6

daily priced assets and cannot use assets with variable fees. Clarity around regulatory requirements and promotion by Government should make it easier for DC schemes to understand the available investment options. The Government already clarified in December 2018 that DC schemes are not required by regulation to invest only in assets that are priced daily.⁷

There are several recent consultations which involve clarification of or changes to the regulations that DC scheme investments are subject to. These changes and clarifications may facilitate more exploration of alternative investment options by providers and innovation by DC platforms:

- In December 2018, the FCA published a consultation on Permitted Links, which aims to clarify and change regulatory requirements.⁸
- In December 2018, the FCA published a discussion paper to explore how to remove barriers to investment in patient capital assets through authorised funds.⁹
- In February 2019, the DWP published a consultation on the consideration of illiquid assets, the development of scale, and changes to the way schemes assess compliance with the charge cap.¹⁰

There are methods of calculating the proportion of funds which can safely be invested in illiquid and alternative assets while allowing for sufficient liquid capital to meet ongoing expenses

While DC schemes depend on a liquid capital buffer to fund ongoing costs and transfers out, they are unlikely to require access to the total AUM. There are methods for calculating the proportion of funds a scheme can safely invest in an illiquid asset. For example, the optimal allocation of a fund to illiquid assets which cannot be accessed for four years is estimated, using one method, to be around 13%.¹¹

An increase in demand from schemes could result in innovation and development by platforms

Alternative funds are not widely available because of:

- Platform constraints, particularly around the regularity of asset valuations, and,
- Subdued demand due to the administrative complexity associated with investment in illiquid and alternative assets.

Changes in the marketplace, such as scheme growth and changes to regulations which make investment in illiquid and alternative assets easier, could increase accessibility and encourage innovation by asset managers.

Changes in the marketplace such as increased scale and changes to regulations which make investment in illiquid and alternative assets easier, could increase provider demand, and encourage development and innovation by asset managers.

Asset managers may need more guidance on reporting on charges and transaction costs

The difficulty of determining ongoing charges and transaction costs in relation to some illiquid assets might make it hard for platform managers and providers to comply with disclosure regulations in relation to these assets. In order for schemes to find it easier to comply with disclosure regulations, asset managers may need more of a prescriptive framework for reporting charges that appear more opaque, or vary over time. The Cost Transparency Initiative¹² is planning to produce

7. FCA (2018)

8. FCA (2018a)

9. FCA (2018b)

10. DWP (2019)

11. Robeco (2015) p. 7, table 2

12. Includes: Association of Consulting Actuaries, Pensions & Lifetime Savings Association, LGPS Central Limited, JP Morgan AM, LGPS Advisory Board, Insight Investment, Investment Association, British Private Equity & Venture Capital Association, Financial Services Consumer Panel, RBS Pension Fund

some templates for asset managers to use when reporting charging on some assets, which should make reporting easier.

Advancements in education and a holistic communication approach involving consultants, investment managers and platform managers will be necessary to encourage trustees and providers to consider alternative investments

DC pension scheme provider ambivalence regarding the benefits is a major barrier to alternative investment. DC scheme providers are unlikely to change their investment strategies unless they feel comfortable that change is in the best interest of members. Therefore, in order to encourage trustees and providers, a better investment case needs to be made.

Some trustees and providers are uncertain as to whether the estimated benefits associated with investment in illiquid and alternative assets outweigh the potential risks; particularly risks associated with illiquidity and whether the higher costs are proportionate for DC scheme investments, particularly in light of the charge cap. Though trustees in DB schemes may be comfortable with the case for DB investment in illiquids, they might benefit from well set out impartial information and guidance from a trusted source, such as the Government or an industry body, explaining the potential benefits to DC schemes of investing in illiquid and alternative assets, backed up with robust data, and showing the estimated likely returns net of charges.

DC scheme providers might benefit from well set out impartial information and guidance from a trusted source, such as the Government or an industry body, explaining the potential benefits to their schemes of investing in illiquid and alternative assets, backed up with robust data, and showing the estimated likely returns net of charges.

DC schemes receive most of their information from intermediaries who could be incorporated into education campaigns that aim to help providers and trustees to understand their options and the potential benefits of investing in illiquid and alternative assets. Therefore education may need to be undertaken directly with consultants, advisers and platform managers before being undertaken with providers.

Introduction

This report is informed by desk-research, case-studies, interviews with industry and consultation with several Government departments.¹³

There are a range of assets available for Defined Contribution (DC) pension schemes to invest in, and the Department for Work and Pensions (DWP), HM Treasury and Financial Conduct Authority (FCA) have recently consulted on the best way to enable pension schemes to invest a higher proportion of assets into less traditional asset types.

The majority of DC pension scheme Assets Under Management (AUM) are invested in equities and bonds. There are potential benefits associated with investing in illiquid and alternative assets. Despite the potential

benefits, there are cost, operational, governance and regulatory barriers which prevent some DC schemes from exploring these investment options. This report sets out the potential challenges and discusses how they may be overcome.

Chapter one sets out the range of assets available for investment and explores the potential benefits of investing in illiquid and alternative assets.

Chapter two discusses challenges related to higher costs how they may be overcome.

Chapter three discusses operational challenges and how they may be overcome.

Chapter four discusses governance and regulatory challenges and how they may be overcome.

13. Including DWP, HMT, and Department for Digital, Culture, Media and Sports.

Chapter one: what are the potential benefits of DC pension scheme investments in illiquid and alternative assets?

This chapter sets out the range of assets available for investment and explores the potential benefits of investing in illiquid and alternative assets.

Traditionally, many schemes use bonds and cash to minimise the losses arising from equities

Defined Contribution (DC) pension schemes generally invest some proportion of funds in **public equities** in order to generate returns. Equities generally deliver higher overall gains than losses because most companies increase in value over time.

Public equities: public equities are publicly listed shares in companies. Equity shareholders are entitled to profits arising from company business, after all creditors have been paid what they are owed.¹⁴ Public equities are “liquid” assets, which can be bought and sold on a daily basis.

Equity losses typically arise when companies don't perform as well as expected. Market changes which lead to losses cannot always be predicted and may arise from economic or political events, or international events such as changes in the value of currency.

14. Shareholders are not held responsible for debts if companies become insolvent because of the “limited liability” under which the vast majority of companies operate

While equities are theoretically a good way to maximise gains, some funds may experience higher losses than gains. Traditionally most scheme portfolios are protected from experiencing too great a loss through investing some portion of funds in **bonds, gilts** and cash, which are expected to generate a more secure return than equities.

Bonds: bonds are lending contracts or “debt instruments”. Funds are lent to an organisation in return for a contract promising repayment of the capital plus interest at a certain time.

Gilts: gilts are government bonds. Bonds and gilts are often referred to as fixed income assets.

While a bond/equity split will in theory deliver growth with a secure base over time, this type of investment is vulnerable to “shocks” such

as market crashes. Public equities might not provide the highest returns over the long-term when compared to some other asset types.

Illiquid and alternative assets have the potential to provide a higher, relatively secure, rate of return over the long-term, though there are drawbacks associated with investment in some of these assets

There are other assets available to pension schemes to invest in. Some of these are “**illiquid**”, as access to funds is restricted for a period for months or years after the initial investment is made. There are also non-traditional assets, known as **alternative assets**, which are not as easy to access as standard, publicly listed equities or bonds. This report explores DC pension scheme investment in a selection of alternative and illiquid assets including:

Illiquids:

- **Property:** property, also known as real estate, mainly involves commercial property development (for example, offices and shops), institutional properties and residential rental properties.¹⁵
- **Commodities:** commodities are land-based goods such as oil, gas, cotton, wheat and cattle but also includes minerals such as gold and platinum.
- **Infrastructure:** structures and organisations which are essential to the efficient operation of society and the economy including - transportation structures such as roads and tunnels, utility and energy provision, and communication structures such as telephone fibre networks.¹⁶

Alternative assets (sometimes contain a level of illiquidity):

- **Private equity:** shares in companies that are not publicly listed.
- **Venture capital:** investment in new, unlisted, start-up companies.
- **Private credit:** direct investor lending to companies (also known as private debt) or syndicated loans (a pooled loan made to a company by several investors at the same time). Private credit investment tends to be cheaper than investing in private equity because the underwriting is less complex; underwriting costs in Europe and the US are up to 10 times more for equity than credit.¹⁷
- **Hedge funds:** small, relatively exclusive, high-net worth investment partnerships, managed by a fund manager with the aim of producing returns even during market downturns. Some hedge funds practice both short and long selling - selling assets before they decrease in value and buying them back at a cheaper price, or maintaining assets which they expect to grow in price. Hedge funds typically allocate some of their assets to less traditional investments and some invest some portion of fund into private, unlisted equities, venture capital assets and other illiquid or alternative assets.

15. UBS (2016)

16. UBS (2016)

17. Schroders (2018) p. 2

The majority of UK DC Assets Under Management are in public equities

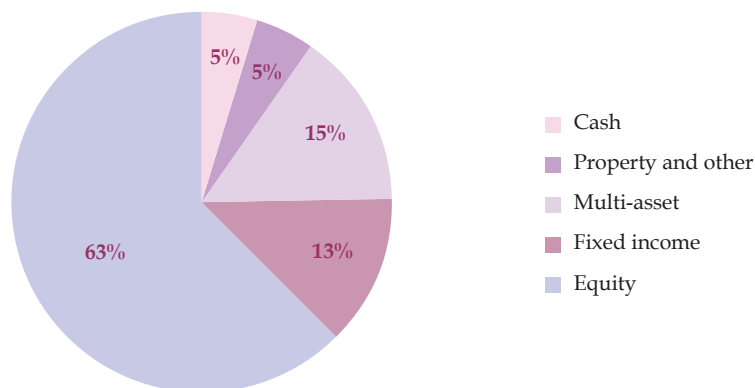
The majority, 63%, of UK DC pension scheme Assets Under Management (AUM) are invested in public equities, with a further 13% in bonds

and 5% in cash. The remaining 20% of AUM are invested in multi-asset funds and alternative assets; (not all multi-asset funds or alternatives are illiquid) (Chart 1).

Chart 1¹⁸

The majority of DC scheme funds are invested in equities

DC scheme investment by asset class (2016)



As a result of low expected returns on equities,¹⁹ pension schemes in the UK (and Europe) are planning (on average) to invest more of their funds into alternative assets in the future. The average investment in alternatives among UK pension schemes (DB and DC) is currently 4.3%, while the average future target is 6.5%.²⁰ These plans are aided by the increase in the number of companies choosing not to list publicly: the US public equity markets has shrunk by a half since the late 1990s and the UK market has shrunk by around a third since 2008.²¹ Private debt, real estate and infrastructure are the most popular alternative assets:

- 31% of pension providers intend to increase their private debt holdings during the next three years,
- 24% intend to increase their real estate holdings,
- 23% intend to increase their infrastructure holdings.²²

There are several potential benefits of investing in illiquid and alternative assets:

- **Benefit 1 - an illiquidity premium:** illiquid and alternative assets have the potential to deliver a higher overall return over time than liquid assets.
- **Benefit 2 - low correlation/high diversification:** illiquid and alternative assets are not generally subject to the same market forces as public equities and may, therefore, not suffer the same losses.
- **Benefit 3 - long time horizon:** some illiquid assets are intended to deliver high, inflation-linked returns over the long-term, which may better suit the needs of DC pension scheme members than short-term investments.
- **Benefit 4 - wider range of investment options:** extending investment to non-listed companies widens the range of potential investment options.

The rest of this chapter discusses the potential benefits of investment in illiquid and alternative assets in more detail.

18. Law Commission (2017) p. 25, figure 4; Spence Johnson (2016) p. 60

19. Aviva (2018) p. 7

20. Aviva (2018) p. 7

21. Investment Association (2018) pp. 26-27

22. Aviva (2018) p. 9

Benefit 1: illiquidity premium

Illiquid assets have the potential to deliver a higher overall return over time than liquid assets

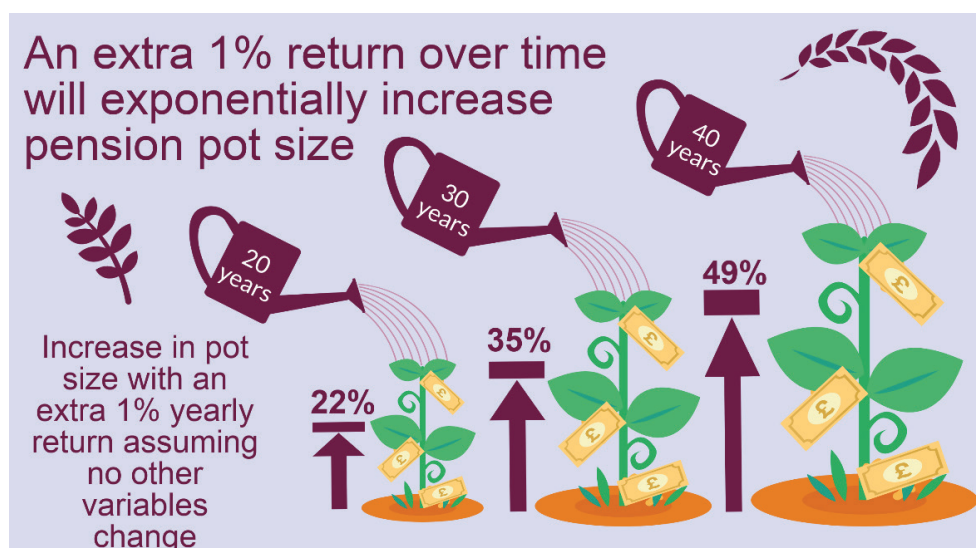
One of the main arguments in favour of illiquid and alternative assets is that, in return for higher associated costs, higher complexity and lower liquidity, these assets are intended to yield a higher long-term return, known as the **illiquidity premium**. The extra return arises because in an illiquid investment the capital can be targeted at the long-term growth of a company or project without the need to ensure that funds are available to be withdrawn on

short-term notice. Illiquidity premia can be calculated by measuring the illiquidity **risk-adjusted return** of the asset.

Risk-adjusted return: the calculation of an asset's investment return which takes account of how much risk is involved in the investment, (the level of risk can be expressed as a number or rating).

The compound effect of an increased return over time can make a substantial difference to the size of a pension pot. Over 40 years, an increase in annual return of 1% can increase the size of a pension pot by 49% (Figure 1).²³

Figure 1²⁴



Not all illiquid investments will yield an illiquidity premium and the value of premia vary between investments. Some businesses and projects may fail, thereby reducing the overall returns of a portfolio.

There are difficulties associated in quantifying illiquidity premia because:

- Illiquid assets may yield higher than average returns as a result of several risks, for example duration risk, inflation risk, or credit risk.
- Other factors may also result in higher returns, for example, manager skill or choosing assets that are associated with high returns, such as private credit. It can be difficult to untangle which element of increased return arises directly from the illiquidity of an investment, how much has been driven by other investment factors, and which came from the ability of a manager to choose investments that yield returns above the index.
- The diversity and rapidly evolving nature of illiquid assets, and the lack of available benchmarks, mean that return data on illiquid and alternative assets is sometimes flawed.
- It isn't always possible to correctly identify the level of risk associated with an illiquid asset; most price valuations are estimates based on previous and expected future valuations and often appear smoother than they would if new market-tested valuations were undertaken on a daily basis.

23. PPI calculations

24. PPI calculations: assumes a starting pot with no additional contributions are added into the pot during this time - 20 years = $1.01^{20} = 1.22019$ (22% increase), 30 years = $1.01^{30} = 1.347849$ (35% increase), 40 years = $1.01^{40} = 1.488864$ (49% increase)

- Illiquidity is not constant over time. Illiquid assets may become more liquid during times of strong growth or less liquid during times of poor growth and market turmoil. Thereby the level of illiquidity risk may fluctuate over time.²⁵

Other factors may also result in higher returns, for example, manager skill or choosing assets that are associated with high returns, such as private credit. It can be difficult to untangle which element of increased return arises directly from the illiquidity of an investment and which from the ability of a manager to choose investments that yield returns above the index.

Some illiquid assets, in particular property and private corporate debt, are more likely to yield an illiquidity premium.²⁶ Calculations of premia vary between academics and by the length of time an asset is invested. The behaviour and skills of investment managers will also influence the return on a given portfolio. Outcomes of efforts to calculate illiquidity premia range from 1% to 7% over what could have been earned, from another comparable, liquid asset, or a lower risk asset, such as cash, over the long-term.²⁷

The assets which are used for comparison when deriving an illiquidity premium will vary depending on availability of comparable liquid assets and on the perspective of the organisation conducting the calculation.

Outcomes of efforts to calculate illiquidity premia range from 1% to 7% increase in return over the long-term.

Some reports have questioned whether the illiquidity premium might in some instances be an artefact of other factors.²⁸

Benefit 2: low correlation and high diversification

Illiquid and alternative assets are not generally subject to the same market forces as public equities and may not suffer the same losses as equities.

Illiquid and alternative assets are not always **correlated** to the stock market because they are not generally subject to the same accounting standards, volatility, or costs of listing of assets that are publicly listed.

Therefore, when an event causes a loss in the value of publicly listed equities, illiquid and alternative assets are unlikely to experience a similar loss in value, and may in fact experience gains. The lack of correlation is derived from the different characteristics present in illiquids which inherently provide diversification.²⁹

Illiquid and alternative assets therefore provide an investment portfolio with higher levels of diversification than a publicly listed equity/bond mix would.

Diversification and low correlation can assist an investment portfolio in maintaining value in some assets when other assets suffer from loss, thereby providing **downside protection**, and can also expose portfolios to the opportunity for higher returns in less well explored areas of the market (Table 1).

Correlation: how closely asset types change in value in relation to other asset types.

Downside protection: techniques which protect against losses to some or all of the investment portfolio.

25. Schroders (2015) p. 2-5

26. Aviva (2018) p. 9; Swift *et. al.* (2018)

27. Swift *et. al.* (2018); ROBECO (2015); Ilmanen (2011)

28. AQR (2019)

29. Aon Hewitt (2014)

Table 1:³⁰ projected returns, volatility levels and correlation levels of different asset classes, nominal and gross of fees (low positive figures and negative figures represent low correlation with global equities and/or government bonds)

Asset	Returns, gross of charges				Long-term expected volatility	Long-term correlation	
	5 years	10 years	15 years	20 years		Global equities	Global government bonds
Liquid assets							
UK gilts all maturities	-0.1%	0.8%	1.6%	2.1%	6.9%	-21%	75%
UK corporate bonds all maturities	1.3%	2.2%	2.9%	3.4%	6.4%	20%	47%
UK large capital equities	7.1%	7.5%	7.8%	7.9%	15.5%	87%	-23%
European equities	7.1%	7.6%	7.9%	8%	16.6%	87%	-18%
Illiquid and alternative assets							
Global Diversified private equity	12%	12.7%	13.2%	13.5%	25.4%	87%	-29%
Global private equity debt	7.3%	8.0%	8.5%	8.8%	13.2%	65%	-17%
Global infrastructure equity	6.3%	6.7%	6.9%	7.1%	16.1%	55%	5%
Hedge funds (global)	4.6%	5.2%	5.7%	6.0%	7.6%	84%	-36%
Real estate mezzanine debt	4.5%	5.2%	5.7%	6.0%	10.7%	46%	12%
US core real estate	4.3%	4.8%	5.2%	5.4%	15.6%	31%	10%
Global infrastructure debt	1.7%	2.6%	3.4%	3.9%	8.6%	2%	65%

There is some evidence that uncorrelated assets may become more correlated during market downturns. For example:

- Between 1970 and 2017, US stocks and non-US stocks had a maximum negative correlation of -17% which, during times of market downturn, switched to a positive correlation of up to 87%.
- When US equities perform poorly, non-US equities, commodities and Real Estate Investment Trusts are shown to have similarly poor returns.³¹
- In 2017, poorly performing stocks and real estate had a correlation of just under 60% and well performing stocks and real estate had a correlation of around 0%.³²

Some of the lack of correlation is likely to be due to uncertainties in the value of less liquid assets, as a result of the much lower frequency of market pricing information. This can result in illiquid and alternative asset values appearing to remain constant when compared to daily-priced assets which fluctuate.

Smoother returns and an illiquidity premium associated with alternative assets can give further downside protection than is generally available in traditional markets. However there are some limitations to the downside-protection provided by illiquid and alternative assets such as a potential increase in correlation with other assets during times of market downturn and the potential for the level of uncorrelation with other assets to be exaggerated due to difficulties associated with measurement.

30. www.blackrock.com/institutions/en-gb/insights/charts/capital-market-assumptions?cid=emc:CMAQ42018:GB:DM-6540&elq_mid=26759&elq_cid=820403&elq_cmp=8102

31. Page & Panariello (2018) p. 22, Garcia-Feijóo *et. al.* (2012)

32. Page & Panariello (2018) p. 22, figure 2

Smoothing returns and an illiquidity premium associated with alternative assets can give further downside protection than is generally available in traditional markets. However there are some limitations to the downside-protection provided by illiquid and alternative assets such as a potential increase in correlation with other assets during times of market downturn and the potential for the level of uncorrelation with other assets to be exaggerated due to difficulties associated with measurement.

Benefit 3: long time horizon

Some illiquid assets have the potential to deliver secure, inflation-linked returns over the long-term, which may be better matched to the needs of DC pension scheme members than short-term investments

Some illiquid and alternative assets (infrastructure, commodities and property in particular) are likely to yield stable, predictable, long-term income streams (up to 35 years or more) which are often inflation linked or above inflation, as are most public assets over the long-term.³³

Unlike most saving products, pensions are designed specifically for long-term savings, with the expectation that people won't access their savings for up to 40 years. An investment which has the potential to provide higher, more stable returns over the long-term, whilst also

delivering growth above inflation, may be more appropriate for pensions than for short-term saving products.

Pensions are designed specifically for long-term savings, with the expectation that people won't access their savings up to 40 years. An asset which has the potential to provide higher, more stable returns over the long-term, may be more appropriate for pensions than for short-term saving products.

Benefit 4: Wider range of investment options

Extending investment to non-listed companies widens the range of potential investments

There are a growing number of companies choosing not to publicly list their shares:

- In the USA, the number of publicly listed companies has fallen by almost half since the late 1990s.
- In the UK, the number of publicly listed companies has fallen by around a third since 2008.³⁴

Investing in private equities increases the opportunity to diversify portfolios and benefit from potentially high returns associated with non-listed companies. However, if larger numbers of investors began investing in private, unlisted companies, there may be a scarcity of supply of appropriate assets for all of those wishing to invest.

33. EYGM (2015) p. 6; Schroders (2014); Towers Watson (2013) p. 4

34. Investment Association (2018) pp. 26-27

There are challenges to investing in illiquid and alternative assets

Despite the potential benefits associated with investing in illiquid and alternative assets, there are cost, operational, governance and regulatory challenges which prevent some DC schemes from exploring these investment options.

The main challenges associated with investing in illiquid and alternative assets are:

- **Challenge 1 - higher costs:** higher costs are associated with investing in illiquid and alternative assets.
- **Challenge 2 - operational challenges:** less than daily valuations of assets; variable charges/performance fees; the sharing of risk and return across different cohorts of the membership; and lack of immediate access.
- **Challenge 3 - governance and regulatory challenges:** complexity and challenges to transparency; obligations to report on costs and charges; Permitted Links regulations, which can be interpreted as not allowing investment in assets which do not allow immediate access to funds; the availability of appropriate assets.

The rest of this report considers each of the above challenges, and potential ways of overcoming them, in turn.

Summary of chapter one conclusions

- There are a variety of assets available for DC schemes to invest in including public equities, bonds, property, commodities, infrastructure, private equity and private debt.
- However, the majority of UK DC pension scheme assets are invested in equities and bonds.
- There are potential benefits associated with investing in illiquid and alternative assets:
 - **An illiquidity premium:** illiquid assets have the potential to deliver a higher return over the long-term than liquid assets.
 - **Low correlation:** illiquid and alternative assets are not generally subject to the same market forces as the stock market and may not suffer the same losses as public equities.
 - **Long time horizon:** illiquid assets are intended to deliver higher, inflation-linked returns over the long-term, which may better suit the needs of DC pension scheme members than short-term investments.
 - **Wider range of investment options:** extending investment to non-listed companies widens the range of potential investments and allows for more diverse portfolios.

Chapter two: what are the cost challenges to investing in illiquid and alternative assets, and how might they be overcome?

This chapter discusses how challenges related to higher costs may be overcome.

Challenge 1: higher costs

Illiquid and alternative assets tend to cost more to invest in

The purchase and holding costs of illiquid and alternative assets are higher than those for publicly listed equities, bonds, gilts and cash, for the following reasons:

- **Transaction costs are higher for illiquid and alternative assets** because there are extra costs and charges involved in buying and selling these types of assets. For example, property purchases often involve initial acquisition fees, valuation fees, stamp duty, agents' fees, and lawyers' fees. Transaction costs are exempt from the 0.75% charge cap on default strategy investments, but will still need to be passed on to members.³⁵ The Government has committed to consider whether to bring transaction costs into the charge cap as part of their 2020 charge cap review.³⁶ This would further restrict schemes' available budgets for illiquid or alternative investments as well as causing many other difficulties both in principle and in practice.
- **In some cases, there may be initial as well as ongoing costs**, for example, property investments may involve initial valuation and legal costs along with development costs over time, while venture capital investors often pay the initial running costs of firms and are required to be fairly involved in the control of company operation.³⁷
- **Investments in illiquid and alternative assets, particularly property and infrastructure, often require a large outlay of initial capital** in order that project managers can continue to meet capital needs for funding the project. These large initial investments may not be affordable for smaller pension schemes.³⁸
- **Illiquid investments are complex and information, including pricing information, may not be as readily available or transparent** as for listed assets which are on the public exchange and traded in high volume, much of which is automated. Infrastructure, property, hedge funds and private equity in particular require substantial initial research. Investment managers must do due diligence, value and monitor these assets, which will generally result in a higher management fee.³⁹

Some high costs may only be incurred during the initial stages of the investment. The overall hoped-for return generated from illiquid and alternatives should, over time, make up for initial, and ongoing, high costs. However, some smaller pension schemes may not have a sufficient investment budget to cover initially high investment costs.

The high level of costs may also seem prohibitive for schemes who are concerned about keeping charges as low as possible, for

35. DWP (2016a) p. 6 para 12

36. Hansard, 16 November 2017, Written Statement, HCWS249

37. Rajan (2010)

38. GAD (2016); EYGM (2015)

39. ROBECO (2015)

example, some schemes which mainly cater for the automatic enrolment of employees on relatively low incomes.⁴⁰

The Government decided against lowering the cap from 0.75% in 2017, but will review it again in 2020. The Government states: *whilst*

*we are not pre-judging the decision, we expect there to be a much clearer case for change in 2020.*⁴¹

Schemes may not wish to commit to long-term investments which require them to charge just at or below the charge cap, as the cap may be reduced in 2020 or beyond.

Overcoming challenge 1: higher costs

There are several potential avenues for overcoming the higher costs challenge:

- Fund blending can reduce overall investment costs.
- Most scheme charges are below the charge cap.
- Transaction costs and some other costs are currently exempt from the charge cap.
- Natural growth could reduce overall charges over time for some schemes.
- Scheme consolidation and fund pooling can help smaller schemes to benefit from the reduced charges associated with scale.

Fund blending can reduce overall investment costs

Blending illiquid and alternative asset investment funds with other cheaper funds can reduce the overall price of the fund while also providing diversification. For example, Aon Hewitt blends illiquids with more mainstream assets in its DC main growth fund, which contains 90% equities /10% alternatives.

Specifically:

- 90% MSCI All Country World Index (equities)
- 7% FTSE EPRA/NAREIT Developed Index (global real estate)
- 1.5% IPD Quarterly All Balanced Property Funds Index and
- 1.5% FTSE Developed Core Infrastructure Index

By balancing a cheaper UK Equity “smart beta” fund, with more expensive property and infrastructure, this fund stays well inside the charge cap while also providing diversification of returns.

Most schemes charges are below the charge cap

The average annual member charge (including Annual Management Charges, consultancy charges, commission and flat fees) levied in schemes used for automatic enrolment was between 0.38% and 0.54% in 2016, depending on scheme type, which means there is some room between the cap and average charge levels for the increase in charges, administration and investment costs that would arise from investing a proportion of default strategy funds into illiquid assets.⁴² However, some schemes may be reluctant to charge as high as the charge cap for fear of appearing uncompetitive, breaching the current or potential future cap, particularly through variable charges, or increasing member charges beyond the affordability of low income members.

Clearly set out and impartial, verifiable evidence from an independent body, such as Government or trade bodies, that long-term returns from illiquid and alternative assets would provide a level of investment income above compensation for any extra costs and charges might go some way to overcoming these challenges.

Some schemes may be reluctant to charge as high as the charge cap for fear of appearing uncompetitive, breaching the current or a potential future cap or increasing member charges beyond the affordability of low income members.

40. ROBECO (2015)

41. Hansard, 16 November 2017, Written Statement, HCWS249

42. DWP (2016b)

Transaction costs are currently exempt from the charge cap

Some of the costs associated with illiquid assets are exempt from the charge cap, specifically:

- *Transaction costs – these are the variable costs incurred as a result of the buying, selling, lending and borrowing of investments*
- *Winding up costs*
- *The costs of complying with a court order*
- *Charges associated with pension sharing on divorce orders*
- *The costs which are solely associated with providing death benefits; and*
- *Property holding and maintenance costs – the costs incurred as a result of holding or maintaining property. These costs are distinct from buying or selling property as these are transaction costs.*⁴³

The Government has responded to confusion among some providers as to which costs are excluded from the charge cap and has published a comprehensive list which covers which costs are considered to be transaction costs as well as taxes, costs solely attributable to holding physical assets and other exclusions.⁴⁴

Therefore the charge cap is not a barrier to all of the costs associated with illiquid and alternative assets, though schemes with a limited investment budget or a desire to maintain low member charges may still struggle to afford the higher cost governance and investment oversight.

The Government may wish to investigate how much of a barrier a potential future cap reduction poses

The Government intends to review the charge cap in 2020 in order to determine whether it ought to be lowered and whether they will bring transaction costs into the cap. Some schemes may be wary of investing in illiquid and alternative assets for fear that they will breach a future cap, especially where there is a variable fee component such as a performance fee which cannot be accurately predicted at the time the investment is made. The Government may wish to investigate how much of a barrier

a potential future cap reduction poses and assess whether guidance around how to avoid breaching a future cap might assist, or consider issuing an assurance regarding what a future cap may look like.

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Natural growth may reduce overall charges over time for some schemes

The current DC market place is relatively undeveloped and has only recently grown (as a result of automatic enrolment and the decline of Defined Benefit provision) from 4.3m active DC savers in 2011 to 13.1m active DC savers in 2018.⁴⁵ Over the next few decades, those who have been automatically enrolled will start to accrue larger pots (as a result of pots benefiting from a longer period of receiving contributions and earning compound interest) increasing the value of schemes' AUM from around £280 billion in 2017 to £1.68 trillion in 2030.⁴⁶

The growth in scheme assets and the continued contributions from those automatically enrolled should result in most DC schemes experiencing a positive cash flow over the next few decades, allowing potentially more room for investment.

As DC schemes grow in value, costs will fall for some schemes as a result of:

- **Levying lower admin charges per person;** larger schemes often find it easier to make efficiency savings on administration by sharing admin costs between a larger

43. DWP (2016a) p. 6, para 12

44. DWP (2019) pp. 46-47

45. PPI Aggregate Model

46. Law Commission (2017) p. 1, para 1.2

number of members. In 2016, the average ongoing charge to members in a contract or trust-based DC scheme with five members or less was 0.72% of AUM. In schemes with a thousand or more members, the average ongoing charge was 0.45% in contract-based DC schemes and 0.37% in trust-based DC schemes.⁴⁷

- **Negotiating more competitive deals with external managers**, as a result of being able to offer a higher initial amount of investment capital.

As larger schemes start to lead the way (for example HSBC, NEST and JP Morgan) by increasing investments in illiquid and alternative assets, new products might become available on platforms at competitive prices,

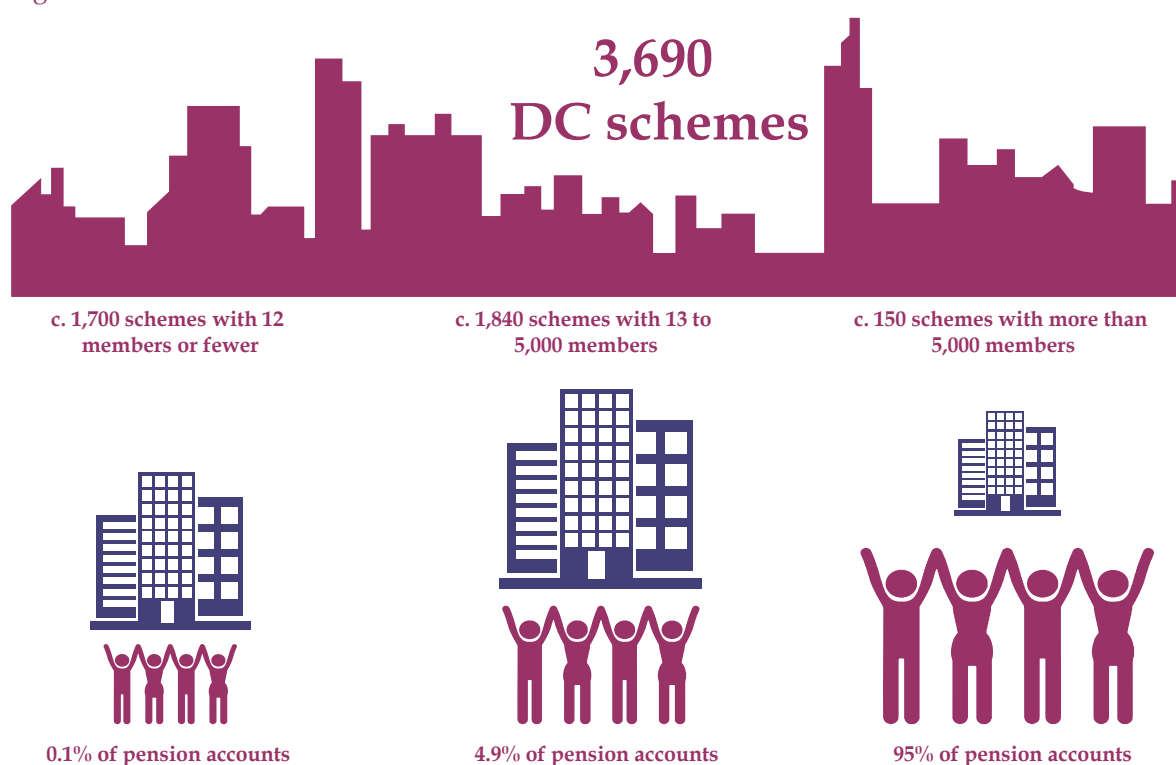
and consultants might feel more confident recommending illiquid and alternative asset investments, and negotiating on price.

As larger schemes start to lead the way by increasing investments in illiquid and alternative assets, new products might become available on platforms, and consultants might feel more confident recommending illiquid and alternative asset investments.

Scheme consolidation can help smaller schemes to benefit from the reduced charges associated with scale

In 2018 there were around 3,690 DC schemes in the UK (excluding small, self-administered pensions and executive schemes), of which around 1,700 had fewer than 12 members. There were around 1,840 DC schemes with more than 12 members (covering 99.9% of accounts) and around 150 of these schemes with more than 5,000 members comprising of 95% of pension accounts (Figure 2).⁴⁸

Figure 2



47. DWP and TPR data

48. DWP & TPR stats, includes pension “products” available as DC schemes and trust-based pure DC schemes

49. The Occupational Pension Schemes (Preservation of Benefit and Charges and Governance) (Amendment) Regulations 2018

Very small schemes are unlikely to increase sufficiently in size to benefit from the cost reductions associated with scale. Consolidation of small schemes is an alternative way of increasing scheme size.

Consolidation of small schemes is an alternative way of increasing scheme size.

Smaller schemes are being encouraged by the Government to consolidate through the introduction of measures which have simplified DC bulk asset transfers, in 2018.⁴⁹ These measures should make it easier for small schemes to join together or to join larger schemes. Some master trusts are already absorbing smaller single employer schemes and this trend may well gather pace.

The Government is also consulting on whether or not to require DC trust schemes with assets below £10m or memberships of fewer than 1,000 members (approximately 2,800 schemes), or who can be identified on other grounds,⁵⁰ to publish an assessment (as part of the value for money assessment included in the Chair's Statement) of whether *it might be in the scheme members' interests to be transferred into another scheme, such as an authorised master trust.*⁵¹ The Government hopes that this measure would accelerate the pace of consolidation among small schemes, bringing down scheme costs and making it easier for schemes to invest in illiquid and alternative assets.

The master trust authorisation regime is likely to result in fewer small master trust schemes

From October 2018, a new authorisation regime for master trusts was introduced which requires schemes to apply for authorisation by March 2019, or to wind up and transfer members to another scheme. This change is already leading to some small master trust schemes, who might find it hard to meet the new required criteria, transferring their members into larger schemes.

Of the 90 master trusts identified as operating in the market by The Pensions Regulator, as of February 2019:

- Seven master trust schemes had exited the market,
- 31 had triggered their exit from the market,
- 44 expected either to exit the market or to apply for authorisation,
- Eight schemes had applied for authorisation.⁵²

Fund pooling already reduces charges for individual schemes

Smaller schemes can also access some of the benefits associated with scale by co-investing in pooled funds, thereby allowing several schemes to gain exposure to an allocation of illiquid investments. Pooling assets on a peer-to-peer basis can also be a helpful way of allowing smaller DC schemes access to illiquid assets such as infrastructure and property and allows several schemes to share oversight of investments. However, pooling investment in this way can also require several trustees or providers to agree on a joint approach to valuation and monitoring.

Pooled funds can be a helpful way of allowing smaller DC schemes access to illiquid assets such as infrastructure and property and can allow several schemes to share oversight of investments.

There are pooled DC investment funds in the market

The British Business Bank currently provides a pooled fund: the "Angel Co-fund", which invests into small private equity businesses. The Patient Capital Industry Panel has suggested creating a Patient Capital Investment Vehicle which investors could buy into which would invest c.£1bn annually into UK venture capital

50. For example: trustee knowledge and understanding, open or closed status, member demographics.

51. DWP (2019) p. 24

52. TPR (2019)

funds and other high growth businesses. A vehicle of this nature could help provide a pooled fund for smaller DC schemes to use.⁵³

The Australian Superannuation Scheme demonstrates how increases in scale can lead to greater investment in illiquid and alternative assets

In Australia, as the DC Superannuation System has grown and consolidated, asset allocation strategies have changed considerably. Allocation to domestic equities almost halved from 38% in 2001 to 21% in 2016, while allocation to international equities stayed relatively constant (25% in 2001 vs. 24% in 2016). Allocation to alternatives increased over the same period, from 2% to 10%.⁵⁴ Larger Australian funds generally have a higher allocation to alternative asset classes than smaller funds.⁵⁵ The largest superannuation fund, AustralianSuper, has an allocation of more than 20% to property and alternatives.⁵⁶ Including illiquids and alternatives in the balanced risk superannuation fund is projected to increase the future risk-adjusted return over what it would have been under a more traditional asset allocation scenario.⁵⁷

Summary of chapter two conclusions

- Illiquid and alternative assets tend to cost more than listed equities, bonds, gilts and cash.
 - Some smaller schemes may not have a sufficient investment budget to cover initially high, one-off, investment costs.
- The high level of costs may seem prohibitive for schemes that are concerned about keeping charges as low as possible, for example, schemes which mainly cater for automatic enrolment of employees on relatively low incomes.
- Schemes may not wish to commit to long-term investments which require them to charge just at or below the charge cap, as the cap may be reduced in 2020 or beyond.
- There are several potential avenues for overcoming the higher costs challenge:
 - Fund blending can reduce overall investment costs,
 - Most schemes could afford higher investment charges without breaching the charge cap,
 - Transaction costs and some other costs associated with illiquid and alternative investments are exempt from the charge cap,
 - Natural growth in DC scheme scale should reduce overall charges over time,
 - Scheme consolidation and fund pooling can help smaller schemes to benefit from the reduced charges associated with scale,
 - The Government may wish to investigate how much of a barrier a potential future cap reduction poses and assess whether guidance around how to avoid breaching a future cap might assist, or consider an assurance regarding what a future cap may look like.

53. Patient Capital Review Industry Panel (2017) p. 6

54. UBS (2016)

55. Inderst, G. & Della Croce, R. (2013)

56. Reddy, W. (2016)

57. Reddy, W. (2016)

Chapter three: what are the operational challenges to investing in illiquid and alternative assets and how might they be overcome?

This chapter discusses operational challenges associated with investing in illiquid and alternative assets and how they may be overcome.

Challenge 2: operational challenges

There are six main operational challenges for Defined Contribution (DC) schemes investing in illiquid and alternative assets, related to:

- Daily valuation/pricing,
- The charging of variable, performance-related fees,
- The sharing of risk and return across different cohorts of the membership; the evolution of net asset value,
- The lack of illiquid and alternative asset funds offered on investment platforms,
- The low supply of illiquid assets that have charges structured in a way which suits the needs of DC schemes,
- The lack of immediate access associated with these assets.

Most UK DC pension schemes are set up to deal with investments that are valued/priced on a daily basis

The majority of DC scheme funds are invested in assets which are traded and valued on a daily basis. Daily valuations support the administration of schemes rebalancing their portfolios or of transfers out (via retiring members or members moving their pension savings to another scheme) because they make it easier to calculate the value of an individual's

pot at the point of transfer out or switching between investment funds. At any given time, the numbers transferring out or switching between funds are likely to be far lower than those steadily contributing, considering the large proportion of younger people saving via automatic enrolment: between 2012 and 2016, 72% of eligible workers aged 22 to 29 were saving, 77% of those ages 30 to 39, and 81% of those aged 40 to 49.⁵⁸

The majority of illiquid and alternative assets are organisations or projects that may grow in value over time, but cannot necessarily be valued on a daily basis. However, daily valuations are not necessarily the most positive way of pricing even short-term assets, as the volatility can cause investors to overlook long-term upward growth.

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58. DWP (2017) p. 39, para 2.1.5

Charges may vary over time, particularly for private unlisted equities and venture capital

The charges and costs associated with illiquid and alternative assets can vary over time:

- The high level of risk associated with funding new projects⁵⁹ can reduce the appetite of investors to pay high fees. Therefore some fund managers, particularly those managing private equity and venture capital assets, charge investors based on performance which varies over time; good performance will result in higher charges and poor performance in lower charges.
- The costs and charges associated with running a developing project can vary as project requirements change.

Performance fees make it difficult to comply with the charge cap

Variable charges can be difficult to manage on a fixed investment budget and might create difficulties in complying with the 0.75% charge cap on default investment strategies in automatic enrolment schemes. One method of assessing charge cap compliance, the prospective method, is to assess average charges over a future time period based on expected costs. The prospective method can only be used when the level of charges is predictable.

The second method, the retrospective method, which is generally used when charges are variable, is to reconcile charges on a regular basis and demonstrate that charges over a given period do not exceed an average of 1/365th of the charge cap per day. If for a given time period an individual is paying more than a daily rate of 1/365th of the charge cap as a result of a performance fee levy, and then this member transfers out of the default strategy before charges have a chance to average out through the year to below the cap, the scheme would not have complied with the cap in regards to this individual.⁶⁰

The net value of illiquid and alternative assets evolves over time

For some illiquid and alternative assets, for example infrastructure and venture capital, the value of the assets will initially be low, but will increase to expected levels after a period of investment and development. Therefore, the initial asset value may not reflect the charges levied by the provider. For members who remain invested during the evolution of net asset value, the charges should average over time to reflect the value of the return. However, for members who transfer out during the initial growth stage, the total charges paid may not reflect the value of returns yielded by the asset.

The infrastructure which most DC schemes use to invest is structured around daily pricing, though this arrangement is not necessary

The majority of DC schemes are dependent on third-parties to manage their investments and most only invest in funds which are available on their DC platform. The majority of platforms only offer funds which are priced daily because:

- It is administratively easier for platforms to audit, value and monitor trades which are reconciled every day;
- Solvency II requires platforms to hold sufficient liquid capital to be able to pay out to members transferring out;
- There is subdued demand from DC schemes for investments which are not priced daily, as a result of difficulties involved in platforms facilitating many of these types of assets,⁶¹
- There is an historical perception among some providers that daily pricing on pension investments is a regulatory requirement, though there is no legal obligation to invest only in daily priced assets.⁶²

Despite the above points, platforms are not required to use daily pricing and could offer funds which are priced less regularly without breaking any regulatory requirements. Some platforms do offer funds which invest in illiquid and alternatives.⁶³

59. Which have the potential to fail

60. DWP (2015) Pp. 17-21

61. Anecdotal evidence in discussion with industry and other stakeholders

62. Law Commission (2017)

63. For example, Partners Group

Platforms are not required to use daily pricing and could offer funds which are priced less regularly without breaking any regulatory requirements.

Not all illiquid and alternative asset fund managers are willing to restructure their charges to align with the needs of DC schemes

Some fund managers are willing to guarantee charges below the charge cap, or to approximate daily valuations.⁶⁴ However, some venture capital and private equity companies may be unwilling to forgo potentially higher charges in years in which their performance is very good. Therefore, the supply of illiquid and alternative assets to DC schemes is limited to those managers willing to be flexible and potentially forgo some level of payment. Some DC scheme

providers report that few fund managers are willing to be flexible with their charging structures.⁶⁵

The lack of immediate access to illiquid funds could lead to operational challenges

Access to underlying funds may be restricted in some assets, so that project managers can use funds more flexibly to develop organisations or projects. Illiquidity is particularly high for long-term building related assets such as property and infrastructure. Venture capital assets may also restrict access for considerable periods, especially during early stages of company development or during downturns in company performance.

Restricted access to funds could cause cash flow problems for pension schemes if they have unexpected costs, high levels of transfers out, or if other investments perform poorly and their liquid capital is reduced. The case of the Harvard University Endowment demonstrates some of the potential downsides of restricted access to illiquid funds (Box 1).

Box 1

The Harvard University Endowment invested some funds in illiquid assets. However, during the 2008 economic turbulence, the illiquid assets suffered and the liquid portion of the portfolio reduced to the point where the endowment could not meet its running costs. Therefore, it had to sell some of its private equity. In order to sell the illiquids, it needed to pass on ownership in the secondary market and was compelled to sell the assets at a 50% discount, suffering a significant loss on the investment.⁶⁶

In order to avoid loss of funds through needing to gain early access to illiquids, schemes will need to carefully calculate and keep under review the proportion of liquid funds they would require in the case of a market downturn.

In order to avoid loss of funds through needing to gain early access to illiquids, schemes will need to carefully calculate and keep under review the proportion of liquid capital they would require in the case of a market downturn.

64. Case Study 1, Mercer

65. Anecdotal evidence in discussion with industry and other stakeholders

66. ROBECO (2015) p. 3

Overcoming challenge 2: operational challenges

There are several avenues for overcoming operational challenges:

- Clarity around regulatory requirements and promotion by Government could make it easier for schemes to understand the available investment options.
- The Government is consulting on a method of allowing DC schemes to invest in assets with performance fees while also complying with the charge cap.
- Diversification of assets could smooth the overall returns generated by DC scheme investment portfolios.
- Increases in demand from schemes, could encourage platforms to evolve their infrastructure in order to accommodate illiquids.
- There are methods of calculating the proportion of funds which can safely be invested in illiquids while allowing for sufficient liquid capital to meet ongoing expenses.
- In January 2017, the FCA published ‘Illiquid Assets and Open Ended Investment Funds,’ which discussed the risks involved in investment in illiquid assets and proposes an option for reform clarifying The Pensions Regulator (TPR) guidance around reconciling need for prompt and efficient transactions and investing for the long-term.⁷⁰
- In June 2017, the Law Commission published ‘Pension Funds and Social Investment’ which explored the challenges associated with investing in illiquid and alternative assets.⁷¹
- In October 2017, HM Treasury concluded its review into Patient Capital and made recommendations for encouraging and facilitating investment in long-term capital, especially in UK based assets.⁷²
- In 2017 and 2018, HM treasury published papers on Financing Growth in Innovative Firms, which involves a *10-year action plan to unlock over £20 billion to finance growth in innovative firms*.⁷³
- In December 2018, the FCA published a consultation on Permitted Links, which aims to clarify and change regulatory requirements.⁷⁴
- In December 2018, the FCA published a discussion paper to explore how to remove barriers to investment in patient capital assets through authorised funds.⁷⁵
- In February 2019, the DWP published a consultation on the consideration of illiquid assets and the development of scale⁷⁶ which:
 - Consults on a method of allowing DC schemes to invest in assets with performance fees while also complying with the charge cap.
 - Proposes to require DC scheme trustees to report every three years, in their Statement of Investment Principles, their policy on illiquid investments and then report annually, in their Implementation Report, how the policy is being followed.

Clarity around regulatory requirements and promotion by Government could make it easier for schemes to understand the available investment options

Some providers historically believed that there was a regulatory requirement to invest in daily priced assets.⁶⁷ However, the December 2018 Financial Conduct Authority (FCA) consultation on Permitted Links has now clarified this point, stating that: *the regular publication of pricing does not limit permitted scheme interests to those which are priced daily*.⁶⁸

Other work by the FCA, Department for Work and Pensions (DWP), Law Commission and HM Treasury could help providers to better understand the regulatory requirements their investments are subject to:

- In 2013, the FCA held a thematic review on the governance of unit-linked investments.⁶⁹

67. Law Commission (2017) p. 84, para 8.61

68. FCA (2018)

69. FCA (2013)

70. FCA (2017)

71. Law Commission (2017)

72. Patient Capital Review Industry Panel (2017)

73. HMT (2018)

74. FCA (2018a)

75. FCA (2018b)

76. DWP (2019)

- Consults on whether or not to require some small DC trust schemes to publish an assessment of whether it might be in the scheme members' interests to be transferred into another scheme, such as an authorised master trust.

As a result of these publications and other market changes, some large DC schemes have increased the proportion of assets invested into illiquid and alternative assets.

The Government has been encouraging pension schemes to consider investing in "patient capital" within the UK, which could have the benefit of improving the UK economy and infrastructure while also increasing the security and returns of pension scheme investments.⁷⁷ However, there is a sense among some providers and trustees that there is more scope for secure, long-term returns and diversification through investing in international patient capital.⁷⁸

There are methods for calculating a daily price for assets which are valued less frequently

Illiquid fund managers are sometimes willing to provide more frequent valuations to their clients than they may normally offer, though frequent evaluations of assets will also increase the charges of investing in an asset. There are other methods for estimating a price more frequently, such as using the most recent price as an estimate, adjusting for any known changes in the market which have occurred since the last evaluation, known as a "fair value" adjustment. However, not all fund managers are willing to be flexible regarding their pricing structure.

The Government is consulting on a new way of assessing charge cap compliance which is designed to allow for performance fees in trust-based DC schemes

The Government has proposed a new way of assessing charge cap compliance for trust-based DC schemes investing in assets with performance fees. This new method would only

be allowable for assets which charge a fixed rate fee which is a percentage of funds under management and potentially a performance fee. The new method would involve an addition to the prospective model:

- Trustees would declare the fixed rate fee at the beginning of the year, using the prospective method, based on funds under management at the start of the year.
- Trustees would subtract the amount of the fixed fee charge (for example 0.5%) from the charge cap (0.75%). The remainder (for example 0.25%) would represent the yearly cap which any extra performance fees, administration and investment charges must not exceed.

This method would require the performance fees to be calculated and accrued regularly to make sure that only members who have benefited from the good performance are charged the performance fee. This method may also require Trustees to negotiate with illiquid asset managers for performance fees that will not breach the charge cap (for example, Case Study 1).

In practice, most schemes will generally try to avoid investing up to the full level of the cap, so may attempt to keep any extra charges below the 0.25% allowance. This can be approached by investing a small proportion of assets into illiquids. For example, if a scheme invests 80% to 90% of funds into passive assets with a charge of less than 0.1% then it will be easier to invest some portion of the rest in illiquids which may incur a charge of 1% to 2%. In the experience of BlackRock, most DC schemes allow for a maximum 0.45% ongoing charge from asset managers to allow for the separate platform or administration charges, which can take overall costs and charges close to the 0.75% cap.

77. Patient Capital Review Industry Panel (2017), DWP (2019)

78. PPI qualitative interviews with DC scheme providers and trustees

Case study 1: Mercer – overcoming operational challenges through fund manager flexibility

About Mercer

Mercer provides investment and consulting advice to pension schemes and sponsors to help design, plan, and manage their DC pension arrangements with the primary objective of improving member outcomes.

Why illiquids?

It is widely accepted that illiquids are suitable for Defined Benefit (DB) scheme investment because they offer diversification, low correlation with the stock market and the potential for a higher return over the long-term. These benefits are equally valuable in a DC context, so Mercer consultants have been speaking to their DC clients about integrating illiquid and alternative asset investment into default investment options and other strategies.

Mercer has incorporated illiquid strategies on behalf of several different DC schemes, for use in their default investment option, including private markets, property secondaries and infrastructure. Generally, Mercer believes DC schemes should consider an allocation of 5% to 15% of default portfolios for investment in illiquid strategies.

What difficulties have been faced?

Some trustees and providers accept the investment case for illiquid and alternative investments, but others are nervous and perceive the topic as a distraction from their primary goal of generating returns above inflation and the increasingly broader governance agenda. Mercer believes that there is a challenge facing the investment industry, to win the hearts and minds of trustees and sponsors. This may be a long, slow process and it will be essential that consultants go at a pace that trustees and sponsors are comfortable with.

The charge cap assessment methods make it difficult to invest in a fund with performance-based charges. Mercer worked to arrange charging structures with fund managers that allowed DC schemes to comply with the charge cap. This level of flexibility from fund managers made it easier for Mercer's clients to invest in illiquids, but seriously reduced the range of potential options available as fund managers are either not willing or able to alter their charging structures to suit the needs of DC schemes.

Mercer's advice for DC schemes considering these types of investments?

Illiquids are more expensive than liquid assets and require a higher level of governance given their increased complexity. This increased governance covers initial mandate search and selection as well as transition and ongoing monitoring. Trustees and providers need to be convinced that these types of strategies are worth it and provide value for money to members before they commit 5% or more of member savings to an illiquid investment. They need to be able to explain their decision to scheme members and to the Regulator. However, if carefully assessed and monitored, these types of strategies can provide valuable diversification and allow for liquid capital to be moved to riskier assets with higher potential for gain. Illiquids generally offer a good, long-term return that is well suited to DC scheme investments.

Diversification of assets could smooth the overall returns generated during the different evolutionary stages of net asset value in illiquid and alternative assets

Investing in a diversified range of assets can help mitigate the potential losses arising from members transferring out of a fund before assets have time to reach their full value. By investing in assets which are expected to deliver the level of returns which should be realised from illiquid and alternatives assets, once they reach their full value, members can be protected from paying charges which do not reflect the level of return which they are receiving. Diversification should prevent members feeling as though they have been misled as to the value of assets in which their scheme is invested.

Increases in demand from schemes could encourage innovation by asset managers

The types of funds offered on an investment platform will generally reflect the needs of the greatest number of clients, and one of the reasons that illiquid and alternative asset investment are not widely available is the subdued demand from schemes. Changes in the marketplace, such as increased scale and changes to regulations, which make investment in illiquid and alternative assets easier could increase provider demand and encourage development and innovation by asset managers to offer funds which are valued less often than daily.

Changes in the marketplace which make investment in illiquid and alternative assets easier could increase provider demand and encourage innovation by asset managers to offer funds which contain illiquid and alternative assets.

There are methods of calculating the proportion of funds which can safely be invested in illiquids while allowing for sufficient liquid capital to meet ongoing expenses

Some providers and trustees worry that locking capital away in illiquid assets will jeopardise their ability to meet ongoing expenses and fund transfers out.⁷⁹ However, there are methods for calculating the proportion of funds a scheme can safely invest in illiquids, for example, one asset allocation model suggests that the following proportions of funds are optimal for illiquids, based on the length of the expected period over which assets cannot be traded (Table 2).

Table 2: The proportion of funds a scheme can safely invest in an illiquid asset, based on the level of illiquidity⁸⁰

Expected period over which the asset cannot be traded	Optimal allocation (AUM)
10 years	4.8%
4 years	13.2%
2 years	25.1%
1 year	37.3%
½ year	44.2%
Always tradeable	59.3%

79. Aviva (2018) p.11 Figure 8

80. Robeco (2015) p. 13, table 3

The above figures are derived from “an asset allocation model which takes illiquidity into account. Their main results are based on a scenario where an investor consumes a certain amount of their wealth in each period. The universe consists of three assets: a risk-free bond, a liquid and an illiquid risky asset. They analyse how much should be invested in the illiquid risky asset according to the different levels of illiquidity of this asset. The remaining, liquid wealth is allocated to the risk-free bond and the liquid risky asset. The investor consumes out of this liquid wealth. The analysis is performed for an investor with average risk aversion.”⁸¹

Summary of chapter three conclusions

- There are operational challenges for DC schemes investing in illiquid and alternative assets.
 - The majority of small schemes only have access to funds offered on DC platforms which are less likely to offer illiquid and alternative investments.
 - Variable charges can be difficult to manage on a fixed investment budget and might create difficulties in complying with the 0.75% charge cap.
 - Most DC platforms do not offer illiquid and alternative asset funds.
- Not all illiquid and alternative asset fund managers are willing to restructure their charges to align with the needs of DC schemes.
- Restricted access to funds could cause cash flow problems for pension schemes if they have unexpected costs, high levels of transfers out, or if other investments perform poorly and their liquid capital is reduced.
- There are several avenues for overcoming operational challenges:
 - Clarity around regulatory requirements and promotion by Government could make it easier for schemes to understand the available investment options.
 - The Government is consulting on a method of allowing DC schemes to invest in assets with performance fees while also complying with the charge cap.
 - Increases in demand from schemes could encourage innovation by asset managers.
 - There are methods of calculating the proportion of funds which can safely be invested in illiquids while allowing for sufficient liquid capital to meet ongoing expenses.

81. Robeco (2015) p. 13, table 3

Chapter four: what are the governance and regulatory challenges to investing in illiquid and alternative assets and how might they be overcome?

This chapter discusses governance and regulatory challenges associated with investing in illiquid and alternative assets and how they may be overcome.

Challenge 3: governance and regulatory challenges

There are three main governance and regulatory challenges for DC schemes investing in illiquid and alternative assets, related to:

- Complexity and barriers to transparency
- Obligations to report on costs and charges
- Compliance with the Financial Conduct Authority's (FCA) Permitted Links regulations

The complexity of assessing and monitoring illiquid and alternative assets can make it difficult for providers to do their due diligence and to satisfy the prudent person rule

Trustees and providers are required to do **due diligence** on the assets that their scheme invests in and to meet the criteria required for the **Prudent Person Principle**.

Due diligence: *the detailed examination of a company and its financial records, done before becoming involved in a business arrangement with it*⁸²

- **The Prudent Person Principle:** a requirement for retail investors (which includes pension schemes), that they *must only invest in assets and instruments the risks of which it can properly identify, measure, monitor, manage, control and report and appropriately take into account in the assessment of its overall solvency needs in accordance with Conditions Governing Business and invest in such a manner as to ensure the security, quality, liquidity and profitability of the portfolio of assets of the firm as a whole; and localised such as to ensure their availability.*⁸³

82. <https://dictionary.cambridge.org/dictionary/english/due-diligence>

83. PRA (2015) p. 4 para 2.1

Publicly listed equities are highly regulated and transparent. Their value and performance is a matter of public record and readily available to investment managers and providers. Conversely, illiquid and alternative assets require more work to value and monitor and there is less transparent information available.⁸⁴ Therefore, trustees and providers will find it harder to do their due diligence on illiquid and alternative assets than on publicly listed assets.

Trustees and providers will find it harder to do their due diligence on illiquid and alternative assets than on publicly listed assets.

Due diligence exercises may be subject to different criteria in DC schemes than in DB. In particular, DB trustees are generally beholden to the employer on whose behalf they are attempting to ensure liabilities are met. In DC schemes, however, trustee decisions have a direct impact on the size of pot which members can draw on in retirement. Therefore, DC members may have a more proprietary sense over their own investments and may be more sensitive to fluctuations in their investment portfolios or lower short-term growth.

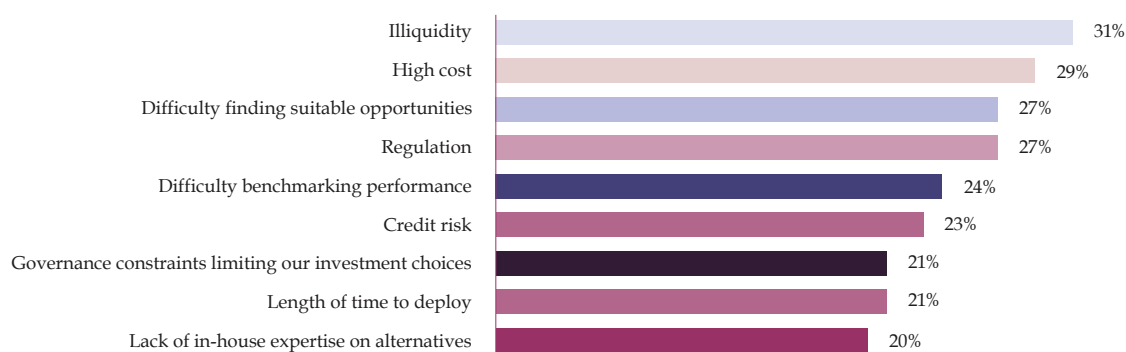
Some investors may not be willing to invest in illiquid and alternative assets until a clearer case has been made for the advantages associated with these investments

Some insurers are uncertain as to whether the potential benefits associated with investment in illiquid and alternative assets outweigh the potential risks; particularly risks associated with illiquidity and whether the higher costs are proportionate (Chart 2).

Chart 2⁸⁵

Insurers feel illiquidity and cost are the biggest challenges associated with alternative assets

Answers by insurers to the question: what would you identify as the biggest challenges to your institution increasing its allocation to alternative asset income?



84. Because: The value of illiquid and alternative assets can change rapidly; errors can occur during valuations due to the lack of benchmarking with other similar asset types; Illiquid and alternative assets managers do not submit information to the market on a regular basis; Illiquid and alternative assets may involve the use of many third parties, for example, lawyers, evaluators, tax specialists, architects, builders etc. and costs for these service may change over time with the needs of the project.

85. Aviva (2018) p.11 Figure 8

Case Study 2 demonstrates how some of the above concerns affect the investment decisions made by, or on behalf of, DC pension schemes.

Case Study 2

About River and Mercantile

River and Mercantile solutions provides a fiduciary management service to DB Schemes, DC Schemes (“DCFM”) and insurance companies. DCFM allows Trustees to retain the Trust structure, and delegate day-to-day decision making to an asset manager, with oversight, governance and strategic input provided by a specialist DC investment consultant. River and Mercantile’s DCFM solution currently looks after seven schemes and c.20,000 members.

Why alternative assets?

River and Mercantile have always considered the potential advantages of investment in alternatives for all their clients including DC schemes. These types of investment really show their benefit when other growth assets such as equities and high yield bonds are looking vulnerable to market falls. This scenario emerged in late 2017 when it looked as though equity markets had become over-valued, and the credit spreads (the difference in yield between a U.S. Treasury bond and a bond from another issuer, such as a company) on many bonds had tightened considerably.

Alternative assets can provide a potential substitute to equities if you select the right ones. In particular River and Mercantile prioritise finding alternatives that are less correlated with the rest of the market and are intended to provide a substantial but stable yield. River and Mercantile felt that some alternatives were valuable for access to assets where manager skill can improve the return profile through lower correlated returns and in some cases lower volatility.

River and Mercantile increased the proportion of their clients’ DB scheme Assets Under Management (AUM) in alternatives from 13% in Q4 2017, to 22% by Q3 2018. They would have liked to do something similar for the DC schemes they managed or advised on. There are a number of barriers to DC scheme investment in many alternative assets due to elements such as illiquidity and fee structures. Therefore, in 2018, they increased the holding for DC schemes which they held a fiduciary duty for – but only to a couple of percent.

Why not Alternatives?

River and Mercantile would have liked to allocate more to alternative assets for DC clients. However, due in many cases to illiquidity and fund structures, the barriers were too great to allow investment. In particular, the following barriers played a significant role:

- The majority of DC schemes use investment platforms to host their investments because these platforms reduce fund manager costs and ease trading between funds. Platforms also provide schemes with the data on funds and charges which they need to comply with regulation. Investment platforms are generally set up primarily to accommodate funds which have a daily price and can be bought or sold daily.
- Alternative funds typically hold investments which cannot be bought/sold at short notice. As a result, they typically also have high cash (or very liquid government bond) holdings. This allows them to manage daily cashflows in/out of the fund, without needing to sell, say, an office block in a day.
- Assets which incur uncapped performance fees may breach the charge cap and will also be difficult to put into the platform system. These types of fees also make it more difficult for the platform manager and the scheme provider to provide transparent cost and charge breakdowns.
- Illiquid and alternative assets are expensive relative to other funds – in some cases with fees approaching 2%. The charge cap of 0.75% restricts the amount of investment strategy which can be allocated to alternative assets.
- Combining the fees and liquidity points above, we can only have a small amount of alternative assets in DC investment strategies – and this amount has an even smaller “true” exposure to alternatives (vs. cash).

Schemes invested in illiquid and alternative assets might find it more difficult to comply with regulations on disclosing charges

The Occupational Pension Schemes (Administration and Disclosure) (Amendment) Regulations 2018, which came into force in April 2018 require DC scheme trustees to *publish charge and transaction cost information for all investment options in the chair's statement and on a publicly-available website, the address of which must be provided to scheme members in their benefit statements. Disclosure must also include an illustration of the compounding effect of the costs and charges.*⁸⁶

Asset managers are required on request to disclose transaction costs and administration charges to workplace DC pension schemes.⁸⁷ Limits to transparency may make it more difficult for asset managers and schemes to comply with regulations on disclosure, though development of new standard disclosure templates under the Cost Transparency Initiative should help remedy the main issues.

The lack of transparency and publicly available information on illiquid and alternative assets may make it more difficult for schemes to comply with regulations on disclosure.

Permitted Links regulations make it more complicated to invest in illiquid or alternative assets

Contract-based DC pension schemes must comply with the FCA's "Permitted Links" regulations, which outline what types of investments ("links") that unit-linked life funds (used by most DC schemes) are allowed to invest in. Permitted links regulations:

- Limit the amount of illiquids that a unit linked fund can be invested in to 20% if accessed using an underlying QIS fund (a fund which schemes often use to access illiquids).
- Require schemes to ensure that investments are suitable for retail clients, as opposed to trained financial professionals. This can be interpreted as barring access to assets which might be too complicated for an individual consumer to understand.
- Used to require linked assets to be capable of being realised "in the short-term". However, in 2007 the wording was changed to: A firm must ensure that its linked assets: *are capable of being realised in time for it to meet its obligations to linked policyholders.*⁸⁸ While Permitted Links legislation does not prevent DC schemes from investing in illiquid and alternative assets, it can be interpreted as not allowing investment in assets which do not allow immediate access to funds.

Overcoming challenge 3: governance and regulatory challenges

There are several avenues for overcoming governance challenges:

- Better information about the value and security of illiquid and alternative assets could help overcome governance challenges.
- Advisers, consultant and investment managers may all need to be involved in making a case for alternative investment.
- Reporting on charges and transaction costs may either need to become more consistent, or regulation may need to be altered to allow for discrepancies.
- The FCA is currently consulting on revising the Permitted Links regulations in order to remove actual and perceived barriers to investing in illiquid and alternative assets.
- The Government is consulting on whether requiring DC scheme trustees to report on their illiquid investment holdings and their policy on illiquid investments would encourage further exploration of these assets.

86. www.legislation.gov.uk/uksi/2018/233/made

87. FCA COBS 19.8 Disclosure of transaction costs and administration charges in connection with workplace pension schemes

88. www.handbook.fca.org.uk/handbook/COB/6/14.html; COB 6.14.4R06/10/2007

Better information about the value and security of illiquid and alternative assets could help overcome governance challenges

Trustee and provider ambivalence, and lack of knowledge in some cases, is a major barrier to alternative investment. Trustees and providers are unlikely to change their investment strategies unless they feel comfortable that change is in the best interest of scheme members. In order to encourage trustees and providers, a better investment case needs to be made.

Trustees and providers are unlikely to change their investment strategies unless they feel comfortable that change is in the best interest of scheme members. In order to encourage trustees and providers, a better investment case needs to be made.

Advisers, consultants and investment managers may all need to be involved in making a case for alternative investment

Trustees, especially of smaller schemes, often rely heavily on advice from consultants and advisers. Therefore, if a strong investment case is to be made, the consultant or adviser may often be the most appropriate conduit for these messages. Investment managers are also involved in designing and presenting funds to advisers, consultants and providers and could also be involved in making the case for alternative investment.

Asset managers may need more guidance on reporting on charges and transaction costs

In order for schemes to find it easier to comply with disclosure regulations, asset managers may need more of a prescriptive framework for reporting charges that appear more opaque, or vary over time. The Cost Transparency Initiative⁸⁹ is planning to start work on producing some templates for asset managers to use when reporting charging on some assets, which should make reporting easier.

DWP's 2019 consultations also has endeavoured to provide clarity to trustees, their advisers and service providers about the costs which are in scope of the charge cap and the costs that are considered transaction costs.⁹⁰

The Cost Transparency Initiative is planning to start work on producing some templates for asset managers to use when reporting charging, which should make reporting easier.

The FCA is currently consulting on revising the Permitted Links regulations in order to remove actual and perceived barriers to investing in illiquid and alternative assets

The FCA's consultation on Permitted Links proposes the following changes:

- Clarification of the wording around the existing requirements to clarify perceived barriers to investing in illiquid assets,
- Adding conditional Permitted Links categories which supplement the existing range of Permitted Links (permitted investment asset types) to include illiquid assets,

89. www.plsa.co.uk/Policy-and-Research-Investment-Cost-Transparency-Initiative; includes: Association of Consulting Actuaries, Pensions & Lifetime Savings Association, LGPS Central Limited, JP Morgan AM, LGPS Advisory Board, Insight Investment, Investment Association, British Private Equity & Venture Capital Association, Financial Services Consumer Panel, RBS Pension Fund

90. DWP (2019)

- Increasing the limit of permitted overall investments in illiquid assets in a linked fund from 20% to 50% of overall AUM (though the appropriate proportion of funds to invest in illiquids will vary between schemes and by the level of illiquidity of the asset).⁹¹

The Government is consulting on requiring DC scheme trustees to report on their illiquid investment holdings and their policy on illiquid investments

The Government recognises that some trustees are reluctant to consider illiquid and alternative investments because of other pressing priorities, a lack of knowledge, or a lack of certainty regarding the risks and benefits involved in these types of investments. As a way of prompting further consideration, the Government has proposed to require larger DC scheme trustees to report a minimum of every three years, in their Statement of Investment Principles, their policy on illiquid investments and to report annually, in their Implementation Report, how the policy is being followed, including their approximate holdings of illiquid investments.⁹²

As a way of prompting further consideration, the Government has proposed to require larger DC scheme trustees to report a minimum of every three years, in their Statement of Investment Principles, their policy on illiquid investments and to report annually, in their Implementation Report, how the policy is being followed, including their approximate holdings of illiquid investments.⁹³

Summary of chapter four conclusions

- There are three main governance and regulatory challenges for DC schemes investing in illiquid and alternative assets, related to: complexity and barriers to transparency and obligations to report on costs and charges.
 - Trustees and providers will find it harder to do their due diligence on illiquid and alternatives than they do for publicly listed assets.
 - The lack of transparency and publicly available information associated with illiquid and alternatives may make it more difficult for schemes to comply with regulations on charge disclosure.
 - Pension schemes purchasing unit-linked contracts must invest in line with the FCA's "Permitted Links" regulations, which outline what types of investments ("links") schemes are allowed to invest pension funds into. While Permitted Links legislation does not directly prevent DC schemes from investing in illiquid and alternative assets, it can be interpreted as not allowing investment in assets which do not allow immediate access to funds.
- There are several avenues for overcoming governance and regulatory challenges:
 - Better information about the value and security of illiquid and alternative assets could help overcome governance challenges.
 - Advisers, consultants and investment managers may all need to be involved in making a case for alternative investment.
 - Reporting on charges and transaction costs may either need to become more consistent, or regulation may need to be altered to allow for discrepancies.
 - The FCA is currently consulting on revising the Permitted Links regulations in order to remove actual and perceived barriers to investing in illiquid and alternative assets.
 - The Government is consulting on whether requiring larger DC scheme trustees to report on their illiquid investment holdings and their policy on illiquid investments would encourage further exploration of these assets.

91. FCA (2018)

92. DWP (2019) p. 22

93. DWP (2019) p. 22

Glossary

Bonds: bonds are lending contracts or “debt instruments”. Funds are lent to an organisation in return for a contract promising repayment of the capital plus interest at a certain time.

Commodities: commodities are land-based goods such as oil, gas, cotton, wheat and cattle but also includes minerals such as gold and platinum.

Contract-based Defined Contribution (DC) scheme: a Defined Contribution pension scheme provided, administered and invested by, or on behalf of, an insurer or pension provider. Access is provided either through a member’s workplace or individually. In all cases, there is a contract between the individual member and the provider.

Correlation: how closely asset types change in value in relation to other asset types.

Downside protection: techniques which protect against losses to some or all of the investment portfolio.

Due diligence: *the detailed examination of a company and its financial records, done before becoming involved in a business arrangement with it*⁹⁴

Gilts: gilts are government bonds.

Hedge funds: small, relatively exclusive, high-net worth investment partnerships, managed by a fund manager with the aim of producing returns even during market downturns. Some hedge funds practice short and long selling: selling assets before they decrease in value and buying them back at a cheaper price, or maintaining assets which they expect to grow in price. Hedge funds traditionally invest in less traditional assets and some invest some portion of fund into private, unlisted equities, venture capital assets and other illiquid or alternative assets.

Infrastructure: structures and organisations which are essential to the efficient operation of society and the economy including: transportation structures such as roads and tunnels, utility and energy provision, and communication structures such as telephone fibre networks.⁹⁵

Investment platform: internet-based services used by intermediaries (and sometimes clients) to view and administer investments. They tend to offer a range of tools which allow advisers and clients to see and analyse portfolios. As well as arranging transactions, platforms arrange custody for clients’ assets.⁹⁶

Illiquidity premium: higher return earned on investments in illiquid assets in return for lower liquidity (restrictions on access to the invested funds).

Master trust scheme: a trust-based DC scheme that is not sponsored by a single employer but is open to employees of multiple employers and sometimes individuals, for example, self-employed people. Master trusts are generally managed by an insurer or pension provider but have a trustee board with ultimate responsibility for insuring that the scheme is run in the best interest of members.

Property investment: property, also known as real estate, mainly involves commercial property development (for example, offices and shops), institutional properties and residential rental properties.⁹⁷

Private debt: direct investor lending to companies (also known as private debt) or syndicated loans (a pooled loan made to a company by several investors at the same time).

Private equity: shares in companies that are not publicly listed.

The Prudent Person Principle: a requirement for retail investors, by the Prudential Regulation Authority that they *must only invest in assets and instruments the risks of which it can properly identify, measure, monitor, manage, control and report and appropriately take into account in the assessment of its overall solvency needs in accordance with Conditions Governing Business and invest in such a manner as to ensure the security, quality, liquidity and profitability of the portfolio of assets of the firm as a whole; and localised such as to ensure their availability.*⁹⁸

94. <https://dictionary.cambridge.org/dictionary/english/due-diligence>

95. UBS (2016)

96. www.fca.org.uk/publication/other/fs012-platforms-using-fund-supermarkets-and-wraps.pdf

97. UBS (2016)

98. PRA (2015) p. 4 para 2.1

Public equities: public equities are publicly listed shares in companies. Equity shareholders are entitled to profits arising from company business, after all creditors have been paid what they are owed.⁹⁹

Risk-adjusted return: the calculation of an asset's investment return which takes account of how much risk is involved in the investment, (the level of risk is often expressed as a number or rating).

Transaction costs: the costs and charges incurred as a result of the buying, selling, lending or borrowing of investments.¹⁰⁰

Trust-based Defined Contribution (DC) schemes: a legal arrangement, often sponsored by an employer for their employees, under which trustees hold and invest the assets of a Defined Contribution pension fund on behalf of the members of the scheme.

Venture capital: investment in new, unlisted, start-up companies.

99. Shareholders are not held responsible for debts if companies become insolvent because of the "limited liability" under which the vast majority of companies operate

100. DWP (2018) p. 5; www.legislation.gov.uk/uksi/2015/879/regulation/2

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