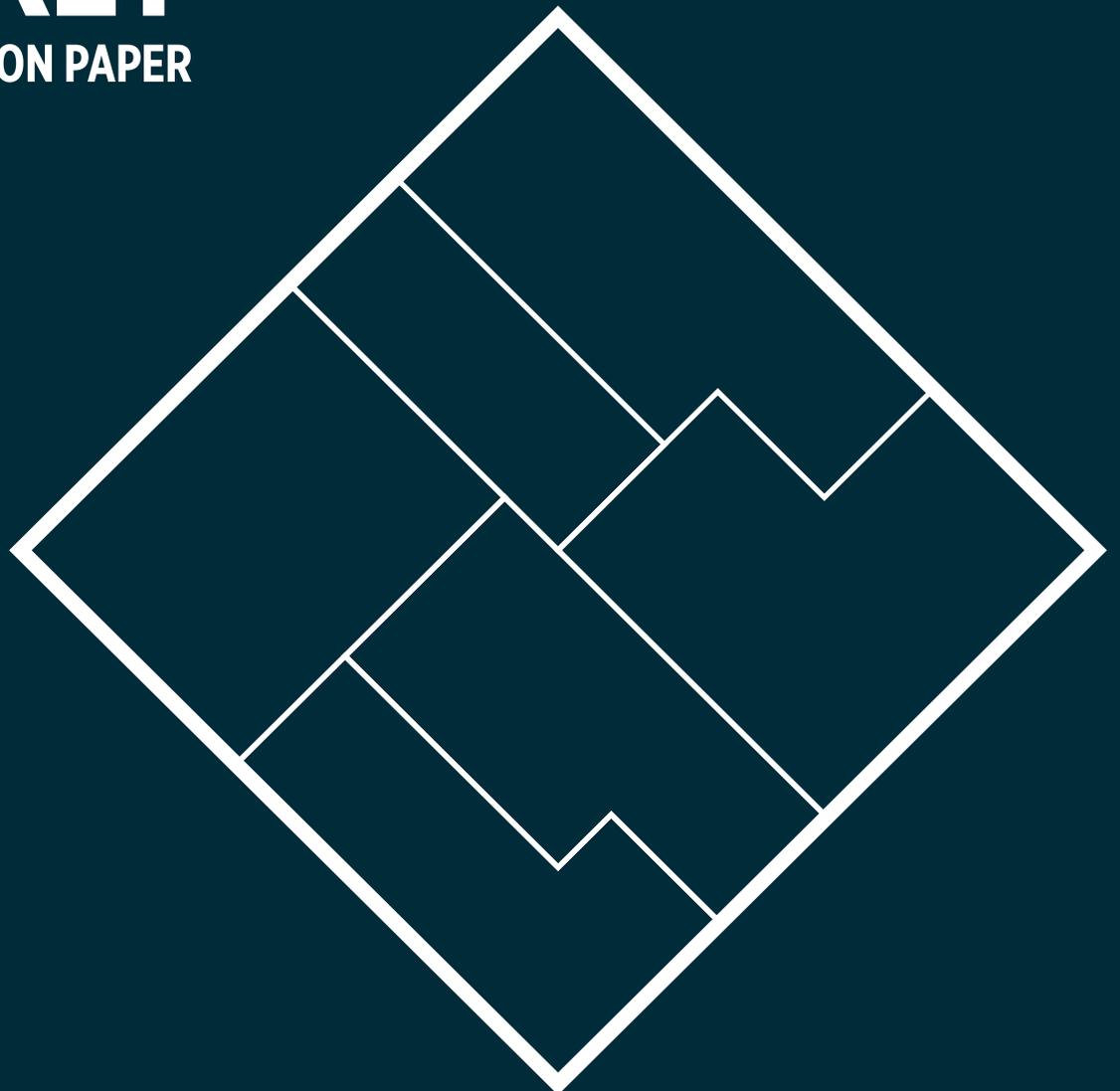


ESG RISK IN DEFAULT FUNDS: ANALYSIS OF THE UK'S DC PENSION MARKET

PLSA DISCUSSION PAPER

Doug Morrow

February 2017



ABOUT PLSA

The Pensions and Lifetime Savings Association is the national association with a 90-year history of helping pension professionals run better pension schemes. We have the support of over 1,300 pension schemes with over 20 million members and £1 trillion in assets, and over 400 supporting businesses. They make us the leading voice for pensions and lifetime savings in Westminster, Whitehall and Brussels.

Our purpose is simple: to help everyone achieve a better income in retirement.

ABOUT SUSTAINALYTICS

Sustainalytics is an independent ESG and corporate governance research, ratings and analysis firm supporting investors around the world with the development and implementation of responsible investment strategies. With 13 offices globally, Sustainalytics partners with institutional investors who integrate environmental, social and governance information and assessments into their investment processes. Today, the firm has more than 300 staff members, including 170 analysts with varied multidisciplinary expertise of more than 40 sectors. Through the IRRRI survey, investors selected Sustainalytics as the best independent responsible investment research firm for three consecutive years, 2012 through 2014 and in 2015, Sustainalytics was named among the top three firms for both ESG and Corporate Governance research. For more information, visit www.sustainalytics.com.

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FOREWORD

In recent years, support for environmental, social and governance (ESG)-focused investments has achieved critical mass. The volume of research literature demonstrating the importance of ESG issues to investment returns grows on an almost weekly basis. The PLSA stewardship survey now suggests almost unanimity across pension funds in agreement with the view that ESG factors are material to long-term returns. We no longer understand ESG as a niche product designed to enshroud investors in a warm glow of righteousness, but as a critical component of the wisest investment strategies.

This change in understanding means that the PLSA's engagement with ESG issues also has to change. From seeking to better understand the importance of ESG to pension fund investors, we now want to help our members fully integrate ESG into their investment strategy. That is why we were delighted to partner with Sustainalytics to publish this discussion paper.

The research by Sustainalytics gets beyond abstract debates about the value of ESG, examining the key ESG risks to investments made on behalf of millions of pension savers in DC default funds, many of whom will have only been recently introduced to pension saving through auto-enrolment. The conclusions proposed by the paper's author Doug Morrow identify practical ways in which pension funds can do more to mitigate these risks.

One of Doug's recommendations is that pension funds undertake more active stewardship of their investee companies in order to mitigate ESG risk. Last year the PLSA published an 'ESG Made Simple' Guide designed to support our members' stewardship activities. We also produced a toolkit designed to help pension funds engage with companies regarding their human capital – the composition, stability, capabilities and engagement levels of their workforce, which this discussion paper suggests is the biggest source of ESG risk at the companies in which DC default funds are most heavily invested.

We will be continuing our work on human capital stewardship in 2017 while also developing other new stewardship resources for our members. The research contained in this paper will be invaluable in helping to ensure that these resources are appropriately targeted, and for this reason we are very grateful to Doug and Sustainalytics for their work in producing the paper. I hope that you will find it an engaging and enlightening read.

Luke Hildyard

Policy Lead: Stewardship and Corporate Governance
Pensions and Lifetime Savings Association

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EXECUTIVE SUMMARY

KEY INSIGHTS

ESG risk exposure of default funds

- ▶ Defined contribution (DC) plan members investing in their scheme's default fund are significantly exposed to a number of ESG risks, including those related to **human capital, business ethics, product safety and data privacy and security**.
- ▶ A fully indexed default fund is likely to contain a **large number of companies that trail in ESG policy**. In the model portfolio we designed to represent a typical default fund, 35% of companies based in human capital-intensive industries have no workforce diversity programme.
- ▶ A typical default fund offered by DC schemes in the UK has a 71% allocation to equity and is most heavily tilted towards **banks** (7.7%), **pharmaceutical companies** (6.4%) and **oil and gas** firms (6.0%).

UK investors increasingly drawn to ESG

- ▶ Based on Eurosif data, we estimate there is **GBP 1.4 trillion in assets** managed by UK investors that incorporate ESG information, up from £500 billion in 2013.
- ▶ There is growing consensus that ESG integration is not value-destroying and may offer a **free hedge against intensifying ESG risks**, including climate change.
- ▶ UK pensions are being nudged towards ESG integration by regulatory trends, including recent **guidance from The Pensions Regulator**, and strong support among UK workers.

Managing ESG risk in DC default funds

- ▶ **Passive trackers that follow ESG indexes** are a cost-effective solution for DC schemes looking to mitigate ESG portfolio risk, particularly in light of the 75 bps charge cap for default funds used by automatic enrolment qualifying schemes.
- ▶ We recommend that DC schemes incorporate ESG risk analysis into their global equity allocation model, as we find **large gaps in ESG performance across equity markets**. UK equity, as proxied by the FTSE 100, has an average ESG score of 66 compared to 61 for the MSCI World and 56 for the MSCI EM.
- ▶ **Forceful stewardship** is a critically important part of minimizing ESG risk for DC schemes and can deliver a range of short- and long-term benefits, including financial, knowledge and signalling value.

Three steps to manage ESG risk in default funds

ESG RISK IN DEFAULT FUNDS

Default funds used by DC plan members in the UK are significantly exposed to a variety of ESG risks, including human capital, business ethics, product safety and data privacy and security. In order to protect against the financial impacts of these and other ESG issues, we recommend that pension schemes (1) explore the use of passive ESG products in their default funds, (2) incorporate ESG factors into their global equity allocation model and (3) develop a forceful stewardship strategy that includes a platform to engage with investee companies on ESG issues.

INTRODUCTION

THE GROWING USE OF DC PLANS

There could be 17 million UK workers enrolled in workplace DC schemes by 2030

The Pension and Lifetime Savings Association (PLSA) commissioned this study from Sustainalytics in order to better understand the environmental, social and governance (ESG) risks facing the default funds offered by defined contribution (DC) pension schemes in the UK. The timing for such an inquiry is propitious. The number of DC plan members in the UK is set to increase dramatically over the next 10 years. The Pension Policy Institute (PPI) forecasts that by 2030 there could be 17 million members enrolled in DC workplace schemes in the UK, up from 11 million today.¹ The value of the aggregate pension pot held by these DC plan members is forecasted to reach £554 billion by 2030, and could potentially be as high as £914 billion, up from £324 billion in 2015.²

Default funds help simplify an overwhelming choice

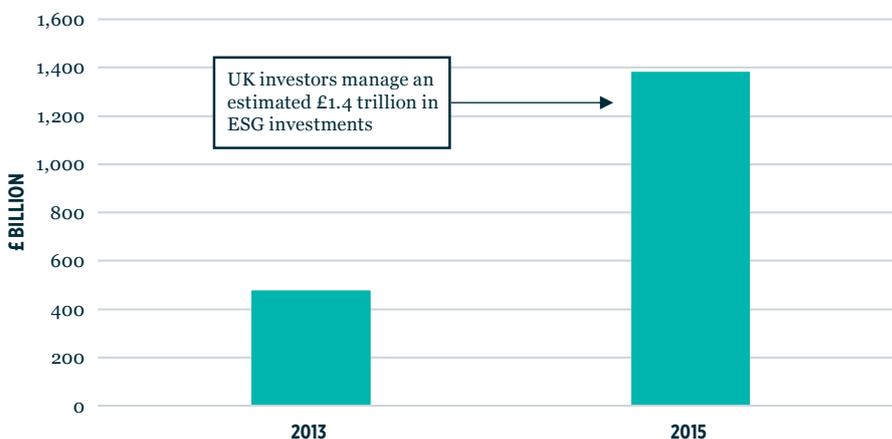
Most of these assets are likely to be held in default funds. According to a 2015 PLSA study, 90% of DC plan members use their scheme's default fund.³ Default funds are widely used because they simplify what is often an overwhelming choice facing plan members. The decisions made by plan trustees and asset managers about the management and composition of default funds will thus have significant implications for the future financial security of UK workers.

ESG AND THE INVESTMENT PROCESS

UK investors manage £1.4 trillion in ESG investments

The timing of this study is also apt given UK investors' growing interest in ESG investment strategies. Based on data collected by Eurosif, we estimate there is £1.4 trillion in assets managed by UK investors that incorporate ESG information through screening, best-in-class, impact investing and other portfolio techniques (up from £500 billion in 2013).

Overview of the UK's ESG market



Source: Sustainalytics, Eurosif⁴

The outperformance potential of ESG information

Investors are integrating ESG information into their investment processes for a variety of reasons. The rationales cover a wide spectrum and include ethical factors, regulatory compliance, reputation management and sheer market pragmatism. An increasingly important integration driver, however, is the belief that ESG information can enhance the quality of investment decision-making. While the empirical findings are mixed, there is a growing consensus that ESG integration is, at the very least, not value-destroying. In the world's largest meta-study on the relationship between ESG and financial performance of listed equities,

over 90% of 2,200 sampled studies found a positive relationship between corporate ESG performance and financial return that is constant over time.⁵

Risk and opportunity from ESG

Effective ESG management is often associated with superior resource efficiency, minimized regulatory actions, improved employee productivity and other drivers of financial value. An additional benefit of a comprehensive ESG strategy is that the downside impacts of many key ESG risks are intensifying. Climate change, energy management, water scarcity, human capital, product safety, supply chain issues, labour relations, community engagement and traditional corporate governance factors – these centres of investment risk (and opportunity) are often difficult to measure, but few would disagree that they are becoming more financially significant over time.

THE INTERSECTION OF DEFAULT FUNDS AND ESG

The confluence of these trends implies that it will be increasingly important for DC pensions in the UK to (1) explore ways for their scheme's default fund arrangement to incorporate ESG information and (2) engage with their external managers and investee companies on material ESG issues.

This study promotes an informed dialogue on ESG risk management in default funds

This study seeks to contribute to this process by promoting a systematic, informed dialogue between DC pensions and their stakeholders on the topic of ESG risk management in default funds. The first chapter outlines the shift from DB to DC plans in the UK and establishes the critical role of default funds. The second chapter summarizes the general investment rationale for ESG integration. In the third chapter, we construct a model portfolio to represent a typical DC default fund and outline the portfolio's most significant areas of ESG risk exposure. The fourth chapter explores ways that pension schemes can minimize ESG risk in their default fund through investment and stewardship activities.

THE DC TRANSITION

Under DB plans, the employer bears investment and longevity risk

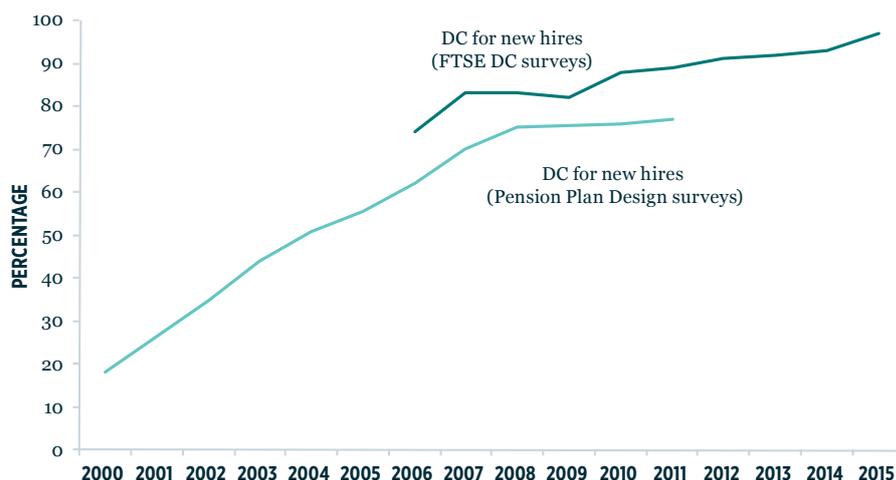
In 2015, 97% of FTSE firms offered DC plans to new hires

MOVING FROM DB TO DC

Private sector employers in the UK are rapidly transitioning from DB to DC schemes. Under traditional DB plans, the benefits that employees receive in retirement are guaranteed, with the benefit dependent on an employee's length of service, salary and other considerations. The employer bears the investment risk (the risk that the scheme fails to achieve the required rate of return) and longevity risk (the risk that retirees live longer than anticipated).⁶ By contrast, DC plans do not provide a pre-determined benefit in retirement. Employees and employers pay a set amount into the plan during the accumulation phase, but the benefit at retirement is contingent on fund performance and other factors. In this scenario, the employee bears the investment and longevity risk.⁷

The chart below neatly summarizes how the DC transition has played out in the UK over the last 15 years. Data collected by Towers Watson for Financial Times Stock Exchange (FTSE) 350 firms show that the proportion of new hires offered DC plans increased from 18% in 2000 to 97% in 2015.

Growth of DC pension provision in the UK



Source: Towers Watson

AUTO-ENROLMENT

Auto-enrolment will affect nine million UK workers by 2018

The growing use of DC pensions is being driven by two primary factors. The first is regulation. The UK's auto-enrolment policy, which was introduced in the Pensions Act 2008 and launched in 2012, compels employers that meet certain basic criteria to enrol their employees in a workplace plan.⁹ It is forecasted that auto-enrolment will affect nine million UK workers by the time the policy is fully rolled out in 2018. These include new savers and existing savers who will be saving more.¹⁰ While employers without an existing pension can set up either a DB or DC scheme to comply with auto-enrolment, the vast majority are expected to use DC plans due to their relative simplicity.

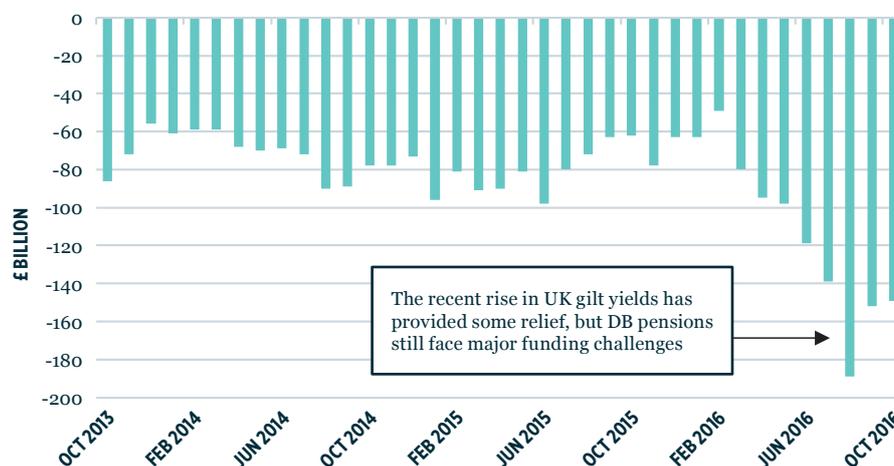
LONGEVITY AND MARKET RISK

Investment and longevity risk are worsening

The DC transition is also being driven by current market conditions. UK retirees (not unlike those in other developed countries) are consistently living longer than expected by actuarial tables, which is increasing the cost of DB plans.¹¹ At the same time, UK bond prices are well above historical norms, which makes it more

expensive for pension funds to buy income for retirees. While prices are down (and yields up) from their all time low in August 2016, major uncertainties remain about the funding levels of DB plans across the UK. According to data from Mercer, the accounting deficit (i.e. the gap between a pension's assets and future liabilities) of the FTSE 350's DB pension schemes stood at £149 billion at the end of October 2016.¹²

DB pension deficit at FTSE 350 companies



Source: Mercer

THE CRITICAL ROLE OF DEFAULT FUNDS

According to the PLSA's latest annual survey, 90% of workplace pension members use the default fund

Perhaps less well known than the growing use of DC plans is the critical role played by default funds. The default fund, which is offered by 97% of pension schemes in the UK,¹³ is the fund that members will automatically have their contributions invested in if they do not make an active choice to invest in a different fund.¹⁴ While DC pension schemes offer, on average, 15 different investment fund choices,¹⁵ the vast majority of members use their scheme's default fund. According to a 2015 study prepared by the Pensions Policy Institute, 85% of the 11 million active members in UK DC workplace schemes are invested in their schemes' default fund.¹⁶ This dovetails with recent findings from the PLSA, whose 2015 survey found a 90% participation rate in the default fund.

The default fund helps plan members deal with an otherwise complex decision

There is no great mystery behind the popularity of default funds. Research conducted by the Centre for Risk & Insurance Studies at the University of Nottingham found that the default fund is an obvious choice for the uninformed member, as it is seemingly endorsed by the sponsoring employer or pension plan provider, and helps simplify an otherwise complex decision.¹⁸ Indeed, one of the most significant criticisms levelled against DC plans is that they download responsibility for financial and retirement decision-making onto employees.¹⁹ While DB plans, by contrast, do not impose such responsibilities on plan members, weaknesses in both approaches have recently prompted discussions of hybrid structures, such as "defined ambition" pensions.²⁰

TIGHTENING REGULATION

UK regulators have set new requirements for the governance of default funds

Due to the widespread use of the default fund by DC plan members, and evidence that the annual returns of default funds in the UK have varied by as much as 6% per year owing to differences in investment strategy,²¹ UK regulators have moved in recent years to improve the governance of default funds and impose greater oversight responsibilities on trustees. The most prominent changes include a charge cap of 75 basis points (bps) for default funds used by automatic enrolment qualifying schemes, and requirements for trustees of workplace DC schemes to ensure that:

Passive products have a cost advantage

- ▶ default funds are designed in members' best interests
- ▶ financial transactions are prompt and accurate
- ▶ charges and costs are assessed for "good value" for members.

As we discuss below, the charge cap of 75 bps creates an advantage for passive investment products, including those that incorporate ESG factors, because they tend to be significantly less expensive than actively managed products (although the costs of actively managed funds are expected to decline). Moreover, the expanded trustee requirements are consistent with DC schemes and pension managers playing a more active stewardship role on ESG issues.

THE RISE OF ESG

INVESTOR INTEREST TAKES OFF

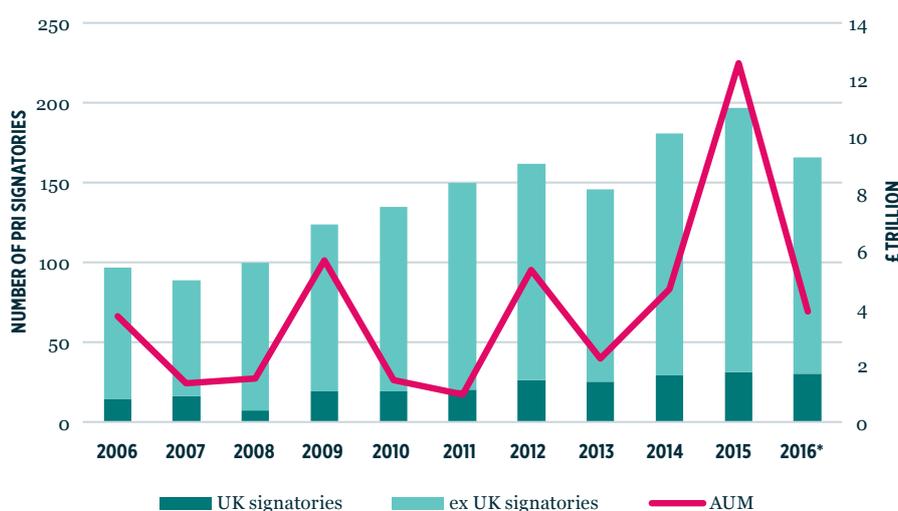
UK investors manage £1.4 trillion in ESG investments

Mirroring the increased use of DC plans, recent years have witnessed a surge of investor interest in ESG. Signs of the investment community’s growing interest in ESG are manifest and include continued growth in the volume of managed assets that incorporate ESG research, increasingly sophisticated integration approaches, and the integration of ESG factors across asset classes, including fixed income and alternatives. As mentioned above, as of the end of 2015, we estimate that UK investors held £1.4 trillion in assets under management (AUM) that incorporated ESG information in some capacity (up nearly three times from 2013).²³ Common strategies include negative screening, best-in-class selection and impact investing.

The PRI have been endorsed by over 1,600 signatories, with collective AUM of £43 trillion

Investors’ budding interest in ESG is also reflected in the United Nations-supported Principles for Responsible Investment (PRI). The PRI is a major collaborative initiative through which institutional investors have committed to incorporate ESG factors into their investment and ownership practices. The PRI have been endorsed by over 1,600 signatories, with collective AUM of £43 trillion, up from 97 signatories with collective AUM of £4 trillion in 2006.²⁴ With 236 signatories, the UK only trails the US as the most represented country within the UN PRI.

Growth in PRI signatories and assets by year, 2006–2016



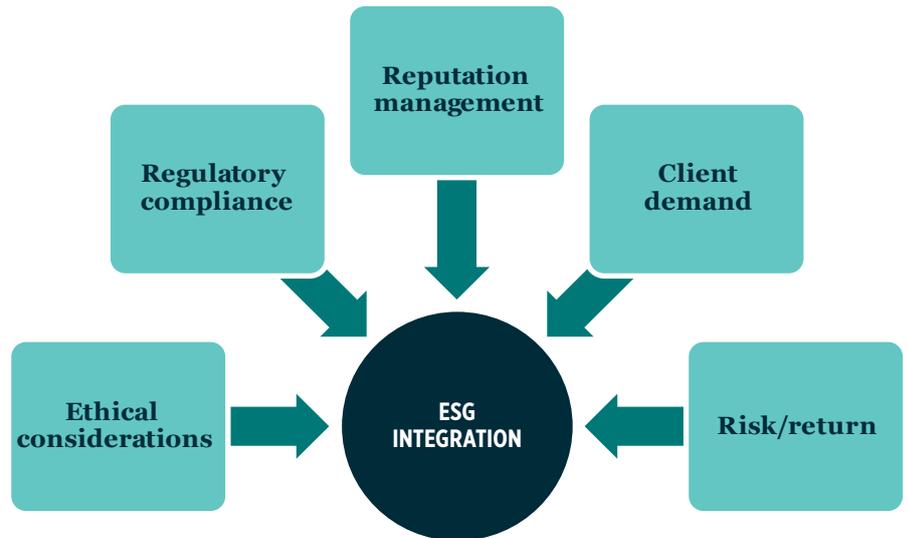
* Data for 2016 as of April. Source: UN PRI

THE DRIVERS OF ESG INTEGRATION

Asset owners are increasingly implementing ESG criteria in manager RFPs

Investors are being drawn to ESG for a variety of reasons. These include ethical considerations, compliance with regulation (such as controversial weapons legislation in Europe), reputation management and market pragmatism, as asset owners are increasingly implementing ESG criteria in requests for proposals (RFPs) for external asset managers. In fact, growing demand from institutional clients was recently singled out as the most critical driver of ESG integration in a survey of 400 US asset managers conducted in 2016 by the Morgan Stanley Institute for Sustainable Investing and Bloomberg LP.²⁵

Key drivers of ESG integration



Source: Sustainalytics

ESG as a tool to enhance risk and return

Coupled with these factors is the thesis that ESG information can enhance the quality of investment decision-making, either by reducing risk (i.e. minimizing portfolio volatility) or improving risk-adjusted returns (i.e. an alpha signal). Both factors were recently cited as key integration drivers in a survey of 200 global institutional investors conducted by Ernst & Young²⁶ and dovetail with broad investor sentiment in the UK. According to the 2016 PLSA Stewardship Survey, 93% of UK pension funds agree that ESG factors are material to investment returns, up from 81% in 2013.²⁷

PORTFOLIO VALUE OF ESG

There is growing consensus that ESG integration does not damage returns

The extent to which ESG information can add incremental value in a portfolio strategy is a question that has been subjected to considerable empirical inquiry over the last 10 years. The table on page 15 summarizes the results from five of the most prominent studies in the oeuvre. While the studies focus on different dimensions of ESG performance – some focus on year over year improvements instead of absolute scores, and others focus on industry-specific indicators instead of broader ESG measures – they generally support the claim that ESG integration does not damage returns and may offer outperformance potential. As mentioned earlier, the world's largest meta-study on the relationship between ESG performance and corporate financial performance found that over 90% of 2,200 sampled studies demonstrated a positive relationship between ESG performance and financial return.²⁸

Summary of recent ESG and financial performance literature

STUDY	DATE	ORGANISATION	SCOPE	KEY FINDINGS
The materiality of ESG factors for equity investment decisions: academic evidence	April 2016	NN investment partners	3,000 listed companies	Incremental changes in ESG scores are a better indicator of future financial performance than absolute ESG scores
ESG and financial performance: aggregated evidence from more than 2,000 empirical studies	December 2015	Journal of Sustainable Finance & Investment	2,200 studies	90% of reviewed studies find a non-negative relationship between corporate ESG performance and corporate financial performance
Research analysis on environmental, social and corporate governance factor materiality for equity portfolios	May 2015	risklab (Allianz Global Investors)	197 studies	The majority of analyzed studies report a positive relationship between sustainability scores and stock price performance
Corporate sustainability: First evidence on materiality	March 2015	Harvard Business School	2,307 listed companies	Companies with good performance on material sustainability issues for their industry significantly outperform companies with poor performance on these issues
From the stockholder to the stakeholder: How sustainability can drive financial outperformance	September 2014	Arabesque Partners and University of Oxford	190 studies	80% of reviewed studies demonstrate that ESG factors have a positive effect on investment performance

Source: Sustainalytics²⁹

RATIONALE FOR FINANCIAL VALUE FROM ESG

Effective ESG performance requires financial resources

It is worth briefly exploring why this may be the case. After all, effective ESG performance typically requires financial resources to support beyond-compliance environmental and social programmes and a transparent corporate reporting function. Researchers have found a variety of benefits associated with advanced ESG performance, including superior resource and energy efficiency,³⁰ the ability to attract and retain higher quality employees,³¹ more effective marketing of products and services and a reduced likelihood of incurring negative regulatory, legislative or fiscal penalties.³² More broadly, corporate ESG performance is often seen as a proxy for overall management quality.³³

The financial impact of many ESG themes is intensifying

On a forward-looking basis, a more crucial factor may be that the financial impacts of many key ESG themes appear to be escalating. These themes include:

- ▶ climate change
- ▶ energy management
- ▶ water scarcity
- ▶ human capital management
- ▶ product safety
- ▶ supply chain issues
- ▶ community engagement
- ▶ corporate governance factors

The Paris Agreement has raised the market's awareness of the financial impacts of climate change

The growing materiality of these themes is reflected in increasing levels of generalized ecosystem stress, broad-based changes in consumer preferences and tightening regulation. The entry into force of the Paris Agreement in November 2016, together with the December release of reporting guidelines from the Task

Force on Climate-Related Financial Disclosures,³⁴ have also played an important role in raising the market's awareness of the growing financial impacts of climate change and energy issues.

UK-SPECIFIC FACTORS

In a UK pension fund context, ESG integration is also being driven by two additional factors: (1) strong support among pension members and (2) regulatory momentum.

STRONG SUPPORT AMONG PENSION CONTRIBUTORS

A PLSA survey found that 70% of UK workers support ESG integration

A 2014 survey conducted by the PLSA found that 70% of UK pension scheme members want their pension provider to invest in companies that avoid unethical practices, such as poor working conditions.³⁵ Nearly half (49%) of surveyed scheme members also said they would support ethical investing even if it meant accepting a lower rate of return or higher volatility.³⁶ This echoes the results of a more recent survey conducted by Legal and General Investment Management (LGIM). In 2016, LGIM surveyed 1,600 pension scheme members and found that 81% want their pension scheme to be invested in companies with advanced social and environmental practices.³⁷

A NUDGE FROM THE PENSIONS REGULATOR

Trustees should consider ESG factors

UK investors are also being nudged towards ESG integration by favourable regulatory developments. In July 2016, The Pensions Regulator published new guidance that encouraged trustees of trust-based pension schemes to consider ESG factors in investment decision-making, where such factors are believed to be financially significant.³⁸ This ruling endorses an approach to fiduciary duty recommended by the 2014 Law Commission and reaffirms that trust-based schemes are required to comment on the extent to which ESG considerations are taken into account in the selection, retention and realisation of investments in their statement of investment principles.³⁹

IORP2 was approved by the European Parliament in November 2016

This move is consistent with the Occupational Retirement Provision (IORP2) directive that was approved by the European Parliament in November 2016.⁴⁰ The directive requires workplace pensions in the European Union (EU) to assess ESG issues, including climate change, in their investment process.⁴¹ While Brexit, which the May government is expected to formally trigger by March 2017, may allow UK-based pension schemes to circumvent this directive, we do not anticipate a sudden relaxation in ESG policy by UK pension regulators in a post-Brexit environment (a position Sustainalytics recently argued in the 'Brexit Spotlight' report).⁴²

AN ESG RISK MAP

ASSESSING THE ESG RISKS OF A TYPICAL DC DEFAULT FUND

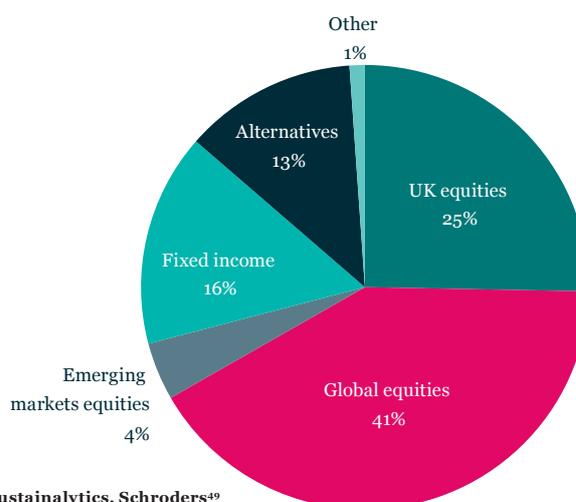
A typical default fund has a 71% allocation to equity

In this chapter, we look at the most significant areas of ESG risk exposure for default funds offered by DC schemes in the UK. We focus our analysis on a typical default fund using data from Schroders FTSE Defined Contribution Report.⁴³ This dataset shows the average asset allocation of the default funds offered by the DC pensions of FTSE 350 firms as of the end of Q1 2016. This information provides insight into how pension providers across the UK are broadly positioning default fund assets in the accumulation phase. As shown below, equity exposure totals 71%, down from 82% in Q1 2013, with 25% in UK equity, 41% in global equity and 4% in emerging markets (EM) equity.⁴⁴ The reduced exposure to equities has been offset by an increase in fixed income (up from 9% in 2013 to 16% today) and alternatives (up from 7% to 13%).⁴⁵

ESG can also impact returns from fixed income and alternatives

Despite the growing importance of fixed income and alternatives in the composition of default funds, for reasons of scope, we restrict our analysis to equities. However, the financial effects of the ESG issues we discuss below are certainly not confined to equity. Indeed, there is an emerging body of evidence showing that ESG integration can improve risk-adjusted returns in corporate and sovereign debt portfolios,⁴⁶ as well as private equity⁴⁷ and real estate transactions.⁴⁸

Average asset allocation of default funds offered by DC pensions of FTSE 350



Source: Sustainalytics, Schroders⁴⁹

EQUITY ANALYSIS

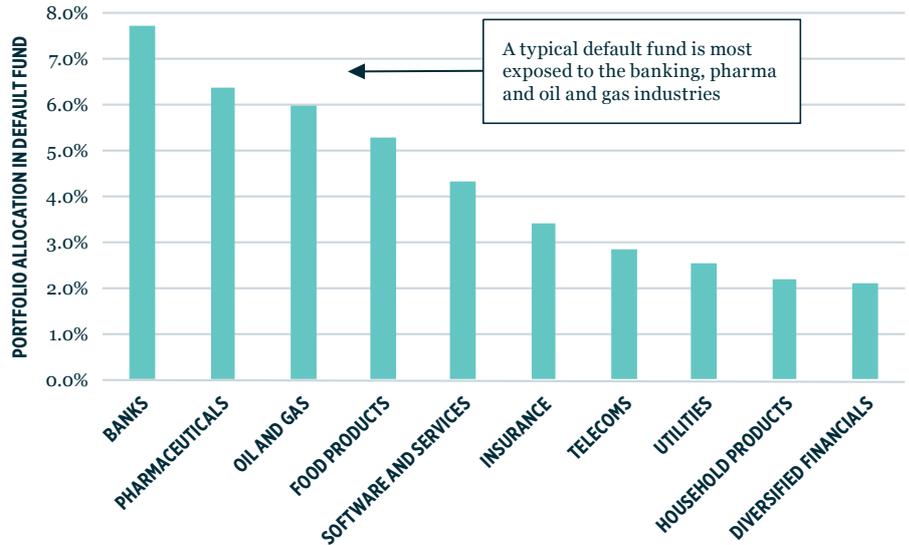
Our model portfolio holds equities at their market weight

Our model portfolio consists of three broad, market-cap weighted indexes to reflect the equity distribution of a typical FTSE 350 default fund: the FTSE 100 (UK equities), the MSCI World (global equities) and MSCI EM (emerging markets equities). This approach assumes that equities are held at their market weight, which is consistent with the growing use of passive trackers by UK pension providers (and by investors in general). We return to this point on page 24.

A typical default fund has a total portfolio allocation of 7.7% in banks

Our model portfolio includes companies from 42 industries, based on the industry breakdown of the FTSE 100, MSCI World and MSCI EM.⁵⁰ We estimate that a typical default fund in the UK is most heavily weighted towards banks (7.7% total portfolio allocation), pharmaceutical companies (6.4%) and oil and gas firms (6.0%).

Ten most heavily weighted industries in a typical default fund



Source: Sustainalytics, Bloomberg

ESG RISKS THROUGH AN INDUSTRY LENS

Gross ESG risk exposure is largely a function of industry

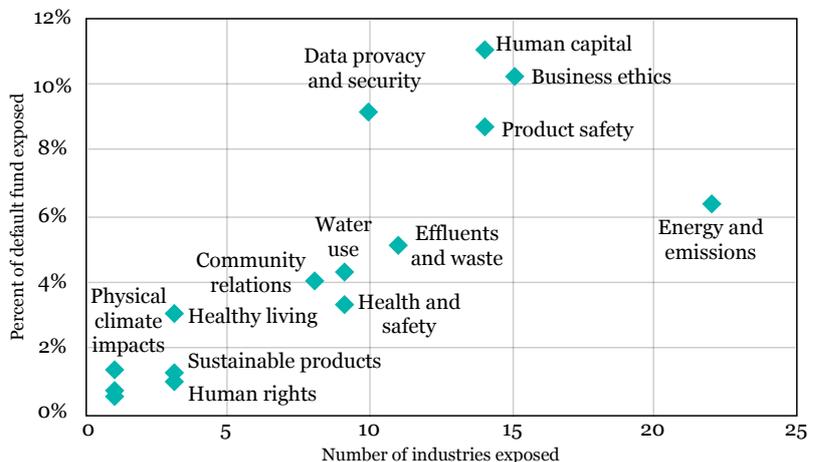
Understanding a portfolio's industry distribution is critical because ESG risk exposure is primarily a function of industry. A bank, for instance, has a very different ESG risk profile to an oil and gas company. Risk exposure depends on factors such as product type, the nature of operations, methods of production, types of raw materials, etc., which typically vary by industry. Companies *within* industries can mitigate ESG risk by implementing relevant policies or programmes, but their gross ESG risk exposure is driven by the industry in which they operate.

MAPPING RISKS TO A TYPICAL DEFAULT FUND

The ESG risk map shows key ESG issues facing a typical DC default fund

The most significant ESG issues for a typical DC default fund in the UK are shown in the risk map below. The issues are plotted on two dimensions: the number of industries for which they are a key ESG issue (horizontal axis), and the total portfolio weight of industries exposed to each issue (vertical axis). We allocated each industry's portfolio weight to the most material ESG issues for that industry, based on Sustainalytics' assessment of each issue's business impact and general industry trends. For instance, the 7.7% portfolio allocation to banks was transferred to business ethics (3.0%), data privacy and security (2.4%), and human capital (2.4%).⁵¹ While this approach does not capture the full range of ESG issues that are relevant for specific sectors, it ensures a focus on ESG issues that can have immediate material effects.

An ESG risk map for a typical default fund



KEY ESG ISSUES

Human capital, business ethics and product safety stand out as key ESG issues

This analysis supports a number of key conclusions that can be drawn about the ESG risk exposure of a typical default fund. The first is that human capital, business ethics, product safety and data privacy and security stand out as the most material ESG issues from an overall portfolio perspective. Some investors may find this surprising, as these issues tend to receive less coverage than high-profile ESG themes, such as climate change or human rights. But these issues are of central importance in many of the industries that happen to be overweighted in a typical DC default fund, including banks, pharmaceuticals and food products (which together account for over 19% of a typical default fund's total allocation). The table below shows a sample of key ESG issues for the five most heavily weighted industries in our model portfolio.

Summary of key ESG issues in a typical default fund

INDUSTRY	PORTFOLIO WEIGHT	KEY ESG ISSUES		
Banks	7.7%	Business ethics	Data privacy and security	Human capital
Pharmaceuticals	6.4%	Business ethics	Human capital	Product safety
Oil and gas	6.0%	Community relations	Effluents and waste	Health and safety
Food products	5.3%	Healthy living	Product safety	Water use
Software and services	4.3%	Business ethics	Data privacy and security	Human capital

Source: Sustainalytics

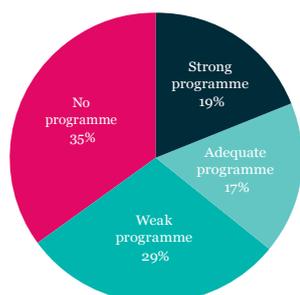
HUMAN CAPITAL – A CRITICAL VALUE DRIVER IN KNOWLEDGE AND RESEARCH INDUSTRIES

Human capital management is a fundamental value driver, particularly in knowledge- and research-intensive industries such as banking, pharmaceuticals, software and diversified financials. In these industries, strategies for recruiting, training and retaining employees are central to a company's long-term success. A discussion paper published by the PLSA in 2015 noted the poor levels of disclosure relating to a company's corporate culture and working practices in UK companies' annual reports.⁵² In recognition of the growing importance of workforce management and engagement, the PLSA subsequently developed a stewardship toolkit, recommending that pension funds encourage investee companies to improve their human capital reporting using standardized performance metrics.⁵³

An increasingly important component of human capital management, and one flagged in the PLSA's toolkit, is diversity. Companies with gender and ethnically diverse management teams and boards of directors have been linked with improved business performance, increased productivity and better customer relationships.⁵⁴

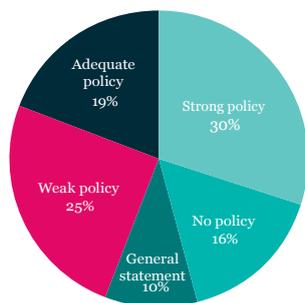
Our analysis suggests that a typical DC default fund may be leaving much of this value on the table. As shown in the chart to the left, of the 530 companies in our model portfolio that operate in knowledge-driven industries, only 102 (19%) have a strong workforce diversity programme characterized by targeted recruitment, diversity audits and employee training. Moreover, 183 of these companies (35%) have no diversity programme of any description.

Diversity programmes



Source: Sustainalytics

Bribery and corruption policies



Source: Sustainalytics

BUSINESS ETHICS – INCREASING REGULATORY AND PUBLIC SCRUTINY

Business ethics is not only a material issue in the banking industry, which has paid out more than £155 billion in fines over the last seven years due to ethical lapses and poor internal controls,⁵⁵ but in a broad cross-section of the economy, including the insurance, media and construction materials industries. The recent spate of high-profile ethical violations (such as those involving JP Morgan, Volkswagen and Valeant) has led to increased regulatory and public scrutiny of corporate behaviour, and has heightened the brand and financial repercussions for ethical missteps.

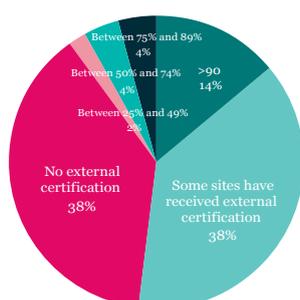
Of the 986 companies in our model portfolio that operate in industries significantly exposed to business ethics risks, only 299 (30%) have an advanced bribery and corruption policy, which includes a definition of conflicts of interest, expressly prohibits facilitation payments and includes guidelines about what is considered acceptable behaviour. Potentially of greater concern is that over one-quarter of these 986 companies either have no policy at all (16%) or have only a general bribery and corruption statement (10%).

PRODUCT SAFETY – RISKS FROM CONTAMINATION, MISLABELLING AND DEFECTIVE PRODUCTS

Product safety also sits in the upper right quadrant of the risk map on page 18, indicating the issue's financial importance and relatively systemic exposure across our model portfolio. Product safety captures the risks that companies face from product contamination, mislabeling and defective products. Many industries, notably automobiles, food products, healthcare, household products and transportation infrastructure, are subject to extensive regulatory oversight on product safety issues, and failure to deliver safe and high-quality products can lead to large financial penalties, lawsuits and reputational damages, in addition to life-threatening risks for customers.

Sustainalytics' quality management system (QMS) certifications indicator, which looks at the proportion of a company's operating facilities whose QMS has received external certification, is one proxy for companies' preparedness to manage product safety risks. Of the 471 companies in the model portfolio that operate in industries highly exposed to product safety risks, only 67 (14%) have received external QMS certifications at more than 90% of their production sites. At the other end of the spectrum, 180 of these companies (38%) report no external certification of their QMS.

QMS certifications



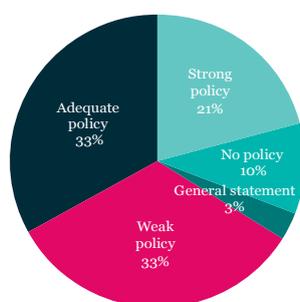
Source: Sustainalytics

DATA PRIVACY AND SECURITY

The risk map on page 18 is also notable in that it picks up on growing investor concern over data privacy and security issues. The costs of cybercrime, including lost revenue for companies caught up in cyberattacks, are expected to reach £5 trillion by 2021, up from £320 billion in 2015.⁵⁶ A typical default fund is exposed to data privacy and security through its allocation to information industries that store large amounts of confidential information (including banks, healthcare, insurance, media and telecoms) and to industries that are responsible for data management services (including software and technology). A typical default fund has a 9% allocation to these industries.

Sustainalytics' data privacy policy indicator measures the sophistication of companies' approach to data privacy and security issues, and serves as a general proxy for their preparedness to manage data breaches. The indicator is currently limited to software, media and telecom companies.⁵⁷ Of the 263 software, media and telecom companies in the model portfolio, only 55 (21%) have a strong data privacy policy that includes a commitment to implement leading data security safeguards, clear terms for the use of personally identifiable information and a provision to notify data subjects in a timely manner following a data breach.

Data privacy policies



Source: Sustainalytics

Despite the growing materiality of data privacy and security issues, recently punctuated by Yahoo!'s announcement in December that it had suffered a breach affecting over one billion accounts,⁵⁸ 10% of software, media and telecom companies in the model portfolio do not disclose any type of data privacy policy and 33% have a weak policy that is short on specific commitments.

SUMMARY – A LACK OF POLICIES TO MITIGATE ESG RISK

A typical default fund is most exposed to ESG risks associated with human capital, business ethics, product safety and data privacy and security. Our analysis shows that a fully indexed default fund is likely to contain a large number of companies that have either not taken all possible policy steps to mitigate risks in these areas, or have not implemented any relevant policies or programmes at all.

CLIMATE CHANGE

Energy and emissions is a key ESG issue in 22 industries

Our approach to assessing climate change focuses on the associated physical impacts, and market and regulatory effects for energy and emissions management, as these are the main avenues through which the risks (and opportunities) of climate change are transmitted to business. Physical climate impacts emerge in the bottom left quadrant of the risk map, and energy and emissions, which impacts 22 industries in our model portfolio, shows up in the upper right quadrant.

The model portfolio has a 3.4% allocation to the insurance industry

Industries experience climate change in different ways. The financial repercussions of physical climate impacts, such as rising sea levels and the growing frequency of extreme weather events, are principally felt by the insurance industry (and more specifically by the reinsurance segment). A typical default fund offered by DC schemes in the UK has a relatively small 3.4% allocation to the insurance industry.

Climate change is not of equal financial importance across industries

In the case of energy and emissions, which captures risks related to carbon regulation, energy price increases and fuel switching, 22 industries are affected, including electric utilities, automobiles and construction materials. Energy and emissions is the most systematically important ESG issue, affecting more industries than any other single ESG issue. While the recent recommendation from the Task Force on Climate-related Financial Disclosures calls for a single set of industry-wide climate disclosures,⁵⁹ this should not diminish the need for improved disclosure on industry-specific climate metrics, such as those developed by the Sustainability Accounting Standards Board (SASB).

MANAGING ESG RISK

INVESTMENT AND OWNERSHIP STRATEGIES

Plan members often have to opt-in to ESG products

In this chapter, we explore how pension schemes and their asset managers can manage ESG risks in their investment and ownership strategies. It is worth restating that we are concerned with DC schemes' default fund offering. Many DC plans offer standalone ethical or ESG funds, but plan members have to voluntarily opt-in to these products. For example, a DC pension provider might offer an ethical fund that consists of a number of ESG equity and fixed income products, but refrain from offering products that incorporate ESG considerations into investment decisions as part of the default funds used by the majority of their customers.

THE USE OF PASSIVE ESG PRODUCTS

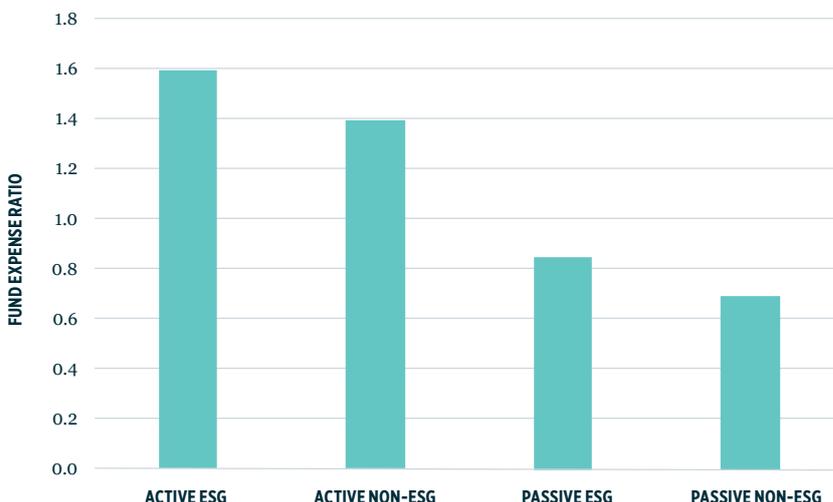
Passive ESG products are a cost-effective solution

Passive trackers that follow an ESG index are a cost-effective solution for DC schemes looking to manage ESG risks in their default fund. Passive trackers are widely used by DC schemes in the UK: 44% of the respondents to the PLSA's 2015 survey use passive trackers in the growth phase of their scheme's default fund, more than multi-asset funds (30%) or diversified growth funds (22%).⁶⁰

Global AUM in passive funds is up 230% since 2007, compared to 54% for active funds

As shown in the chart below, passive ESG and non-ESG funds domiciled in the UK are significantly less expensive than their actively managed counterparts. Costs are an important consideration, particularly given the charge cap of 75 bps for default funds used by automatic enrolment qualifying schemes. But the industry shift to passive products – global AUM in passive funds have grown by 230% since 2007 compared to 54% for active funds⁶¹ – is also being driven by the poor performance of active strategies. Four out of five active equity funds in Europe failed to beat their benchmark over the past five years, and 86% failed over the past 10 years.⁶²

Expense ratio of UK domiciled equity funds



Source: Sustainalytics, Bloomberg⁶³

HSBC's DC default fund uses Legal & General's Future World Fund

The idea of using passive ESG products in a default fund may be novel, but it was recently given proof of concept. In November 2016, HSBC's £2.6 billion DC scheme announced that the full equity allocation of its default fund will invest in Legal & General's Future World Fund, which tracks the FTSE All-World ex CW Climate Balanced Factor Index.⁶⁴ The index is factor-weighted and applies a climate tilt to

increase exposure to companies expected to benefit from a low-carbon transition, and decrease exposure to companies with above-average emissions and fossil fuel assets.⁶⁵

THE FINANCIAL PERFORMANCE OF ESG VERSUS NON-ESG INDEXES

ESG indexes offer a similar risk/return profile to that of traditional market benchmarks

The table below shows the price returns for a sample of ESG indexes covering UK, global and emerging markets equity, as well as market benchmarks for comparison purposes. ESG indexes often demonstrate a risk/return profile similar to that of traditional market benchmarks but offer a free hedge against future ESG risk (which, as discussed earlier, appears to be increasing over time). The scope of the hedge depends on the specifics of each index, including which type of ESG information is used and how it is weighted in index construction. There are approximately 500 ESG indexes worldwide.⁶⁶

Selected ESG indexes and market benchmarks

INDEX	ASSET CLASS	NUMBER OF CONSTITUENTS	PRICE RETURN (5 YR)	PRICE RETURN (3 YR)	PRICE RETURN (1 YR)
FTSE4Good UK 50	UK equity	50	33.7%	3.8%	4.4%
MSCI UK ESG Index	UK equity	58	40.1%	2.6%	-0.9%
FTSE 100	UK equity	100	23.2%	2.0%	6.7%
Stoxx Global ESG leaders	Global equity	345	39.5%	10.2%	-8.8%
MSCI World ESG Index	Global equity	823	42.2%	4.5%	1.0%
Dow Jones Sustainability World Index	Global equity	319	24%	-5.5%	-0.5%
FTSE4Good Global Index	Global equity	812	43.3%	1.8%	-1.0%
MSCI World	Global equity	1,628	44.5%	5.1%	1.0%
Dow Jones Sustainability Emerging Markets	Emerging markets equity	95	N/A	-9.2%	11.7%
MSCI Emerging Markets ESG Index	Emerging markets equity	414	N/A	-13.0%	0.6%
MSCI Emerging Markets	Emerging markets equity	817	-7.1%	-15.3%	6.0%

Source: Bloomberg

THE LOCK-UP CHALLENGE OF PASSIVE PRODUCTS

Difficult to quickly exit a company experiencing a damaging ESG controversy

One disadvantage to passive ESG products is that ESG indexes are normally reviewed annually or semi-annually. As a result, companies that suffer a damaging controversy, such as a major pipeline spill, human rights violation or product safety lapse, can remain in an investor's portfolio for up to 50 weeks after the onset of the incident. An active manager has greater flexibility to exit their position or quickly reduce their exposure to companies caught up in major ESG incidents. Despite this drawback, passive ESG products are a cost-effective and relatively transparent way for DC pension schemes to hedge exposure to ESG risk.

GLOBAL EQUITY ALLOCATION

Notable differences in average ESG score

DC schemes can also mitigate ESG risk by incorporating ESG risk analysis into their global equity asset allocation. As shown in the table below, the three indexes in our model portfolio have notably different average ESG scores. The FTSE 100 has an average ESG score of 66, compared to 61 for the MSCI World and 56 for the MSCI EM.

UK equity is less risky from an ESG perspective

This analysis shows that DC pension schemes can reduce ESG risk in their default funds by tilting towards UK equity. FTSE 100 companies score favourably in Sustainalytics' rating model due to their relatively advanced ESG policies and programmes and disclosure practices. Average ESG risk is higher among MSCI EM firms due to emerging markets' generally lower ESG reporting requirements. Of course, UK equities are not immune to ESG controversy and there remains considerable room for improvement in UK-listed companies' ESG risk management practices. Moreover, UK equity investors are still exposed to risks associated with the poor (but improving) ESG transparency of emerging markets, as many FTSE 100 constituents have a global operational footprint. But on average, UK equities are better prepared to manage ESG risk than those in other markets.

Performance of market benchmarks on selected ESG metrics

MARKET	INDEX	CONSTITUENTS	AVERAGE MKT CAP US\$ MILLION	AVERAGE SUSTAINALYTICS ESG SCORE	ENVIRONMENTAL MANAGEMENT SYSTEM	GHG REDUCTION PROGRAMME	SUPPLY CHAIN MONITORING
UK equity	FTSE 100	102	16,811	66	82%	90%	33%
Global equity	MSCI World	1,628	21,561	61	64%	69%	24%
Emerging markets equity	MSCI EM	817	10,652	56	46%	43%	16%

Source: Sustainalytics, Bloomberg

Over four-fifths of FTSE 100 firms have an advanced environmental management system

The table above also compares the indexes in our model portfolio on three ESG indicators that are broadly relevant across the economy. While four out of five FTSE 100 firms have an advanced environmental management system in place, this figure drops to 64% for the MSCI World and 46% for the MSCI EM. Similarly, 90% of FTSE 100 firms have a comprehensive greenhouse gas (GHG) reduction programme in place, compared to 69% for the MSCI World and 43% for MSCI EM.

The industry composition of the three indexes in our model portfolio varies

This analysis does not take into account differences in the industry composition of the FTSE 100, MSCI World and MSCI EM. For instance, oil and gas companies make up 13% of the FTSE 100 and just 5% of the MSCI World, while software and services firms comprise 11% of the MSCI EM and just 1% of the FTSE 100. Still, as environmental management systems, GHG reduction programmes and supply chain monitoring programmes have broad cross-sector relevance, this analysis reinforces the heightened ESG risk that investors are taking on with emerging markets equity and, to a lesser extent, global (developed markets) equity.

Equity allocation is obviously driven by many different factors, but given the growing financial materiality of ESG issues, it is prudent for DC pension schemes and their external managers to add ESG risk exposure into the equation.

FORCEFUL STEWARDSHIP

The boundaries between stewardship activities and ESG integration are blurring

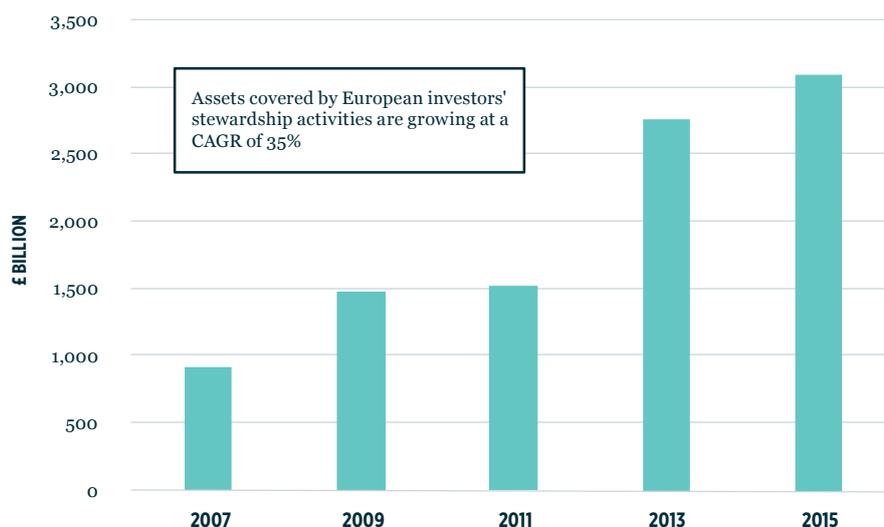
DC schemes can also manage ESG risk in their default fund through stewardship activities. Stewardship and portfolio-level ESG integration have historically been viewed as separate functions, but the boundaries between these activities are blurring. For a growing number of asset owners, voting and engagement practices are simply part of an overarching ESG integration process.⁶⁷ Forceful stewardship is thus a critically important part of minimizing ESG risk, even if a passive ESG strategy is also in place.⁶⁸

The notion that pension funds have stewardship responsibilities is widely accepted by UK investors

Stewardship strategies typically involve two components: engaging with investee companies to encourage (more) responsible social and environmental practices, and developing proxy voting guidelines that cover environmental and social (in addition to corporate governance) issues. While the 2014 Law Commission does not impose a legal obligation on DC schemes or their trustees to carry out stewardship activities, it is generally recognized that advanced stewardship practices can deliver a range of benefits to asset owners, as we discuss below. According to the PLSA's most recent (2015) Stewardship survey, 98% of respondents agreed that pension funds have stewardship responsibilities, up from 94% in 2014.⁶⁹

The chart below demonstrates the increase in the volume of assets covered by European investors' stewardship strategies. The stewardship asset pool increased from just under £1 trillion in 2007 to £3.1 trillion at the end of 2015.

Assets subjected to stewardship activities by European investors

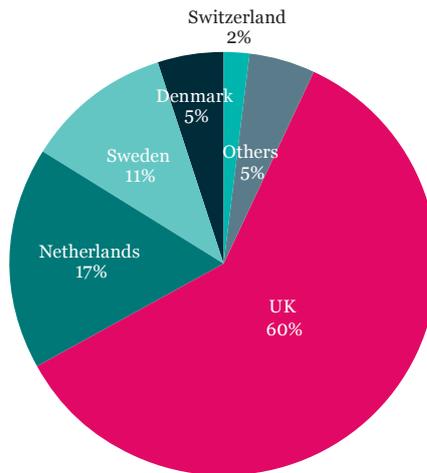


Source: Eurosif⁷⁰

UK investors account for 60% of Europe's engagement and voting market

DC schemes in the UK are operating in what is arguably the world's most sophisticated stewardship market. UK investors account for 60% (£1.9 trillion) of Europe's £3.1 trillion in financial assets covered by engagement and voting policies. Investor stewardship in the UK has been aided by a comparatively progressive regulatory and policy environment, including the publication of the UK Stewardship Code (2010)⁷¹ and the Kay report (2012)⁷² as well as codes and guidelines developed by industry and civil society, such as the PLSA's annually updated Corporate Governance Policy and Voting Guidelines.⁷³

Engagement and voting in Europe – market share by country



Source: Eurosif⁷⁴

Stewardship can deliver seven types of value

VALUE OF ENGAGEMENT

The conventional rationale for stewardship is that it unlocks financial value for asset owners and their beneficiaries. However, a recent paper published by Sustainalytics and Cass Business School identified a much broader range of value types that can be captured by investors and investee companies through engagement.⁷⁵ These include knowledge value, which investors can apply in subsequent investment decision-making, and signalling value, which raises companies' awareness of key ESG issues for investors.

Types of value created by engagement

TYPES OF VALUE OF ENGAGEMENT	DEFINITION OF VALUE	DESCRIPTION OF VALUE CREATION	BENEFICIARIES OF VALUE CREATION
Financial value	Value from increased financial performance of investee companies	<ul style="list-style-type: none"> ▶ Improving a firm's ESG performance through engagement may increase its market value and enhance risk-adjusted returns 	Benefit to institutional investors, their clients and beneficiaries in medium to long term
Stewardship value	Value of fulfilling fiduciary duty and broader social accountability	<ul style="list-style-type: none"> ▶ Engagement assists institutional investors to address their financial and extra-financial duties of care and stewardship ▶ Engagement enhances the legitimacy of investors in the eyes of their clients, beneficiaries and broader stakeholders 	Benefit to institutional investors, their clients and beneficiaries, regulators and broader stakeholders in the medium to long term
Knowledge value	Value of knowing more about the investee companies	<ul style="list-style-type: none"> ▶ Engagement increases internal institutional investor ESG knowledge and expertise, which enhances investment decision-making and ESG integration 	Benefit to institutional investors in the short/medium/long term
Collaborative value	Value from enhanced collaboration between financial and ESG analysts	<ul style="list-style-type: none"> ▶ Engagement allows for greater interaction and collaboration between ESG and financial analysts, facilitating the internal diffusion of ESG knowledge and advances in ESG integration ▶ Closer collaboration between ESG and financial analysts through engagement helps to break down internal barriers 	Benefit to institutional investors in the short/medium/long term
Signalling value	Value from raising company awareness of investor ESG concerns/preferences	<ul style="list-style-type: none"> ▶ Engagement can alert (potential) investee companies to the types of ESG issues of most concern to, and levels of performance and disclosure desired by, investors 	Benefit to investee companies and institutional investors in the short/medium/long term
Relational value	Value of improved relations with investee companies	<ul style="list-style-type: none"> ▶ Engagement enables the development of long-term relationships with investee companies, which increases trust and the ability to successfully influence company ESG practices and performance 	Benefit to investors and investee companies in the medium/long term
Environmental and social value	Value from the promotion of best ESG practices within companies	<ul style="list-style-type: none"> ▶ Engagement promotes the adoption and diffusion of cutting-edge ESG strategies, practices and reporting within and across industries ▶ Engagement has the potential to transform corporate behaviour to generate positive environmental and social impacts 	Long-term benefits for institutional investors, their beneficiaries, regulators, broader stakeholders and the physical environment

Source: Sustainalytics, Cass Business School⁶

IMPROVING TRANSPARENCY

In the 2015 PLSA survey, 37% of investors said they do not disclose their voting record

Despite the recognized importance of stewardship in the UK, there are two areas where investors, including (large) DC schemes, could improve. One is transparency of voting records. In the latest PLSA survey, 37% of surveyed UK investors do not disclose their voting records. In a 2015 study published by ShareAction that analyzed the ESG practices of pension providers serving the UK auto-enrolment market, six of 11 surveyed investors were found to publish their voting records but only two (Aviva and Royal London) disclose voting proposal descriptions and rationales for key decisions.⁷⁷

MANAGER SELECTION

Over one-quarter of surveyed investors do not consider stewardship capabilities in the manager selection process

DC schemes could also benefit by fully embedding stewardship capabilities into their process for selecting managers. According to the 2015 PLSA survey, 68% of UK pension funds were setting out stewardship responsibilities in their mandates to investment managers in 2015. This is up dramatically from 38% in 2013, but 28% still indicated that they do not (or will consider it in the future).⁷⁸ In the ShareAction study, only five of the 11 surveyed providers indicated that they require evidence of stewardship capabilities when selecting external asset managers.⁷⁹

Barriers to improving transparency

There are of course barriers to consider. Small workplace DC schemes are likely to outsource voting and engagement responsibilities to external managers. Small and medium pensions often invest through pooled funds, which makes it difficult to exercise voting rights. And some pension schemes, such as NOW: Pensions, use derivatives that do not convey voting rights. Still, on a forward-looking basis, it will be important for UK investors to improve their stewardship practices, as expectations are rising. The Financial Reporting Council recently indicated that it will begin removing signatories to the UK Stewardship Code that do not meet reporting standards.⁸⁰

The PLSA provides a number of resources to support pension funds seeking to incorporate stewardship criteria into management selection. These include an 'aide memoire'⁸¹ advising pension funds on useful stewardship-related questions to ask prospective managers, as well 'Steward Disclosure Frameworks'⁸² hosted on the PLSA website for over 70 of the leading asset managers operating in the UK, providing basic information about their approach to stewardship.

CONCLUSION

Default funds play an important role in the financial security of UK workers

DC pension schemes are an increasingly important force in the UK retirement landscape. The number of plan members in DC workplace schemes is forecast to reach 17 million by 2030 due to auto-enrolment and the declining popularity of providing DB schemes. The way in which the default fund offered by these schemes is constructed and managed will have dramatic implications for the financial security of UK workers, as over 90% of DC plan members use the default fund.

Managing ESG risk is part of prudent portfolio management

Prudent default fund management includes the consideration of ESG risk. Empirical evidence shows that ESG integration is positively associated with financial return, and the downside impacts of many ESG risks, including climate change, are intensifying. ESG integration by UK pension funds is further buoyed by strong support from UK pension scheme members and regulatory momentum, including guidance from The Pensions Regulator.

A three-pronged strategy to manage ESG issues

Our analysis shows that a typical DC default fund is exposed to a variety of ESG risks, including, most prominently, human capital, business ethics, product safety and data privacy and security. In order to manage these risks, we recommend that UK pension schemes (1) include an allocation to passive ESG trackers in their default fund; (2) incorporate ESG risk analysis into their global equity allocation model; and (3) develop a forceful stewardship strategy that includes a platform to engage with investee companies on ESG issues. The recent move by HSBC's DC plan to shift the equity of its default fund into a climate-tilted factor index could sit at the vanguard of an important new trend among DC schemes in the UK.

It is hoped that this study promotes an informed dialogue between DC pensions and their stakeholders on the topic of ESG risk management in default funds, and contributes to the PLSA's overarching goal of helping pension professionals in the UK run better pension schemes.

APPENDIX: RESOURCES FOR PENSION FUNDS

MADE SIMPLE GUIDE: ENVIRONMENTAL, SOCIAL AND CORPORATE GOVERNANCE

<http://www.plsa.co.uk/PolicyandResearch/DocumentLibrary/0585-Environmental-Social-and-Corporate-Governance-ESG-Made-Simple.aspx>

PLSA CORPORATE GOVERNANCE POLICY AND VOTING GUIDELINES

<http://www.plsa.co.uk/PolicyandResearch/DocumentLibrary/0611-PLSA-Corporate-Governance-Policy-and-Voting-Guidelines.aspx>

UNDERSTANDING THE WORTH OF THE WORKFORCE: A STEWARDSHIP TOOLKIT FOR PENSION FUNDS

<http://www.plsa.co.uk/PolicyandResearch/DocumentLibrary/0591-Understanding-the-worth-of-the-workforce-a-stewardship-toolkit-for-pension-funds.aspx>

STEWARDSHIP DISCLOSURE FRAMEWORKS FOR UK ASSET MANAGERS

<http://www.plsa.co.uk/PolicyandResearch/Corporate-Governance/Stewardship/Stewardship-disclosure-framework.aspx>

QUIZZING FUND MANAGERS: AIDE MEMOIRE CRIB SHEET

http://www.plsa.co.uk/PolicyandResearch/Corporate-Governance/~/_media/Policy/Documents/0341-Quizzing-Fund-Managers-Oct%2013_V2.pdf

PLSA TOPICAL 'QUESTIONS FOR YOUR MANAGER' – QUESTION OF THE MONTH ARCHIVE

<http://www.plsa.co.uk/PolicyandResearch/Corporate-Governance/Engaging-with-companies.aspx>

ENDNOTES

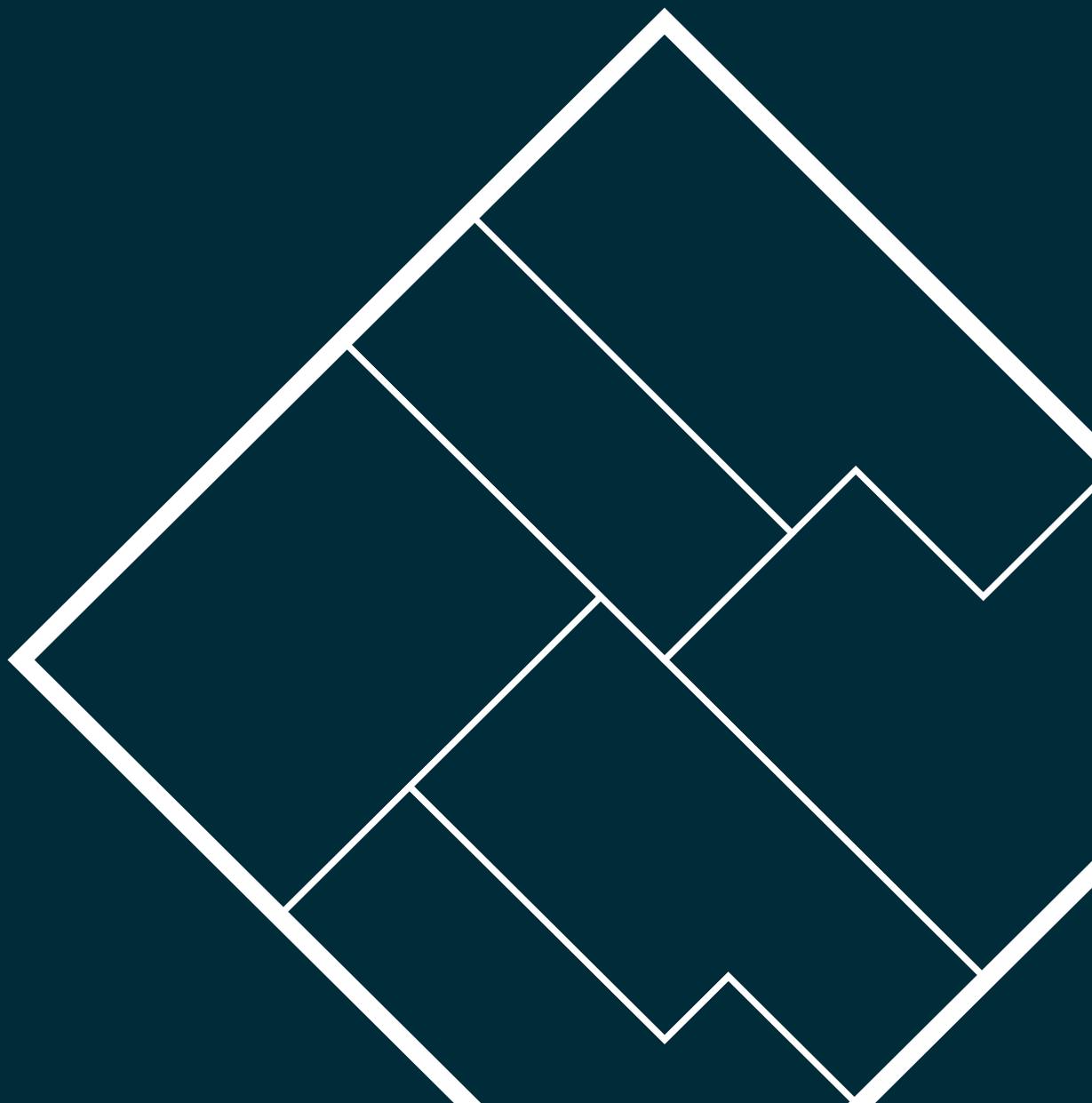
- ¹ Silcock, D., et al. (2015), *The Future Book: unravelling workplace pensions*, Pensions Policy Institute, last accessed (01.02.2017) at: <http://www.pensionspolicyinstitute.org.uk/publications/reports/the-future-book-2015-edition-unravelling-workplace-pensions>
- ² Silcock, D., et al. (2015), *op. cit.*
- ³ PLSA, (2016), *Annual Survey 2015*, last accessed (01.02.2017) at: <http://www.plsa.co.uk/PolicyandResearch/Research/Annual-Survey.aspx>
- ⁴ Eurosif, (2016), *European SRI Study 2016*, last accessed (01.02.2017) at: <https://www.eurosif.org/sri-study-2016/> (excludes engagement and voting)
- ⁵ Friede, G., et al. (2015), *ESG & Corporate Financial Performance: Mapping the global landscape*, last accessed (01.02.2017) at: [https://institutional.deutscheam.com/content/_media/K15090_Academic_Insights_UK_EMEA_RZ_Online_151201_Final_\(2\).pdf](https://institutional.deutscheam.com/content/_media/K15090_Academic_Insights_UK_EMEA_RZ_Online_151201_Final_(2).pdf)
- ⁶ Silcock, D., et al. (2015), *op. cit.*
- ⁷ Silcock, D., et al. (2015), *op. cit.*
- ⁸ Sweetman, R., (2015), *FTSE 350 DC pension scheme survey*, last accessed (01.02.2017) at: <https://www.towerswatson.com/en/Insights/IC-Types/Survey-Research-Results/2015/03/FTSE-350-defined-contribution-pension-scheme-survey-2015>. Data for 2014 and 2015 reflect FTSE 350. Prior data correspond to FTSE 100.
- ⁹ The criteria are that workers must be aged between 22 and state pension age, earn more than £10,000 a year and work in the UK.
- ¹⁰ Department for Work and Pensions, (12.03.2015), “Millions more saving thanks to automatic enrolment,” Department for Work and Pensions, last accessed (01.02.2017) at: <https://www.gov.uk/government/news/millions-more-saving-thanks-to-automatic-enrolment>
- ¹¹ Authers, J., (08.07.2016), “Time for a new model pension fund rescue,” *Financial Times*, last accessed (01.02.2017) at: <https://www.ft.com/content/55422bd2-4362-11e6-b22f-79eb4891c97d>
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