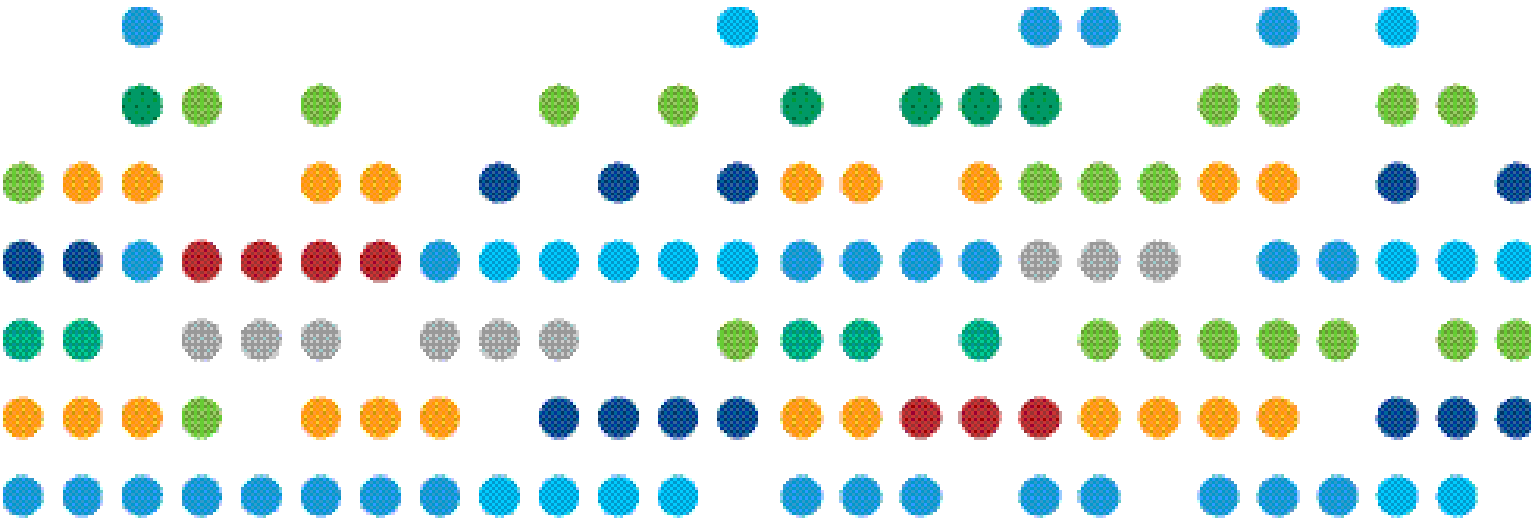


SOCIAL INVESTING BY UK PENSION SCHEMES AT HOME AND OVERSEAS: OPPORTUNITIES & CHALLENGES

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CFA UK is a professional body representing close to 12,000 members across the UK's investment community and a proud member of CFA Institute's worldwide network of member societies. Many of our members work with pension funds, either managing investment portfolios, advising on investments, or as in-house employees responsible for pension investment oversight.

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FOREWORD FROM THE CHAIR OF CFA UK'S

PENSIONS EXPERT PANEL

Pension scheme trustees, responsible for investing trillions as they manage the financial future of millions of current and past members of the UK workforce, have put much of their governance budget towards understanding the implications on risk and return of Environmental, Social and Governance issues (ESG) in recent years. However, for the vast majority of schemes it has been governance and more recently environmental matters that trustees have particularly focused on; the latter area helped by the improved measurability and reporting of greenhouse gases as a result of the Taskforce for Climate Related Financial Disclosures ("TCFD")¹.

In March 2021, the CFA UK responded to a Call for Evidence from the Department for Work and Pensions. This was seeking information on the extent to which pension funds had policies on Social factors and the investment opportunities that might exist in this area. The response supported what we thought we already knew – S was the relatively neglected aspect of ESG. I am therefore very grateful to the CFA UK working party, that drafted the CFA UK's response to the Call for Evidence, for agreeing to reconvene to develop that initial response into a paper to help pension trustees consider what it might mean to allocate to Social investment opportunities. I believe this paper will also help fund managers investing on behalf of pension funds to develop an understanding of what Social investment opportunities might encompass.

The CFA UK recognises that some pension funds are finding their way to invest in social impact strategies with a dual objective (i.e. seeking to obtain an acceptable investment return but also aiming to deliver a particular social good). Some trustees find this type of investing is challenging against a fiduciary obligation that requires the best financial outcomes to be sought on behalf of members; the focus of this paper is on how trustees can take into

account social factors when investing in clear alignment with the current understanding of their fiduciary responsibility – seeking to optimise financial outcomes.

Those trustee boards who have felt unable to invest in social impact but have tried to make progress on integrating the S of ESG into their process, have generally sought to do so by encouraging their fund manager(s) to take social factors into consideration in their ongoing stewardship of investee companies. Some pension funds might even be investing in strategies that seek to exclude the companies with the worst track records on social factors e.g. by excluding companies with repeat and serious UN Global Compact breaches. Continued thought and improvement in relation to stewardship of social factors is undoubtedly needed, but this paper instead focusses on the question of allocating capital to social investment opportunities within a fiduciary framework, as the area most in need of contributions to enable broad take up by pension funds.

I would like to extend my thanks to the working group for their investment of time and thought in this paper.



Natalie Winterfrost
Chair CFA UK Pension's Expert Panel

Executive Summary

ESG Investing has become mainstream and climate change is now being widely considered by most, if not all, UK pension funds in their asset allocation and investment strategies. The 'S' in ESG is, however, the less advanced component, with many pension trustees unaware of the extent to which their schemes are actively measuring and controlling financially material social risks. Incoming and possibly further future regulation may require trustees to intensify their focus on how to overcome the present challenges to social investing and how to take advantage of the opportunities within certain sectors and asset classes.

ONS data ² reveals that UK funded work-place pension schemes now have c.£2.8 trillion under management: £2.0 trillion in defined benefit schemes, increasingly mature, bond-led and with low growth; £0.5 trillion in funded pensions of state sector employees, more equity-led and seeing modest growth; and £0.3 trillion in defined contribution schemes seeing the highest rate of ongoing contributions and the highest rate of growth.

We look to the 17 United Nations' Social Development Goals to establish guiding principles to define 'Social Investment'. We review some leading frameworks and explain the importance of taking a holistic view and balancing climate and social objectives in the EU's Just Transition Mechanism ³.

UK pension schemes have ample opportunities to manage and mitigate social risks in both their UK and overseas investments. At present, we estimate roughly two-thirds of UK pension assets are UK-based, with large UK government bond holdings being slightly off-set by higher overseas holdings in equities, private equity and corporate bonds. An increase in weighting to Emerging Markets would probably increase a scheme's average exposure to social factors but comes with additional risks needing appropriate consideration and management.

Pension funds invest directly and via segregated accounts or pooled vehicles; the latter option gives schemes less control of the way social factors are applied to their investments. Segregated accounts, only accessible for the largest schemes, may currently offer the best method to control effective S-integration and at the same time limit related overheads.

PWC calculate that approximately one-third (EUR3.3 trillion) of European equity funds feature some degree of ESG-integration ⁴; they expect this to jump to EUR7.2 trillion by 2025 and for the proportion of 'social bias' funds to also increase from the present low-base of c.5%. Socially themed ETFs have yet to become a major market component. However, social bonds are becoming an increasingly important area of global fixed income markets, albeit from a small base. Prequin estimate global AuM across private equity, VC, private debt, real estate and infrastructure funds to now equal US\$10 trillion; large pension funds can control their social factors in these investments by setting up segregated co-investment funds or by selecting GPs who are aligned on ESG factors.

We review opportunities in the five core sectors identified in the EU's Final Report on Social Taxonomy ⁵ as fundamental to societal well-being – Infrastructure, Food Manufacture, Housing, Healthcare and Education. Whilst much of the economic activity in these sectors is state-funded, there is still ample opportunity beyond the government bond markets. In these five sectors, we identify £880 billion of mostly publicly tradeable assets in the UK and US\$29 trillion of securities trading on global developed markets. However, pension investors cannot rely on the sector profile alone and need to thoroughly research each company's social profile.

There are many challenges to social investing. We classify them into three stages in the investment process: collecting data, collating data and making decisions. Progress is being made; but the barriers and hurdles are significant.

Introduction

Perhaps it has been 10, maybe even 30, years in coming, but the concept of ESG Investing is now undisputedly mainstream. Any individual can now take a global exam certificated course with CFA Institute ⁶ to gain and improve their knowledge in this area.

Of the three pillars of ESG (Environmental, Social & Governance) investment, the social pillar covers the relationship, symbiosis or tension, between market activities and the human society that they operate in and interact with. At its broadest level, one needs to look no further than the United Nations' 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDG) ⁷ for a description of what social investing should be targeting. Whilst some of the SDGs primarily concern the environment or governance, most seek to address long-term societal problems. Long-term problems need continuous and long-term investment and that is where pension funds have an important role to play, both within the UK and overseas.

Some of the stewards of the UK's £2.8 trillion funded employment-based pension wealth (see page #7) have been looking increasingly into making sustainable, social or impact investments with the goal of achieving positive societal impact as well as financial returns. However, progress has been notably slower in comparison with the sector's advances on climate investing. This fact has attracted political intervention ⁸ and the DWP has now made it abundantly clear that pension trustees have a legal responsibility to ensure financially material social factors are considered. However, a recent survey conducted by the Department of Work & Pensions found that many feel 'ill-equipped to do so' ⁹.

CFA UK's Pensions Expert Panel ("PEP") oversaw a response to the DWP's consultation in Spring 2021 which asked for opportunities for social investing in Emerging markets ¹⁰. After considering the response the PEP commissioned and supported a new working group to publish this study as a follow-on to look not only at Emerging Markets but to consider opportunities and challenges to Social Investment in Developed Markets also.

THE REGULATORY, FUNDING & ASSET ALLOCATION BACKDROP

Regulation

The Pensions Schemes Act 2021 made it possible for regulators to impose penalties on trustees of UK occupational pension schemes that do not govern their schemes to take account of risks and opportunities presented as a result of climate change ¹¹. In December, 2021 ¹² the FCA made TCFD climate disclosures mandatory for all asset managers and personal DC pension providers under its remit. Similar climate disclosure rules have been set by the DWP for all employer-based pension schemes with >£1bn assets, with schemes owning > £5bn of assets and master trusts under an accelerated timetable ¹³.

As the pace of the development of climate reporting in investment can be likened to an express train, so ESG

integration, and particularly the Social pillar, can be compared to the local train service. The 'S' train has left the station at least and is running along the same railway line with many larger schemes already actively measuring, targeting and monitoring their social investments on a voluntary basis or in response to their members' or scheme sponsors' demands – look at this case study of Scottish Widows' responsible investing as a case in point ¹⁴. Tougher regulation is coming for all, however. At the start of 2022, the DWP closed its consultation on making ESG reporting a mandatory requirement ¹⁵ thus requiring schemes to make these disclosures in their Implementation Statements ('ISs') and advising as best practice that a scheme's Statement of Investment Principles ('SIPs') also refer to the scheme's ESG policies.

Funding & Asset Allocation

UK employer-based pension schemes had aggregate wealth of £2.8 trillion at the end of 2021 ¹⁶, split between three types:

- £2.0 trillion of private sector DB schemes: increasingly mature, with many closed to new members and with decreasing contributions and a bond-led asset allocation;
- £0.3 trillion of private sector DC schemes: the fastest growing area in terms of assets under management. Their members are generally younger and still contributing. Asset allocation is more evenly mixed between bonds, equities and alternatives;
- £0.5 trillion of funded public sector schemes: typically, a complement to their beneficiaries' unfunded state guaranteed pension, so able accommodate a higher-risk, Equities-led profile.

Pension Schemes are increasing their weightings in Illiquid Investments. A recent DWP regulation looks to remove performance fees from the 0.75% fee cap for DC Schemes thereby facilitating investment in Venture Capital and Private Equity funds which routinely have this charging structure.

| | Private DB (£2.0tn) | Private DC* (£0.3tn) | State Hybrid (£0.5tn) |
|-------------------------------------|---------------------|----------------------|-----------------------|
| Equities | 13% | 35% | 52% |
| Hedge | 3% | 1% | 1% |
| Private Equity | 5% | 0% | 11% |
| Property | 3% | 2% | 7% |
| Mixed Asset | 6% | 33% | 2% |
| 'Higher Risk' Asset Subtotal | 30% | 71% | 73% |
| Fixed Interest | 49% | 11% | 17% |
| Insurance | 7% | 0% | 0% |
| Money Market | 6% | 5% | 4% |
| Other | 8% | 13% | 6% |
| 'Lower Risk' Asset Subtotal | 70% | 29% | 27% |
| TOTAL | 100% | 100% | 100% |

Source: ONS Reference Data; * treats £19bn direct investments pro rata with asset allocation of £223bn pooled investments

A). OPPORTUNITIES IN SOCIAL INVESTING

1.USING THE UN SOCIAL DEVELOPMENT GOALS AS GUIDING PRINCIPLES

Designed for and adopted by nation states, rather than for private or listed corporations, the UN SDGs are a challenge to map into the investment world. The goals pertaining to Governance (#16 Peace, Justice & Strong Institutions & #17 Partnership for the (SDG) Goals), Climate (#13) and Natural Capital (#14 Life Below Water & #15 Life on Land) map relatively easily and of course their causes of Climate and Nature have been championed to great effect by TCFD and now hopefully the Task-force for Nature-related Financial Disclosures ("TNFD")¹⁷, respectively. However, the majority of the UN SDGs, indeed the main thrust of goals #1-#12, arguably concern the Social rather than the Environmental or Governance pillars of ESG. How can pension investors make sense of these 12 UN SDGs and apply them to their world of investment. If you wanted to create the Taskforce for Social-related Financial Disclosures ("TSFD") and apply it to pensions, what might it look like?

The answer for active managers is perhaps easier to conceptualise. For active managers it means analysing each and every investment opportunity in a way that considers the impact, positive contribution and negative harm, that the corporation or organisation receiving their capital has on society. Successful s will achieve a good long-term financial return and meet the fund's social objectives. For passive investors to achieve the same end requires them to have a systematic framework that over- or underweights, or even screens out, investments according to some (potentially third-party) specialist analysis which seeks to quantify this societal impact.

There are multiple frameworks which attempt to categorise the UN SDGs and make them more accessible for investors. The Principles of Responsible Investment (UN PRI)¹⁸, convened by the UN Secretary General, proposes a five-part framework to align the SDGs to investment¹⁹. The OECD designed a three-step approach to ensure finance is SDG-aligned²⁰. Within the investment industry a handful of the largest asset owners have established the Sustainable Development Investments Asset Owner Platform (SDI AOP) whose mandate is to design SDI taxonomy and guidance, SDI definitions and classification methodology²¹ and collaborate

on the collection and management of SDI-related data. Service providers have also been involved in designing scoring systems for each SDG²³.

To fulfil their social investment objectives, UK pension funds need to take an holistic view of the SDGs. It makes no sense to promote positive social outcomes in one part of the portfolio whilst generating equally negative social outcomes from other investments. The best way to take an holistic approach is to review strategic asset allocations by incorporating SDG targets, social opportunities and social risks into long term capital market expected risk and return assumptions when setting a scheme's strategic asset allocations.

The Just Transition

It is widely acknowledged that, whilst the Climate Change SDG (#13) has a primary Environmental focus, it also comes laden with social externalities. Following the publication International Labour Organisation's Guidelines for a Just Transition (2015) and the codification of the 'Just Transition' in the Paris Agreement, the concept of sharing the benefits of a green economy transition widely, whilst at the same time supporting all who stand to lose economically from it, has taken concrete form in many countries around the world. The European Bank for Reconstruction and Development highlight four key global initiatives focused on the importance of a just transition:

- The European Union's Just Transition Mechanism²³ is integral to the EU's Green Deal, targeted at ensuring "a fair transition to a climate-neutral economy, leaving no one behind" and aims to mobilise at least €150 billion over the period 2021-2027;
- The Solidarity and Just Transition Silesia Declaration²⁴ signed by 50 countries at COP24, states that: "a just transition of the workforce and the creation of decent work and quality jobs are crucial to ensure an effective and inclusive transition";
- The Climate Action for Jobs Initiative²⁵, co-led by the International Labour Organisation, Spain and Peru, and supported by 46 countries commits to develop "national plans for a just transition and create decent green jobs";
- The UNFCCC Gender Action plan²⁶, whereby parties to the UNFCCC have recognized the importance of involving women and men equally in the development and implementation of national climate policies that are gender responsive.

2. SOCIAL INVESTING OPPORTUNITIES IN THE UK AND OVERSEAS

a). UK Opportunities

According to the most recent ONS statistics, two-thirds or more of UK pension scheme assets are allocated to UK investments. As at 31 December, 2021, UK pension funds held £1.35 billion of Direct Investments, £1.29 billion in Pooled Vehicles and £0.15 billion in Insurance Assets. Of the Direct Investments, 72% (£972 billion) were UK based investments – a proportion that has held consistently true in recent years. This is mostly explained by the large UK government bond holdings amongst mature and de-risked DB schemes; however, holdings in equities (25% UK), corporate bonds (50% UK) and private equity (40% UK) are more internationally focused. For the indirect and insurance assets the domicile of the underlying investments cannot be determined.

Whilst the UK is a Developed Market and, as such, does not have the same overall degree of social need as Emerging Market countries, the UK does still present ample opportunity for pension funds to find social investments that would align with the UN SDG goals. According to the OECD, the UK, like many other developed countries, is a country with regional inequalities which have persisted for generations²⁷. The UK has larger regional differences than many other developed countries on multiple measures, including productivity, pay, educational attainment and health²⁸.

According to the OECD's data, the UK has the fourth highest level of wealth disparity between its regions of all 27 member countries of the OECD and, in contrast to others, the disparities have grown in the period 2008-2018.

b). Overseas Opportunities

Using the ONS statistics, we estimate at least one-third of UK pension fund assets are invested overseas and predominantly (c.90%) in Developed Markets. These allocations are equities-led and include:

- £146 billion of direct equity investments. Of these, 91% (£133 billion) were invested in entities based in Developed Markets or special-purpose vehicles in tax-havens, 8.9% (£13 billion) were invested in Emerging Markets companies and 0.3% (£0.5 billion) in investees based in Frontier Markets;
- £139 billion of long-term predominantly government (£42 billion) and corporate (£86 billion) debt securities. Of these, 93% were issued by governments or companies based in Developed Markets (or tax-havens). Just 6% were from Emerging Markets based issuers and 1% from issuers in Frontier Markets;
- £71 billion of private company or alternative investments (no further breakdown available);

- £432 billion of Pooled Vehicle investments. All of these funds were domiciled in developed countries and unfortunately there is no way of determining the country of origin of the underlying holdings (the same being equally true of the £850 billion of UK domiciled Pooled Vehicles).

With Emerging Markets accounting for just 6% of direct long-term debt holdings and 9% of direct equity holdings, at first sight UK pension funds perhaps look under-invested in these markets, even when considering the maturity of the DB schemes which currently making up c.70% of the total assets. However, it is possible that this apparent underweight in direct holdings is being off-set by an overweight in Emerging Markets orientated pooled vehicles. Indeed, this would be logical: Emerging Markets investments typically entail greater risk and particularly equity or corporate bond investments are frequently best allocated to specialist managers with local market expertise and knowledge.

3. SOCIAL INVESTING OPPORTUNITIES BY ASSET CLASS

Pension funds can access social investments both directly or through pooled vehicles. Direct investments bestow greater ability to influence investee strategy whilst pooled vehicles avoid the increased overhead of managing investments directly. Larger pension schemes can also access segregated mandates (typically £100 million is required for each fund) which can bring both the benefits of greater control of social factors by the addition of specific social restrictions in the mandate and at the same time lower overheads than direct investment.

a). Listed Equity

A report undertaken by a CFA ESG Working Group²⁹ last year focuses on detailing the following key facets of social investing: i) High-risk labour and land issues; ii) Socio-economic inequality, iii) Diversity and Inclusion and iv) Digital rights. The report highlights the data available for each of these components from a range of providers including GRI, SASB, Refinitiv and RepRisk, which may provide greater insights into a specific company's social attributes. As we note later on, the availability of such data for EM companies is generally less consistent and comparable.

There are also a number of company benchmarks from the World Benchmarking Alliance³⁰ focused on the relevant benchmarking of social factors. These are at differing stages of development but include: i) Corporate Human Rights benchmark, ii) Gender benchmark and iii) Digital Inclusion benchmark. These benchmarks aim to provide greater transparency on corporate practices, within both DM and EM, and they can thus be a means for trustees to explore the social attributes of portfolio companies with the scheme's asset managers and service providers.

While the vast majority of ESG and ethical benchmarks are focused on DM, there are examples of EM ESG benchmarks available e.g. FTSE4Good Emerging Indexes and MSCI EM ESG Leaders, among others. Granularity at the index level may be available to explore the "S" component of the ESG rating, depending on the provider. However, given the current state of ESG investing and benchmarks, trustees would have to do further work to accurately gauge "S" attributes within EM ESG benchmarks. Depending on the data provider, this may or may not be achievable, but an approach worth exploring with asset managers and service providers.

PWC ³¹ recently estimated the European ESG equity mutual funds universe to be approx. EUR 3.3 trillion AuM (representing 32% of all AuM) and forecast it to grow to EUR7.6 trillion AuM by 2025 (representing 75% of all fund AuM). They explored the thematic breakdown of this universe and found the following exposures: i) Broad-based ESG 74.8%, ii) Environmental 13.2%, iii) Social 5.6% and iv) Governance 6.4%; this suggests that there are mutual funds providing a route-to-market for pension trustees to potentially invest in social thematic funds, should they meet the requirements of a fund selection.

ESG data providers share company level data on ESG metrics which are then aggregated to give an overall view for the fund's holdings. As an example, MSCI ESG Fund Ratings evaluate funds on ESG metrics across different categories. Whilst they produce an overall blended ESG fund rating, this is an aggregation across the following categories, the constituent metrics of which are available for users: i) Overall Sustainable Impact ii) Environmental impact, iii) Social impact, iv) Controversies, v) International norms standards, vi) Business involvement, vii) Environmental risks, viii) Governance risks, ix) scores and ranking covering a relative aggregated positioning among peers. Relevant social factors within fund evaluations, including both DM and EM funds, can be explored by trustees by requesting greater transparency from their managers and service providers, who would generally have access to the underlying information.

With respect to ETFs, UNCTAD ³² note that the global AuM of ESG ETF is currently estimated at USD25 billion, with a heavy concentration of assets currently within Europe and the US. They also note that 90% of themed ETFs follow 3 of the 17 SDGs, namely #13 Climate Action, #5 Gender Equality and #7 Affordable and Clean Energy; this highlights the perhaps unsurprising relative current dominance of climate goals within the overall ESG ETF universe but social factors may become more prevalent in the future.

b). Private Equity

Pension funds may gain exposure to a diversified portfolio of companies through private equity investments; these funds have the potential to address social issues across a range of sectors and industries. The ONS data shows that UK pension funds held only £32 billion (c.1%) of their total assets in private equity pooled vehicles so this is potentially an area for further trustee exploration. In terms of social objectives, the pension fund can select fund managers based on their ESG policies and implementation strategy/track record or by setting up specialist co-investment mandates.

The performance fee structure has been a barrier to DC pension funds investing in these vehicles, but we noted earlier that the DWP is consulting to reform this by excluding performance fees from the DC default fund charge cap calculation.

As with public equity fund mandates, the pension fund will need to conduct detailed due diligence on the private equity fund and satisfy itself it has the necessary levers to monitor and influence a general partner in meeting the social objectives alongside the return aspects (e.g. through LP Advisory boards). In terms of building in social factors to private equity mandates, there is evidence that limited partners are being increasingly proactive; for example, McKinsey & Co report on how investors are increasingly demanding that GPs provide diversity metrics for their firms and portfolios³³.

c). Public credit – government, agencies & corporates

Within public credit markets, pension schemes can primarily address social issues by using positive and negative sector screening to identify industries, companies and countries that improve social outcomes. There are also increasing opportunities to address social issues via investments in social bonds issued by both corporates and sovereigns. For those investors wishing to be more passive in their approach to ESG integration there are also a growing number of social bond ETFs and publicly listed funds that track ESG and specifically social fixed income benchmarks.

Social bonds are instruments that are issued with the legal purpose of using proceeds to achieve a positive social outcome or address a specific social issue. For example, social bonds could be issued to finance affordable housing projects, provide food security, or boost employment. The Covid-19 pandemic accelerated the demand and supply of social bonds most notably including the EU's Social Bond Programme. Below are a few examples of social bonds issued by EM sovereigns and corporates:

- Banco Santander Chile \$100 mm 0.715% 26/01/2024 - issued in February 2021: proceeds to be used to finance loans to SMEs led by women in Chile.
 - Korea Development Bank \$500 mm 0.5% 27/10/2023 - issued in October 2020: proceeds to be used to help companies impacted by the Covid-19 pandemic.
 - Chile \$1.7 bn 3.1% 07/05/2041 - issued in May 2021: proceeds to be used to support the elderly, those with special needs, low-income families, job creation, affordable housing, access to education, food security, health services and SME financing.
 - Ecuador \$327 mm zero coupon 30/01/2035 - issued in January 2020: proceeds to be used for affordable housing projects.
- Pension funds can also consider positive filters to identify bonds from issuers in sectors such as healthcare, education, food/agriculture or negative filters to avoid investments in sectors such as tobacco, weapons, gambling, etc.

Pension funds can also consider positive filters to identify bonds from issuers in sectors such as healthcare, education, food/agriculture or negative filters to avoid investments in sectors such as tobacco, weapons, gambling, etc.

There are several fixed income benchmark providers with the most common being JP Morgan, Bloomberg Barclays and Bank of America Merrill Lynch. These index providers have also launched ESG versions of their benchmarks; two examples being the JPM ESG EMBI Global Diversified Index and the JPM USD EM IG ESG Diversified Bond Index. While these are broad ESG indices, they can be used as a starting point to build custom EM indices that focus only on the S (social) component of ESG.

Demand for social bonds is growing. In a global survey of pension funds conducted by CREATE-Research in May 2021³⁴, 66% of 142 respondents managing EUR2.1 trillion of pension money said that they intend to increase allocation to the 'S' pillar passive funds over the next 3 years and 59% said that Covid-19 was a key driver of the heightened interest in the 'S' pillar. The pandemic has also boosted the supply of social bonds. According to data tracked by Refinitiv, in 2021, the issuance of social bonds globally totalled \$192 billion, up from c.\$160 billion in 2020 and a paltry \$15 billion in 2019³⁵.

One drawback of many ESG bonds, including social bonds, is the so-called 'green premium' at launch of the issue. The supply/demand imbalance on ESG bonds compared to non-ESG bonds with similar characteristics (duration, credit rating, country risk, etc) means that social bonds can be relatively more expensive than similar bonds not categorised as Social. Investors need to consider whether the 'greenium' will sustain over the duration of their investment in the bond and whether the social bonds will represent a lower risk over pension fund's investment horizon. Another consideration is whether companies issuing social bonds bring about an overall improvement in their social profiles over a period of time. For instance, a company could issue a social bond with proceeds to finance a social project while simultaneously engaging in poor labour practices that exploit their workers or workers in their supply-chain. Thus, pension funds, or their delegated asset managers, need not only identify and invest in opportunities that address social issues, but also engage with issuers to improve their social business practices (or put pressure on their asset manager to do this on their behalf).

Pension trustees need to be wise to the risk of 'greenwashing'. While ESG bonds generally carry a third-party opinion on use of proceeds, issuers can still reduce the greenwashing risk by providing detailed project information on project timelines and the impact of the use of proceeds. The lack of a standardized methodology to measure the impact of the use of proceeds of social bonds makes this a particular challenge. While for instance, it is possible to measure and quantify reduction of carbon emissions achieved through use of proceeds of green bonds it can be difficult to have such clear set targets for social bonds that are not then open to abuse.

d). Private Credit

Private credit here refers to the extension of loans or placements direct to non-financial firms by institutional investors, including insurance companies, pension funds, hedge funds, foundations and endowments, sovereign wealth funds, and other fund managers; it covers a number of debt strategies, which can include a variety of tenors, capital positioning and return profiles. Prequin states the total global private debt market at US\$1.2 trillion; of this, Prequin say c.700 debt funds manage US\$291 billion of loan assets³⁶. From time to time, private credit can offer a premium return to the more liquid areas of credit markets³⁷. Generally speaking, they are buy-and-hold investments.

When looking at the Social Opportunities within EM private credit, the Impact Investing Institute³⁸ has highlighted the following areas:

- Microfinance is a large category of private debt, providing capital to microfinance institutions to lend to micro-, small- and medium-sized enterprises (MSMEs). Since the 1990s, microfinance has developed a strong track record of high repayment rates (95%-99%) and is attracting significant institutional investment;
- Trade finance debt, which provides working capital loans to improve cash flow in value chains, is also a growing sector. The sector is underfinanced by banks and traditional financial institutions, with estimates that the total addressable market for trade finance in Africa and Asia worth around USD 30 billion.

The Impact Investing Institute³⁹ also note that institutional investors can potentially benefit from working with Development Finance Institutions (DFIs) and development banks (for example, the African Development Bank). They:

- can offer lower risk EM exposures through their investment vehicles and deals e.g. AAA-rated DFIs. They can potentially limit currency risk also;
- have deep local research capabilities and experience in the markets in which they operate, reducing uncertainty;
- enjoy relationships with local governments which may help reduce political risk in EM investmentenjoy relationships with

e). Alternative Assets

There are also opportunities that sit outside of the traditional asset classes. While equity and fixed income are doubtless the more intuitive avenues for socially conscious investing, markets such as currencies and interest rates derivatives, as well as cash, can offer alternative routes. Indeed, there are impact funds available which aim to generate positive social outcomes via these asset types and live examples of derivative execution mechanisms that consider ESG factors.

Currency derivatives offer an interesting example, providing numerous different routes to impact. For example, impact strategies might invest in frontier or emerging market currencies on a targeted basis, creating positive outcomes through volatility reduction and liquidity provision. The academic community has provided substantial evidence for the need to reduce exchange rate uncertainty in support of economic growth in developing markets. While mature economies are found to be fairly robust with regards to exchange rate volatility, a significant negative impact on growth can be observed in countries with relatively low levels of financial development^{40 41}.

Therefore, any strategy contributing to a reduction in currency market volatility can serve to benefit the users of that currency "on the ground", which is especially important since the ultimate recipients of development finance tend to hold the currency risk (as development finance is generally delivered in hard currency). Furthermore, increased liquidity in these markets can serve to benefit local participants by reducing spreads, while the asset selection process can also take into account ESG factors at the sovereign level, directing more capital to those countries with positive stories to tell. Taken together, these factors can support recipients in achieving their broader development objectives by more efficiently utilising their financing. This impact is measurable with volatility and liquidity, for example, visible to market participants.

Such strategies seek to provide return by utilizing traditional risk factors – e.g. carry, value and momentum - inherent in currency markets. They can also often be benchmarked against traditional EM Debt indices, particularly if underlain by fixed income assets such as development bonds, because a material proportion of local currency EM debt returns actually comes from the currency component itself (as well as duration, credit etc). As such, currency led impact strategies might seek outperformance versus the traditional EM debt approach by, for example, capitalising on the superior liquidity of the FX market during times of stress. Therefore, this kind of strategy could offer a feasible alternative to (or complement) the traditional EM debt approach, due to its potential to meet the fiduciary requirements of the trustees in terms of return, risk and diversification.

Of course, these strategies are exposed to the typical risks of EM/frontier currency investment; drawdown risk, illiquidity and volatility in the underlying instruments, leverage through derivatives etc. Therefore, a prudent risk management approach should be the primary focus during manager selection, as well as a robust portfolio construction policy.

Pension trustees could potentially also consider the social credentials of their derivative usage more directly, utilising positive outcomes as a means to achieve improved terms. There have been numerous examples recently of derivative pricing being directly linked to ESG factors. For example, hedging transactions undertaken by UK energy firm Drax have been priced to benefit from compliance with carbon intensity reduction targets⁴². This type of transaction will almost certainly be extrapolated in the future to instruments beyond currency derivatives (UK pension funds make extensive use of rates instruments) and to a plethora of different ESG factors.

Similarly, selecting execution counterparties based on the strength of their ESG credentials, rather than price alone, can offer an interesting alternative influence mechanism beyond equity or fixed income investment. By opting to drive flow to counterparties with stronger ESG scores, investors can lead by example, however at least in the short term they will be giving up some pricing benefit, which could make the approach inconsistent with fiduciary obligations. Over the longer term one could expect this approach to generate improvements in these counterparties pricing, due to the improved position enjoyed by those preferred counterparties in the marketplace.

Catastrophe bonds are a relatively new asset class. They are bonds issued by countries whose populations can't afford catastrophe insurance. The bonds are parametric in nature - if there's a social catastrophe with a certain wind speed, earthquake or even pandemic mortality rate in a named area they immediately pay out without waiting for insurance claims to come in. The bonds supply the following amounts of quantifiable social resilience to communities, giving them universal access to insurance and allowing residents and SMEs to build back immediately to more sustainable building standards. Some examples of recent issuances include:

- Jamaica \$185m <https://www.artemis.bm/deal-directory/ibrd-car-130-jamaica/>
- Mexico \$485m <https://www.artemis.bm/deal-directory/ibrd-fonden-2020/>
- Chile \$500m <https://www.artemis.bm/deal-directory/ibrd-car-116/>
- World Bank pandemic catastrophe bond <https://www.artemis.bm/deal-directory/ibrd-car-111-112/>

Cash holdings can also be utilised for positive social outcomes. For example, investing cash in Community Development Finance Institutions (CDFIs) can allow investors to participate in socially responsible projects – investment in underserved regions - while also generating a modest return. Innovation is rife in the CFI space with numerous routes available. While capital loss is a material risk with this kind of investment, historic performance has been impressive, for the large part.

4. SOCIAL INVESTING OPPORTUNITIES BY SECTOR

In Chapter 3 we explored how the UN SDGs can provide a framework for social investing. In Chapter 4 we have toured the available asset classes and discussed the size of the opportunity and some of the considerations for pension funds. In this chapter, we explore opportunities within five specific sectors – infrastructure, food security, housing, healthcare, education – identified in the EU social taxonomy as being at the core of the real economy and generating inherent fundamental social benefits.

a). Infrastructure

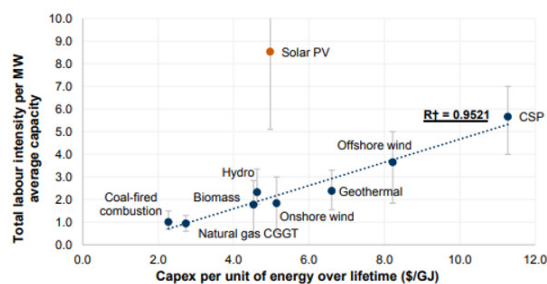
Infrastructure investments include transport (such as rail, roads and bridges), utilities (water, power distribution and generation), telecommunications and social infrastructure (such as schools and hospitals). The ONS recently valued the UK's total infrastructure assets in these and similar sectors as £241 billion⁴³. Many of these assets such as schools and hospitals are government owned and funded via gilt issuance but this is not exclusively the case. Private and public capital own most of the equity in the UK's telecoms, water and power sectors which were privatised in the 1980s. Overseas, the proportion of national and local government ownership and the degree of privatisation varies significantly, but the S&P Global Indices indicate an infrastructure sector market capitalisation of \$1.0 trillion of publicly listed equity and \$1.7 trillion of publicly listed fixed income. Prequin currently records private equity infrastructure funds totalling US\$1.1 trillion.

Infrastructure investments are typically large-scale, long-term investments in physical (real) assets managed either by government or by specialist public or private investment firms. Once constructed, they typically throw off predictable, long-term and often inflation-linked cash-flows making them ideal pension fund investments.

Over the next decade the Green Alliance⁴⁴ estimate that the UK government should allocate at least £40 billion a year to scale up delivery of net zero infrastructure, targeting the transport, buildings, natural infrastructure and circular economy sectors. With decarbonisation and digitalisation being the focus of the UK Government's Industrial Strategy, infrastructure investments related to clean energy and energy efficiency are poised for significant growth over the next decades and often have a powerful multiplier effect playing a central role in building and enhancing local communities.

It is a significant point that investing in green infrastructure (especially solar) is more capital but also particularly more labour intensive than investment in traditional fossil-fuel energy, both in terms of construction and operation. As a result, it has the potential to create three to five times more jobs than fossil fuels investment worldwide for every £1 million invested. Once operational, however, it has a lower marginal cost than fossil fuels owing to the use of the sun and the wind being for free. The higher labour intensity indicates the shift to a net zero economy should have a net benefit on job creation⁴⁵ as shown in the graph below:

Clean energy technologies are more capital- and job-intensive and benefit the most from low cost of capital and attractive regulation...
Capex per unit of energy over asset life vs. labour intensity per MW average capacity



Source: Wet et al. - IRENA, UNEP-ILO-IOE-ITUC, Goldman Sachs Global Investment Research

Another argument in favour of the 'S' component of renewable infrastructure investment is that, given its location-based nature, green infrastructure investment has some lower negative social externalities than fossil fuel investments – i.e. reduced air pollution and chronic diseases such as asthma and cancer.

It is probable that the public sector alone cannot fund the transition to net-zero as effectively without private sector involvement, particularly given the fiscal constraints which the UK government now face in the wake of both the global COVID-19 pandemic and the more recent energy crisis. As such, public/private collaborations, offering a risk-sharing arrangement between a government and private investors to deliver and finance projects, could become a future funding model once again and present pension funds with suitable investments meeting core financial as well as social impact objectives. We also note the government's motivation to mobilise private savings into national infrastructure which lies behind the FCA's recently created long-term asset fund ("LTAF") regime⁴⁶.

b). Food

Having resilient, inclusive, and sustainable food systems are a basic requirement for achieving social development.

Available investment opportunities for pension schemes are much narrower than for Infrastructure with just £40 billion of UK equity market capitalization⁴⁷, \$1,950 billion of global equity market capitalization⁴⁸ and \$200 billion of fixed income market capitalisation⁴⁹. However, they do offer pension fund investors obvious diversification benefits and, again, reliable returns. The sector also produces a huge social return: it is the UK's largest manufacturing industry with 4.2 million workers in the farm-to-fork food chain⁵⁰. Investment opportunities will be more niche, however, with an estimated annual investment requirement of just c.£4 billion in the UK⁵¹, one-tenth of the anticipated annual infrastructure sector investment, so pension schemes are likely to have to look overseas to achieve meaningful scale.

Potential social benefits arising from investment in food production sector are:

- Reduced hunger – among the knock-on effects of COVID-19, the UN has noted a dramatic increase in world hunger. According to The State of Food Security and Nutrition in the World, one tenth of the global population – as many as 811 million people – were undernourished in 2020, a 17% (118 million) increase from 2019.
- Reduced poverty – hunger is often linked to extreme poverty and unequal distribution of resources. Investments into a more sustainable food system, could reduce the risk of political unrest and conflict whilst improving the status of women who often are hit the hardest during hunger.
- Reduced chronic disease - the prevalence rates of overweight, obesity and diet-related chronic diseases such as cardiovascular disease, stroke, certain cancers and type II diabetes, are increasing in every region in both developed and developing countries. The estimated cost to the world economy of disease and death from overweight and obesity was estimated by GFS at \$2 trillion in 2016⁵², and, in the UK, diet-related chronic disease cost the NHS £6.1 billion 2016 which is expected to rise to £9.2 billion per year by 2050⁵³.
- Reduced zoonotic diseases – local and global food security are affected by the occurrence of epidemics of zoonotic infectious diseases caused by pathogens passing from animals to humans. Having a nature-based food system should not only lower the direct disruption of the workforce, workers' income and trade restrictions but also reduce indirect food price volatility as a result of food supply insecurity.

c). Housing

All good housing provides for a basic social human need. The total value of the UK's private housing market was estimated by Zoopla to be £9.2 billion⁵⁴ at the end of 2021. Much of this is mortgage financed: the FCA announced in May 2022 that the total mortgage market at the end of Q1, 2022 was £1.6 trillion⁵⁵, of which just over £100 billion had been securitized into RMBS and a further £100 billion was backing UK covered bonds⁵⁶. Interestingly only half of the UK's outstanding covered bonds are sterling denominated, with the rest being primarily denominated in EUR and sold mainly to European investors. These investments will be very secure, backed by both a bank covenant and the underlying overcollateralized mortgages but as they are low-yielding they might only find extensive interest from mature pension schemes seeking low risk investments and liability. In recent years banks have stepped up their issuance of social covered bonds backed by mortgages to borrowers living in areas of relative social deprivation or with a higher female borrower quota.

The size of overseas developed mortgage markets is staggering:

- It is dominated by the US market with over US\$18 trillion of outstanding mortgages, of which US\$12.2 trillion secure RMBS⁵⁷. Though the sub-prime crisis is now 15 years away and US government reforms, coupled with asset purchase programs, have cleared up the worst abuses of that era and

recovered that market onto a stable footing, the majority of these assets are short-term and/or floating rate RMBS bonds with pre-payment risks and so not the typical long-duration assets that pension schemes are looking for.

- In Europe (ex-UK), funding is more typically via covered bonds than RMBS which are far better suited for pension funds as described in the preceding paragraph. Globally there are EUR2.6 trillion of mortgage covered bonds outstanding plus a further EUR250 billion of public sector covered bonds enjoying asset backing and a local government guarantee; EUR2.3 trillion of this total comes from EU states, EURO.5 trillion from other DM countries with minimal EM issuance. Much of this issuance is in liquid, benchmark tranches of over EUR1 billion, with central banks amongst the core institutional investor base.

There are segments of the housing market that have a distinctly stronger 'S' flavour. Affordable housing investments include social rent, affordable rent, shared ownership, private sale, private rent, specialist supported housing, and shared living (e.g. independent living for older people). Outstanding long-term debt to UK housing associations totalled £86.3 billion at the end of 2021⁵⁸. Many of these loans are still held by banks and building societies but many have also found their way into fixed income securitisations, debentures or other such long-term fixed income instrument ideal for pension fund investors. Loans are overcollateralized, often on property valuations much lower than their real worth in the private market. Much of the rent roll to service the debt is housing benefit directly paid over by the government to the housing association and not via the tenant, so cash-flows are essentially government-backed. With the continuing shortage of housing in the UK and especially affordable housing the sector looks set to expand further. S&P estimate that the affordable housing sector will deliver c. 105,000 new homes over the next 3-5 years, requiring more than £21bn⁵⁹ of capital expenditure and refinancing in doing so. We note that the sustainability credentials of the social housing sector have been supported by the development of a model set of reporting standards by Sustainability for Housing (SFH) thereby providing a consistent and robust framework for housing associations to report their activities against.

Affordable housing estates are often cornerstones of the community and local economic development, generating health, employment and community well-being benefits. Lack of housing affordability has reached a crisis level in many UK towns and cities, as well as some rural areas. The sale of public housing stock from the 1980s onwards has been a major contributory factor in this and in areas with inadequate council housing, housing associations have become critically important providers of affordable housing and recognised as 'anchor institutions' in place-based development and partners for institutional investors.

Like local economies, the social benefits of affordable housing are cyclical and have multiplier effects: when a community has more easily accessible social services, the equity of the neighbourhood increases. Consequently, schools get more funding and local residents can better meet their goals and thrive-- which, in turn, leads to increased economic security. Lastly, reliable and stable housing minimizes the number of times that children's school attendance is disrupted.

d). Healthcare

The Healthcare sector is a major constituent of most major bond and equity indices in the UK and overseas. The UK's healthcare sector in equities is capitalized at c.£300 billion⁶⁰ capitalised and dominated by two drug manufacturing giants, AstraZeneca and GSK. Much of the UK's healthcare infrastructure is of course government run through NHS trusts and essentially funded through the National Insurance scheme. Furthermore, many private hospitals are owned by not-for-profit companies like Nuffield or BUPA. However, the UK is also home to a vibrant bio-tech industry in which VC firms play a key financial role. DC pension schemes' recently granted freedoms on the fee cap now potentially open the door to limited investment in VC funds and support new drug development which can obviously have major social benefits, but which typically carry higher risks and require the specialist sector expertise of a VC fund.

Pension funds seeking diversification within this sector will need to look overseas. According to MSCI⁶¹, the market capitalization of the global healthcare equity universe was \$7 trillion whilst Bloomberg have the market capitalization of the global healthcare fixed income sector at an additional \$200 billion⁶². Fixed income plays less of a role in this sector because its higher ROCE means there is less of a drive to leverage the balance sheet and companies generally finance their investment pipeline internally. Healthcare equities, often promising strong growth potential, should probably in many cases be a prominent feature of the investment portfolio of all but the most mature pension schemes.

Some of the 'S' credentials of the Healthcare sector are obvious:

- Greater productivity: healthier individuals typically benefit more from education and grow up to be healthier adults with higher earnings potential, encouraging investment in education and productive capacity.
- Better social cohesion: McKinsey Global Institute estimate that the total combined value of deaths averted and reduced ill health could be approximately \$100 trillion without adjustments for income levels—eight times the estimated GDP benefits⁶³. The benefit of adding 10 healthy mid-life years between 55 and 65 could provide enormous economic and societal benefits they argue. Improving health could also narrow health disparities within countries and across countries. This in turn could contribute to reducing income inequality within countries and strengthen the social contract.
- Higher innovation: investment in healthcare delivery is typically linked to lower costs in intervention measures – behavioural change, environmental improvements such as ensuring clean water, preventive medicine. This will likely foster new funding and procurement models, broader community partnerships and collaborations, and a broader set of common priorities.

As with each of these 'core-5' sectors, however, it is not enough to assume an investment is 'social' simply because it is a healthcare company. Application of the SDGs is critical to understanding not only 'what' the company does but also 'how' it does it. Funding unethical or anti-competitive drugs companies, for example, actually results in social harm and not social good and of course exposes scheme beneficiaries to increased regulatory risk. For active funds this deeper layer of social factors should be second nature; for passive funds, they will be relying on the third-party ratings provider undertaking this 'how' on top of the 'what' due diligence sufficiently well.

e). Education

As with the UK's healthcare sector, the UK's education sector is also predominantly run by the state and funded from taxes and gilt issuance or by privately funded charities and not-for-profit companies. Opportunities for pension schemes to invest in the education sector are therefore quite limited outside of a few long-term fixed income securities issued by universities. Student loans sold off by the government and packaged up in RMBS have matured and had a chequered history, though there is always the possibility of similar asset sales in the future if they are structured appropriately.

Globally the general picture is similar though a relevant MSCI index does show a market capitalization of \$530 million in equities and just under \$100 million in fixed income⁶⁴.

A key trend in the education sector in recent years is increasing digitization and the enormous benefits of scale that this potentially delivers. In theory this trend should lie behind some interesting growth opportunities overseas for UK place-based, English language-content education product providers but publicly listed investment opportunities to exploit this are not abundant – currently most of this activity appears to be in the domain of not-for-profit or privately-owned companies.

Education has a manifold impact on society, raising the quality of life and creating conditions conducive to the development of talented individuals capable of changing society. The importance of education in society lies in the fact that it creates opportunities for acquiring knowledge and skills that quite literally change the world. Broader pension investment in the education sector will help lower the cost and improve the quality of providing it. A skills gap persists in the UK and has been most recently exacerbated by Brexit: a recent study by Qlik and Accenture⁶⁵ estimates the skills gap, particularly in coding and data science, evidenced by the difficulty to fill positions or filling positions with sufficiently skilled workers, is costing the UK alone £10bn a year in lost productivity.

B). CHALLENGES TO SOCIAL INVESTING AND SOME SOLUTIONS

5. DATA COLLECTION

a). 'S' Data lags 'E' & 'G'

Social investing is still an immature activity, presenting big challenges. However, with challenges come also opportunities. Thanks to the industry trend and increasing demand, ESG ratings and scores are becoming more and more widely available, but they are not yet necessarily comparable, fully transparent and therefore useful. Yet among Environmental, Social and Governance data, the 'S' represents the most challenging of the three categories in terms of the lack of standardisation, quantification and comparable reporting; there is often a barrier to getting hold of required information due to privacy or data protection laws.

b). Standards under development

Data has surely improved in recent years, but the overall 'S' framework is still far from being completely efficient, transparent and scalable. It is far from being comparable, for example, to credit ratings provided by recognized credit agencies and that are so widely recognized and scalable that they are taken into account when defining an investment strategy (from a legal, reporting as well as portfolio construction perspective). Standards are still in development, with the EU 'S' taxonomy still to be published, the UK's taxonomy still in development and the ISSB standards for sustainability disclosures also under public consultation and not yet drafted to cover 'S' issues. We note there is no TCFD or TNFD equivalent for social investing.

c). Regulation is becoming more prescriptive

ESG reporting, in contrast to CSR reports, has more specific metrics that in some cases can be used to measure a corporate's or project's impact on the environment and society as well as their own governance; in many cases, however, impact cannot be measured. EFRAG is looking at impact materiality with its standards and this may help at least in Europe. Reporting and regulatory bodies are increasingly focusing on promoting, improving and homogenising reporting standards for ESG, including 'S' factors. Exchanges now normally require their largest listed companies to make ESG disclosures in accordance one of many of the reporting frameworks, such as IIRC, GRI, or SASB. These reporting frameworks are continuously evolving and consolidating. In March 2022 the ISSB launched consultations on Exposure Draft proposing general sustainability-related disclosure requirements, alongside climate-related financial disclosure requirements. In the medium-term once subsequent drafts incorporating 'S' data disclosures are finalised, the 'S' data availability and standardisation in corporate reports can be expected to improve significantly. This is critical as it is difficult to trust or interrogate the veracity of an ESG rating when the disclosures from the underlying company are inadequate. Companies are often prepared to openly report on their

social credentials but reticent to disclose any negative social aspects unless they are mandated to do so.

d). CSR Reports lack of quantitative data

Many large corporations have been publishing Corporate Social Responsibility reports voluntarily for some years already, however, these reports tend to focus on corporate strategy on sustainability, specifically surrounding environment, society, charity and human resources. The disclosures regarding strategic planning and direction have been important for investors to enable them to assess the company's social engagement and the impact from its business activities going forward. On the flipside, however, the CSR reports lack the quantifiable and standardised metrics that can be used to measure those corporate strategies surrounding social factors and facilitate meaningful peer comparison. Furthermore, their availability is not always guaranteed and they are subject to intentional or unintentional reporting bias. Some jurisdictions have legislated to encourage or mandate companies to disclose sustainability information, for example, the EU's Non-Financial Reporting Directive (NFRD) and Corporate Sustainability Reporting Directive (CSRD).

e). Emerging markets data is localised and unscalable

Social investing is heavily dependent on the market fundamentals: DM are essentially a homogeneous ecosystem, consisting largely of multinationals and here 'S' information and governing standards are developing quite quickly. In EM, however, every country has its own distinct cultural, legal, economic and political features which determine different developmental priorities and also social risks. There is a heavy reliance on local information providers which then provide different information that is not comparable with data from other countries, often unreliable or complete. This makes for a far more fragmented market making emerging markets more challenging and fund manager selection very important.

f). Many investors ignore the 'S'

A BNP Paribas survey in 2021⁶⁶ shows how ESG has now reached a turning point in its development. ESG has moved from being treated as a stand-alone function within the investment business to becoming an embedded pillar throughout investment firms and including a wide set of different investment strategies (such as thematic investing, positive screening, net zero, etc). However, the BNP report caveats that this progress mostly relates to E and G, and S is still lagging and failing to establish itself within a quantifiable framework. As a consequence, nearly all investors are way behind on the matter and many are ignoring 'S' investing altogether. However, there are signs that social investing could become the 'heir-apparent' factor to drive markets once climate investing has fully played out and pension funds applying themselves to this now stand a better chance of gaining a first mover advantage. This dynamic may be accelerated by the fact noted above under 'Just Transition' that climate change itself has manifold social consequences.

6. DATA COLLECTION

a). 3rd-party data

Due to the above-mentioned challenges for corporates to report social-related data from their business, employees, supply chain, community etc, it is a difficult task to collate and analyse information across companies, sectors and regions. Before the progress towards further standardisation is finalised and made compulsory to some extent, it requires some mapping between corporates for each social factor item in order to make them comparable. However, this is both an intellectual and resource challenge for pension trustees and their advisors. In addition, some social risk factors, such as geopolitical risks, are not included in corporate reports. Third-party data providers can fill the data gap by collecting alternative data sources such as news reports, satellite images, online data scraping and social media trend analysis etc. Increasingly, new technologies such as blockchain and natural language process help to collect and analyse social-related data. While this development has been promising for data providers, compared to environmental or governance factors, social data is covered by as few as 5% of independent ESG data providers.

b). Collaboration with experts

Decision-makers in a pension fund usually come from an actuarial, finance or other similar background. It requires a breadth of knowledge and understanding in a variety of subjects such as humanities, labour relationships, law and even international relationships/foreign policies to be able to grasp social risk and its implications on investments. Education and training are required to allow investors and pension trustees to start looking into those factors. This is cited as the biggest obstacle to considering ESG investment, in general, in surveys. Training programmes from bodies like CFA Institute and FINRA, as well as collaboration opportunities with NGOs, government agencies and financial advisors, could yet fill the gap and provide a much needed continuous update of trends in social investment.

c). Relationship within ESG themes

While the three themes of ESG are all used to promote societal values and mitigate long-term risks, it is unavoidable that investors will have different priorities given their individual circumstances and the nature of investments. Sometimes there can be conflicting priorities. For example, the transition to green energy on the path towards net zero could potentially increase the cost of energy, adding to the financial strain of low-income families; and, at a national level, it is profoundly unfair to expect developing countries to decarbonise on the same timescales as developed nations. As discussed earlier, the Just Transition provides a framework whereby pension funds can steward their climate investments in such a way as to avoid causation of or at least mitigate negative social outcomes.

d). ESG agencies and ratings

Social factors are, as mentioned above, lacking in standardisation and objectivity. Making sense of a vast number of qualitative survey results and reports for numerous corporations is a daunting task. Some agencies have been providing an aggregating service by constructing ratings in social factors as well as 'total ESG' ratings. These 'social factor' ratings are used mostly as one single factor in the investment decision process, although typically not as a primary factor.

Most investment funds that integrate ESG in their portfolio construction rely either on external or internal ESG ratings. However, it is well known that there can be a wide dispersion of ratings for each issuer amongst different agencies. A company with a high social rating by one agency can be rated lowly by another: an oft-quoted, prime example is a leading global manufacturer of electric cars which, although it has a universally high Environmental rating, receives very different Social and/or Governance ratings. The dispersion in ratings is caused by the various agencies employing different approaches to classification of indicators, quantification of raw data, benchmark selection, use of too many/different ESG metrics and ranking methodology amongst other factors. As the materiality of social factors differs across sectors and regions it is essential to use heuristics to analyse the significance of the discrepancy between each rating within a sector or region.

Another problem is that ratings can too often reflect the narrative in a corporate's reporting, which may reflect what the company wants to promote rather than what may be really going on, particularly in terms of social factors. The anticipated ISSB sustainability reporting requirements will hopefully help address this by improving corporate disclosures, prescribing their format and content and making them mandatory. However, these will take some years to become fully effective. In the meantime, ESG ratings are still useful tools to aggregate raw data into a comparable format; however, they should be used with caution and an appreciation of their inherent limitations.

e). Fund reporting

As with corporate ESG ratings, fund-level social factor assessment also faces difficulties in aggregating data from individual issuers. It is acknowledged in the CFA Institute ESG Disclosure Standards that there is no standard for what should be reported at the fund level either for social or indeed other factors (other than carbon), and in what particular way. In particular, the financial materiality of a certain social factor in a specific industry might be different for any given fund. It will be the fund's job to identify investment that is most suited to its social or sustainable targets. The European Sustainable Finance Disclosure Regulation (SFDR) requires those funds classified in sub-categories Article 8 or 9 to report the percentage of their portfolio investments that are aligned with EU taxonomy Social or Environmental objectives.

f). ESG factors of sponsor covenant

The biggest non-diversifiable risk that corporate DB pension funds face is that of their sponsor covenant. The Pension Scheme Act 2021 set down mandatory penalties for pension fund non-compliance with climate change governance and reporting regulations. It is easily conceivable to envision a future expansion of that regulation to social related investment disclosures. A balancing act between transparency on the one hand and sponsors' privacy on the other will need to be struck, while the social factors of the corporate sponsor are taken into consideration in making the investment decisions, both from a diversification but also from a specific risk mitigation point of view.

7. INVESTMENT DECISIONS

a). Objectives

Traditionally, asset managers are mandated with financial objectives and are assessed for their performance based purely on financial returns and risks. For social investing, however, the mandate can either have financial objectives with some social investment constraints, or have pure social impact objectives regardless of financial returns, or sit somewhere in-between. It is therefore vital to define what the investment objective is. For pension trustees, there are potential ramifications of applying social objectives rather than their fiduciary duty which is of course a legal requirement. Although it is not a specific legal duty for trustees to take into account their members' views on ESG, the Pension Regulator nevertheless has issued guidance to pension funds to report on the ESG integration in their investment process. After all, the long-term nature of pension funds render it natural for them to consider long-term risks posed by social aspects of their investments. In reality, however, only 13% of pension trustees have made or intend to make changes to their actual investment portfolio for ESG factors according to an ESG in pensions survey by Sackers published in August 2019⁶⁷. It is a challenge to define the financial materiality of the social factors which delineate good social investment from bad ones. Both financial and non-financial trade-offs need to be considered, which compounds the difficulty in setting the objectives.

b). Asset Allocation

DB pension plans set their Strategic Asset Allocation ("SAA") based on their funded status, sponsor covenant, funding plan and scheme demographics among other considerations. Pension schemes can also choose to take social factors into account in the SAA decision, either qualitatively or quantitatively. For example, they can redefine sectors using a social taxonomy and decide on the SAA using the refined set of sectors and sub-sectors. Also, pension schemes can develop their own assessment of the social outcomes stemming from the SAA components, either through their own allocation and engagement with scheme beneficiaries, or based on the collective behaviours of peers and the financial industry as a whole. In addition, new data

c). Manager selection

Factors playing into asset manager selection include the fund's social objectives, the manager's research resources, size and the scheme's reporting requirements. There are a wide range of social objectives, as mentioned above, thus different considerations are taken to measure the capabilities of managers. For example, impact investments would actively try to improve the social outcomes in both project and corporate investments. A good manager that is capable of sourcing the right investments, has the skills to evaluate the corporate strategies and has the working relationships with external agencies to assess the actual social impact would be ideal. On the other hand, if social factors are integrated in the investment process as a risk mitigation strategy, it becomes important to check the research capability and engagement/proxy voting track record of the manager.

Research has shown that adding ESG to the fund title bears no significant impact on financial return or actual ESG implications⁶⁸. Rather it is advisable to review each ESG Fund's documentation, ESG metrics used and track record rather than based any decision or screening on a fund name or even its benchmark. This has been recently loudly echoed by regulators, such as the SEC, who recently called for better ESG information from funds⁶⁹.

d). Private investment

In the UK, the rules around the existing charge cap of 0.75% rules for DC pensions are expected to be relaxed taking performance fees, which are standard on private investment funds, out of the cap. UK pension regulators are keen that UK pension funds have greater access to illiquid assets as they fit well with the long-term nature of pension schemes, which have relatively low liquidity requirements compared to other investor types. Long-term infrastructure investments in social housing, hospitals, water and electricity infrastructure, student accommodation etc. generally bring significant social impact to the area those investments are located in and also benefit society more widely.

Therefore, for pension schemes which have difficulty digesting the numerous afore-mentioned challenges on ESG data inconsistency and manager 'social-washing', private illiquid investment seems to be a relatively straight-forward and attractive option. Such investments do need to be assessed holistically, however; just because an investment is in key infrastructure does not make it automatically social. There are plenty of examples of infrastructure investments which may have brought significant economic benefits but delivered poor social outcomes - one thinks of hydro-electric dams which have had a deeply negative impact on farming communities further downstream, for example. There are also some practical challenges such as the mandate size limitations (e.g. £100m minimum ticket for certain private investments), the resources needed to originate or source a viable investment, ensuring there is sufficient on-going reporting on the investment's social impact, monitoring this reporting on an ongoing basis as well as managing the investment's financial returns.

e). Performance

There are financial and non-financial performance that managers are required to report. It is vital to recognise the trade-offs implicitly or explicitly set out in the objective. The social outcomes are hard to measure, if indeed at all possible. Therefore, it is important to define the KPIs of social factors at the outset. If it is not possible to quantify the social objectives, it is important to present a qualitative, or subjective, assessment of the outcome and how it could have justified any trade-offs in financial returns.

Conclusions

There are multiple reasons why 'S' has been the poor cousin of ESG investing, universally and not just for pension schemes. There are significant barriers to overcome before social factors will be widely adopted by UK pension schemes. However, positive regulatory developments in both corporate and fund disclosures should mean that this is a realistic objective for most if not all schemes over the next 5 years.

Given the present direction of regulation, there could be first-mover advantages for early adopters of S-integration, not only in terms of managing regulatory risk and obligations but also in fund performance.

As pension schemes focus on solutions to optimise their asset allocation to meet the threats and opportunities presented by climate change, so schemes should seek to apply the principles of the Just Transition in order to ensure that social factors are also considered.

Whilst only the larger pension schemes can access segregated mandates, perhaps this form of custodianship currently offers schemes the best model to both limit the increased operational costs and have adequate control over the effectiveness of an S-integration approach. This suggests that social risks could perhaps be better managed if there is further consolidation within the UK's pension sector].

Mature DB schemes currently represent the bulk of the UK's £2.8 trillion workplace pension assets and opportunities for these schemes to invest with social impact are appropriately restricted by their regulatory requirement to de-risk and match their liabilities with increasing levels of (mainly UK) government bond holdings.

DC scheme assets are growing faster in terms of assets under management, however, and the younger-aged beneficiary and consequent longer-term liability profiles mean that these schemes have a greater opportunity and obligation to manage social risks within their investments.

There may be insufficient investment opportunities for pension schemes to drive true social change and impact society without schemes taking inappropriate risks, compromising returns and neglecting their fiduciary responsibilities. However, there are ample and a growing number of opportunities to mitigate and manage social risks in investment portfolios through adopting S-integration practices.

Endnotes

1 <https://www.fsb-tcfd.org/>

2 ONS "Funded Occupational Schemes in the UK, October-December 2021 (Jul 2022): <https://www.ons.gov.uk/economy/investmentpensionsandtrusts/bulletins/fundedoccupationalpensionschemesintheuk/octobertodecember2021>

3 https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/finance-and-green-deal/just-transition-mechanism_en

4 PWC 2022 The growth opportunity of the century (Nov 2021): <https://www.pwc.lu/en/sustainable-finance/esg-report-the-growth-opportunity-of-the-century.html>

5 EU's Final Report on Social Taxonomy: Platform on Sustainable Finance (February 2022): https://ec.europa.eu/info/sites/default/files/business_economy_euro/banking_and_finance/documents/280222-sustainable-finance-platform-finance-report-social-taxonomy.pdf

6 CFA Institute's Certificate for ESG Investing: <https://www.cfainstitute.org/en/programs/esg-investing>

7 The United Nations Social Development Goals: <https://sdgs.un.org/goals>

8 The Department for Work & Pensions (2021-2022): Consideration of social risks and opportunities by occupational pension schemes

9 <https://www.gov.uk/government/consultations/consideration-of-social-risks-and-opportunities-by-occupational-pension-schemes>

10 CFA UK response to DWP Call for Evidence: Consideration of social risks and opportunities by occupational pension schemes (June 2021): <https://www.cfauk.org/-/media/files/pdf/pdf/5-professionalism/2-advocacy/responses/dwp-social-considerations.pdf>

11 CFA UK response to DWP Call for Evidence: Consideration of social risks and opportunities by occupational pension schemes (June 2021): <https://www.cfauk.org/-/media/files/pdf/pdf/5-professionalism/2-advocacy/responses/dwp-social-considerations.pdf>

12 Pension Schemes Act 2021, Part V: (<https://www.legislation.gov.uk/ukpga/2021/1/part/5/crossheading/climate-change-risk/enacted>)

13 FCA PS21-24 (Dec 2021): Enhancing climate-related disclosures by asset managers, life insurers and FCA-regulated pension providers (<https://www.fca.org.uk/publications/policy-statements/ps-21-24-climate-related-disclosures-asset-managers-life-insurers-regulated-pensions>)

14 DWP Climate investing and reporting: <https://www.gov.uk/government/consultations/climate-and-investment-reporting-setting-expectations-and-empowering-savers/climate-and-investment-reporting-setting-expectations-and-empowering-savers-consultation-on-policy-regulations-and-guidance>

15 <https://www.cfauk.org/professionalism/research-and-position-papers/scottish-widows-case-study-on-implementing-responsible-investing#gsc.tab=0>

16 Climate Investment Reporting – setting expectations and empowering savers (Oct 2021) <https://www.gov.uk/government/consultations/climate-and-investment-reporting-setting-expectations-and-empowering-savers/climate-and-investment-reporting-setting-expectations-and-empowering-savers-consultation-on-policy-regulations-and-guidance> (Chapter 2)

16 ONS "Funded Occupational Schemes in the UK, October-December 2021 (Jul 2022): <https://www.ons.gov.uk/economy/investmentpensionsandtrusts/bulletins/fundedoccupationalpensionschemesintheuk/octobertodecember2021>

17 <https://tnfd.global/>

18 <https://www.unpri.org/sustainable-development-goals/investing-with-sdg-outcomes-a-five-part-framework/5895.article>

19 The five parts are i) identify outcomes; 2) set policies and targets; 3) investors shape outcomes, 4) financial system shapes outcomes and 5) global stakeholders collaborate to achieve outcomes in line with the SDG

- 20 <https://www.oecd.org/development/financing-sustainable-development/Framework-for-SDG-Aligned-Finance-OECD-UNDP.pdf>
- 21 <https://www.sdi-aop.org/how-it-works/>
- 22 <https://www.refinitiv.com/perspectives/future-of-investing-trading/is-your-portfolio-aligned-with-the-un-sdgs/>
- 23 The Just Transition Mechanism: making sure no-one is left behind (https://ec.europa.eu/commission/presscorner/detail/en/fs_20_39)
- 24 The Solidarity & Just Transition Silesia Declaration (https://cop24.gov.pl/fileadmin/user_upload/Solidarity_and_Just_Transition_Silesia_Declaration_2_.pdf)
- 25 The Climate Action for Jobs Initiative (https://www.ilo.org/global/topics/green-jobs/areas-of-work/climate-change/WCMS_732060/lang--en/index.htm)
- 26 The UNFCCC Gender Action Plan (<https://unfccc.int/gender>)
- 27 Source: OECD/region: https://stats.oecd.org/Index.aspx?DataSetCode=REGION_DEMOGR
- 28 Source: Levelling Up the UK Whitepaper, Executive Summary (page 3): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1052046/Executive_Summary.pdf
- 29 ESG Working Group is a collaboration including The Thomson Reuters Foundation, Refinitiv, ISFC, White & Case, Eco-Age, The Mekong Club & PRI; "Amplifying the 'S' in ESG: Investor Myth Buster (April 2021): https://esg.trust.org/application/velocity/_newgen/assets/InvestorMythBuster.pdf
- 30 <https://www.worldbenchmarkingalliance.org/>
- 31 PWC 2022 The growth opportunity of the century (Nov 2021): <https://www.pwc.lu/en/sustainable-finance/esg-report-the-growth-opportunity-of-the-century.html>
- 32 United Nations Conference on Trade and Development (UNCTAD); Leveraging the Potential of ESG ETFs for Sustainable Development (2020): https://unctad.org/system/files/official-document/diae2020d1_en.pdf
- 33 McKinsey & Co: Private markets Report (2022): <https://www.mckinsey.com/~media/mckinsey/industries/private%20equity%20and%20principal%20investors/our%20insights/mckinseys%20private%20markets%20annual%20review/2022/mckinseys-private-markets-annual-review-private-markets-rally-to-new-heights-vf.pdf>
- 34 DWS-sponsored report reveals the rise of ESG's 'S' pillar in pension portfolios (2021): <https://etf.dws.com/en-gb/about-us/press-releases/dws-sponsored-report-reveals-the-rise-of-esgs-s-pillar-in-pension-portfolios/>
- 35 Refinitiv - Global issuance of sustainable bonds hits record in 2021 (Dec 2021): <https://www.reuters.com/markets/commodities/global-markets-esg-2021-12-23/>
- 36 Prequin (September 2022): <https://pro.prequin.com/analysis/dryPowderAUMBakedown>
- 37 Prequin's quarterly market commentary provides a summary of market views on relative pricing of private markets: <https://www.prequin.com/insights/research/quarterly-updates/prequin-quarterly-updates>
- 38 Impact Investing Institute Private Debt Funds (April 2021): <https://www.impactinvest.org.uk/wp-content/uploads/2021/04/Private-debt-funds.pdf>
- 39 Impact Investing Institute: Masala Green Bond Case Study: <https://www.impactinvest.org.uk/wp-content/uploads/2021/04/Masala-Green-Bond.pdf>
- 40 P. Aghiona, P. Bacchettab, R. Rancierec and K. Rogoff, Exchange Rate Volatility and Productivity Growth: The Role of Financial Development, *Journal of Monetary Economics*, 56(4), pp. 494-513, 2009.
- 41 B. Eichengreen, The Real Exchange Rate and Economic Growth, *Social and Economic Studies*, 56(4), pp. 7-20, 2007

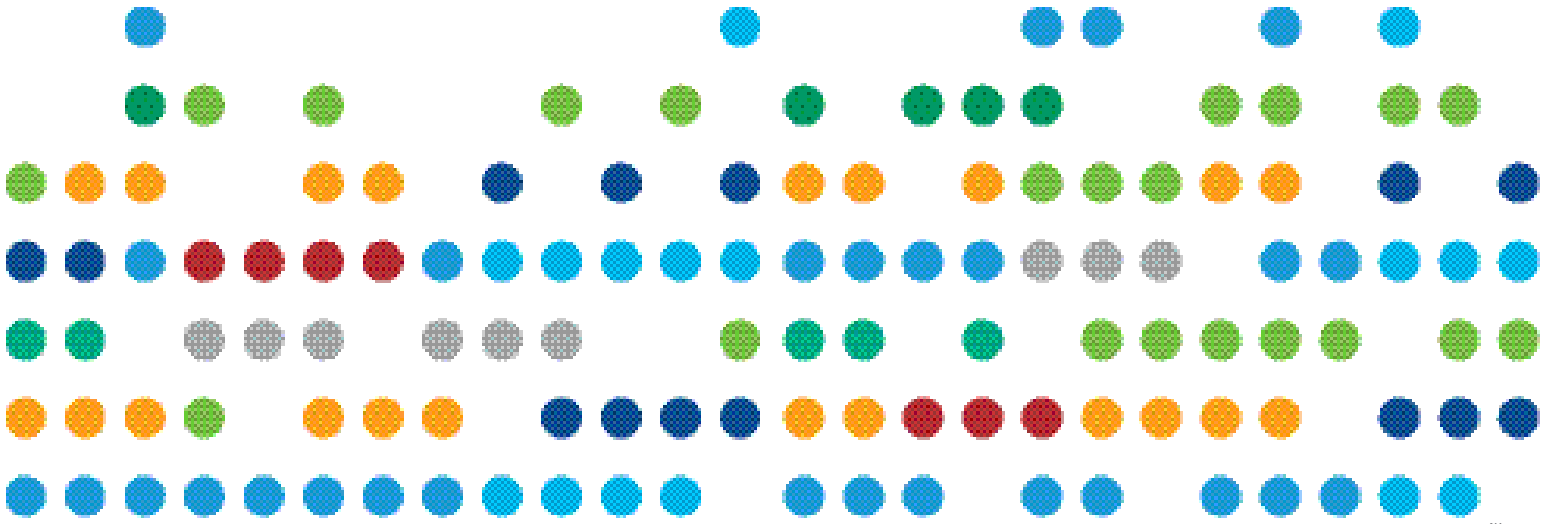
- 42 <https://www.reuters.com/business/finance/sustainable-finance-scramble-reaches-currency-derivatives-market-2021-05-18/>
- 43 Infrastructure in the UK, investments and net stocks (May 2022) reports a total stock value of £342 billion including £101 billion of mining and quarrying assets: <https://www.ons.gov.uk/economy/economicoutputandproductivity/productivitymeasures/articles/developingnewmeasuresofinfrastructureinvestment/may2022>
- 44 Getting the Building Blocks Right (2020): https://green-alliance.org.uk/wp-content/uploads/2021/11/Getting_the_building_blocks_right.pdf
- 45 Data from: Green Alliance, 2015, Employment and the circular economy: job creation in a more resource efficient Britain; IPPR, 2020, Transforming the economy after Covid-19
- 46 FCA PS21/14: A new authorised fund regime for investing in long term assets (Oct 2021): <https://www.fca.org.uk/publications/policy-statements/ps21-14-new-authorized-fund-regime-investing-long-term-assets>
- 47 Source: <https://simplywall.st/markets/gb/consumer-staples/food>
- 48 Source: Bloomberg World Food Index
- 49 Source: Bloomberg Investment Grade Index Food and Beverage
- 50 Source: The Food and Drink Federation: Industry at a Glance (2021): <https://www.fdf.org.uk/dfd/business-insights-and-economics/facts-and-stats/>
- 51 Source: Food & Drink Federation
- 52 Source: Global Food Security (2016): <https://www.globalfood.cam.ac.uk/system/files/documents/page1-overconsumption.pdf>
- 53 Source: NHS Health Matters: Obesity and the food environment (2017): <https://www.gov.uk/government/publications/health-matters-obesity-and-the-food-environment/health-matters-obesity-and-the-food-environment-2#:~:text=It%20is%20estimated%20that%20the,and%20the%20judicial%20system%20combined>
- 54 Source: The Guardian: (<https://www.theguardian.com/money/2021/oct/14/britains-homes-could-be-worth-92tn-on-open-market-report-shows>)
- 55 Source: The FCA (<https://www.fca.org.uk/data/mortgage-lending-statistics>)
- 56 Source: ECBC Covered Bond Factbook 2021 (<https://hypo.org/app/uploads/sites/3/2021/09/ECBC-Fact-Book-2021-FINAL.pdf>)
- 57 <https://www.statista.com/topics/7521/mortgage-industry-worldwide-developed-markets/#dossierKeyfigures>
- 58 Global accounts of private registered providers (The Housing Regulator, 2021): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1040365/GA2021_final.pdf
- 59 <https://www.insidehousing.co.uk/news/news/associations-need-to-borrow-more-than-21bn-to-deliver-new-homes-over-the-next-two-years-predicts-sp-75002>
- 60 Source: <https://simplywall.st/markets/gb/healthcare>
- 61 Source: MSCI World Health Care Index
- 62 Source: Bloomberg Investment Grade Index Health Care
- 63 Source: McKinsey Global Institute – Prioritizing health: a prescription for prosperity (2020): <https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/prioritizing-health-a-prescription-for-prosperity>
- 64 Source: MSCI ACWI IMI Future Education Index
- 65 Source: City AM: "The UK has a £10 billion skills gap so the UK must invest in an 'edtech' boom" (Aug 2020): (<https://www.cityam.com/edtech-can-fill-the-skills-gao/>)

66 Source: BNP Paribas: <https://securities.cib.bnpparibas/esg-global-survey-2021/>

67 Sackers' ESG Survey for Pension Schemes: <https://www.sackers.com/app/uploads/2019/09/Sackers-ESG-Survey-Summary-Report.-August-2019.pdf>

68 MGTf 490 Capstone Project: Identify "Greenwashing" Funds using NLP in Firms' Prospectuses (Nov 2021): https://www.asyou-sow.org/s/As-You-Sow-UCSD_ESG-Fund-Naming_Final-Report_20211208.pdf

69 SEC Factsheet: 'ESG Disclosures for Investment Advisers and Investment Companies' (May 2022): <https://www.sec.gov/files/ia-6034-fact-sheet.pdf>



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