impact investing institute

Is there an investment case for social and affordable housing in the UK?

- Supply-demand dynamics of social and affordable housing
- Cashflow characteristics of the asset class
- Investment vehicles for accessing opportunity
- Optimal asset allocation for risk-adjusted return

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Disclaimers

Content

Glossary of terms

Affordable housing – Social rented, affordable rented and intermediate housing provided to eligible households whose needs are not met by the open market

Affordable home ownership – Schemes such as shared ownership and Help to Buy to make home ownership attainable to those who can't afford to buy on the open market

Affordable rented housing – Housing let by Local Authorities or private registered providers where rents are not in excess of 80 per cent of local market rent

Decent Homes Standard – Introduced by government to ensure all social housing meets minimum standards on health, safety, repair, and modernisation

Existing Use Value for Social Housing (EUV-SH) - An estimate of market price. It assumes a hypothetical sale between one RP to another on the basis that a unit will continue to be let at social/affordable rents in perpetuity, managed in accordance with the regulator's requirements, and the unit will not be sold with vacant possession value should it become void

First tranche sale – the first proportion of a property purchased by a tenant under a shared ownership scheme

Housing association – A not-for-profit organisation created to provide low-cost housing, ranging from community-led groups to major organisations

Intermediate housing – Schemes such as shared ownership are aimed at households that do not qualify for social housing, but cannot afford full market rents

Large Scale Voluntary Transfer (LSVT) – involves the council transferring ownership of its homes with the agreement of its tenants to a new or existing Registered Provider

Low Cost Home Ownership (LCHO) – Schemes aiming to help those who cannot afford to buy on the open market to get onto the housing ladder, normally by buying a part share in a property

Market Value – Tenancies (MV-T) - This valuation basis varies from EUV-SH in that the valuer assumes that the owner is letting the units outside of the regulated sector and therefore is able to manage the assets differently (for example, let at market rents)

Private Registered Provider (PRP) – Registered Provider of social and affordable housing that is a private, non-government entity (i.e. not a Local Authority), including housing associations

Real Estate Investment Trust (REIT) – Closed-end, publicly listed investment vehicle specifically designed to invest in real estate

Registered Provider (RP) – Entity authorised to provide and run social and affordable housing services and assets

Right to Buy (RTB) – a government scheme that allows most council tenants to buy their council home at a discount to market value

Section 106 agreement – A requirement on a developer to fund services that offer benefit to the local community (such as low-cost housing) in return for being granted planning permission

Shared ownership – Scheme offered through Registered Providers allowing tenants to buy a part-share in their home (typically 25 to 75%) while paying a capped rent on the remaining share

Social rented housing – Housing owned and managed by Registered Providers where maximum rents are determined by a formula set by government

Staircasing – To buy further shares in a shared ownership property, once the tenant has lived in it for a certain amount of time

Executive Summary

There is a rising level of interest from institutional capital to invest in the affordable housing marketplace. This interest appears to be driven by a strong demand-supply imbalance, incumbent affordable housing developers being financially constrained and not growing at the pace required to bridge the gap between housing need and housing availability, and an increasing participation in the sector by some institutional investors. This research aims to determine whether the sector has the potential to provide attractive risk-adjusted return opportunities for both private (non-public) debt and equity investors.

The UK residential rental property market has experienced a significant rise in interest from institutional investors over the past 10 years. Within the residential property sector, our research into social and affordable housing suggests this sub-sector's attributes are likely to justify its inclusion in a diversified portfolio that is seeking to achieve superior risk-adjusted returns.

This research project was commissioned by the Impact Investing Institute and co-funded by Homes England and the Investment Property Forum to focus on establishing the financial merits or otherwise of including the asset class within an investment portfolio. The authors acknowledge that investment capital is being used to provide homes for some of society's more vulnerable communities and this may attract capital specifically targeting ESG and impact investment objectives. This impact aspect is clearly an area worthy of further research.

The significance of the social-rented sector

The social and affordable-rented sectors account for around 17% of total housing stock in the UK, with private-rented housing accounting for a further 19% and owner-occupied housing 65%. Given that the social and affordable housing sector is a regulated activity, operators are statutorily required to be a Registered Provider (RP) and satisfy criteria set by the Regulator of Social Housing. To allocate to the sector, therefore, an investor either needs to provide capital to an existing Private Registered Provider and/or operate via a new for-profit RP to help fund the new supply of homes. Broadly, there are three types of registered providers: (i) Local Authority housing providers, (ii) not-for-profit registered providers (NFRPs), and (iii) for-profit registered providers (FPRPs). Collectively the NFRPs and FPRPs can be referred to as Private Registered Providers (PRPs) denoting the fact that they are not on the public sector's balance sheet. Within this report the term Registered Provider (RP) refers to the three categories combined.

RPs account for around 20% of annual new build housing completions (across all social and private tenures). Today, around 70% of capital to build affordable housing is sourced from private financing, up from 30-40% in the 2000s. Privately-financed social and affordable housing clearly has a critical role to play in solving the undersupply of housing in the UK – and as we detail below, its cashflow and other characteristics should make it a compelling asset class for investors.

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The sector's cashflow characteristics

1. Low correlation with the wider economy

Whether investing via equity or debt, understanding the risks of underlying cashflows is fundamental to arriving at a pricing of the required return on an investment. Within the social and affordable sector there is a range of tenures with different bases for calculating rent, reviewing rent, and funding it.

Table 1: High level summary of key mainstream tenures in social and affordable homes

Tenure	Basis for calculating rent at initial letting	Rent review	Additional cashflow events	How rent is funded
Social Rent Homes	Formula based. Reference to house values in 1999 and uprated by inflation to date of letting.	Annual - in line with government rent regime. (Typically linked to inflation with CPI+1% the current settlement until 2025.)	n/a	Rent paid by tenant employment and/or housing benefit funded by central government.
Affordable Rent Homes	Affordable rented: Set at up to 80% of market rent. Intermediate rented: Can be set above 80% of market rent but may not qualify for grant funding and may not be classed as a regulated tenure. Intended to meet needs of middle-income households (e.g. key workers).	Regulated affordable tenures: Annual - in line with government rent regime. Non-regulated tenures: contractual terms agreed between parties.	n/a	Rent paid by tenant employment and/or housing benefit funded by central government.
Shared ownership	Rent paid on share of unit not purchased agreed between parties.	Depends on contractual agreement. Rents are generally set at 2.75% of unsold equity and rents increase at RPI+0.5%, per annum.	Staircasing when tenant acquires additional share of unit at prevailing market prices.	Rent and staircasing funded by tenant employment income; staircasing event unpredictable in both frequency and value.

Source: Property Funds Research (PFR)

Because regulated social and affordable rents are – to differing extents – subject to government rent-setting regimes, rather than being driven by market forces, they tend to demonstrate a lower correlation to short-term economic conditions than rents in other segments of the market. However, given the reference to inflation in the rent setting regime, rents are positively linked to inflation trends.

The relationship of rental values for this real estate segment to the business cycle is negligible, with sensitivity to changes in GDP of 0.03. This compares to 2.4 for UK office rents (i.e. for every 1% change in GDP, office rents would be expected to rise/fall by 2.4%), 1.6 for retail and 0.7 for industrial rents. This indicates that the cashflows (rents) generated by social housing can provide investors with effective risk diversification, especially compared to other rental sectors whose cashflows are more intrinsically linked to the wider economy.

Photo: VIVID

2. Attractive occupation profiles

Another key metric for assessing income quality is the average length of occupation. This is not the same as the average lease length – which refers to the length of a contract – but the amount of time a tenant remains in occupation of the same unit. Compared to private-rented housing, tenants in the social-rented sector typically have much longer residencies. According to the Department for Work and Pensions Family Resources Survey, 80% of social-rented tenants stay in the same unit for at least three years, while 44% of tenants remain in the same unit for over 10 years compared to just 10% of tenants in the private-rented sector.

The social-rented sector also has low and stable vacancy levels with less than 1.5% of stock vacant over the past five years. This is not surprising given the sector's supply and demand imbalance: waiting lists for social housing in England have consistently been above 1 million households since 1997.

3. Stable operating profits

The implications of these two factors for quality of rental income from social-rented assets are: (i) the sector has greater stability in rent levels, which are also not pro-cyclical, (ii) gross to net leakage from costs associated with tenant turnover is lower compared to purpose-built private-rented.

These characteristics support the view that the sector has relatively robust, higher quality cashflow fundamentals that should be attractive to both equity and debt investors. Looking at published annual accounts for PRPs, we can see how this translates into operating profit for social housing lettings. Operating profits have been remarkably stable and healthy for the sector as a whole, averaging 30% (27% excluding government grants) since 2010.

Cashflows for more mature commercial real estate sectors are likely to be higher (relative to the past 30 years) on an *ex-ante* basis (e.g. new leases are for shorter terms, potential for higher capital expenditure requirements, increased exposure to operational risk, etc.). The defensive, lower risk qualities of the sector's cashflow should be appealing to investors with lower risk tolerance. Perhaps one of the better indicators of the relative security of cashflows is the respective rent collection rates for 2020 with around 97-99% of rent in the social and affordable sector collected despite the Covid-19 pandemic. This is significantly above the average rates for offices, industrial and retail assets (35-85%).

The social and affordable housing investment opportunity

i. Bonds

Private capital has been active in the social-rented sector for a number of years, primarily by providing debt financing via bonds. These have typically been issued by larger PRPs with the scale and resource to access capital markets directly. Smaller PRPs typically access capital markets via aggregators that issue bonds secured against a number of different PRPs' assets. The credit rating for these bonds is typically single A. The average maturity at issuance is high at 25-30 years, indicating that the duration risk will also be higher.

Investors in the sector have benefited from declining interest rates, with market values rising significantly as bond yields have fallen from 5.5% in 2010 to 1.8% by the end of November 2020. The credit spread also appears to be fairly constant post-2010, maintaining a weighted average spread over UK government gilts of typically 110-160 bps.

Although private sector debt has increased as a source of capital to the sector, overall credit fundamentals have remained strong: interest coverage ratios (ICRs) have stayed at around 1.6-1.8x and net gearing ratios (NGRs) at 35-40% over the past five years. The Covid-19 pandemic has had some impact on ICRs with the rate falling to 1.4x in June 2020 before recovering to 1.8x in September.

ii. Public and private equity

Public equity opportunities in the social housing sector include specialist real estate investment trusts (REITs) such as Civitas Social Housing PLC, Triple Point Social Housing REIT, Residential Secure Income PLC, and Home REIT.

Historic performance of public equity is limited. But the performance of these REITs during the Covid-19 pandemic versus REITs operating in other sectors suggests investors have recognised the particular stability of their underlying cashflows. Share prices for social housing focused REITs have outperformed traditional commercial sector REITs since February 2020.

> We expect further innovation and differentiation in preferred operating models as the sector matures. A few asset managers have opted to set up for-profit RPs themselves, giving them full ownership and operation of the underlying housing assets.

Private equity investment into social and affordable housing is growing gradually. A number of unlisted funds have been launched by asset managers. Whilst a range of operating models between the funds and RPs exist, there are broadly two ways for investors to obtain equity exposure to the sector: (i) by becoming a registered provider and owner of stock (either as a principal or through a fund), and (ii) through lease-based providers. We expect further innovation and differentiation in preferred operating models as the sector matures. A few asset managers have opted to set up for-profit RPs themselves, giving them full ownership and operation of the underlying housing assets.

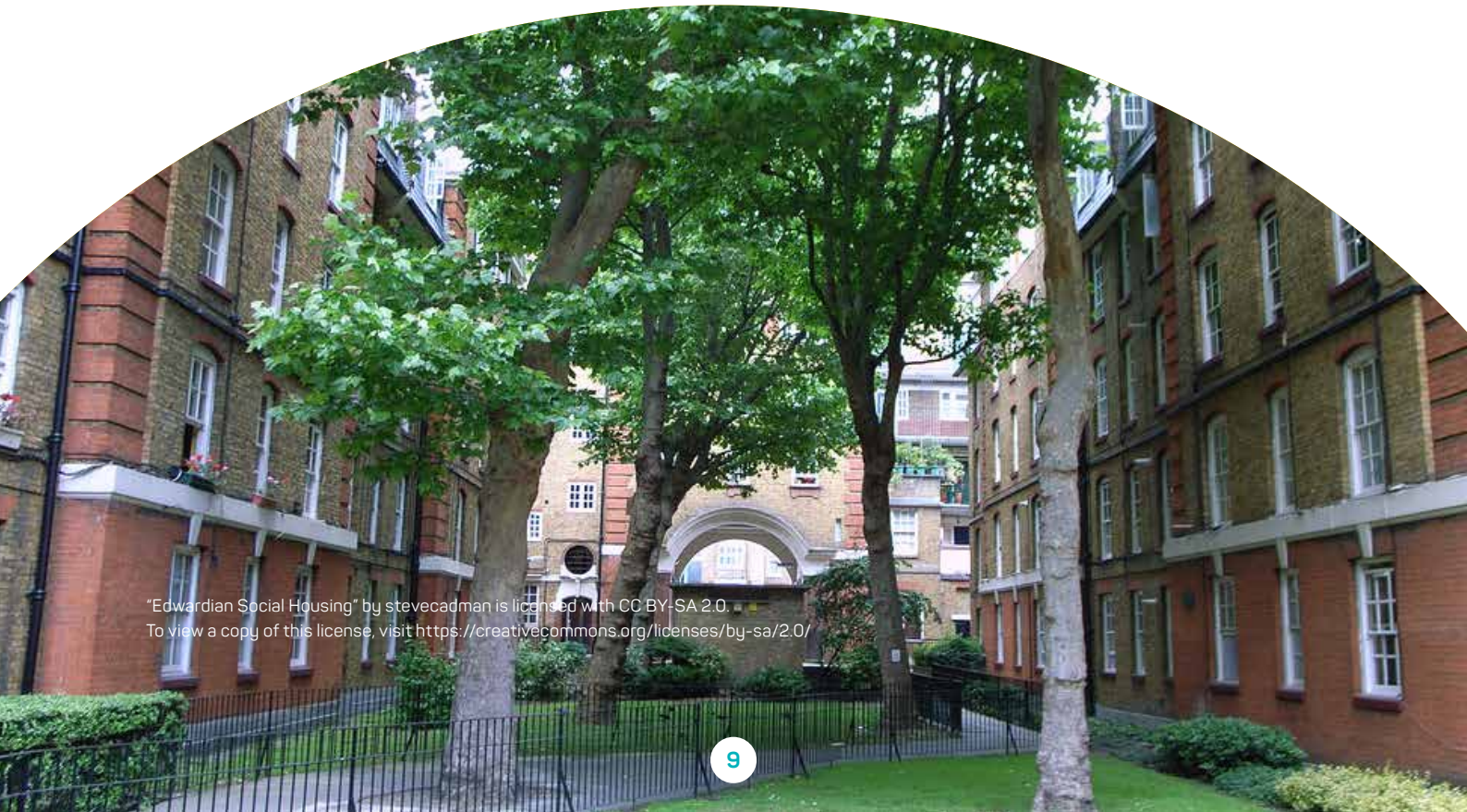
A growing asset class for real estate investors

Using the capital asset pricing model as a framework to estimate forward-looking risk and return assumptions, an efficient frontier was estimated for multi-asset and real estate portfolios to analyse the impact of adding debt and equity social housing assets. It was found that adding both debt and equity social housing investments increased the risk-adjusted return of portfolios across the efficient frontier with the greatest impact evident for lower-risk portfolios (i.e. portfolios with social housing assets should achieve a higher return for a given risk level than portfolios without these asset classes).

Investment into social housing assets – whether through debt or public and private equity – is still in its infancy. But the attributes that we have outlined in this report suggest it may become an increasingly significant component of institutional investment portfolios seeking strong, stable and diversified cashflows, underpinned by good credit fundamentals and low correlation to other sectors of the property market and the broader economy.

Risks associated with this new asset class

Investing in social and affordable housing does come with risks, some can be applied generally to real estate as a whole and some of these are specific to the sector. The residential rented sector requires resource-intensive day-to-day management to manage the high number of assets and/or tenancies. This granularity can be exacerbated by the complexities associated with meeting required standards and regulations which in turn will vary depending on the ultimate occupant's needs. This arguably places additional complexity during the initial underwriting of investments. New entrants need to carefully plan how to invest and at the same time achieve operational efficiency.



A key area of real and perceived risk for investors in the sector is the impact of government regulation of rents. A change in government policy will always be regarded as a risk as it could affect the expected future revenues from the sector and therefore impact the ability of the PRPs to meet financial obligations. A government mandated 1% nominal decline in rental values over the last four years has undermined asset values and income returns and in so doing has discouraged investment appetite. Further risk lies in areas with below-inflation growth in private rental values. In these conditions social rents may start to converge with private rented levels; effectively this would act as a cap on long-term income growth expectations for these assets.

Investors in the social and affordable housing sector will have to set aside capital to maintain housing stock and to ensure that all the homes meet the Decent Homes Standard which will no doubt evolve over time to capture changing trends and expectations especially regarding energy efficiency and sustainability. The social and affordable housing sector provides homes for some of the most vulnerable members of society, many of whom are dependent on the benefits system to support the payment of rent. Any change to the benefits system could have an impact on the sector and this is a notable source of risk. The use of a Benefit Cap may also be an issue for homes in high-rent regions and/or affordable-rent tenures as a higher proportion of rent revenue might need to be sourced from tenants' employment income.

Tenure risk can be an issue with PRPs whose operations are dependent on a higher proportion of revenue and capital receipts which are linked to private sector trends such as; low-cost home ownership sales, outright sales, and private rented homes, as these tenures tend to experience greater cashflow volatility than those linked to social/affordable rented tenures.

If an investor is proposing to take on planning risk then investors should be aware that the planning process for residential developments can be longer and therefore riskier than for the commercial sectors, with local stakeholders often wanting a say in the final design and occupancy structure of a scheme.

Over the years, social and affordable housing has been predominantly financed by private capital through the issuance of public bonds. Equity investment is more limited and often viewed by PRPs as a more expensive and sometimes a less aligned source of capital. While the cost of debt has been very low, PRPs have capitalised on this by raising public debt, but it is crucial that PRPs consider what an appropriate level of debt is and then to ensure that there is a long-term alignment of interests and financial stability for the business. A balanced approach to investment structures is required (i.e. a combination of both debt and equity) to finance capital requirements for the sector in a long-term, sustainable manner.

A conflict can exist between the need to provide safe and good quality homes for people versus the need to provide an agreed level of return from investors' commitments – investors who could ultimately be pensioners and savers who are dependent on these returns. There is a very real reputational risk for investors and fund managers to manage - how will they manage the enforcement of covenants in bonds and leases for profit, as well as increased levels of scrutiny from local and central government, tenants, local communities, regulators, and media? The only way to minimise the potential fall-out from this is to ensure that the risk (and therefore return) is correctly apportioned between the various parties, with the aim of allowing private capital to achieve a fair risk-adjusted return (rather than overly excessive risk-adjusted returns).

MARKET CONTEXT

Part 1 – Market context: Assessing the UK supply-demand imbalance for lower-cost housing

The research in this report focuses on the regulated social housing sector in England, as this is the jurisdiction where private investment in the social/affordable rented sector is currently permitted. It therefore also forms the current investable universe for institutional investors. To put the investment opportunity in context, we first need to assess the demand-supply dynamics for social and affordable housing in England – and how these are likely to trend in the medium term.

In short

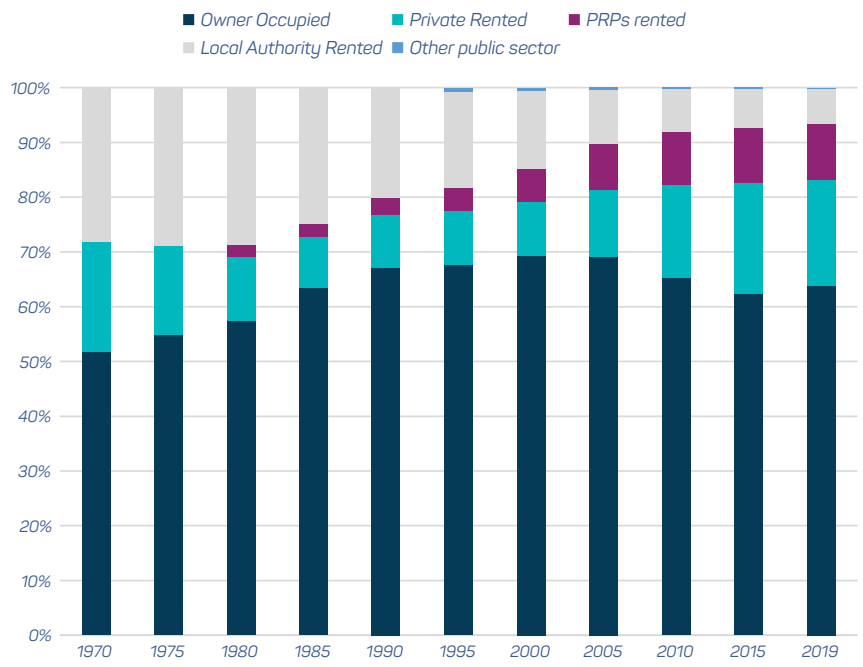
- Social and affordable-rented accommodation accounts for 17% of the total housing stock in England - similar in scale to the private-rented sector, which accounts for 19% of total stock.
- As home ownership rates have declined, there has been an increase in the number of households renting from the private sector and from Registered Providers (RPs) authorised to provide social and affordable housing; RPs include Local Authorities but also private entities, classified as Private Registered Providers (PRPs, this includes both for-profit private registered provider and not-for-profit private registered providers).
- With Local Authority waiting lists in England at 1 million households there is a clear demand for lower cost accommodation.
- The government has targeted new home completions to reach 300,000 per annum by 2025. If PRPs were to maintain their 20% share of completions, they would need to increase long-term delivery by 10,000 homes to 40,000 per year.
- Some estimates indicate that a figure closer to 90,000 social and affordable-rented homes per annum is required to meet current and future demand.
- 70% of PRP investment funding is sourced from private finance as the level of government grants available has significantly reduced.
- Institutional investment in the UK housing market has increased significantly since 2009, indicating a growing demand to access opportunities to deploy equity into the sector.

England's residential market: owner-occupation falling and rentals rising

At the end of March 2019, there were a total of 24.4 million residential dwellings in England, of which the social-rented sector accounts for 4.1 million homes, or 17% of the total. Rented accommodation from Private Registered Providers accounted for 2.5 million homes or 10%, and Local Authorities (LAs) accounted for 1.6 million, or 7% of homes. This is similar to the size of England's private-rented sector, which provides 4.7 million homes or 19% of the total.

The trend in residential tenures also highlights the increased role of the rented sector in providing homes, with the proportion of owner-occupied dwellings falling from a peak of around 70% in the early 2000s to close to 60% currently (Figure 1). This trend has been widely debated in other reports and has been attributed to either a lifestyle choice to provide flexibility and/or the fact that house price inflation has been rising faster than earnings, thereby making ownership increasingly unaffordable to first-time buyers (Figure 2). The provision of social-rented stock in England has also altered significantly since the early 1980s. The importance of LA-rented housing has declined, primarily due to government policies that have transferred ownership to the private sector and reduced funding for the development of new social-rented units. As Local Authorities withdrew from provision of social-rented accommodation, PRPs started to increase the number of units under management.

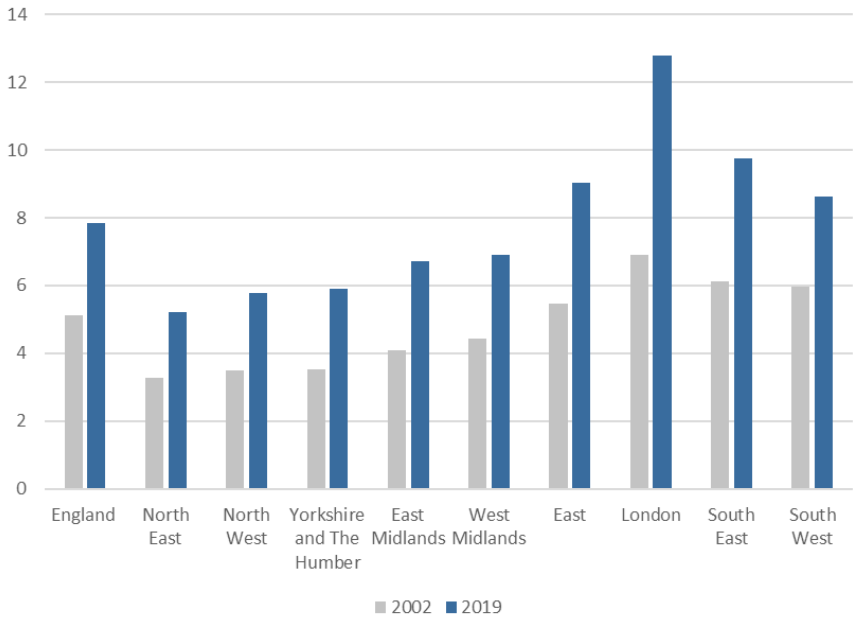
Figure 1: England tenure breakdown, % total



Source: Office for National Statistics (ONS)

"The provision of social-rented stock in England has also altered significantly since the early 1980s. The importance of LA-rented housing has declined, primarily due to government policies that have transferred ownership to the private sector and reduced funding for the development of new social rented units.

Figure 2: Median ratio of house price to gross annual salary

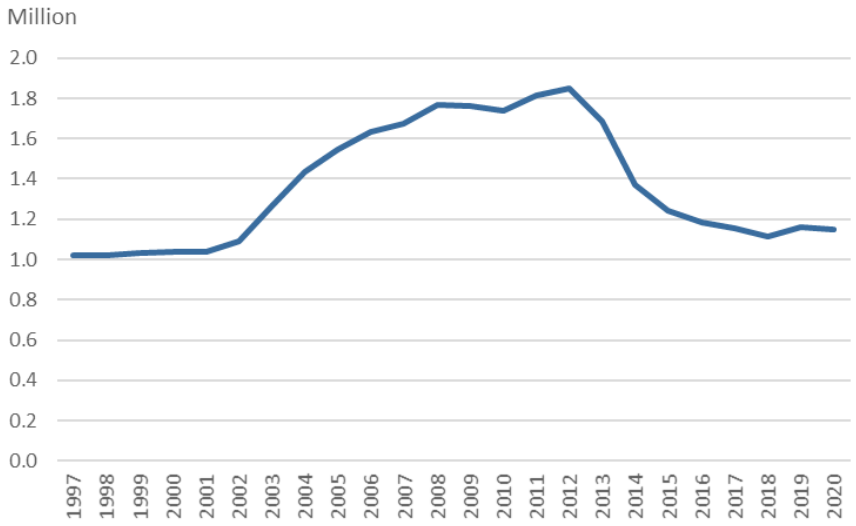


Source: ONS

Local Authority housing waiting lists remain above 1 million

The demand for low-cost accommodation to cater for households in need remains high in England with a total of 1.2 million households reportedly on English Local Authority housing waiting lists in 2020 (Figure 3). Since 1997, the total number of households on the waiting list has not fallen below 1 million, with an increase in demand, unsurprisingly, peaking during the economic fallout from the global financial crisis, as unemployment increased and fewer households were able to continue to rent or take on mortgages in the private sector. The drop in waiting list numbers since 2012 can be explained by the change in the methodology used to calculate the statistics. The 2011 Localism Act allowed councils to consider whether a prospective council tenant had a local connection to the area. For instance, some councils may require a prospective tenant to be living within the local area for a set number of years before including them on the waiting list.

Figure 3: Number of households on Local Authority waiting lists, England



Source: Ministry of Housing, Communities and Local Government (MHCLG)

The need for lower-cost homes spans all regions

It is important to note that the demand for lower-cost homes is not just focused on London and south of England, where house prices and rental values are on average higher and less affordable, but across the regions. For instance, the North West and Yorkshire and The Humber regions have a combined total of 352,049 households on waiting lists, which is 100,000 higher than in London (Table 1).

Table 1: Number of households on Local Authority waiting lists, by region, 1997-2020

	2020	Mean (97-20)	Min (97-20)	Max (97-20)
London	246,575	272,028	177,118	380,301
North West	191,400	184,601	112,405	253,521
Yorkshire and The Humber	160,649	198,698	142,306	289,101
South East	113,276	164,144	102,578	235,654
South West	108,239	128,911	84,411	195,182
West Midlands	97,394	121,043	92,103	188,365
East of England	94,384	119,563	86,424	163,930
East Midlands	81,590	104,792	65,807	137,095
North East	52,590	72,672	50,836	105,953

Source: MHCLG

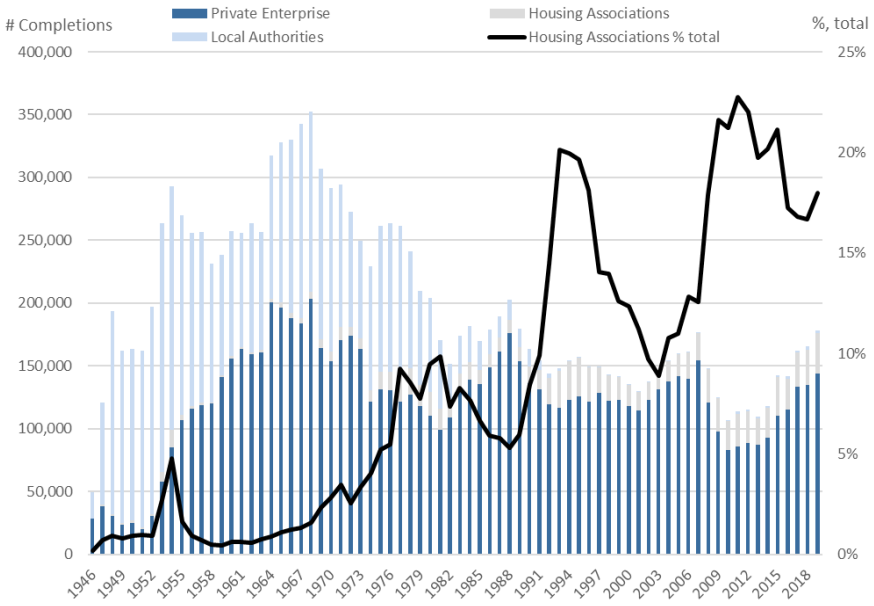
PRPs may need to increase investment capacity to meet future demand

The UK government has set a target of completing 1 million new homes by 2025 (200,000 per year), which is 50,000 homes higher than the average number of completed dwellings over the past five years. PRPs have become increasingly important in the funding of new developments and now account for around 20% of new completions (Figure 4). The remaining 80% of completions are from private sector enterprises. Therefore, to meet both existing and future demand, PRPs are going to have to increase investment capacity in the sector. Research has indicated that around 90,000 social/affordable-rented homes may have to be built per year over the next 10-15 years for supply to catch-up with demand[2]. The current annual completions for all social/affordable tenures are just under 60,000 per annum (Figure 5).

2. Bramely, G. 2018, "Housing supply requirements across Great Britain: for low-income households and homeless people", Crisis & NHF

"Research has indicated that around 90,000 social/affordable rented homes may have to be built per year over the next 10-15 years for supply to catch-up with demand. The current annual completions for all social/affordable tenures are just under 60,000 per annum.

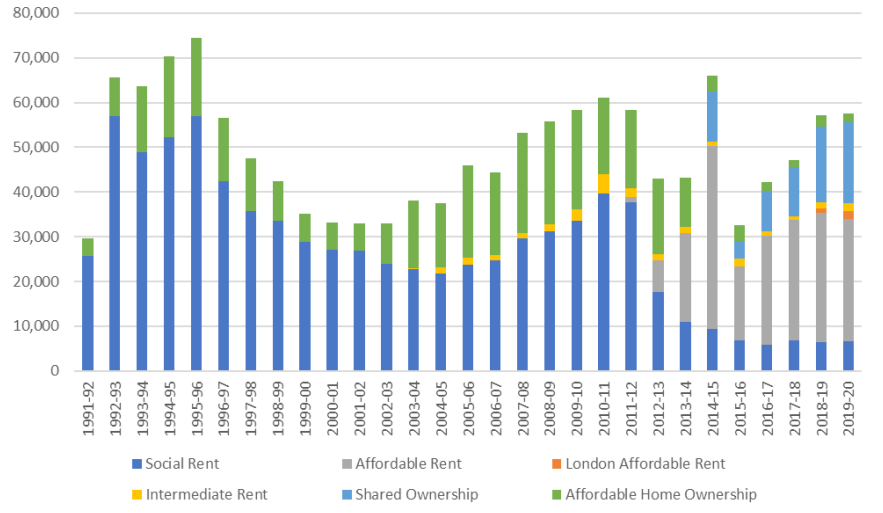
Figure 4: England, residential unit completions by source



Source: ONS

In terms of completions by types of social and affordable housing tenure (Figure 5), the affordable rent tenure has seen the highest net additions over the past five years, accounting for 52% of total net additions since 2015. Social rent units have accounted for 14% and shared ownership 25% of net additions. Clearly, the composition of lower-cost housing delivery is affected by changes in regulation, as new tenures are introduced or removed through legislation. For instance, the affordable rent tenure was introduced in 2011. Figures 6-9 break down the delivery of social and affordable homes by source and shows that completions have been achieved predominantly through PRPs with grant funding from Homes England (HE) or the Greater London Authority (GLA) alongside private finance (through Section 106 obligations imposed on commercial developers and the private financing of PRPs). In other words, private sector capital is already playing an important role in delivering social and affordable housing in England.

Figure 5: England social/affordable home net additions, by tenure.
Prior to 2014/15, Shared Ownership was included within Residential unit completions by source, England

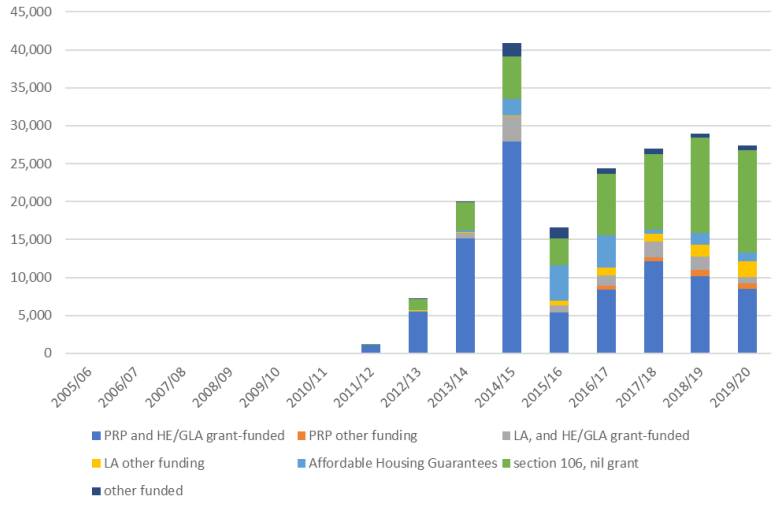


Source: Ministry of Housing, Communities & Local Government (MHCLG)

Figure 6: Social rent completions by funding source, number

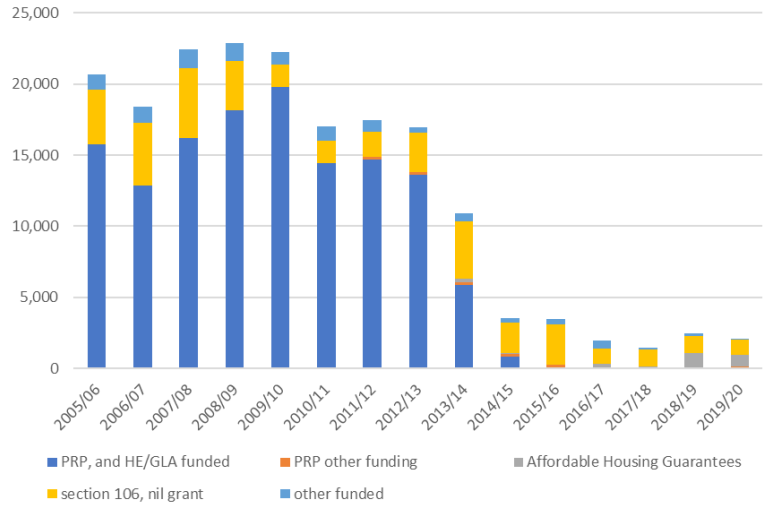
Source: MHCLG

Figure 7: Affordable rent completions by funding source, number



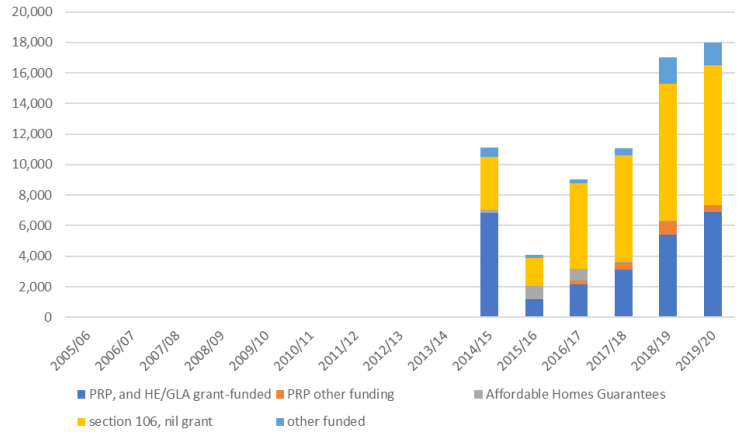
Source: MHCLG

Figure 8: Affordable home ownership completions by funding source, number



Source: MHCLG

Figure 9: Shared ownership completions by funding source, number



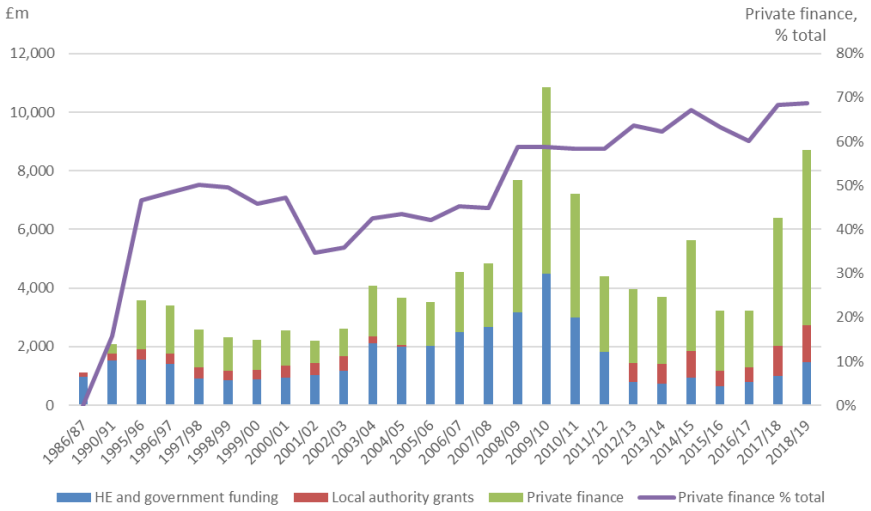
Source: MHCLG
Prior to 2014/15 all shared ownership units were included in affordable housing (see Figure 8).

Does private capital already help fund social/affordable rent tenure provision?

In England, the role of private financing[3] in helping PRPs to expand the stock of housing has grown significantly since 2007 and now accounts for 70% of gross investment expenditure, up from 30-40% in the 2000s (Figure 10). Therefore, as social/affordable rent tenures will continue to play a critical role in solving the structural under-supply of housing, in turn, private capital will play a key part in funding this development.

3 Private financing is estimated by UK Housing Review and includes the contribution of PRPs own resources as well as private borrowing.

Figure 10: England PRPs gross investment expenditure by source



Source: UK Housing Review

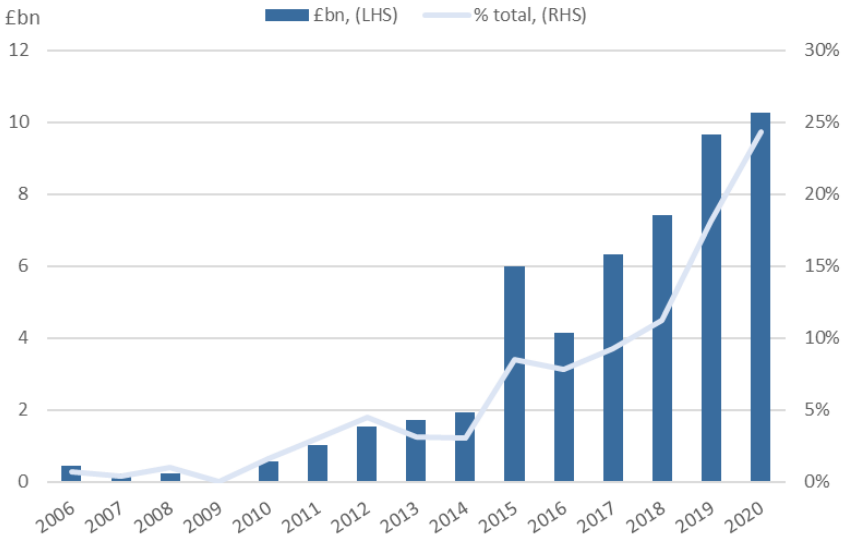
It is clear from the supply and demand dynamics of the housing market that there is a chronic undersupply across the UK for both market-rate and affordable housing. Public/private and for-profit/not-for-profit organisations clearly all have a role to play in helping rebalance this dynamic. Given the impact of the COVID-19 crisis on government finances, it is likely that private capital will continue to be an important source of investment to finance home-building across all tenures.

The good news is that the UK residential market has experienced a rise in investment allocation among institutional investors. The rationale for this - as we will show in Part 3 - is that the income stream from residential property is more stable and counter-cyclical than for commercial real estate assets and can therefore help to diversify risk in a portfolio. In 2020, investment in residential assets totalled £10.3 billion, or 25% of new investment in all real estate assets (Figure 11). Investment in the sector has therefore grown significantly since 2006 when investment totalled £450 million and just 0.7% of total investment across sectors. In the following sections of this report, we explore the factors that may influence future institutional participation in the sector.

“

The UK residential market has experienced a rise in equity allocated by institutional investors. The rationale is that the income stream from residential property is more stable and counter-cyclical than for commercial real estate assets and can therefore help to diversify risk in a portfolio.

Figure 11: Institutional investment in UK residential assets, 2006-2020



Source: CBRE

The following sections of this report examine whether there is a viable investment opportunity for institutional investors in the regulated affordable/social housing sector. Principally, the report explores whether investment in the sector can provide fair and sustainable risk-adjusted returns that can benefit both multi-asset portfolios and real-estate focused portfolios as a long-term asset allocation.

Photo: VIVID, Chapel Gate Wildflower Meadow

REGISTERED PROVIDERS

Part 2 – Registered Providers: Who is delivering social and affordable housing?

The provision of social and affordable housing sector in England is a regulated activity. Operators are therefore statutorily required to be a 'Registered Provider' (RP) and satisfy criteria set by the Regulator of Social Housing. To allocate capital to the social and affordable sector, therefore, an investor either needs to provide capital to an existing RP and/or operate via a new for-profit RP to help fund the new supply of homes.

In short

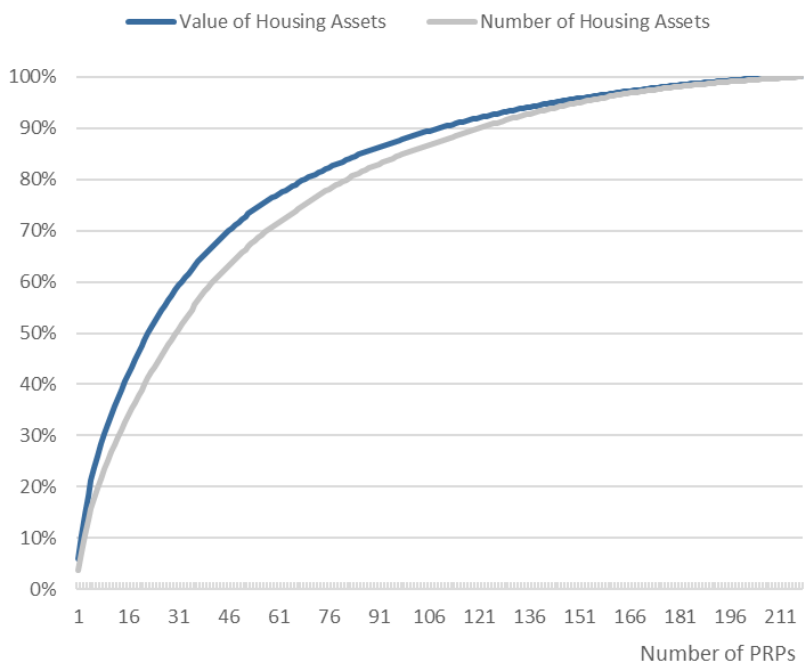
- In England there are 1,632 Registered Provider entities, of which 211 are Local Authorities. The remainder are Private Registered Providers (PRPs): 1,368 not-for-profit registered providers (NPRPs) that include charities, societies, and enterprises and 53 for-profit registered providers (FPRPs). FPRPs manage just 0.3% of all units (9,313 units across tenures).
- Although the sector has seen some consolidation there remains a significant proportion of PRPs with a small number of units under management.
- This may present some challenges in providing the scale and capacity necessary to invest institutional capital and then manage the additional homes.
- Revenue at the individual PRP level can vary depending on the tenure of focus and means PRPs are exposed to different levels of investment risk depending on revenue sources.
- PRPs also generate proceeds from the disposal of fixed assets such as shared ownership staircasing, Right to Buy, Right to Acquire and sales of units to other RPs.
- The Regulator of Social Housing provides ongoing independent oversight of RPs and should help to reduce the regulatory and reputational risks that investors associate with the sector.

The Registered Provider market: diverse but fragmented

In England there are 1,632 RP entities, of which 211 are Local Authorities. The remainder are classified as Private Registered Providers (PRPs) denoting the fact that the assets are not on the public sector balance sheet. PRPs comprise 1,368 not-for-profit registered providers (NPRPs) that include charities, societies, and not-for-profit enterprises, and 53 for-profit registered providers (FPRPs) that are usually companies. Of the 1,368 non-for-profit PRPs, there are 258 entities that consolidate into 209 groups that manage more than 1,000 units. These groups account for around 98% of the total stock managed by NPRPs and manage combined housing assets worth £182 billion. FPRPs remain a very small part of the provision of homes with just 9,313 homes managed in March 2020. Whilst this figure represents a doubling of homes in a year, this highlights the difficulty in creating scale in the market for new entrants.

The PRP sector has seen some consolidation (five mergers occurring in 2019, eight in 2018 and six in 2017). But there remains a significant proportion of PRPs with a small number of units under management. Figure 12 shows the cumulative proportion of the value and number of homes managed by the 209 not-for-profit groups. This shows that the top 21 groups account for around 50% of assets by value and the top 29 account for 50% of homes by number. This has implications for institutional investors as only a small number of PRPs can provide the scale of operations to implement a diversified investment strategy or accept the size of investment that most institutional investors are looking to allocate[4]. Another potentially limiting factor is that NFPRPs are only able to accept debt like institutional funding (e.g. lease-based, debt instruments). Previous research[5] has identified that PRPs' restricted capacity to increase development activity is a limiting factor in increasing the delivery (and ongoing management) of additional social and affordable homes. Therefore, it is important to note that there is likely to be different optimal financing and operating models depending on the size of a PRP.

Figure 12: Cumulative share of assets by number and value



Source: Global Accounts, 2020

> “For-profit providers remain a very small part of the provision of homes with just 9,313 homes managed in March 2020. Whilst this figure represents a doubling of homes in a year, this highlights the difficulty in creating scale in the market for new entrants.

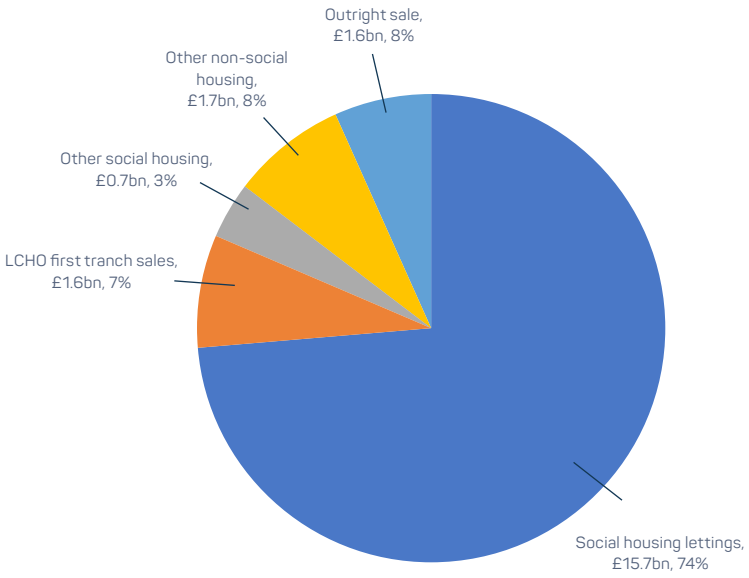
4 For this reason, the analysis of PRP activities and finances in this report relates specifically to data provided by the 209 groups.

5 IPF. 2015, Prospects for Institutional Investment in Social Housing.

PRP revenue: lower-risk rental income vs higher-risk capital receipts

NFRPs[6] had a combined turnover of £21.3 billion in the 2019/20 financial year of which £15.7 billion (74%) was generated from social housing lettings (refers to revenue generated from the letting of regulated tenures versus revenue from lettings in the private sector or asset disposals, Figure 13). The remaining turnover is attributed to sales of new-build properties, first tranche sale of shared-ownership homes and properties developed for sale. Revenue at the individual RP level can vary depending on the tenure of focus with some more reliant on asset sales versus rental income. This means that PRPs are exposed to different levels of investment risk depending on how exposed they are to more secure rental income streams versus more volatile capital receipts. The median proportion of turnover generated by social housing lettings is 83% with a lower quartile of 74% and upper quartile of 91% (Figure 14). Only 19% of PRPs had less than 70% of turnover generated from social housing lettings.

Figure 13: Turnover by activity, 2019/20



Source: Regulator of Social Housing, Global Accounts, 2020

6 Sample only includes PRPs with over 1,000 units and represents 95% of stock within the sector.

> PRPs are exposed to different levels of investment risk depending on how exposed they are to more secure rental income streams versus more volatile capital receipts. The median proportion of turnover generated by social housing lettings is 83%.

Regulation: ongoing, independent oversight

The Regulator of Social Housing is the regulatory body for registered providers of social housing in England. It provides an ongoing assessment of PRPs and rates them in terms of governance and financial viability. Table 2 provides a breakdown of the current PRP universe for both governance and viability. It shows that 96% of PRPs are currently viewed as compliant in both categories, with 60% of PRPs achieving the highest rating in both categories. This ongoing independent oversight can provide investors with an up-to-date assessment of the quality of the PRP that they are investing with. It should help to reduce some of the regulatory and reputational risks that investors sometimes associate with the sector and identify any potential issues or concerns so they can be resolved in a timely manner.

Table 2: Governance and viability breakdown of PRP universe

		Governance Rating			
		G1	**G2**	**G3**	**G4**
Viability Rating	**V1**	59%	7%	0%	0%
	V2	21%	8%	0%	0%
	V3	0%	0%	2%	2%
	V4	0%	0%	0%	0%

Key

G1 / V1 Compliant
G2 / V2 Compliant
G3 / V4 Non-compliant and intensive regulatory engagement
G4 / V4 Non-compliant, serious failures leading to either intensive regulatory engagement or the use of enforcement powers.

PERFORMANCE ATTRIBUTES

Part 3 – Performance attributes: Profiling the sector's cashflow characteristics

Social and affordable housing assets have seen a rise in capital allocation among institutional investors, but the scale of investment required to meet England's structural undersupply of affordable housing can only be achieved if investors are convinced of this asset class's value as a sustained source of attractive risk-adjusted returns. It follows, therefore, that the next section will assess risks inherent to the asset class.

In short

- The social and affordable regulated housing sector benefits from high-quality cashflow characteristics: annual changes in rent for regulated tenures are set by the government and are typically explicitly linked to inflation.
- Changes in rental values are therefore not strongly linked to the economic cycle, unlike other real estate sectors, and the sector has low correlation in rental growth to commercial real estate sectors.
- The social rented sector also benefits from high income security including low vacancy rates, longer periods of tenant residency and low rent arrears and bad debts.
- From 1997-2020 social rents increased by an average of 3.3% per annum. This is higher than offices (2%), retail (0.5%) and industrial 2.0%. Rental growth was also significantly less volatile than commercial sectors.
- The spread between market and social and affordable rents has widened in recent years, but there is a long-term risk that rents could converge with market levels in regions where private rental growth does not match inflation.
- High-quality revenue characteristics are reflected in stable and relatively high profitability: on average, PRPs have had an operating margin of 20-30% and net margin of 15-20%, between 2004 and 2020.

A range of cashflow profiles for investors

Whether investing via equity or debt, understanding the risks of the underlying cashflows is fundamental to pricing the required risk-adjusted return for an investment. Within the social and affordable sector there are a range of tenures that have different cashflow characteristics:

i. Social rental units

Social rents are set using a formula based on house values and salaries in 1999 and then uprated by an inflation-related amount to the point of first letting. Rents then increase annually according to the government rent regime. Within this tenure, RPs can provide 'general needs' or 'supported general needs' housing (i.e. providing other services that support the additional needs of tenants). Rent is paid by the tenant via income from employment and from housing benefit payments provided by central government.

ii. Affordable rents: uncapped

Here, rents are set at up to 80% of market rents at 1st letting and then increase in line with the government rent regime. There is a risk that rent inflation under this regime may exceed local market private rent inflation so 80% rents could increase to be close to, or exceed, market rents over time. Rents are paid by the tenant via income from employment and/or housing benefit if the tenant qualifies.

iii. Affordable rents: capped

Under this tenure, rents are capped at local housing allowance levels. These levels may or may not inflate over time and so the ability to increase rents depends on what is permitted in the Section 106 agreement (an agreement between a developer and Local Authority, based on Section 106 of the 1990 Town & Country Planning Act, which imposes certain obligations on the developer in return for planning permission – e.g. provision of affordable housing, green spaces or public transport infrastructure). Rents are paid by the tenant via income from employment and/or housing benefit if the tenant qualifies.

Within both affordable rent tenures, RPs can provide units as general needs or supported general needs.

iv. Shared ownership units/low cost home ownership

There are two components to the shared ownership cashflow model: the first is rent paid by the occupier on the share of the unit that has not been purchased; the second component is revenue from first tranche sales and subsequent staircasing when/if the tenant chooses to purchase more equity in the property. Assets are acquired by the PRPs at below open-market value. When a staircasing event happens, the tenant pays the proportionate open market value for that share and the difference between historic cost and open market value is released to the investor. Tenants pay for rent and staircasing from employment income. Cashflows in this tenure are likely to be higher risk due to the link to private housing market prices in realising staircasing revenues.

Formula for setting social rents

Since 2001, rents for homes let at social rent level have been set using a formula defined by the UK government. This is calculated for each home based on the relative value of the property, relative local income levels, and the size of property. The basis for the rent formula is as follows:

- 30% of a property's rent is based on relative property values
- 70% of a property's rent is based on relative local earnings
- A bedroom factor is then applied so that smaller units have lower rents

The formula set out in Figure 16 provides the social rent calculation for a home as at 2000-2001. This figure is then uprated for each year from 2001 using the government rental growth policy rates (Figure 17) up to a maximum rental cap that is also defined by the government. This value is then used as the starting rent for each new tenancy.

Figure 16: Government formula used to calculate social rents

Weekly formula rent is equal to:

- 70% of the national average rent
- Multiplied by relative county earnings
- Multiplied by the bedroom weight

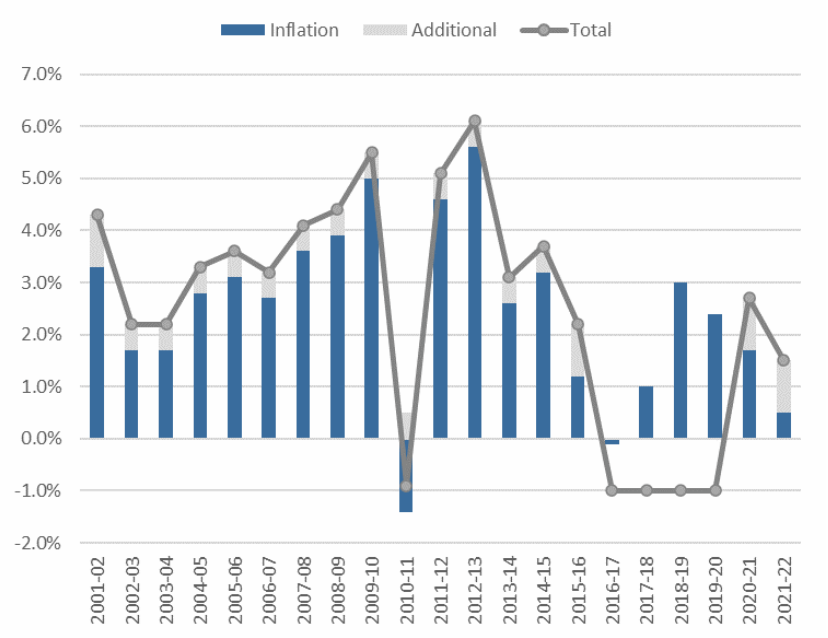
Plus

- 30% of the national average rent
- Multiplied by property value

National average rent = average rent in April 2000 (England)
Relative county earnings = average manual earnings for the county in which the asset is located divided by the national average manual earnings, both at 1999 levels.
Relative property value = an individual property's value divided by the national average (England) as at January 1999 prices.
Source: MHCLG[7]

The government also regulates the maximum annual change in social rental values for existing tenancies. This is typically in the form of an 'inflation-plus' measure, currently defined as the Consumer Price Index (CPI) +1%, with reference to the CPI annual inflation as at end of September (Figure 17 provides the historic government policy rates for each year since 2001). An exception to the inflation-plus rent review was the four-year period between 2016 and 2020 where social landlords were required to reduce rents by 1% each year to help reduce the country's housing benefit costs. This highlights just one area where the regulatory risk of social housing is arguably higher than for other real estate sectors.

Figure 17: Maximum allowed annual change in rental values, 2001-2022



Source: Regulator of Social Housing

> "An exception to the inflation-plus rent review was the four-year period between 2016 and 2020 where social landlords were required to reduce rents by 1% each year. This highlights just one area where the regulatory risk of social housing is arguably higher than for other real estate sectors.

7 Ministry of Housing Communities & Local Government, 2019, 'Policy statement on rents for social housing', [Online]. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/781746/Policy_Statement.pdf . Accessed: December 2020.

> The relationship with consumer prices is supportive of the view that the social-rented sector can provide an effective hedge against inflation with a statistically significant beta of 1.1 versus CPI. Other real estate asset sectors do not have inflation-hedging properties: retail, office and industrial all recorded betas versus CPI of less than 0.

Attributes of the asset class's cashflows

Taking into account the different social and affordable housing tenures available – and the basis on which rents are set – we can consider the different attributes of the asset class's cashflows and how they respond to external factors.

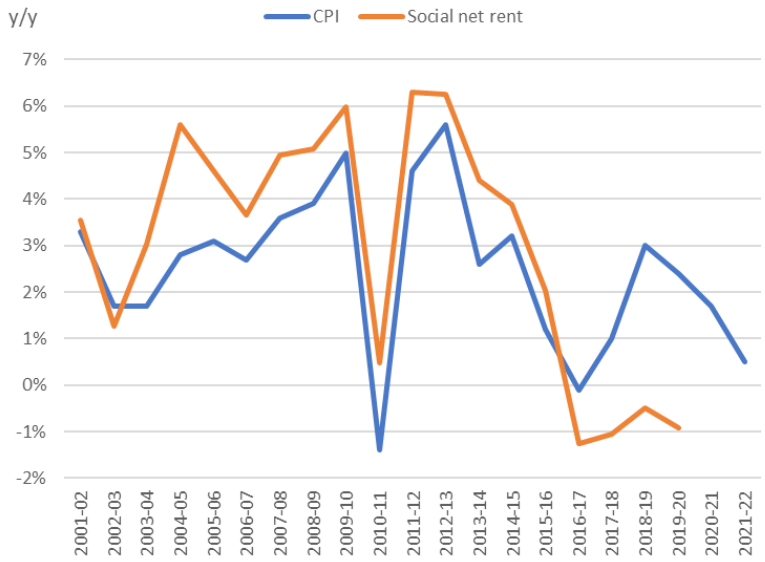
i. Relationship of social rents to inflation and the economy

To understand how rents that are subject to the government rent-setting policy have behaved historically, it is possible to look at the average rental values for 'general needs' social rent operated by PRPs between 1997 and 2020[8]. (Net rents exclude service charges, which may or may not be charged depending on the home/lease.) Figure 18 compares the change in social net rent charged by PRPs with the change in the CPI. Unsurprisingly, given the explicit reference to the index for most of this period, there is a direct relationship between the two series – demonstrated by a strong positive correlation coefficient of +0.8. However, the relationship breaks down during 2016-2020 when the reference to CPI was removed and rental values had to decline by 1% per annum[9].

8 Rents are based on general needs self-contained stock available for social rent only and are taken only from larger PRPs. Up to 2006 the threshold for large PRP was 250 units/beds managed and 1,000 units/beds from 2007. Average rents can move due to factors other than formula rent policy due to events such as large-scale voluntary transfer of units from Local Authorities to the PRP sector.

9 It is important to note that whilst social rents are dated at the end of the financial year (March), the reference date for CPI is the end of September. The analysis and charts of social rents matches the reference date rather than the year-end. So, the change from March 2009-March 2010 is compared to the change in CPI as of September 2009.

Figure 18: Private Registered Provider General Needs (social rent) and inflation, 2001-02 to 2021-22



Source: Regulator of Social Housing, ONS

Conversely, the relationship of social rent values to the business cycle (defined in this instance as changes in gross domestic product - GDP) is negligible, with a weak negative correlation coefficient of -0.3 (again, as of September rather than March, Figure 19).

To test these relationships more formally, a linear regression model was used to assess the sensitivity of social rents to changes in GDP and CPI (Table 3). This analysis supports the initial correlation findings that social rents have no clear relationship to changes in GDP, with a statistically insignificant sensitivity of 0.12. By contrast, the analysis recorded significant sensitivity of 2.4 versus GDP for UK office rents, 1.6 for retail rents and 0.7 for industrial rents (i.e. for every 1% change in GDP, office rents would be expected to rise/fall by 2.4%).

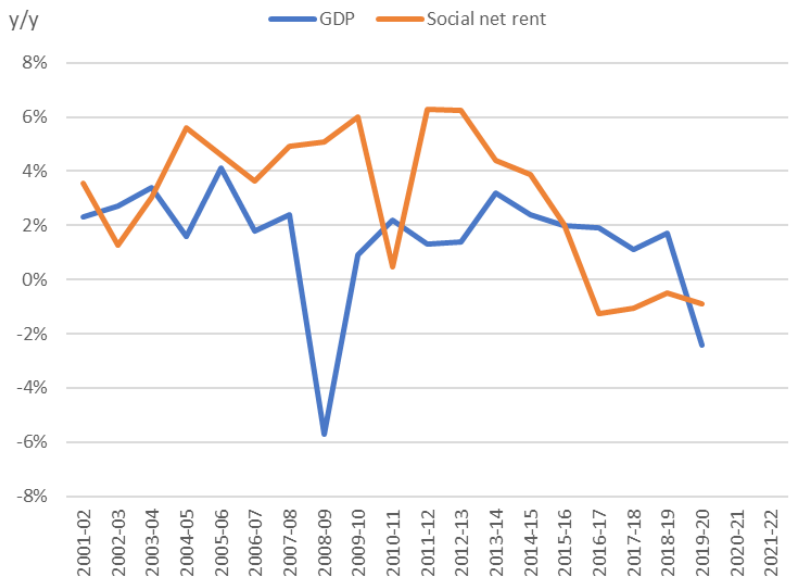
The relationship with inflation is again supportive of the view that the social rented sector can provide inflation hedging characteristics with a statistically significant sensitivity of 1.2 versus CPI (i.e. for every 1% change in CPI, social housing rents are expected to rise/fall by 1.2%). To further test whether rent in the sector might act as a hedge against inflation, the authors ran a statistical significance test versus a beta value of 1 (if rents are a hedge against inflation, then the beta should be statistically insignificant to a value of 1 – the null hypothesis). As expected, there is no statistically significant difference between the CPI sensitivity of 1.2 and the null hypothesis of 1.0, indicating that rents have historically provided a hedge against inflation. Other real estate asset sectors do not have inflation-hedging properties: retail, office and industrial all recorded betas versus CPI of less than 0.

ii. Social housing rental growth and volatility

Looking at annualised growth and volatility 1998-2019, social housing rents experienced superior growth and much lower levels of volatility than other real estate sectors (Table 4). The volatility of rents has historically been the key determinant of volatility of sector-level capital growth (historically the yield impact on capital values is similar across segments in the MSCI indices[10]). This implies, therefore, that the social housing sector should experience lower volatility in capital values than other real estate sectors.

10 Across MSCI UK PAS Segments, since 1980 the average standard deviation in yield impact on capital growth is 8% with a standard deviation of 0.9% across the segments. This compares to an average standard deviation of 7.0% for rental growth with a standard deviation across segments of 3.1%.

Figure 19: Private Registered Provider General Needs social net rent and GDP, 2001-02 to 2021-22



Source: ONS, Regulator of Social Housing

Table 3: Regression analysis versus GDP and CPI, 1998-2020

	Office	Retail	Industrial	PRP Social rent
GDP	2.35**	1.60**	0.73*	0.12
CPI	-0.39	-0.69	-1.17*	1.20**
Constant	-1.61	-1.22	2.88*	0.00
Adjusted R2	0.40	0.61	0.51	0.60

*denotes 95% confidence; **denotes 99% confidence.
Source: PFR, Regulator of Social Housing, MSCI, ONS

Table 4: Annualised nominal rental growth and volatility, 1998-2020

	Office	Retail	Industrial	PRP Social rent
Growth (%, pa)	2.02	0.46	1.95	3.28
Volatility	5.88	3.67	2.67	2.36

Source: PFR, Regulator of Social Housing, MSCI, ONS

Table 5: Rent correlation matrix 1998-2020

	Office	Retail	Industrial	PRP Social rent
Office	1.00			
Retail	0.56	1.00		
Industrial	0.69	0.64	1.00	
PRP social rent	0.02	0.11	-0.37	1.00

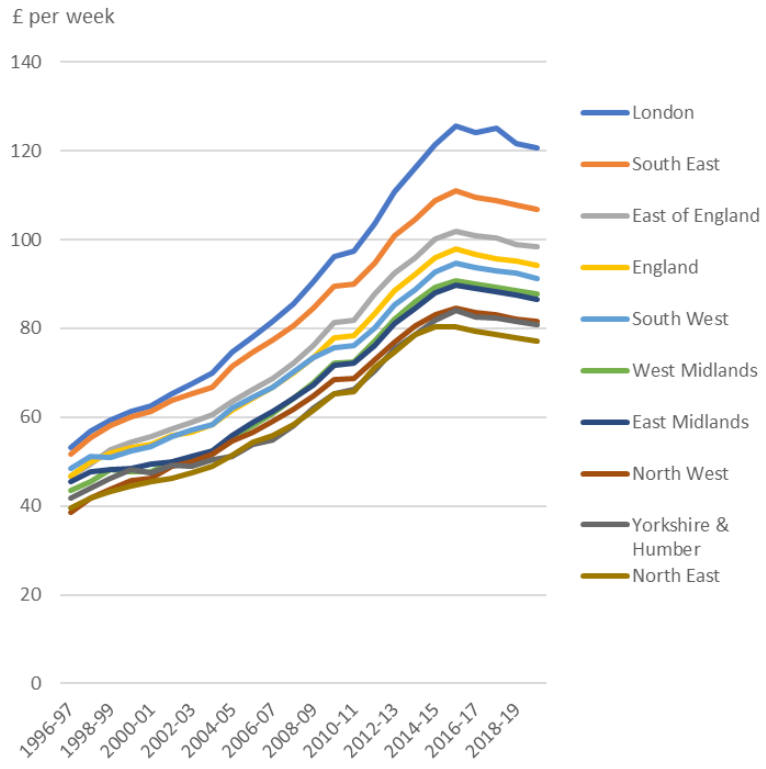
Source: PFR, Regulator of Social Housing, MSCI, ONS

This analysis of social rents implies that investors should view the revenue generated from social housing lettings as a source of portfolio diversification due to: (i) lower volatility and (ii) low correlation with other asset classes where cashflows/revenue are more intrinsically linked to the business cycle.

iii. Regional differences in social rent growth

Because of the rent formula policy applied across England there is very little variation in the trend in social rent growth across regions (Figure 20). In terms of rent charged per week, the highest rents are in London at £121 per week and the lowest in the North East at £78 per week. Given that the formula used to derive rents is primarily based on regional house prices and earnings, it is not surprising that London and southern regions have the higher rental values given these regions have historically had higher average earnings and house prices.

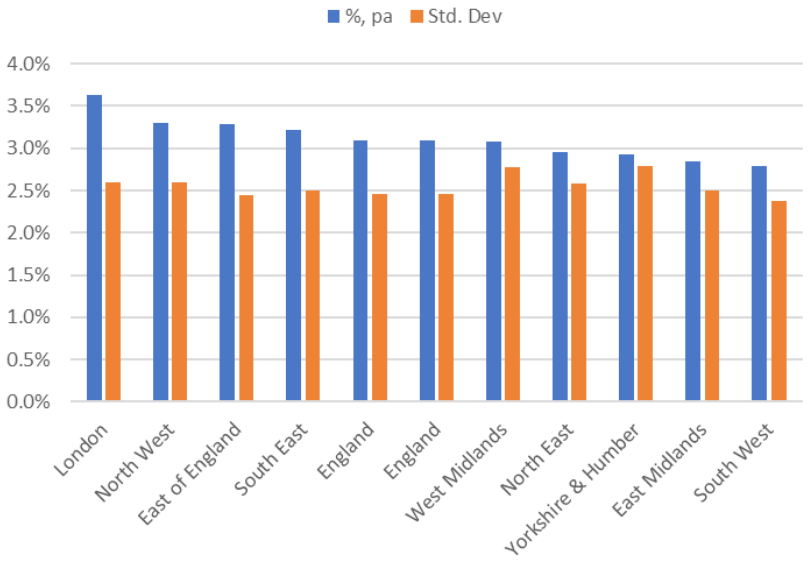
Figure 20: Regional comparison of net social rent values, 1996-2020



Source: Regulator of Social Housing

Regional comparisons of nominal social rental growth show marginal differences, with regional averages of 3.0-3.8% (Figure 21). The regions also experience very similar levels of rent volatility with standard deviation of annual rental growth ranging between 2.2% and 2.7%. This suggests that there might be limited diversification benefits to be gained from geography alone, all other things being equal.

Figure 21: Regional social net rent nominal growth and volatility, %, y/y, 1997-2020

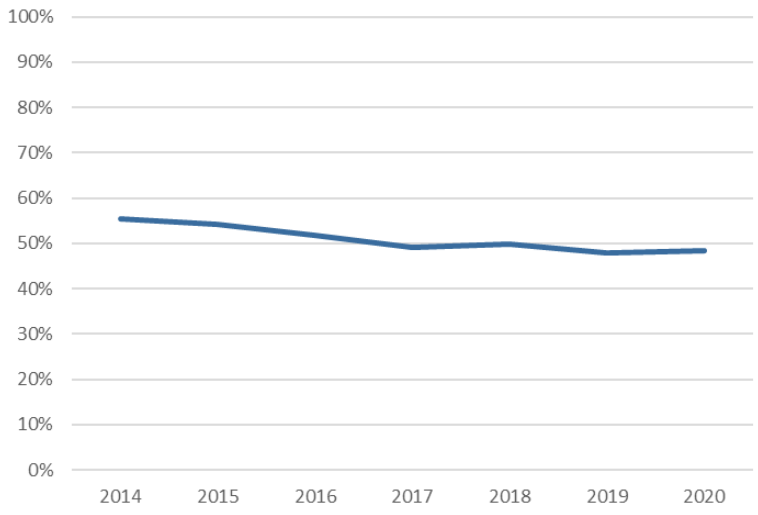


Source: Regulator of Social Housing

iv. Social rents versus private rents

If we look at the time period for which comparisons are available, social rents have been 48-56% of levels recorded for private-rented homes (2014-2019, Figure 22). The apparent widening in the spread between social and private/market rents over this period may be partly due to the government policy of reducing social rents by 1% per annum in each of the past four years. However, the time series is limited; it also does not include any recessionary period (e.g. 2008-09) where private sector rents would be expected to fall in response to declining real earnings and higher levels of unemployment.

Figure 22: General Needs social net rent as a percentage of private-rented rents, 2014-2020

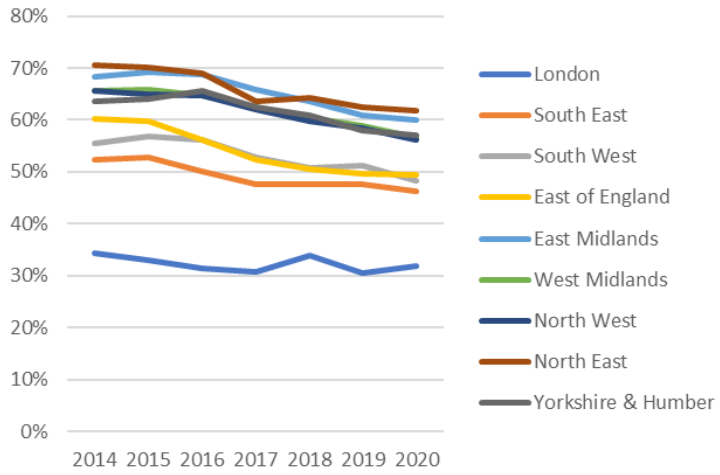


Source: Regulator of Social Housing, Valuation Office Agency

However, there do appear to be significant differences between regions in the ratio between social and private rental values (Figure 23). Social rents are around 30% of private rents in London, 50% in Southern regions, and around 60% in the Midlands and Northern regions. All regions appear to have seen the spread between private rents and social rents rise over this short time period, indicating that private rents have been growing at a faster rate than social net rents.

This may not always be the case, and if private rents were to rise at a slower rate than social rents (general long-term assumptions for the sector are for social rents to increase by CPI+1%) this could present a risk to investors. Specifically, social rents could start to converge with market rents over the long term, which could create some policy and fiscal issues for the government and, in turn, force a regulatory change in the social rent formula. It is therefore important for investors to take account of the dynamics of the local private-rented sector when determining a sustainable rent for social housing assets. This is especially important in those regions where private sector rents may not keep pace with inflation over the medium to long term.

Figure 23: (Regional social net rents as a percentage of private-rented rents, 2014-2020)



Source: Regulator of Social Housing, Valuation Office Agency

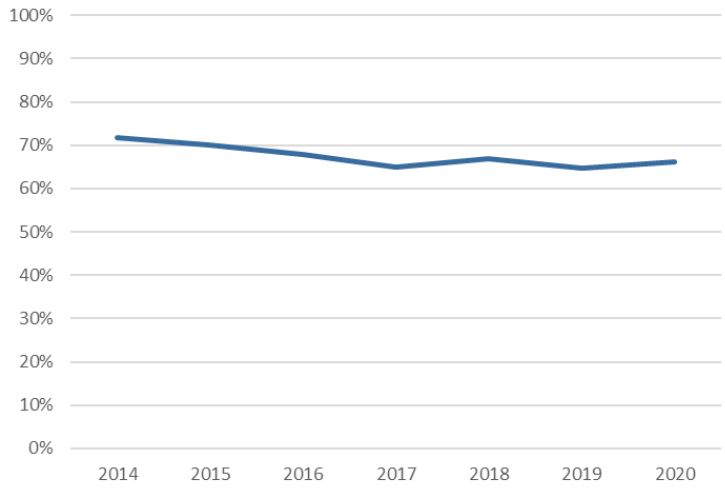
v. Affordable rental values vs private rents

In 2011, the government introduced a new tenure: affordable rent. This tenure permits rents to be set up to 80% of market rents (inclusive of all service charges) at the start of a tenancy. For existing tenancies, annual changes in rents are subject to the government's defined formula rent policy (as per social rents). Existing vacant social-rented homes can be converted to affordable-rented homes in certain circumstances. From April 2015, the government also made it possible for social landlords to charge full market rent where the household has an annual income of at least £60,000.

Figure 24 shows the average affordable gross rent (inclusive of service charges) charged by PRPs in England as a proportion of private rental values. In 2019 (latest data available), affordable rents were on average 65% of private/market rents, which is higher than social rent at 48% (Figure 22). There appears to be a widening in the spread between private and affordable rents, due to government policy imposing a 1% per annum decline on affordable rents over the past four years. As with the social rent analysis in Figure 22, the time series is limited to a period of economic expansion, so a full economic cycle comparison that can also show the impact of economic downturn on rents is unavailable.

It is also important to note that within this tenure there are also homes where rents are not regulated and therefore not subject to government policy. The rent review process for such tenures are subject to private agreements between the owner and tenant (these tenancies are typically targeted at middle income earners). This analysis focuses on the regulated tenure due to the availability of data.

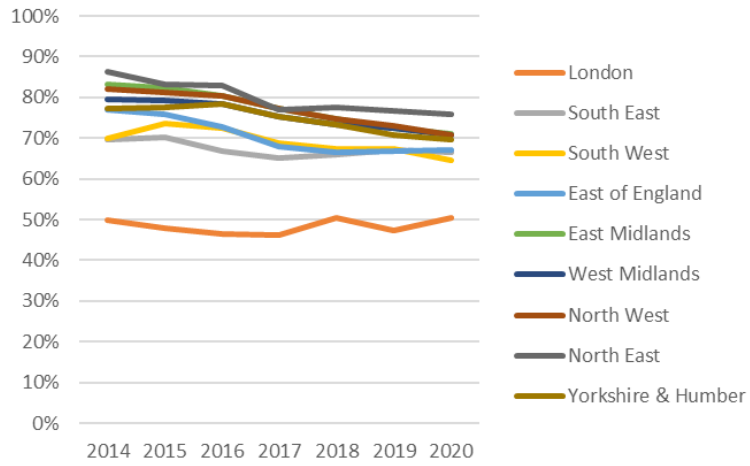
Figure 24: General Needs affordable gross rent as a percentage of private-rented rents, 2014-2020



Source: Regulator of Social Housing, Valuation Office Agency

On a regional basis, similar trends that were evident with social-rented accommodation are found. Affordable rents in London are close to 50% of market levels, Southern regions 67% with the Midlands and Northern regions at 70-80% of market rent (Figure 25). This underlines the importance of investors taking a view on long-term growth of private market rents when pricing future revenue generated from the affordable-rented sector. There is a risk that private market rents could increase at a slower rate than formula-based affordable rents, which could narrow the spread between the two and introduce the risk of over-rented assets

Figure 25: Affordable gross rental values as a proportion of private rents, 2014-2020.



Source: Regulator of Social Housing, Valuation Office Agency

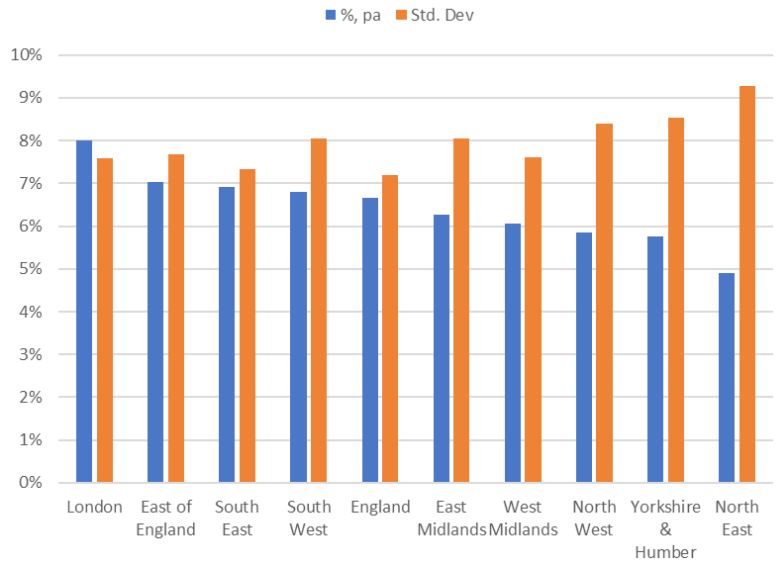
vi. Impact of market value house prices on low-cost home ownership

The returns from low-cost home ownership (LCHO) are more integrally linked to the performance of house prices (market value) than rented tenures. This is because a significant part of cashflow is generated from:

1. The initial first tranche sale to the occupier at market price;
2. Subsequent staircasing events where the occupier acquires additional interest in the home at the prevailing market value; and
3. Rent paid by the occupier on the share of the home that they do not currently own. Currently, this is typically set at 2.75% of unsold equity.

From 1995 to 2020, house prices in England increased by an average of 6.7% per annum with a volatility of 7.2%; this is significantly higher than the social and affordable rented revenues. Regional differences are also more pronounced for house prices than for social and affordable rents. London has experienced the highest annualised growth of 8.0% per annum, compared to the North East where house prices increased by 4.8% per annum (Figure 26). There is less regional variation in house price volatility, typically being 7-8% for the majority of regions. This implies that investors in LCHO require a higher risk premium than investors in social and affordable rented assets.

Figure 26: Change in market prices for houses by region, 1995-2020



Source: Land Registry

> It is important for investors to take account of the dynamics of the local private-rented sector when determining a sustainable rent for social housing assets. This is especially important in those regions where private sector rents may not keep pace with inflation over the medium to long term.

House prices vs staircasing events

An additional risk for the LCHO tenure is in the timing of first tranche and staircasing events. It would be interesting to collect and analyse the conditional probability of staircasing events in response to a change in house prices as the frequency of such events may vary according to the state of the underlying market. For instance, when house prices are falling does the sector see an increase or decrease in tenants acquiring more of their home?

It could be that tenants in shared-ownership schemes are more typically employed in less cyclical occupations (e.g. key workers such as nurses, police officers, fire officers, etc.) and are therefore in a better position to take advantage of lower house prices – or are staircasing events pro-cyclical? Clearly the timing of staircasing events will have a significant impact on the return achieved for these assets. A deeper understanding of this relationship would enhance the ability of investors to price the embedded optionality evident in such tenures.

Reliability of cashflows

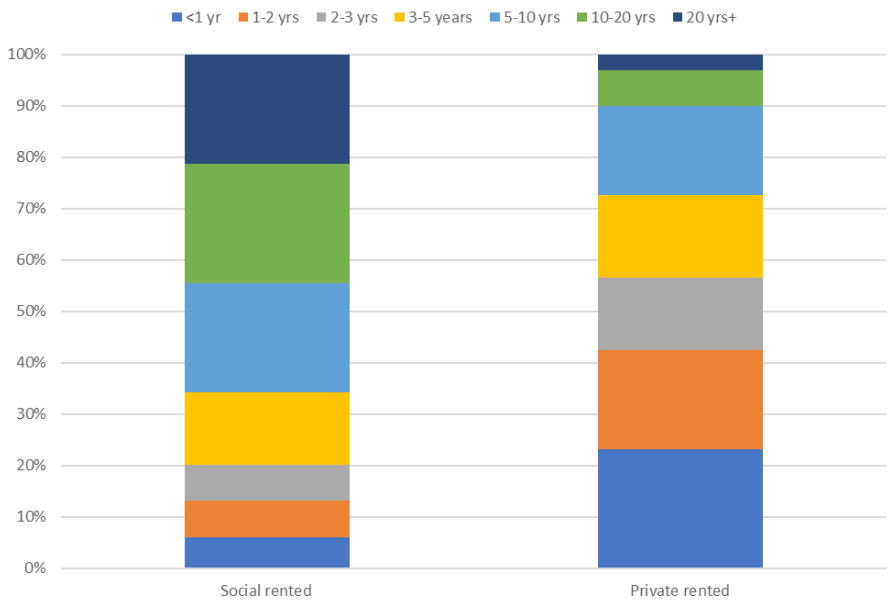
The regulated, government-backed environment in which social and affordable housing operates and the nature of the service it is providing to communities can be seen to offer investors a relatively high level of income security – particularly compared to other real estate sectors.

i. Long occupation periods

An important consideration for investors in any real estate investment is the average length of occupation. This is not the same as the average lease length, which refers to the length of a contract, but the amount of time a tenant remains in occupation of the same home. Compared to the private-rented sector, tenants in the social-rented sector have typically occupied homes for significantly longer periods of time: 80% of tenants stay for at least three years and 44% of tenants remain in residence for over 10 years (Figure 27). This compares to just 10% of tenants staying in residence for longer than 10 years in the private-rented sector.

Longer residences can be of benefit to investors as they reduce costs associated with voids (e.g. re-letting costs, minor refurbishments) and can thereby increase net operating income over the life of an asset. To promote longer periods of occupation, new investors to the sector may want to partner with an experienced PRP that has the operational skill set to deliver a high-quality service for tenants. Longer residences can also promote a sense of community and belonging, which brings additional benefits for all parties involved.

Figure 27: Length of residence by tenure, UK, 2018/19



Source: DWP Family Resources Survey

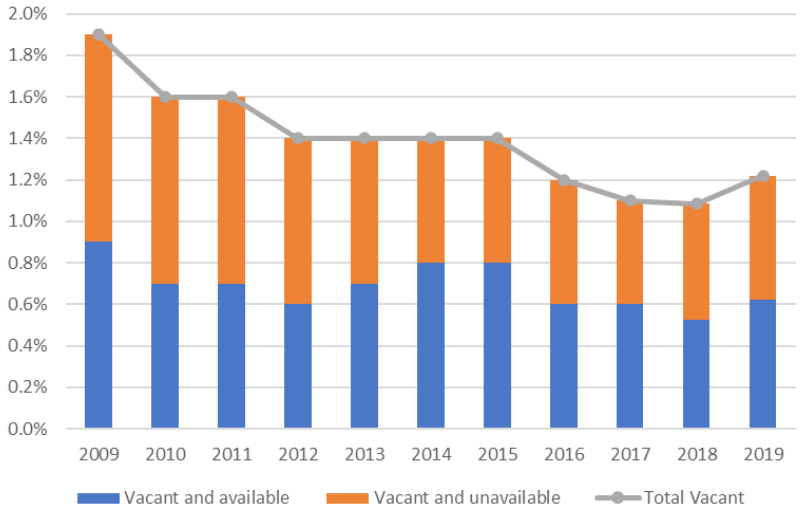
> Compared to the private-rented sector, tenants in the social-rented sector have typically occupied homes for significantly longer periods of time. Longer residences can be of benefit to investors as they reduce costs associated with voids and can thereby increase net operating income over the life of an asset.

ii. Low vacancy rates

Data provided by PRPs to the Regulator of Housing show that the social and affordable sector benefits from a low and stable vacancy rate, with total vacancy ranging between 1 and 2% per annum since 2009 (Figure 28). Vacancy rates for units that are available to let (i.e. ready for immediate occupation) have been 0.4-0.8%. (The difference between the two are units that are vacant but currently not available to let: this would include units that are undergoing some form of refurbishment/capital expenditure works in order to bring them back up to lettable standards). Low and stable vacancy levels across a portfolio will clearly improve the net operating income created over the lifecycle of an asset. Whilst the proportion of homes that are vacant is interesting and of some use to investors, a better indicator of the impact of voids on cashflows is the percentage of gross rent that is lost through voids. In terms of void costs, the percentage of potential gross income lost to voids is again very low and stable (compared to commercial real estate sectors) at 1.5-2.2% since 2010 (Figure 29).

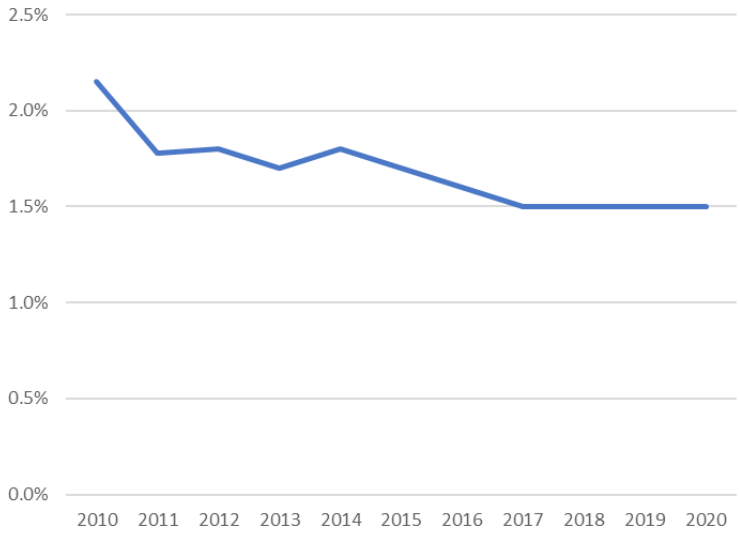
On a regional basis, vacancy rates are low and range between 1.0 and 2.0% (Figure 30). This indicates high demand for social-rented homes across England and is not only related to areas with high house prices or market rents.

Figure 28: (Vacancy rate of PRPs units managed (number), 2009-2019)



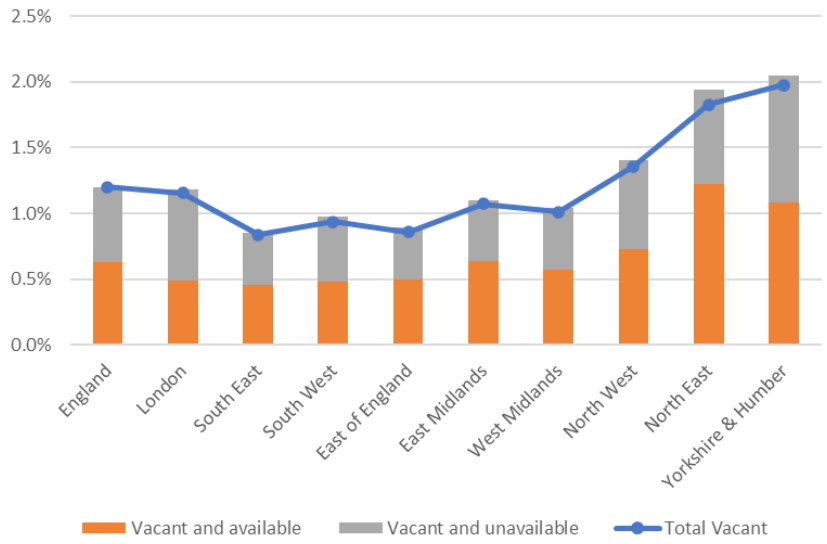
Source: Regulator of Social Housing

Figure 29: Rent loss from voids, % gross rent, 2010-2020



Source: Regulator of Social Housing

Figure 30: Vacancy by region and type, average 2015-2020



Source: Regulator of Social Housing

iii. High rent collection and low tenant arrears

The social and affordable rented sector also benefits from strong rent collection characteristics. Bad debts are below 1% and tenant arrears around 5% for the past decade (Figure 31). The robust nature of rent collection for the sector was tested, as in other real estate sectors, during the COVID-19 pandemic. However, this period has added further support to the thesis that the sector has more robust rental cashflows than other real estate sectors, with social housing (as reported by PRPs) recording 97-99% rent collection rates for Q1-Q4 2020 (Figure 32). By comparison, rent collection rates were significantly lower than usual for commercial real estate, standing at 63-73% during the first three quarters of 2020. The Build to Rent sector survey evidence on institutionally managed portfolios from Knight Frank indicates that the average monthly rent collection from March to November 2020 was 96%[11]. Tenant arrears for social housing increased marginally from 3.8% to 4.0% in September 2020. Voids as a percentage of gross rent also increased slightly from 1.5% to 2.3%, with lockdown restrictions often preventing void repairs from being completed[12].

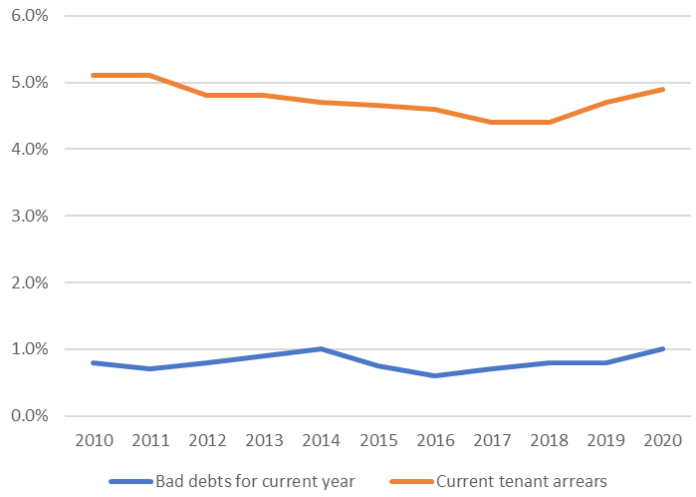
In the medium term, the Regulator of Social Housing has indicated that the rollout of universal credit represents a short-term risk to rent collection, as housing costs under the new system can be paid direct to the tenant[13]. But overall, the performance of social and affordable rented housing provides further evidence of the defensive, high-quality cashflow characteristics of this sector.

11 Knight Frank Research, 2020, "UK BTR Market Udpate, December 2020", Available: https://content.knightfrank.com/research/2105/documents/en/build-to-rent-monthly-market-update-december-2020-7684.pdf. Accessed Mar 2021

12 Regulator of Social Housing, 2020, "Quarterly survey Q3 2020", Available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/966580/Quarterly_Survey_Q3_2020-21_final.pdf, Accessed: March 2021.

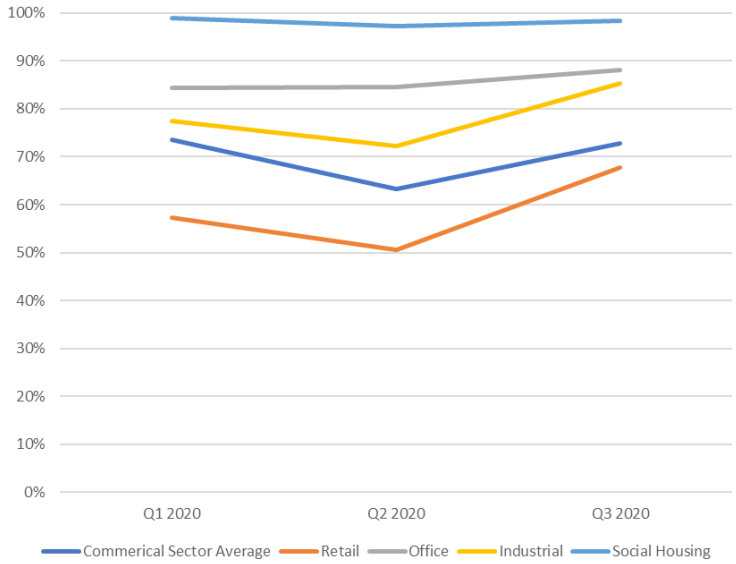
13 Regulator of Social Housing, 2020, Sector Risk Profile 2020, [online]. Available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/938983/Sector_Risk_Profile_2020_FINAL.pdf. Accessed: January 2021.

Figure 31: Bad debts and tenant arrears, % gross rent, 2010-2020



Source: Regulator of Social Housing

Figure 32: 2020 quarterly rent collection rates across real estate sectors



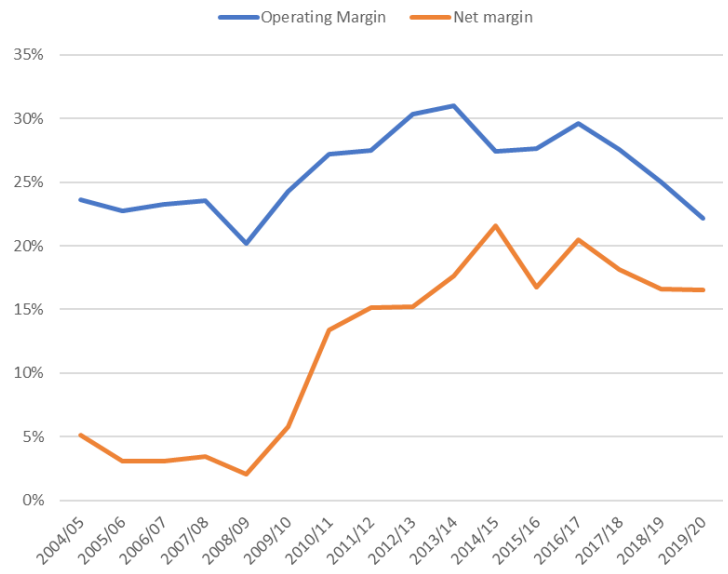
Source: REMIT Consulting, Regulator of Social Housing

Operating margins

As a sector, PRPs on average have seen healthy and stable operating margins of 20-31% since 2004/05[14]. In fact, during the period covering the global financial crisis the operating margin increased from 20% in 2008/09 to 30% by 2012/13 (Figure 33). This is indicative of a sector that has high-quality and defensive cashflow characteristics. The net surplus is also robust for the sector, recording margins of 14-18% since 2011/12. Please note that net margins post-2015/16 are not strictly comparable with previous years due to changes in accounting methods.

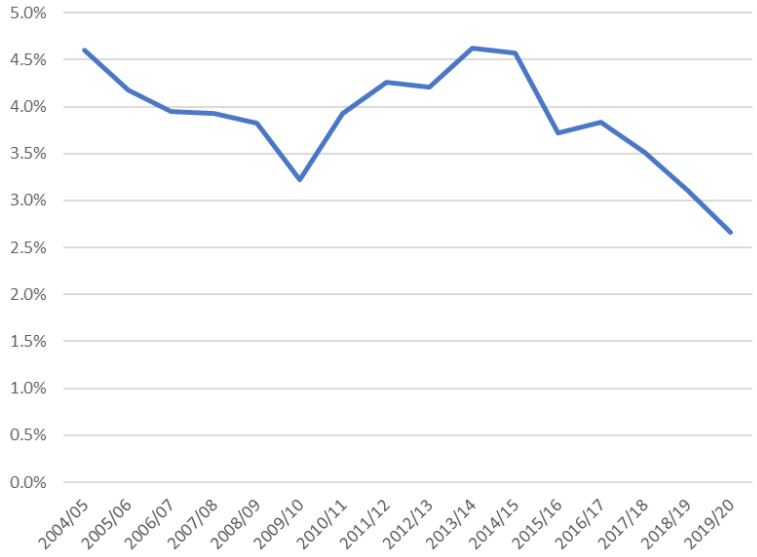
14 2004/05 is the period when PRPs with 1,000 or more units were included in the sample and therefore more representative of the current institutional investable universe.

Figure 33: Net and operating margins for PRPs, 2004-2020



Source: Regulator of Social Housing

Figure 34: PRP aggregate basic earning power, 2004-2020



Source: Regulator of Social Housing

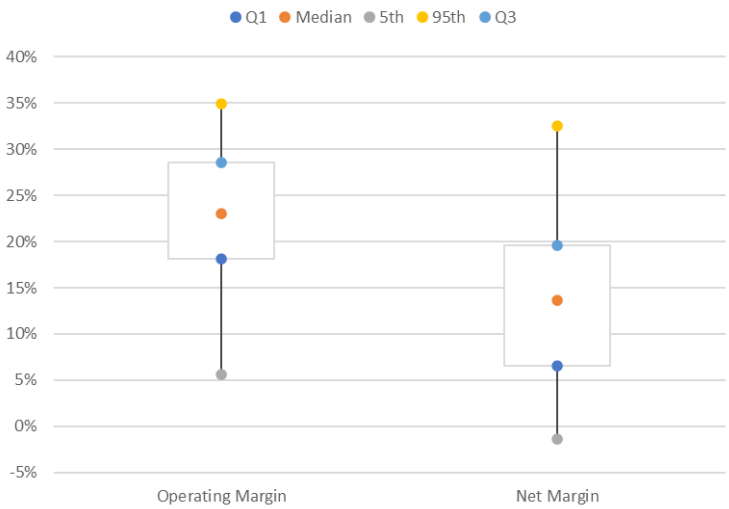
At the entity level, the spread of operating and net margins is relatively narrow with an interquartile range of 10 percentage points for operating margins and 13 percentage points for net margins for the 2019/20 financial year (Figure 35).

Income and expenditure

The annual accounts of PRPs provide a useful insight into the gross-to-net operating income for social and affordable housing tenures. Table 6 expresses aggregate PRP income and expenditure as a percentage of revenue for the past five years.

The first item to note is that net rental income (rents receivable net of voids) represents 96% of the turnover for social housing lettings, with grants accounting for around 4% of income. Service charges are typically 8% of revenue, and rents 87%.

Figure 35: Operating and net margins, across PRPs, 2019/20



Source: Regulator of Social Housing, Global Annual Accounts

Regarding expenditure, the largest items are management costs and the costs associated with maintaining the functionality of the asset (i.e. ensuring that the homes remain fit for purpose). Management costs are around 17-19% of turnover with major repairs and maintenance accounting for 30-35% of turnover. The irrecoverable costs associated with service charges are typically 1.5% of turnover (calculated as the difference between service charge income and expenditure). As with revenue, the costs associated with operating social housing lettings appear to be relatively predictable and there is low variability in the proportion of turnover for each item.

The operating surplus after deducting capitalised major repairs has been at a relatively stable and healthy level of 15-24% for the past five years; the operating surplus gross of capitalised major repairs has been 28-34%. It is important to consider that this has been achieved during a four-year period of rents declining by 1% per annum and is reflective of the PRPs' discipline and control in successfully maintaining a high operating surplus.

Table 6: Income and expenditure on social housing letting, % turnover

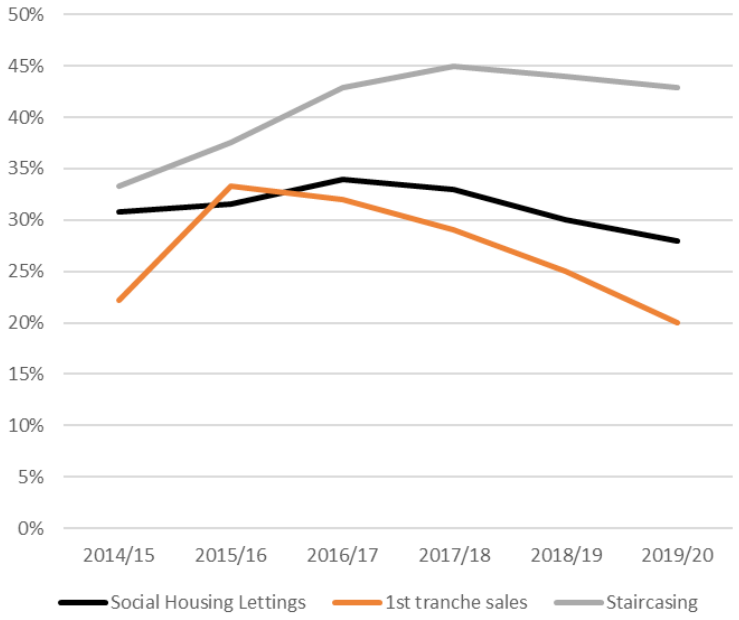
	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Revenue						
Rents receivable, net of voids	87%	87%	87%	87%	86%	86%
Service charges	8%	8%	9%	9%	9%	9%
Net rental income	95%	95%	95%	96%	96%	95%
Capital grant released to income	3%	3%	3%	3%	3%	3%
Other & revenue grant	2%	2%	2%	1%	1%	1%
Turnover from SHL	100%	100%	100%	100%	100%	100%
Expenditure[15]						
Management costs	19%	19%	17%	18%	18%	19%
Service charge costs	10%	10%	10%	11%	11%	12%
Routine maintenance	13%	13%	13%	13%	13%	14%
Planned maintenance	6%	5%	5%	6%	6%	6%
Major repairs expenditure	4%	4%	3%	3%	3%	3%
Major repairs capitalised	13%	13%	11%	11%	12%	12%
Bad debts	1%	1%	1%	1%	1%	1%
Depreciation of housing properties	13%	13%	14%	14%	14%	15%
Impairment of housing properties	0%	0%	0%	0%	0%	0%
Other costs	3%	3%	3%	2%	2%	2%
Expenditure on SHL	82%	81%	76%	78%	82%	85%
Operating Surplus/Deficit	31%	32%	34%	33%	30%	28%
Operating Surplus/Deficit (net of capitalised major repairs)	18%	19%	24%	22%	18%	15%

Source: Regulator of Social Housing, Global Annual Accounts, UK Housing Review

15 Capitalised major repairs have been included in the income statement analysis to provide a more complete analysis of the costs of maintaining social housing assets.

The PRPs' annual accounts also detail surplus margins for low-cost home ownership tenures (Figure 36). For sales of first tranche shared ownership, the average profit margin for the sector has varied between 20 and 34% since 2014/15 with subsequent staircasing events generating a profit of between 34 and 45%. Anecdotal evidence from industry participants indicates that the type and location of housing impacts the frequency of staircasing events, with apartments/flats (typically in London) experiencing more frequent events than in single family housing that is more typical for regional markets.

Figure 36: Low-cost home ownership operating and fixed asset sale margins by tenure, 2014-2020



Source: Regulator for Social Housing.

Note: Sample only includes RPs with more than 1,000 units.

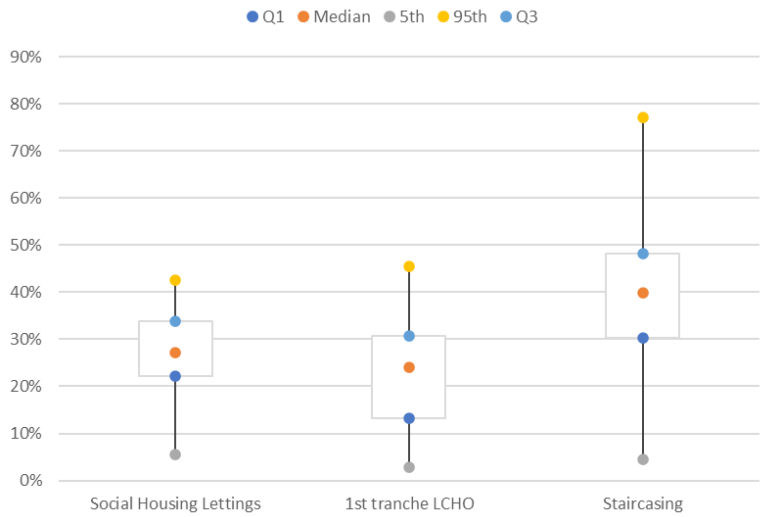
Whilst providing an impressive and attractive level of return on costs, this sample only covers a market of rising/flat house prices, and profit margins would be expected to fall in periods of declining house prices. Compared to social housing lettings, the range of operating margins for shared ownership capital receipts is significantly wider, indicating the higher variability and risk of these types of housing tenure for investors. (It should also be noted that these margins represent a cumulative rather than an annualised measure of return for the sale of ownership interests, as annual accounts data does not allow an annualised estimate to be made).

Figure 37 shows the spread of operating margins by tenure type at the individual PRP level for the financial year 2019/20. The majority of PRP groups reported operating profits above 15% for social housing, first tranche sales and staircasing activities. The figures appear to confirm expected risk characteristics for each activity, with a wider spread for staircasing activities and a narrower spread for social housing lettings. This suggests that the required risk premiums for tenures with returns linked to the performance of house prices should be higher than for those required for social/affordable rented accommodation.

“

Compared to social housing lettings, the range of operating margins for shared ownership capital receipts is significantly wider, indicating the higher variability and risk of these types of housing tenure for investors.

Figure 37: Spread of operating margins by activity at PRP Group level, 2019/20



Source: Regulator of Social Housing, Global Annual Accounts

INVESTABLE UNIVERSE

Part 4 – The investable universe: Ways to invest in social and affordable housing

The cashflow and risk profile of social and affordable housing tenures appear compelling as an asset class for institutional investors seeking sustainable risk-adjusted returns. But to participate in this market, institutions require appropriate vehicles in which to invest. This section looks at the universe of investment structures that have been, or are starting to be, used to finance investment in social housing and considers the attributes that investors need to consider in their selection.

In short

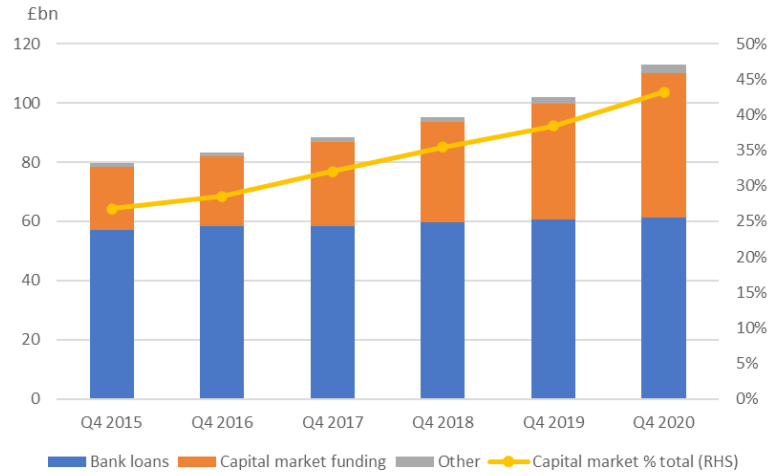
- Debt funding accounts for the majority of capital raised by PRPs, with a total of £111 billion in debt facilities (private and public). Bank lending accounts for the majority of debt facilities but debt financing from capital markets has increased significantly.
- PRPs forecast that over the next five years there will be a requirement for new debt facilities of £41 billion.
- At the aggregate level, the social housing sector displays characteristics of a high-quality borrower with gearing of around 50% and strong interest coverage. Issuers of social housing bonds have a typical credit rating equivalent to single A. There have been no defaults in the sector.
- Public equity opportunities are limited to specialist REITs. Whilst the REITs target different parts of the social housing markets, they share similar cashflow characteristics in that the rents are at least partially supported by central government finances and are subject to the inflation plus rent review pattern.
- Private equity investment into social and affordable housing remains in its infancy, with a limited number of unlisted funds launching and sometimes working in partnership with RPs to fund investments.
- Over the short time period available for analysis, the change in capital values for social and affordable housing assets compared to equities and bonds indicates that the sector should provide some diversification benefits for investors.

The investment vehicles offering exposure to social and affordable housing divide into debt and equity – both unlisted/ private and listed on capital markets. Here we look at the key categories and trends in both asset classes:

Debt financing: Bank lending versus capital markets

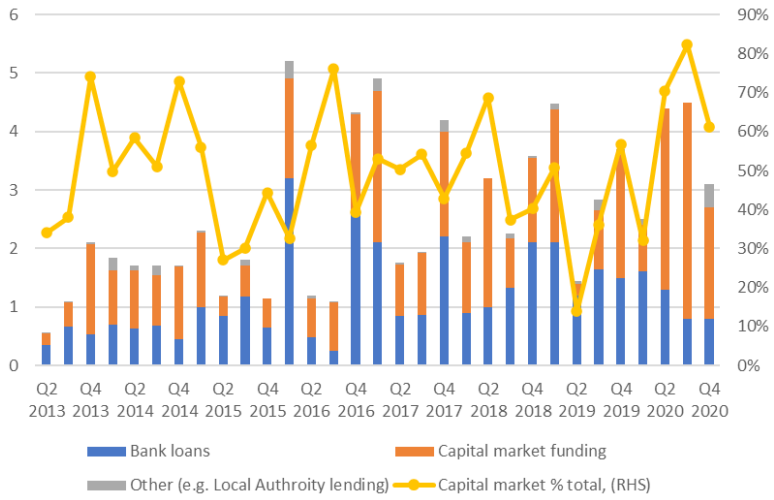
Debt funding accounts for the majority of capital raised by PRPs. As of December 2020, the sector had a total of £113 billion in debt facilities (private and public) with £84.4 billion of this debt drawn and repayable (Figure 38). Traditional bank lending accounts for 54% of debt facilities. However, debt financing from capital markets has increased significantly and now accounts for 43% of debt facilities, compared to just 27% at the end of 2015. Capital market sources of debt now typically account for around 50% of newly arranged debt facilities (Figure 39).

Figure 38: Total debt facilities by source, 2015-2020



Source: Regulator of Social Housing

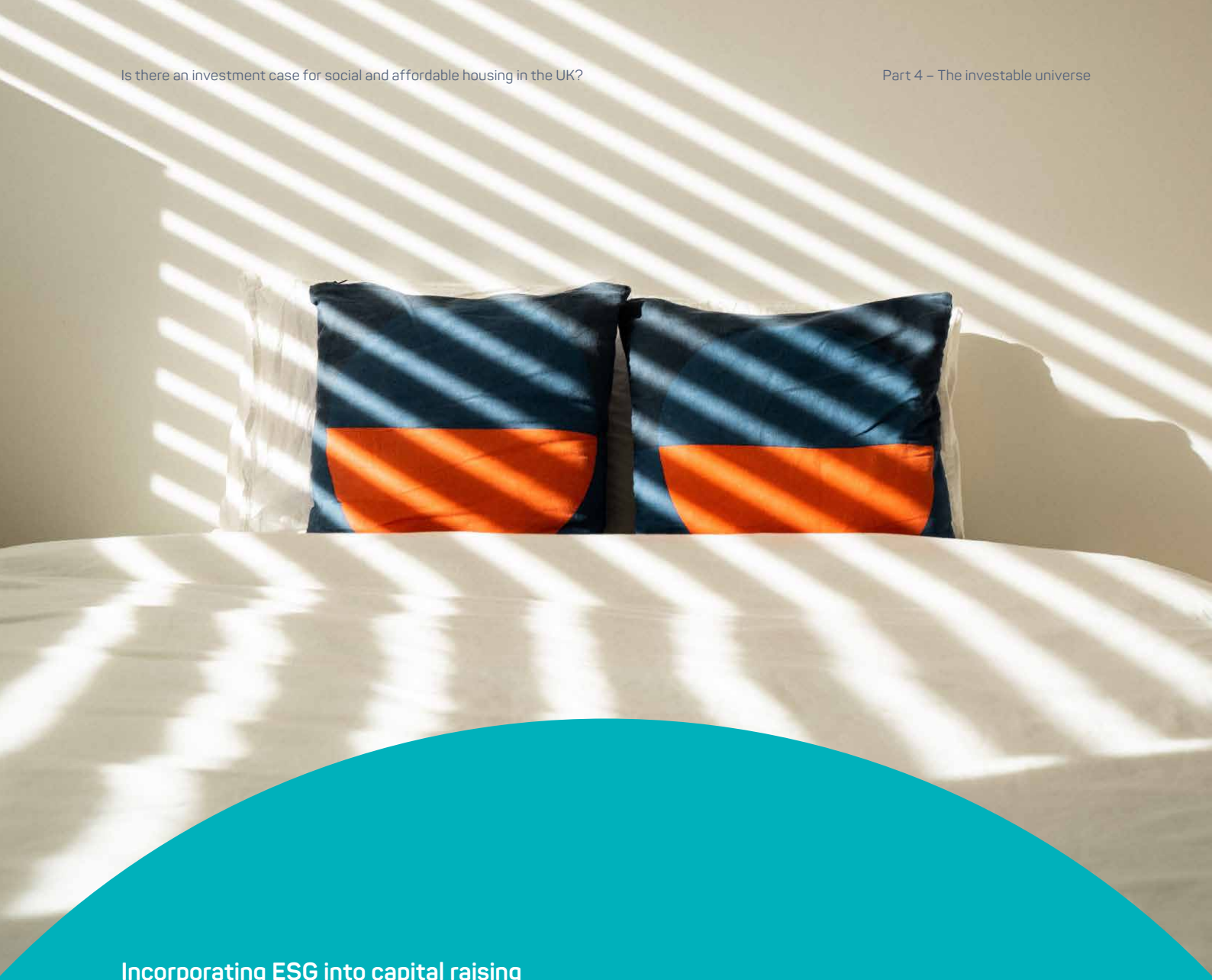
Figure 39: Quarterly new debt facilities by source, 2013-2020



Source: Regulator of Social Housing

Secured lending is the dominant form of debt originated, accounting for £100 billion of debt facilities compared to £8.7 billion in unsecured debt (the remaining £4.4 billion are facilities where security was not yet in place). Facilities are typically fixed-rate (80% of PRP drawn facilities) with the remainder structured as floating-rate loans or loans with less than 1 year until maturity.

> However, debt financing from capital markets has increased significantly and now accounts for 43% of debt facilities, compared to just 27% at the end of 2015. Capital market sources of debt now typically account for around 50% of newly arranged debt facilities.



Incorporating ESG into capital raising

One way in which PRPs could widen the pool of prospective sources of capital is to target the rising demand for lending focused on environmental, social and governance (ESG) factors. The sector is already starting to see some success in this space and several bonds have already been issued with sustainability frameworks in place. For example, in November 2020, Clarion Housing Group successfully raised a second sustainability bond under their Sustainable Housing Framework, seeking to use the proceeds to develop energy-efficient housing. MORhomes, a bond aggregator has also recently launched its own sustainability framework to issue sustainable bonds on behalf of a group of PRPs.

There are rigorous independent accreditations available that PRPs can use to measure ESG. For example, the pan-European Certified Sustainable Housing award/rating developed by Ritterwald[16] has been used in both examples above. In response to the need for standardisation on ESG reporting the Sustainability Reporting Standard for Social Housing (SRS)[17] was launched in November 2020 – a collaboration of 18 housing associations, banks, investors, service providers and impact investing organisations. The SRS acts as a voluntary reporting framework, covering 48 criteria across ESG considerations such as zero carbon targets, affordability and safety standards. In 2021 close to 100 organisations have signed up to SRS as either adopters or endorsers, enabling housing providers to report on their ESG performance in a transparent, consistent, and comparable way.

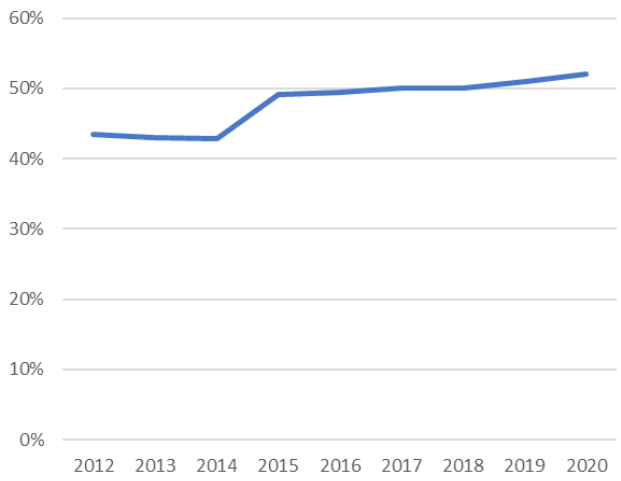
16 http://www.sustainable-housing.eu

17 https://esgsocialhousing.co.uk

Credit quality of PRP debt - The rise in capital market debt financing has led to PRPs being rated by credit rating agencies such as Moody's, Fitch, and S&P Global Ratings. For those PRPs with credit ratings from the major rating agencies the typical rating is single A. PRP-specific factors (business strategy, operating margins, overall indebtedness) determine the individual credit rating. However, it is also likely that there is a positive relationship to the credit quality of the UK government as central government underpins at least part of rental income for the sector via housing benefit/Universal Credit.

Despite an increase in capital market activity to raise debt in the sector, overall indebtedness has remained relatively stable. Average gearing for PRPs (total debt less cash and cash equivalents as a percentage of total housing assets less current liabilities) has been at around 50% over the past five years (Figure 40). It is important to note that this gearing level is based on historic cost of assets rather than market valuation, so it might be reasonable to assume that gearing relative to the market fair value of assets is lower (and more volatile) than reported.

Figure 40: Average PRP gearing, %, 2012-2020



Source: Regulator of Social Housing

To assess the ability of the sector to meet interest payments on its debt a measure called EBITDA MRI[18] (earnings before interest, tax, depreciation, amortisation - major repairs included) and an interest cover ratio (ICR) are used. The ratio is calculated by adjusting the total operating surplus for sales of fixed assets and government grants, capitalised major repairs, and depreciation to arrive at EBITDA MRI (Figure 41). Interest is calculated as the total of capitalised interest, interest payable and financing costs. The sector also calculates the EBITDA MRI interest coverage using just the surplus from social housing lettings. This provides a more conservative estimate of revenue as it removes the surplus from activities such as first tranche sales of low-cost home ownership schemes, which have inherently higher-risk cashflows.

18 EBITDA MRI aims to measure the level of surplus that a registered provider generates, avoiding distortions from non-cash charges such as depreciation as well as the surplus on disposal of fixed assets.

Figure 41: Calculating EBITDA MRI

EBITDA MRI

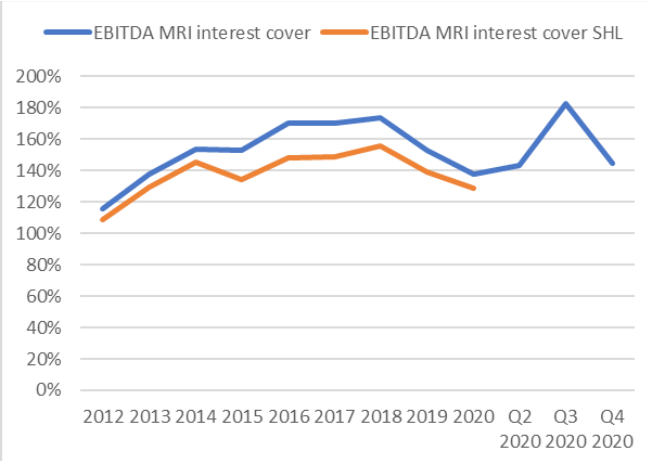
= Overall operating surplus / deficit
- Gain / loss on disposal of fixed assets (housing properties)
- Amortised government grant
- Grant taken as income
+ Interest receivable and other income
+ Total depreciation charge

Interest =

+ Capitalised interest in housing properties
+ Interest payable and financing costs

At the aggregate level, the ability to pay interest using the EBITDA MRI measure appears to support the view that debt issued by the sector will be of high institutional quality – and this appears to have remained the case during the COVID-19 pandemic. Figure 42 uses annual account data up until 2019 and then quarterly survey data to show the impact of COVID-19 on the ability for PRPs to pay interest. The sector has reported an EBITDA MRI ICR of 150-170% and EBITDA social housing lettings ICR of 140-150%. This represents a robust spread between operating cashflows and interest payments. The COVID-19 crisis appears to have had limited impact on the sector's ability to service debt payments: the ICR reported for June 2020 was 143%, rising to 183% in Q3 2020. Although rent collection dropped marginally during this period (see Part 3 of this report), interest coverage in Q3 2020 rose as government restrictions on social distancing prevented some major repairs being completed, thereby reducing cash outflows.

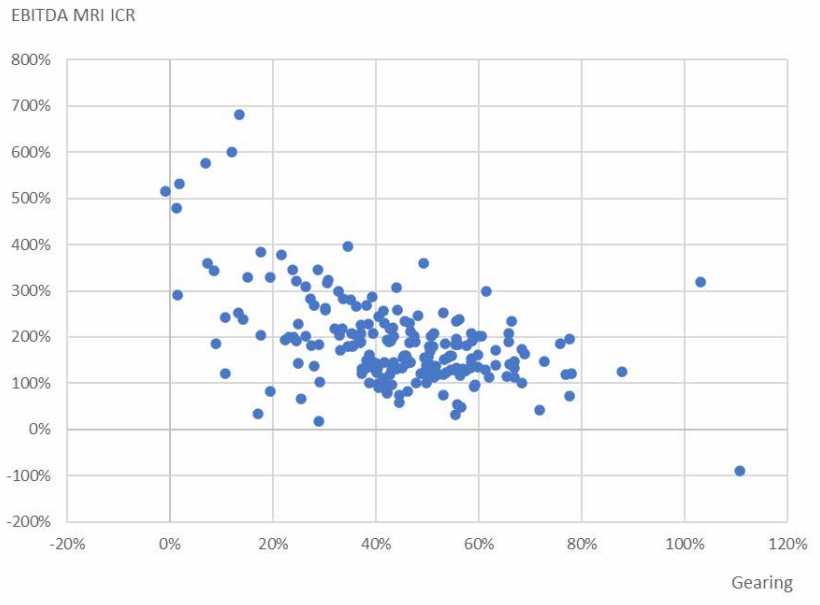
Figure 42: EBITDA MRI interest coverage, 2012-2020



Source: Regulator of Social Housing

Analysis at the aggregate level indicates a financially strong and robust sector. But inevitably there are significant differences at the underlying entity level. Figure 43 presents the financial position of 203 PRP groups as of March 2020 in relation to gearing and EBITDA MRI.

Figure 43: Large PRPs' gearing and EBITDA MRI ICR, as of March 2020[19]



Source: Regulator of Social Housing

19 6 of the 209 separate PRP groups have been excluded from the chart as either the gearing and/or EBITDA MRI ICR metrics had extreme values.

In this sample, the spread of gearing ranges widely, with a median of 44%. The 25th and 75th percentiles are 34% and 55%, respectively. As a proportion of total groups, only 13% of PRPs had a gearing level higher than 60%. In terms of EBITDA ICR, the ratio range has a median of 171% and 25th and 75th percentiles of 129% and 228%. As a proportion of PRP groups, 21% of PRPs had a coverage ratio of less than 120% and 13% with less than 100%.

Public debt: PRP-issued bonds

Who is issuing public PRP bonds - In terms of public debt issuance, bonds have typically been issued by larger PRPs with the scale and resource to access capital markets directly. Smaller PRPs typically access capital markets via aggregators that issue bonds secured against a number of different RPs' assets. The credit rating for PRP bond issuers typically centres around a single-A rating. The average maturity of bonds at issuance is high at 25-30 years, indicating that the duration risk will be higher than for the average corporate or sovereign bond.

PFR has collected data on 101 PRP bonds with a total nominal value of £30.2 billion, covering the period 2000-2020. This universe breaks down, by borrower, as 86% PRPs and 14% aggregators. Aggregators include MORhomes, The Housing Finance Corporation (THFC), in respect of its activities under the old Affordable Housing Guarantees Scheme (AHGS), which provided low cost capital to PRPs and good credit quality to investors. In the last year a new AHGS has been established by MHCLG and it will be operated by ARA Venn. In terms of security, 97% of PRP bonds are secured and only 3% unsecured. This market is characterised by long-dated paper with a weighted average years to maturity at issuance of 28 years, and a quartile range of 28-31 years. Only 12% of bonds in the sample (by value) had a maturity of less than 20 years at the date of issuance.

Trends in PRP bond yields - To look at the trend in bond yields, the authors have constructed a weighted average annual yield series (by value). Pre-2010 the sample was limited to between 10 and 15 bonds per annum, rising quickly thereafter to 99 bonds by the end of 2020. This trajectory reflects the underlying growth in capital market financing experienced in the sector.

The average yield to maturity for PRP-issued bonds at the end of 2020 was estimated to be 1.9% (Figure 44). As with other fixed income markets the yield has dropped significantly from a weighted average yield pre-global financial crisis of 5.0-5.5%. The spread to risk-free assets (maturity adjusted) has been fairly constant since 2015, averaging 140bps and ranging from 110bps to 160bps.

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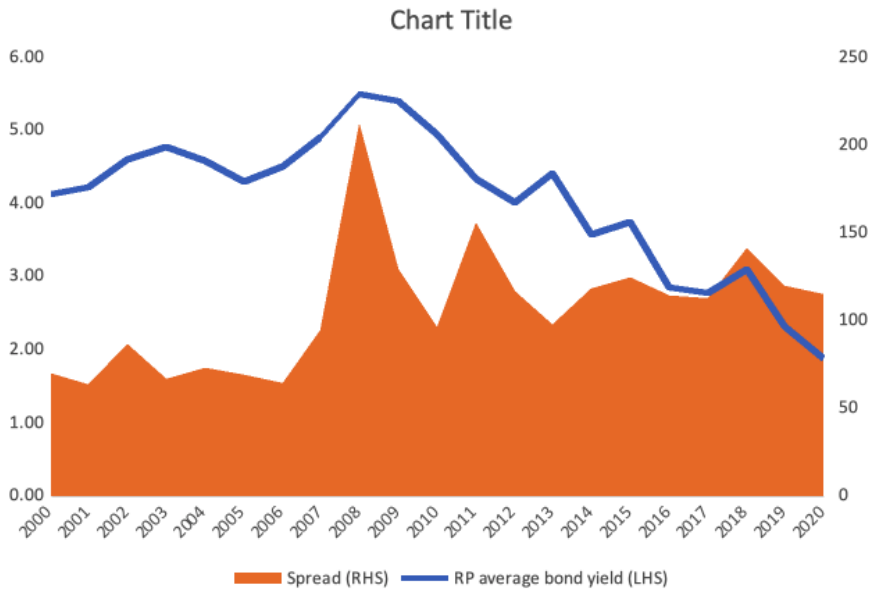
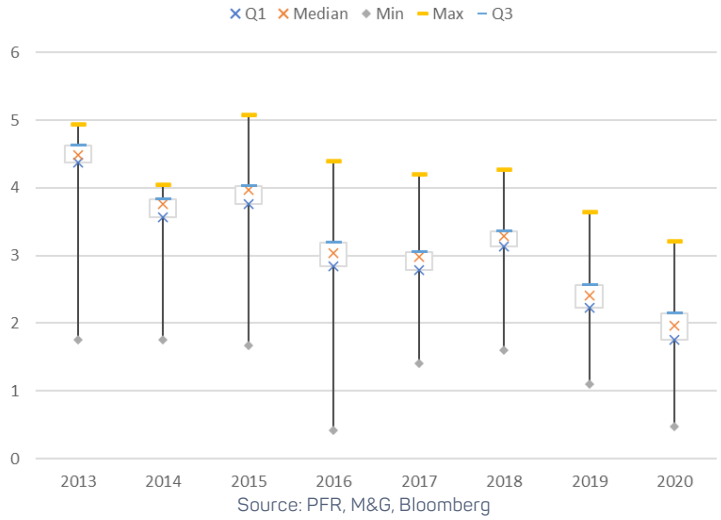
The credit rating for PRP bond issuers typically centres around a single-A rating. The average maturity of bonds at issuance is high at 25-30 years, indicating that the duration risk will be higher than for the average corporate or sovereign bond.

Figure 44: Weighted average PRP bond yield to maturity and spread to risk-free rate, 2001-2020



Source: M&G, Bloomberg

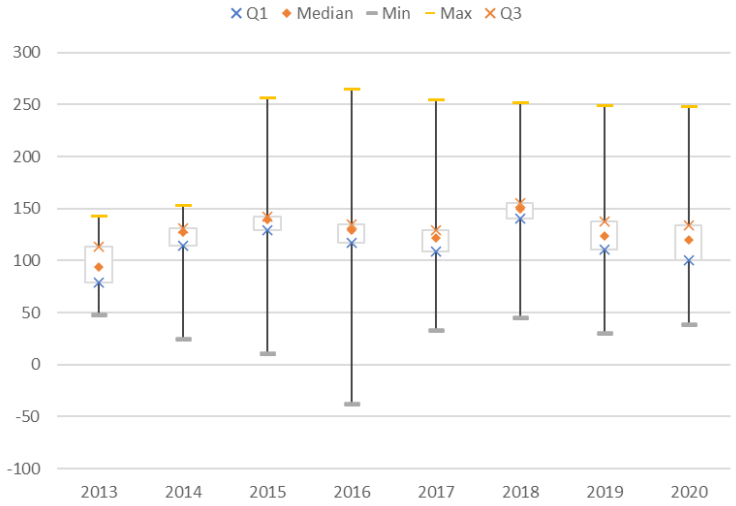
Figure 45: Range of individual bond yield to maturity, 2013-2020



Source: PFR, M&G, Bloomberg

At the individual bond level, the range of yields (Figure 45) and spread over sovereign debt (Figure 46) is relatively tight. For instance, the interquartile range for the yield spread is between 20 and 35bps across the time period. However, there is some evidence of differentiation in pricing with a few outliers where bonds were trading at spreads as high as 250bps and as low as -38bps. This trend is perhaps to be expected given that it will be the large and more financially secure RPs that are likely to have success in accessing debt via capital markets and therefore likely to be similarly priced in terms of risk. It may also be that there is limited price discovery as liquidity is significantly lower than for other more mature fixed income markets.

Figure 46: Range of individual bond yield spreads, 2013-2020



Source: PFR, M&G, Bloomberg

Defaults among PRPs - The PRP bond sector has yet to experience a default, adding further evidence of the credit quality of issuers. The typically more stable valuation of social housing assets compared to commercial real estate could be a factor here. This stability is primarily due to two factors: (i) the valuation methodology is based upon an explicit discounted cashflow where asset net cashflows are projected in perpetuity and discounted back at an appropriate rate, and (ii) transaction evidence remains thin, meaning that price discovery through comparable assets is limited and may artificially lower the volatility of asset prices. The relative stability of social housing asset valuations is likely to be regarded as a positive from a lender's perspective as it may limit the potential for pro-cyclical lending trends, which have been well documented in other commercial real estate sectors (i.e. as prices rise and the LTV remains constant, the quantum of debt increases). Also, given the long-dated characteristic of these bonds, a long-term valuation is arguably a more suitable basis for asset values.

However, as there have been no defaults in the sector, there is also no precedent as to what may happen if a default event were to occur. This also means there is no evidence to help set expectations of recovery rates, etc. There appears to be an implicit expectation that the UK government (via the regulator) would step in and facilitate a solution in the event of a weaker PRP running into financial difficulties. For instance, in February 2018 when First Priority experienced financial difficulties the regulator worked with the group and its board to resolve the situation; in this instance, the agreed solution was to reassign leases and units under management to other PRPs.

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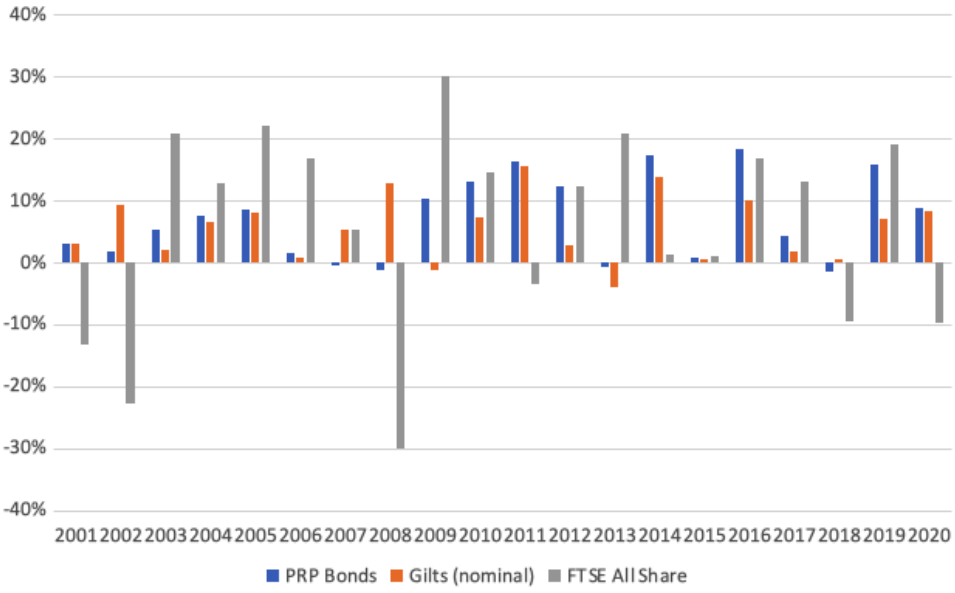
The PRP bond sector has yet to experience a default, adding further evidence of the credit quality of issuers. The typically more stable valuation of social housing assets compared to commercial real estate could be a factor here.

Historic total returns - To provide more information regarding the risk and return characteristics of these bonds, the authors estimated a total return series using a bond's yield to maturity, coupon amount and frequency, and the time to maturity. The individual bond returns were then weighted by value to create a weighted average return for the year.

On an annualised basis, bonds issued by PRPs returned approximately 6.8% per annum over the period 2001-2020 (Figure 47). This compares to 5.4% for gilts, 7.0% for inflation-linked gilts, 4.6% for UK equities and 6.9% for commercial real estate. On a risk basis (as measured by standard deviation of returns) the PRP bonds appeared to exhibit marginally higher volatility than nominal government bonds and significantly lower volatility than equities and commercial real estate (Table 7). Similar conclusions can be drawn when using maximum drawdown as the risk measure.

Figure 47: Annual total return versus bonds and equities, 2001-2020



Source: Macrobond, PFR, M&G, Bloomberg, FTSE All Share Index, FTSE Gilt All Maturities Index

Table 7: Annualised total return and standard deviation, 2001-2020

	Total Return, % pa	Volatility	Maximum Drawdown
PRP Bonds	6.8%	6.7%	-2%
Gilts (nominal)	5.4%	5.3%	-4%
Gilts (index linked)	7.0%	7.0%	-4%
Equities	4.6%	16.2%	-40%
All Property (de-smoothed)	6.9%	14.7%	-46%

Source: Macrobond, PFR, M&G, Bloomberg, FTSE All Share Index, FTSE Gilt All Maturities Index, MSCI UK All Property Index (de-smoothed).

Table 8: Asset correlation co-efficient matrix, 2001-2020

	PRP Bonds	Gilts (nominal)	Gilts (index linked)	Equities	All Property (de-smoothed)
PRP Bonds	1.00				
Gilts (nominal)	0.51	1.00			
Gilts (index linked)	0.73	0.75	1.00		
Equities	0.36	-0.44	0.06	1.00	
All Property	0.23	-0.30	0.02	0.56	1.00

Source: Macrobond, PFR, M&G, MSCI UK Annual Property Index, Bloomberg, FTSE All Share Index, FTSE Gilt All Maturities Index, FTSE Index-Linked Gilt All Maturities Index

Correlation to other asset classes - Using the proxy PRP bond total return series from 2001-2020, PRP bonds appear to have a low positive correlation with commercial property (0.23) and equities (0.36) and a stronger, positive correlation with nominal gilts (0.51) and index-linked gilts (0.72) (Table 8). Again, (and as expected) this indicates that PRP bonds have similar risk factors to the bond market.

However, given the low number of bonds in the early years of the sample, and the recent rise in public debt issuance as the sector has matured and attracted more institutional capital, it was considered more instructive, from a forward-looking perspective, to run the analysis over a shorter time period starting in 2010-2020 (Table 9). This analysis suggests that social housing bonds have a strong positive correlation with bonds (+0.9 and +0.8) and weaker correlation with equities (-0.2). These findings appear to make more intuitive sense given the underlying risk characteristics of the sector, such as stable cashflows and rents at least partially supported by central government benefits.

Table 9: Social housing bond total return correlation, 2010-2020

	PRP Bonds
PRP Bonds	1.00
Gilts (nominal)	0.86
Gilts (index-linked)	0.80
Equities	0.19
All Property (de-smoothed)	-0.13

Source: Macrobond, PFR, M&G, MSCI UK Annual Property Index, Bloomberg, FTSE All Share Index, FTSE Gilt All Maturities Index, FTSE Index-Linked Gilt All Maturities Index

Drawbacks of historic bond analysis

Running an historic mean variance optimisation exercise, whilst interesting, is unlikely to provide an informative guide as to what the future allocations to the asset class should be. This is because the efficient frontier in this exercise will be dominated by allocations to bonds that have outperformed other asset classes, at lower risk (Table 7). This trend is unlikely to be repeated over the next 10-15 years as bond yields are at historic lows (and prices at historic highs) and therefore bonds are unlikely to provide the same level of total return that investors have benefited from over the past 30 years. Part 6 attempts to provide a more useful framework for assessing an allocation to the PRP bonds on a forward-looking basis.

Public equity: Real Estate Investment Trusts

Public equity opportunities to invest in social and affordable housing are limited to specialist real estate investment trusts (REITs) such as Civitas Social Housing PLC, Triple Point Social Housing REIT, Residential Secure Income PLC, and Home REIT. All are listed on the London Stock Exchange and have held initial public offerings in the past five years (Table 10).

Strategies vary across REITs. Civitas and Triple Point focus on providing homes for people with additional care and support requirements and are lease-based providers of housing. For these types of assets, both care provision and management of the homes are delivered by Registered Providers. Home REIT targets housing provision for the homeless. Residential Secure Income has a mixed portfolio of shared ownership, retirement living and Local Authority rentals and makes equity investment (compared to the lease-based model). Although these REITs target different parts of the markets, they share similar cashflow characteristics in that rents are at least partially underpinned by central government finances and are subject to the inflation-plus rent review process. Their dividend yields are also relatively high, between 4.2 and 5.5%, and levels of gearing are modest (30-40% total assets). Assets are typically let on long leases to PRPs, who operate the assets and pay the REIT from rent collected from tenants.

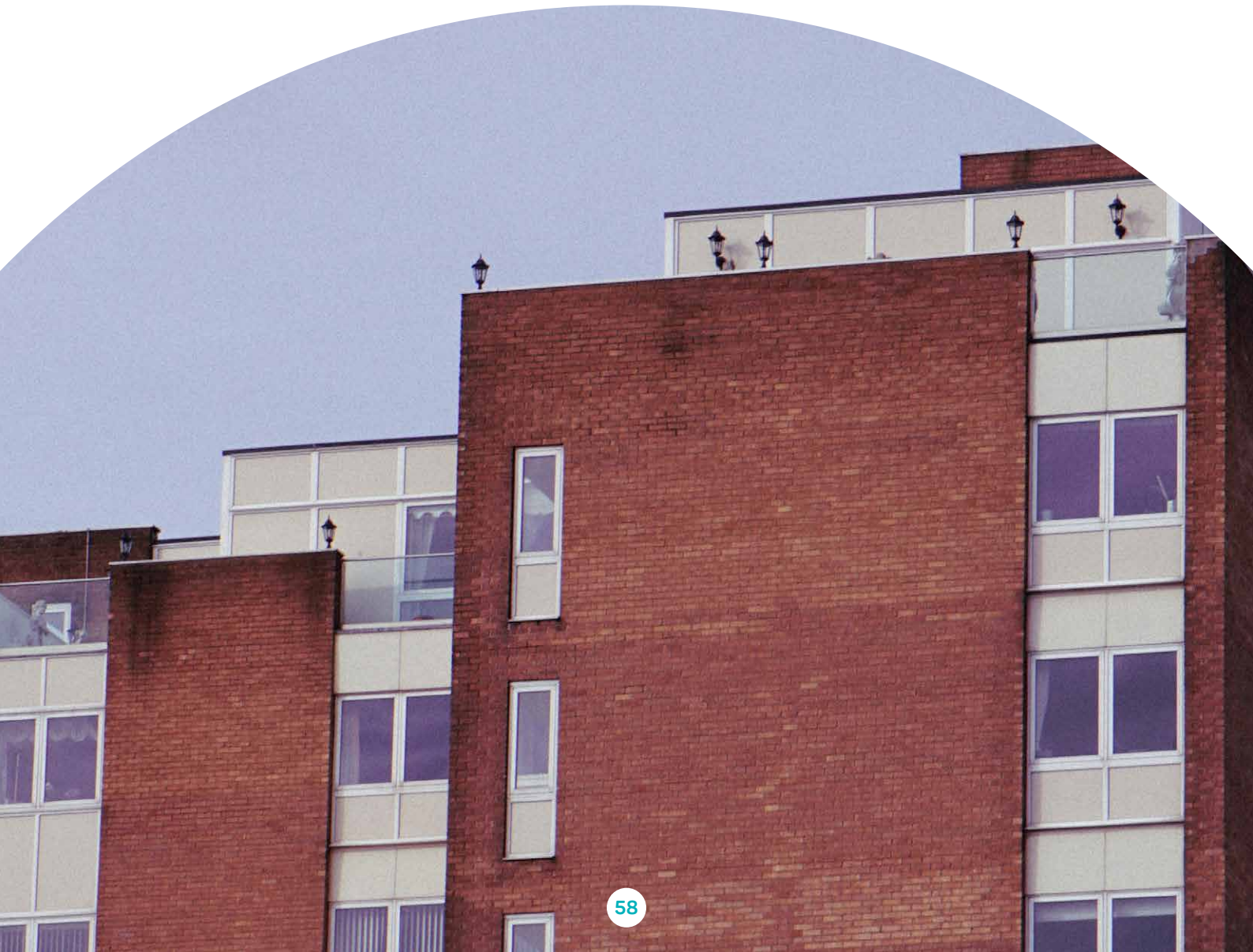


Table 10: REIT profiles

	Civitas Social Housing PLC	Triple Point Social Housing REIT	Residential Secure Income PLC	Home REIT
Market Capitalisation £m	667	435	153	262
Total Assets	922	536	240	234
Gearing	40%	33%	29%	0% (35% maximum)
Dividend Yield	5.03%	4.18%	5.45%	0.77% (5.5% target)
Portfolio Net Initial Yield (last reported)	5.26%	5.20%	4.60%	not available
Total Expense Ratio	1.40%	1.64%	1.59%	1.43% (estimated)
Strategy	Care-based social properties across the UK. Long-term lease agreements with housing associations, Local Authorities, the NHS and charities.	Invest in UK social housing by providing high quality homes that have been adapted for vulnerable adults with long-term care and support needs.	Shared ownership, retirement and Local Authority housing across the UK. Provision of capital to developers, housing associations and Local Authorities to deliver high quality homes.	Diversified portfolio of high quality homeless accommodation assets, let or pre-let to registered charities, housing associations on FRI leases with inflation linked uplifts.
Number of properties	619	433	2,678	489
Number of tenancies/homes	4,295	2,990	2,678	2,500
Year of IPO	2016	2017	2017	2020

Source: FT, Company Accounts, 19/02/2021

How REIT cashflows were priced during COVID-19: Whilst the time series of performance is short and the sample size limited for the public equity investments, we can use the relative performance versus bonds, equities, and other listed real estate sectors during 2020 to see how public markets have priced the cashflow risks for these REITs.

During March 2020, social housing REIT performance was highly correlated to that of the wider universe of risky assets. However, this was a short period where the majority of assets fell in a fairly uniform way as investors rushed for liquidity (even government bonds saw prices fall due to a lack of liquidity). From the pre-COVID 19 peak to trough, prices of social housing REITs fell by 20-30%, similar to the change in industrial/logistics REIT pricing. This compares to falls of -34% for the wider UK equity market, -3% for fixed income and -50-70% for office and retail-focused REITs. During the initial recovery of asset prices in April/May 2020, social housing REIT prices were highly correlated to those of other risky asset classes but recovered far quicker and stronger than the wider equities market. By summer 2020, investors had started to differentiate the pricing of risk as more information was known about the economic and societal impact of the pandemic on prospective cashflows meaning that investors had started to recognise the more defensive cashflows of social housing REITs (as REITs published rent collection levels) versus commercial sector REITs and wider equities. As at mid-February 2021, prices for Civitas and Triple Point were priced 10-17% above the level recorded in February 2020 whereas Residential Secure Income remained 9% below the peak (the same as the wider equities market). This may have reflected stock specific factors such as greater exposure to senior living accommodation (non-care).

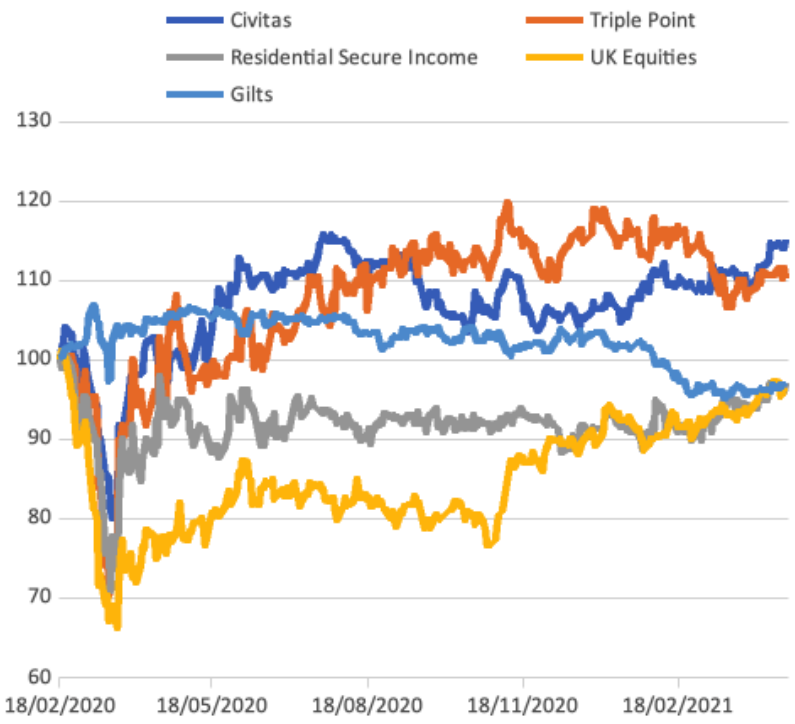
Compared to other sector-specialist REITs (Figure 50), the social housing REITs outperformed industrial, office and retail REITs throughout the COVID-19 pandemic. Retail and office REITs remain 60% and 30% below the levels recorded in mid-February 2020, whilst industrial REITs are up 4%.

Table 11: Price performance from 2020 peak (18/02/2020)

	Peak to trough	Trough to current	Peak to current
Triple Point	-30%	66%	17%
Civitas	-20%	37%	9%
Residential Secure Income	-29%	28%	-9%
FTSE Gilts All Maturities	-3%	1%	-2%
FTSE All Share	-34%	38%	-9%
Industrial REITs	-29%	46%	4%
Office REITs	-47%	28%	-32%
Retails REITs	-70%	38%	-59%

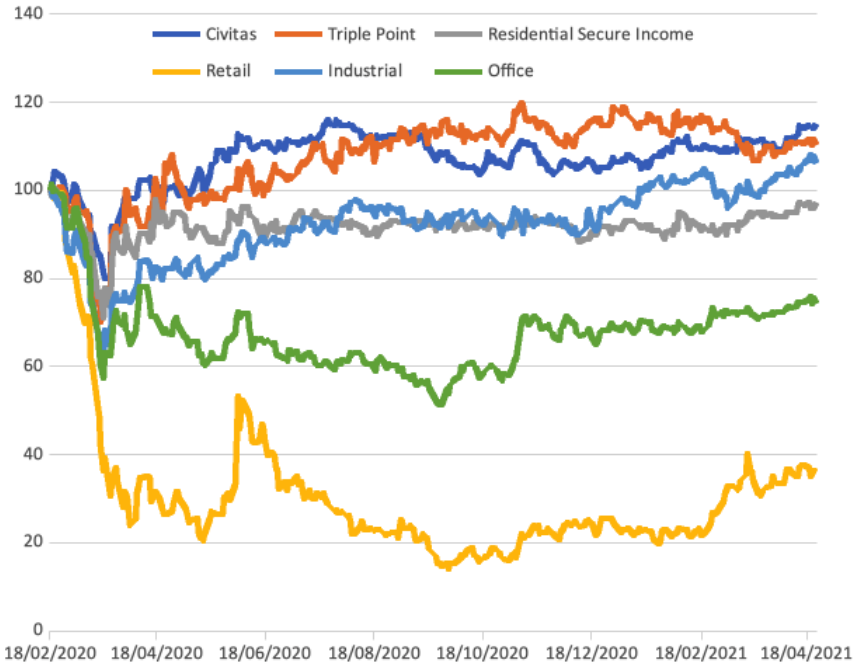
Source: Macrobond, current = 19/02/2021
Please note Home REIT is omitted from the table as the IPO was in October 2020.

Figure 49: Social housing REITs versus equities and bonds, price indices*



*Index rebased to 18/02/2020 = 100

Figure 50: Listed social housing REITs versus other REIT sectors*



*Index rebased to 18/02/2020 = 100

Correlation of social housing REITs with other asset classes: Using monthly total returns since the respective REIT IPOs, a rolling 12-month correlation analysis and since-IPO correlation analysis was completed. Over the full time period, monthly returns for REITs exhibited low correlations with both equities and government bond returns (Table 12). However, on a rolling 12-month basis there is evidence to suggest that the correlation is more volatile and conditional on prevailing capital market conditions. For instance, the correlation with the wider equities market rises from negative to positive during the COVID-19 pandemic. This is similar to the trends evident for other listed real estate sectors where in the short term (1-12 months) movements in prices are typically more correlated with the equity market than private real estate prices. However, over the medium to long term, listed real estate returns are closely correlated to the performance of private real estate assets.

Historic performance data for social housing public equity is limited. However, the performance of these social housing REITs versus other public equities during the highly volatile COVID-19 pandemic period suggests that investors have recognised the stability of their underlying cashflows. Notably, share prices for both Civitas and Triple Point outperformed traditional commercial sector REITs and the wider FTSE All Share Index since the market peak in February 2020.

Table 12: Post-IPO, social housing REIT monthly total return correlation coefficient

	Civitas	Triple Point	Residential Secure Income
Bonds	0.11	0.34	-0.07
Equities	0.10	0.16	0.45

Source: Macrobond

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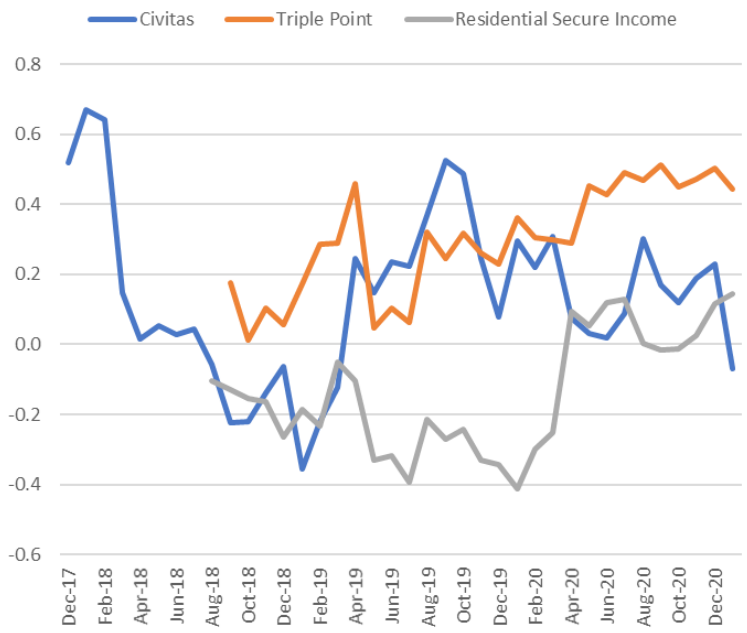
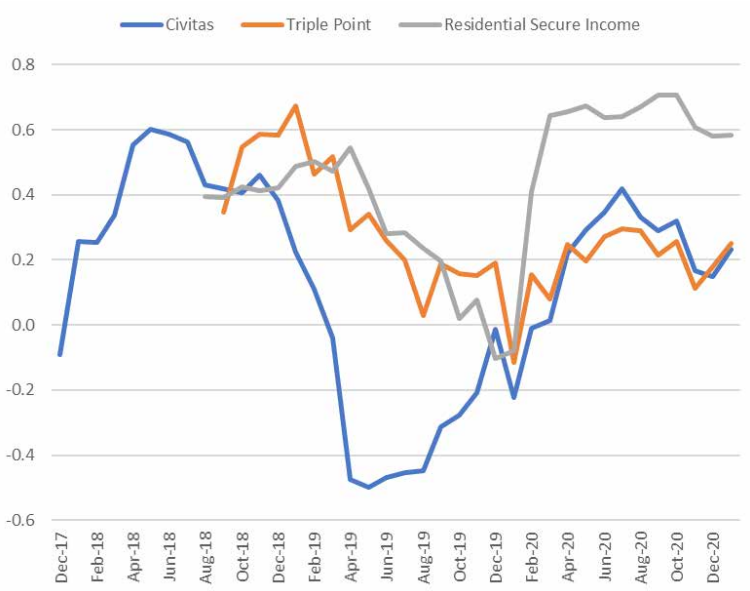
The performance of these social housing REITs versus other public equities during the highly volatile COVID-19 pandemic period suggests that investors have recognised the stability of their underlying cashflows.

Figure 51: Rolling 12-month correlation of social housing REIT monthly total returns verses bonds



Source: Macrobond, PFR.

Figure 52: Rolling 12-month correlation of monthly total returns verses equities

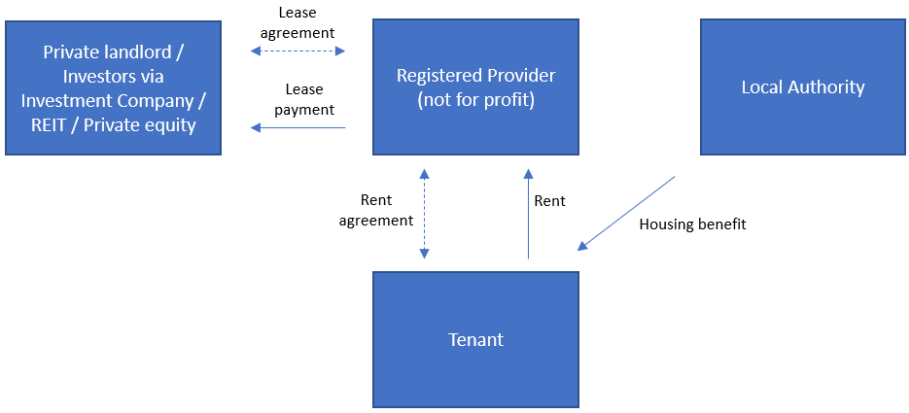


Source: Macrobond, PFR

Lease-based operating models

One form of financing that has been used in the social housing sector to access equity investment is the lease-based operating model. Typically, this has involved an RP signing long leases (20+ years) with a private investor (e.g. a real estate investment trust or private equity fund) on a full repairing and insuring basis, and with annual rents linked to inflation. The RP operates the homes and funds rental payments from rent received from tenants. The rental payments are also required to cover the RP's management costs and to fund the maintenance of the assets (Figure 48).

Figure 48: Typical lease-based operating model



Source: PFR, Regulator of Social Housing

Although a lease-based model is appropriate for some RPs it is a form of higher-risk financing for others. From an equity investor's perspective, there is a reputational risk where, rightly or wrongly, they might be viewed as receiving a profit in excess of the risk they are bearing at the expense of a not-for-profit organisation. From a debt investor's perspective, lease obligations add to the gearing of a borrower and therefore may negatively affect their financial strength.

The Regulator of Social Housing has published some concerns over the use of lease-based models of financing, particularly for RPs providing specialist supported housing[20]. These concerns include:

- The lease between the RP and a private investor is long term, whereas the rental agreement between the RP and the tenant is over a shorter period. This exposes the RP to the risk of significant voids or rental shortfall.
- RPs that have pursued this model of financing typically have smaller balance sheets with less cash and therefore have tighter operating margins than larger RPs.
- These tight cashflows for smaller RPs may see capital expenditure on maintaining the appropriate living standards being reduced in order to maintain lease payments.

However, there are examples of proprietary innovation in this operating model where the goal is to ensure that risk and return are fairly apportioned between operator and investor. For instance, Triple Point Social Housing REIT has introduced a change-of-law clause in leases to enable the terms to be re-negotiated if there is a material change in the UK government's housing benefit policy.

Further innovation and greater differentiation in leases (e.g. more tailored lease structures to reflect underlying revenue characteristics) could be driven by capital with a long-term hold horizon (for investment in standing assets) and - as we have suggested earlier in this section - an investor focus on ESG and impact goals. Given the wide range of tenures and PRPs in the sector, there is significant scope to develop a wide range of operational models to help increase the provision of social and affordable housing.

20 Regulator of Social Hosing, 2019, "Lease-based providers of specialised supporting housing", available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/792650/Lease-based_providers_of_specialised_supported_housing_-_April_2019.pdf., accessed Dec 2020

> Further innovation and greater differentiation in leases could be driven by capital with a long-term hold horizon. Given the wide range of tenures and PRPs in the sector, there is significant scope to develop a wide range of operational models to help increase the provision of social and affordable housing.

Unlisted equity: Private equity funds

Private equity investment is in its infancy for social and affordable housing with a limited number of unlisted funds launching. To date, PFR have identified 15 private equity funds that have raised capital to invest in some form of social and/or affordable housing tenures. These have typically been closed end, with a 'core-plus' risk style and of smaller scale than similar funds launched to invest in other, more established commercial real estate sectors. Asset managers in this space include CBRE Global Investors, Cheyne Capital Management, Man Group, M&G Investments, Resonance, Schroders, and Social and Sustainable Capital. The funding of these vehicles has typically been through equity commitments from pension funds that have longer-term return horizons as well as ESG objectives.

These funds sometimes work in partnership with RPs to fund investments. Funds/managers have tended to favour a long-lease model where the RP signs a lease with a fund on a full repairing and insuring basis for 20+ years. Other asset managers have opted for a different approach and have set-up FPRPs (for example, Legal & General, Sage (Blackstone)) where they own and operate the assets having used balance sheet capital to finance investments. This principal type of unlisted equity investment is a significant and growing part of the market. Savills estimate that FPRPs could commit up to £23 billion for affordable homes by 2026, enough to fund 130,000 new homes.

Closed vs open-end unlisted funds: Given the need for long-term capital in the sector there is significant potential for growth in unlisted funds targeting social and affordable housing. As with unlisted funds in more mature real estate sectors, the legal structure of the vehicle has to match the underlying investment risk characteristics, particularly in regard to managing liquidity. Typically, open-end funds have been used for investment in more liquid, lower-risk assets whereas closed-end funds with 5-10-year terms have been used to invest in higher-risk refurbishment, and development assets. Given the risk characteristics of the sector, it is likely to attract capital with longer-term hold horizons and therefore may not necessarily require the level of liquidity offered by open-end funds (plus, regulatory requirements for open-end funds to hold liquid assets in order to meet investor redemption requests can erode returns through cash drag). But liquidity with a closed-ended/hybrid onshore limited partnership is inhibited with transaction tax paid on the purchase of shares. Recent proposed innovations in fund structures such as the Professional Investor Fund (PIF – see panel) could offer a useful solution that may provide a more tailored fund structure to suit investor requirements and the risk characteristics of this sector.

Professional Investor Funds proposal

HM Treasury has consulted this year on the Professional Investor Funds (PIF) unauthorised contractual scheme proposal (submitted by the Association of Real Estate Funds) as part of a wide-ranging consultation on the UK funds regime. The consultation closed in April 2021.

The proposal is for a fund that will have the protection of a UK alternative investment fund (AIF) and also operates as an unregulated collective investment scheme (UCIS). It would be unconstrained in terms of eligible asset classes. Access to PIFs would be restricted to professional investors committing at least £1million. PIFs would be unconstrained in terms of eligible asset classes and investment strategies.

How are social and affordable housing assets valued?

Alongside determining an appropriate investment vehicle, investors also need a reliable means of valuing assets. There are two bases of valuation used in the social and affordable housing sector: Existing Use Value for Social Housing (EUV-SH) and Market Value Subject to Tenancies (MV-T). Both methods are set out in the Royal Institution of Chartered Surveyors' (RICS) Global Valuation Standards (Red Book Global Standards). Again, it is important to highlight that the financial accounting analysis (see Part 3) uses PRP accounts where assets are typically held at cost and are not revalued to fair value each year. Therefore, the capital return component is largely missing from the analysis but will be a significant part of the total return for equity and debt investors. From an open-end fund perspective, the fluctuation in valuations is important as the fair market value of assets is used to set unit prices from which units will be created or redeemed.

i. Existing Use Value for Social Housing (EUV-SH): This method has been in use since Local Authorities began transferring assets in privately financed transfers with the methodology designed for this purpose. As with other valuation methods the valuation is an estimate of market price. It assumes a hypothetical sale between one RP to another on the basis that a unit will continue to be let at social/affordable rents in perpetuity, managed in accordance with the regulator's requirements, and the unit will not be sold with vacant possession value should it become void. Therefore, the value of an asset using this methodology will be significantly lower than if a market value 'vacant possession' valuation was adopted (MV-VP).

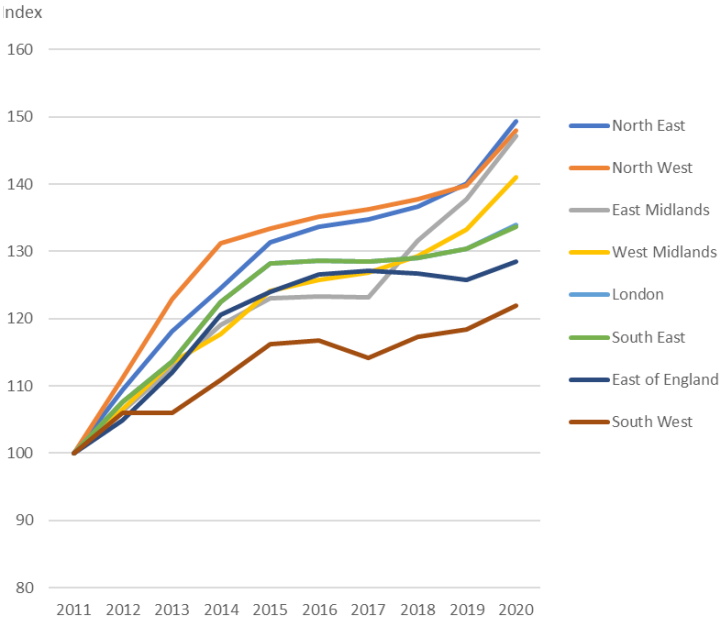
The EUV-SH valuation uses a discounted cashflow in perpetuity with the valuer making explicit assumptions over the various income and expenditure cashflow items as well as applying an appropriate discount rate. The valuer may also use comparable transaction evidence, where available, to arrive at an opinion of EUV-SH.

ii. Market Value – Tenancies (MV-T): This valuation basis varies from EUV-SH in that the valuer assumes that the owner is letting the units outside of the regulated sector and therefore is able to manage the assets differently (e.g. let at market rents, etc). This can create significant differences from the valuation under EUV-SH, particularly in markets where the difference between affordable and market rents is greatest. This is relevant to lenders as, in the event of a default on a loan, they could theoretically either manage assets or sell to a third party on this basis (depending on the covenants on the title deeds of the assets). For regions where the difference between EUV-SH and MV-T is higher this may imply lower risk due to greater downside protection in the event of a default.

JLL have provided an indicative time series of both EUV-SH and MV-T valuations based on regional portfolios of general needs accommodation (Figure 53). Whilst the small data sample limits the level of analysis that can be completed (particularly around comparisons of absolute value), the trend as represented by the change in values is a reasonable guide to regional trends in social housing valuations. Figure 53 indicates that the trend values in EUV-SH across regions is highly correlated and this is confirmed by an average correlation coefficient between the regions of +0.8. This suggests there may only be marginal benefits in geographical diversification within the sector. Given the national framework for setting rents it is perhaps unsurprising that values are highly correlated across regions.

Table 15 provides a regional comparison of the annualised change in both EUV-SH and MV-T valuations between 2011 and 2020. Under the EUV-SH basis, asset values have increased between 2.2% and 4.6% per annum. For the majority of regions, the growth rate in EUV-SH has been broadly matched with growth in MV-T (the ratio of MV-T / EUV-SH is close to 1). However, growth rates for the North East and South West are significantly different. Insufficient data is available to explain this finding and it cannot be ruled out that this is caused by portfolio-specific factors rather than systemic drivers of capital values. The other key finding is that MV-T valuations are more volatile than EUV-SH, with volatility for MV-T around 1.5-2.0x higher.

Figure 53: Regional EUV-SH indices, 2011-2020



Source: JLL

Please note that whilst the trend in values is indicative of trends in the sector, the small sample size limits the representativeness of the sector as compared to published commercial real estate indices.

> “An MV-T valuation basis assumes that the owner is letting the units outside of the regulated sector and therefore is able to manage the assets differently (e.g. let at market rents, etc). This can create significant differences from the valuation under EUV-SH, particularly in markets where the difference between affordable and market rents is greatest.

Table 15: Annualised change in valuations and volatility for EUV-SH and MV-T valuations, 2011-2020

	EUV-SH		MV-T		Ratio of MV-T / EUV-SH	
	%, pa	Std.Dev	%, pa	Std.Dev	%, pa	Std.Dev
London	3.3%	3.2%	3.4%	5.7%	1.02	1.80
South East	3.3%	3.2%	3.3%	4.9%	0.99	1.53
South West	2.2%	2.7%	4.0%	5.1%	1.81	1.93
East of England	2.8%	3.0%	3.7%	4.9%	1.30	1.60
East Midlands	4.4%	2.7%	4.3%	7.2%	0.98	2.67
West Midlands	3.9%	2.2%	3.6%	4.4%	0.92	1.95
North West	4.5%	4.2%	3.8%	4.8%	0.86	1.16
North East	4.6%	3.1%	0.9%	3.0%	0.19	0.97

Source: JLL, PFR

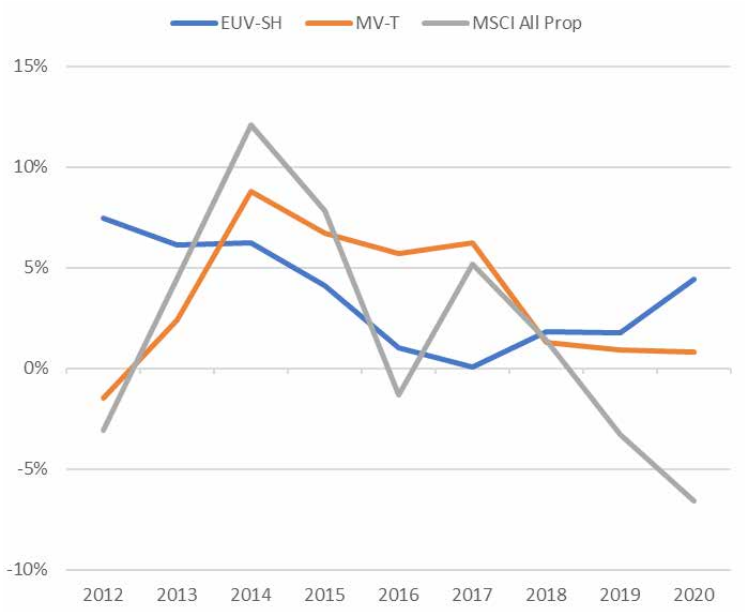
The North East MV-T growth of 0.9% pa is significantly below the rates observed in other regions. Due to the small sample size it could be that this reflects stock specific differences rather than systematic regional differences.

Figure 54 and Table 16 compare the change in EUV-SH and MV-T valuations across England with the change in valuations for UK commercial real estate. Since 2011, values have increased by 3.6% for EUV-SH and 3.4% for MV-T – this compares to 1.7% for commercial real estate. In terms of volatility, EUV-SH has the lowest standard deviation at 2.6% compared to 3.5% for MV-T and 6.0% for commercial real estate.

Over the short time period available, the change in capital values for social housing compared to equities and bonds indicates that the sector should provide some diversification benefits for investors, with a correlation to both asset classes of -0.1 (Table 16). Regarding commercial real estate values ('All Property' in Table 16), the EUV-SH basis had a correlation close to zero whereas valuations based on MV-T exhibited a high positive correlation of 0.8.

Over this period there is also evidence to indicate a strong positive correlation with changes in rental values and EUV-SH with a coefficient of +0.9 (Figure 55).

Figure 54: Annual change in valuations, EUV-SH, MV-T and commercial property, UK, 2012-2020



Source: JLL, MSCI

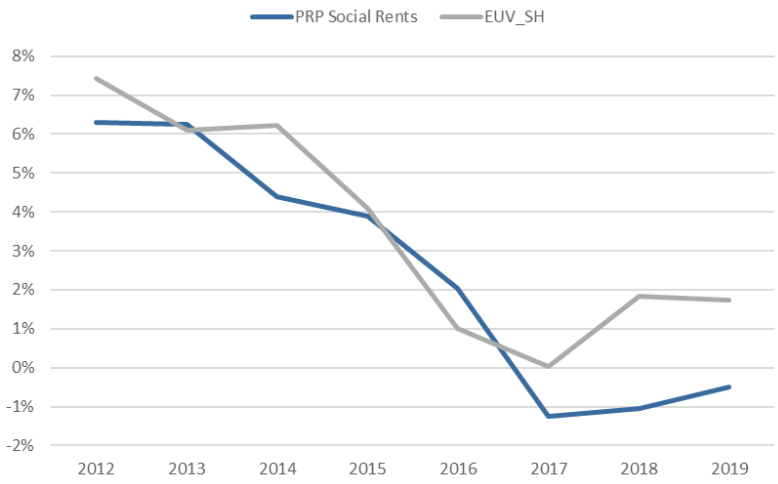
Table 16: England EUV-SH, MV-T and UK commercial property capital growth, %pa, 2012-2020

	EUV-SH	MV-T	All Property
Capital growth	3.6%	3.4%	1.7%
Standard deviation	2.6%	3.5%	6.0%
Correlation with Gilts	-0.09	0.31	
Correlation with Equities	-0.06	-0.01	
Correlation with All Property	-0.01	0.81	

Source: JLL, MSCI, PFR

"Over the short time period available, the change in capital values for social housing compared to equities and bonds indicates that the sector should provide some diversification benefits for investors, with a correlation to both asset classes of -0.1.

Figure 55: PRP social net rent and EUV-SH annual growth, 2012-2019



Source: JLL, Regulator of Social Housing

If this relationship has held over the previous years, it is possible to use changes in rents to provide an indication of the potential diversification of the sector over a longer time period (Table 17). Feedback from interviews with market participants as part of this research indicates that this is a reasonable and realistic assumption: the change in rents was viewed as the main factor driving changes in EUV-SH valuations and the discount rates used in valuations were seen to be typically more stable than in other sectors.

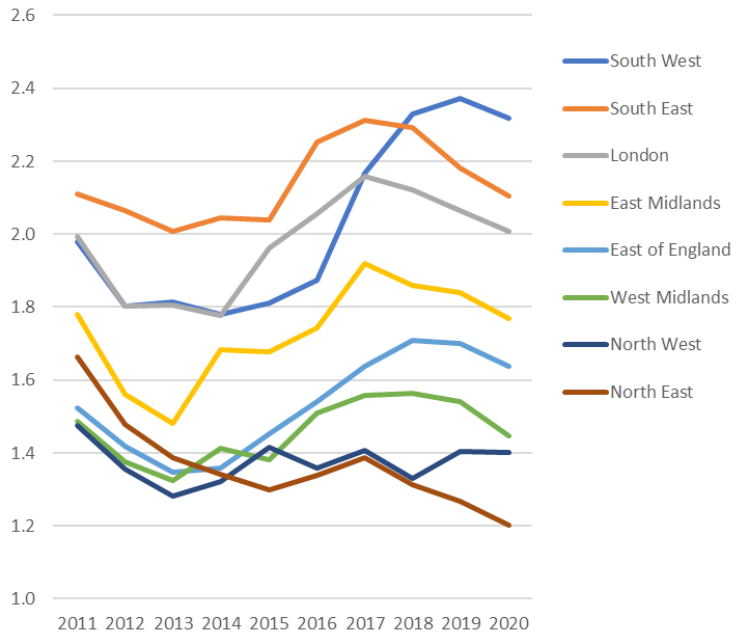
Table 17: Correlation matrix, bonds, equities total returns and private social housing rents, 2001-2019

	PRP bonds	PRP Rents	Gilts (nominal)	Gilts (Index-linked)	Equity	All Property (de-smoothed)
PRP bonds	1.00					
PRP rents	-0.04	1.0				
Gilts (nominal)	0.51	-0.07	1.0			
Gilts (index-linked)	0.73	-0.06	0.74	1.0		
Equities	0.38	0.15	-0.43	0.10	1.0	
All Property (de-smoothed)	0.25	0.16	-0.28	0.05	0.54	1.0

Source: Macrobond, PFR, Regulator of Social Housing, M&G, MSCI UK Annual Property Index, Bloomberg, FTSE All Share Index, FTSE Gilt All Maturities Index, FTSE Index-Linked Gilt All Maturities Index

The valuation data provided by JLL confirms that there can be significant differences in value depending on the methodology applied. Figure 56 indicates that (as expected given the methodological differences) MV-T valuations are higher than EUV-SH. Southern regions appear to have a significantly wider difference in values, with the MV-T 2.0-2.4x higher than valuations based on EUV-SH. This result is intuitive: the spread between private and social/affordable rents is typically wider in these regions too.

Figure 56: Regional MV-T multiple of EUV-SH



Source: JLL

Please note that whilst the trend in values is indicative of the region, the absolute level may not be representative due to the small sample size in each region.

Getting further input into market prices and yields

The commentary on transactions found in valuation reports for recently-issued public bonds provides further insight into transaction prices versus valuations for a portfolio of social and affordable housing assets. The valuer, Savills, comments as follows:

"Although the body of evidence is relatively small compared to the total RP stock in the UK and the market is still immature, we are able to derive a view of prices achieved for certain kinds of stock and lot sizes. Assuming sensible lotting of units in smaller batches of circa 100 units, bids between 5% to 30% above traditional EUV-SH levels are common for more modern stock in reasonable proximity to amenities.

In contrast it is apparent that for lots exceeding around 200 properties the prices achieved appear to be in line with the traditional cashflow approach to EUV-SH"[21]

Some transactional evidence can also be collected from publicly available bond valuation reports and transactions completed by REITs and published on the Regulatory News Service (RNS) (Table 18). Due to the tenure focus of the REITs, most transactions are for supported living homes where yields are typically around 100bps higher than for homes without supported living services. REITs also publish the quarterly net initial yield for their portfolios based on quarterly valuations (Figure 57 and Table 19). Using this evidence and talking with market participants, the net initial yield for standing investments is likely to be in the range of 3.5-4.5% for modern, higher-quality rented tenures. Shared-ownership assets tend to have lower net yields of 2.5-3.5%. This is similar to the levels currently being paid for private-rented sector assets (Table 20).

Adding to the complexity and difficulty in for-profit providers gaining scale in the sector is the fact that in some instances when portfolios are disposed of, the purchasers are restricted to not-for-profit providers. Clearly, this limits the opportunity set for for-profit providers but also reduces the significance of the transaction price where it may not be reflective of economic value. To date, for private capital the main route to assets has been through development of new homes rather than the acquisition of existing stock. However, there is an opportunity for FPRPs to acquire and improve existing homes from NPRPs which may support NPRPs in achieving their strategic goals of delivering more homes and improving the remaining homes.

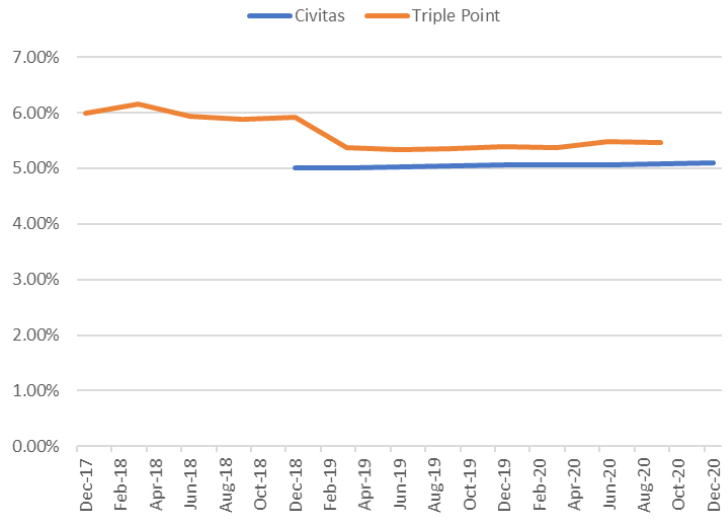
21 Circle Anglia Social Housing PLC, Revaluation of units related to the issue of £250,000,000 5.2% secured notes due 2044". [Online]. Available: https://www.clarionhg.com/media/2111/cash-2012-250m-520-2044-notes-valuation-savills-31-03-20.pdf, accessed Feb-2021

Table 18: Social and affordable housing transactions

Region	Gross Yield	Net Yield	Ave Value per unit	Ave of EUV-SH	Number of Units	Year	Tenure
England		4.7%	258,610	Not reported	331	2020	Supported living social housing
England		6.0%	184,783	Not reported	92	2017	Supported living social housing
England		6.3%	145,570	Not reported	79	2017	Supported living social housing
West Midlands & South East		6.0%	269,231	Not reported	13	2017	Supported living social housing
England		6.0%	178,431	Not reported	51	2017	Supported living social housing
England		5.8%	228,889	Not reported	225	2016	Supported living social housing
England		6.5%	Not reported	Not reported		2016	Supported living social housing
South East	5.5%		112,350	143%	55	2018	Social Housing
London	6.2%		97,900	148%	20	2017	Social Housing
South East	5.9%		116,600	130%	866	2017	Social Housing

Source: Valuation reports, RNS

Figure 57: REIT portfolio net initial yields



Source: Company reports

Table 19: Residential Secure Income REIT portfolio yields, September 2020

Tenure	Net initial yield
Retirement living rental	4.8%
Shared ownership	3.4%
Local Authority rental	5.3%

Source: Company reports

Table 20: Indicative private-rented sector yields, Q4 2020

Location	Quality	Gross Initial Yield	Net Initial Yield	Gross to net leakage
London Zone 2	Prime	4.25	3.25	31%
London Zone 3	Good Secondary	4.75	3.65	30%
London Zone 4	Secondary	5.25	4.00	31%
London Zone 3-6	Prime	4.75	3.50	36%
London Zone 3-7	Good Secondary	5.00	3.75	33%
London Zone 3-8	Secondary	6.00	4.50	33%
Outer London/South East	Prime	5.00	3.75	33%
Outer London/South East	Good Secondary	5.25	4.00	31%
Outer London/South East	Secondary	7.00	5.25	33%
Prime Regional Centres	Prime	5.75	4.25	35%
Prime Regional Centres	Secondary	6.25	4.75	32%
Other Regional Centres	Prime	6.00	4.50	33%
Other Regional Centres	Secondary	7.75	5.75	35%

Source: CBRE

ASSESSING RISKS

Part 5 - Assessing risks: Understanding the risks of social housing investment

We have seen some of the benefits that social and affordable housing can potentially deliver to an institutional portfolio. But due diligence also requires a comprehensive understanding of the risks that this relatively young - and therefore less familiar - asset class also presents.

In short

- Government regulation of social and affordable rents mean revenues and cashflows can be affected by changes in both housing and wider government policy, including changes to the benefits system.
- Investing in social and affordable housing carries specific risks – a high number of individual assets and tenancies can make it more resource-intensive to manage than conventional commercial real estate.
- The cost of maintaining assets day-to-day, meeting changing health and safety standards and one-off expenses can have big implications for net operating margins and requires adequate underwriting.
- Investors have to navigate the potential reputational risk that comes with investing in a basic human need (housing) and be ready for increased levels of scrutiny from government, tenants, communities, regulators, and media.
- Tenures linked to private market trends (e.g. low-cost home ownership sales, outright sales, and private-rented homes) tend to be more volatile than social/affordable rented tenures.
- Although the planning process for residential assets can be riskier and lengthier, the supply-demand imbalance for residential means lower letting risk than for many commercial real estate sectors.

Below we highlight key risks associated with investing in social and affordable housing. Some of these are specific to the sector; others can be more generally applied across asset classes but are relatively high or low in social and affordable investments. Investors in the sector can also use the Regulator of Social Housing's annual sector risk profile[22] to identify significant sources of risk for Registered Providers.

1. Changes in wider government policy

Government policy in areas outside rental policy may have negative risks for cashflows from social and affordable housing. For instance, the introduction and rollout of Universal Credit and the freezing of Local Housing Allowance (LHA) in cash terms from 2021/2022 is anticipated to see a rise in rent arrears for the sector. For example, the freeze in LHA means that a higher proportion of rent will have to be met by income from tenants.

The government may also introduce new tenures, and this may have an impact of reducing the pool of newly completed homes which are institutionally investable. For example, First Homes is expected to reduce the supply of new build affordable rented homes.

Government-mandated requirements to improve the environmental performance of stock also introduces additional investment requirements above those that had been assumed during an investor underwriting process.

Changes to government policies including in the National Planning Policy Framework (NPPF) can materially impact the attractiveness of the sector. For instance under the NPPF (and reflected in s106 agreements) there is a requirement that proceeds from the sale of affordable housing be reinvested in the reprovision of affordable housing.

2. Increased granularity and complexity across tenures versus commercial real estate sectors

This report has adopted a top-down view of the risk and return characteristics of the sector and therefore has assumed in the financial analysis that an investor holds sufficient assets to create a fully diversified portfolio of social and affordable housing tenures. However, for an investor to achieve this it is important to note a couple of important differences compared to the development and management of commercial real estate portfolios.

Firstly, the wider residential rented sector can be characterised as more granular (i.e. a higher number of individual assets and/or tenancies to manage). This means that the day-to-day management of assets is arguably more resource-intensive than for assets in commercial real estate sectors with typically fewer assets and tenants.

Secondly, within the regulated rented sector there are additional complexities associated with ensuring that the investor has fully complied with all necessary regulations for each tenure type and associated services where necessary (e.g. supported living). This arguably places additional intensity on the management of homes as well as complexity during the initial underwriting of investments.

It also appears to be very challenging for new entrants into the market to achieve scale due to the low number of social and affordable homes that are available to acquire in the market. This is evidenced by the fact that just 0.3% of homes in the sector are managed by for-profit entities. This is a similar trend to that experienced by institutional investors in the UK's growing Build-to-Rent sector in the UK where securing existing standing investments has been difficult.

22 Regulator of Social Housing, Sector Risk Profiles, [online]. Available: https://www.gov.uk/government/collections/sector-risk-profiles.

3. Formula rent policy

As highlighted in previous sections, rents for the social and affordable housing sector are regulated by the government. There is clearly a risk therefore that a change in government policy could affect expected future revenues from the sector and therefore impact the ability of the sector to meet financial obligations (e.g. debt payments, lease payments, refurbishment/maintenance expenditure). For instance, the sector has just experienced a four-year period with a mandated 1% nominal decline in rental values. Although the current policy is to link rental increases to inflation-plus, there is clearly no guarantee that this will continue in the future. The fact that the Government had mandated rent reductions in the recent past has created evidence that variations away from the annual CPI related increases of rents are now possible and therefore a risk that needs to be estimated and priced.

The fact that the 1% rent reductions did not impact on shared-ownership homes (as rent reviews on these homes are contractual between tenant and landlord) means that portfolios which include a proportion of shared-ownership homes alongside rented homes help to mitigate the total exposure to government changes in longer-term rental inflation.

There is also additional risk for London based homes where the Greater London Authority determines the rental growth where rents are set by reference to London Living Rent and London Affordable Rent.

Also, there is a risk that in areas with below-inflation growth in private-rent values, social rents may start to converge with private-rented levels. Effectively, this would act as a cap on long-term income growth expectations for certain assets. Providers and legal owners of assets must also ensure that they are applying the rent policy correctly, being mindful that the regulator will scrutinise its application.

4. Underestimating the cost of maintaining quality accommodation

As with other real estate assets, the social and affordable housing sector has to invest in maintaining its existing stock to ensure that all homes meet the Decent Homes Standard as a minimum. As is the case with other regulations there is a high probability that these standards will be updated on an infrequent basis to reflect changing expectations. Underestimating the cost of major repairs and maintenance is a key area of risk for investors in the sector (although this is not unique to social housing and equally applies across real assets that suffer from depreciation and obsolescence risks).

Legal owners of homes let to tenants must also ensure tenant safety by meeting statutory health and safety obligations (e.g. gas, electrical and fire safety, energy efficiency). Again, this is an area of regulation that is constantly changing to ensure homes remain fit for purpose. The Grenfell Tower fire tragedy is perhaps the most recent and prominent example of the devastating impact on tenants that can occur through the poor choices made in the development/refurbishment and maintenance of assets. The Regulator of Social Housing reported that 94% of aluminium composite material had either completed or started remediation, compared to 64% in the private sector[23]. The draft Building Safety

23 Regulator of Social Housing, Sector Risk Profile 2020, [online]. Available: https://www.gov.uk/government/collections/sector-risk-profiles.

Rents for the social and affordable housing sector are regulated by government. There is clearly a risk therefore that a change in government policy could affect expected future revenues from the sector and therefore impact the ability of the sector to meet financial obligations.

> It is vital that investors adequately underwrite both day-to-day management and maintenance costs and more infrequent but potentially larger-scale capital expenditure that is necessary to ensure all homes remain safe for tenants.

Bill includes extensive reforms to building safety regulations that legal owners and RPs will need to adapt to, and undertake remedial capital expenditure where required. The sector is also going to have to deal with the increased costs of retrofitting homes to achieve the zero-carbon emissions targets set by the government. These issues illustrate that the life-cycle costs of residential assets can be significant and might be prone to under-estimation during competitive bidding, particularly if the stock is new build with limited near-term major capital outlays required.

Clearly, the implementation of these regulations on existing homes may have a negative impact on the net operating margin for existing homes. Therefore, any investor should carefully consider underwriting opportunities in the sector. Increased capital expenditure on existing homes is also likely to reduce the capital available within PRPs to finance additional housing.

In short, it is vital that investors in the sector adequately underwrite both day-to-day management and maintenance costs and more infrequent but potentially larger-scale capital expenditure necessary to ensure all homes remain safe for tenants.

5. Government finances and changes to welfare system

With a proportion of social and affordable (to a lesser extent) rent supported by the Department for Work and Pensions there is a clear link between the quality of rental cashflow and the credit quality of the central government. Therefore, if markets were to reprice the risk of sovereign debt due to a deterioration in the fiscal outlook, this would also impact the risk associated with rental payments in the sector.

The structure and changes to the benefit system are also a source of risk for the sector. Notably, the transition to Universal Credit (set to be complete by 2024) is expected to lead to higher rent arrears. The Benefit Cap may also be an issue for homes in high-rent regions and/or affordable rent tenures as a higher proportion of rent revenue might need to be sourced from tenants' employment income.

6. Reputational risk

Investors in the sector are providing a basic human necessity (shelter) rather than a discretionary good/service and will be predominantly entering into contracts with organisations with a social purpose, (typically structured as charities and not-for-profit organisations). The sector also provides homes to the most vulnerable members of society. This introduces additional risks regarding the enforcement of covenants in bonds and leases for profit, as well as increased levels of scrutiny from local and central government, tenants, local communities, regulators, and media. A key aspect of minimising reputational risk is ensuring that the risk (and therefore return) is correctly apportioned between the various parties, with the aim of allowing private capital to achieve a fair risk-adjusted return, rather than excessive risk-adjusted returns.

'Real estate as a service' is a mantra that is fast becoming the norm across UK commercial sectors but clearly applies equally (if not more so) to the residential sector. A high-quality provider will have an effective relationship with their tenants that promotes trust and accountability. This is particularly important for the sector where tenants include the most vulnerable members of society. Trusted operators of assets are likely to help minimise the reputational risk for private capital investors.

7. Tenure mix

PRPs generate revenue from a range of different tenures. PRPs with a higher proportion of revenue and capital receipts linked to private sector trends (e.g. low-cost home ownership sales, outright sales, and private-rented homes) tend to be more volatile than those linked to social/affordable rented tenures.

8. Planning and development risk

Arguably, the planning process for residential developments can be riskier than for other commercial sectors. There is likely to be more scrutiny and engagement with local stakeholders regarding the final design of a residential scheme and therefore more risk of delays.

However, given the structural imbalance between supply and demand and less cyclical occupier markets, there is arguably less letting risk with a residential development than with a speculative office development, for example. Therefore, if the design and construction of homes are of a suitable standard and configuration to meet demand, the risk of having vacant assets is probably lower.

9. Appropriate capital structure

To date, private capital for social and affordable housing has been predominantly raised through the issuance of public bonds. Equity investment is more limited and often viewed (in the authors' experience of talking with stakeholders in the sector) as a more expensive source of capital. The cost of debt has been very low due to the prevailing interest rate environment and PRPs have capitalised on this by raising public debt. However, it is important to consider what is an appropriate level of debt for the sector/individual PRPs to ensure long-term alignment of interests and financial stability. It is likely that a balanced approach to investment structures is required (i.e. a combination of both debt and equity) to finance the sector in a long-term, sustainable manner.

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A key aspect of minimising reputational risk is ensuring that the risk (and therefore return) is correctly apportioned between the various parties, with the aim of allowing private capital to achieve a fair risk-adjusted return, rather than excessive risk-adjusted returns.

PORTFOLIO CONSTRUCTION

Part 6 – Portfolio construction: Devising a framework for optimal asset allocation

This report has outlined the potential cashflow and risk diversification benefits of social and affordable housing investments. But investors will want to know the likely impacts on their wider investment portfolio before diverting capital to this asset class. This final section therefore seeks to provide some assessment on how allocations to social housing assets may be used to change and, potentially, improve the risk-reward profile of an investment portfolio on a long-term, forward-looking basis.

In short

- Using the risk characteristics explored in previous sections, a forward-looking framework is presented for assessing the impact of allocating capital to the social and affordable housing sector via equity and debt.
- Using the capital asset pricing model and mean-variance optimisation techniques, an efficient frontier is constructed with and without investment in social housing debt/equity.
- By including the social housing asset class in a portfolio, the risk-adjusted return can be improved, delivering a higher expected return for a given level of risk.
- The efficient frontier for portfolios with social housing is higher for all but the highest-risk portfolio, where higher risk and return asset classes dominate allocation.
- The widest difference between the two frontiers is found at lower risk levels, indicating that investment in social housing provides the greatest benefit for lower risk capital.
- When repeating the exercise for a portfolio of private equity real estate assets (commercial and residential), the inclusion of social housing significantly improves the estimated equilibrium efficient frontier. Again, this is most evident for lower risk portfolios.

It is important to note that these assumptions are the authors' estimates of expected future risk and return characteristics and are not empirically derived from observable historic total returns (this is due to the lack of total return data for the social/affordable housing sector). Therefore, the analysis should be viewed as an informed opinion regarding the authors' expectations of equilibrium market conditions, given the analysis on cashflows risks for each tenure versus other asset classes. As with all forward-looking analysis, there is inherent uncertainty around the inputs. From an asset allocation perspective, it is more important to focus on the robustness of the relative, rather than absolute, values of the inputs as errors in the relative characteristics would likely lead to larger errors in allocations.

Estimating total return expectations

Forming our theoretical basis for the sector is the capital asset pricing model, with reference to the model proposed by Singer & Terhaar (1997)[24]. This allows us to estimate an equilibrium total return expectation for a diversified portfolio by reference to each asset's estimated beta (systematic risk), total risk (volatility), correlation and integration with global capital markets, and the price of risk (Sharpe ratio, which is equal to 0.25% for this analysis).

An illiquidity premium is also estimated using a put option pricing model[25]. In this model, the illiquidity premium is equal to the cost of insuring against a fall in capital values during the period from when a decision is made to sell an asset and time to complete. Illiquidity is estimated using the Black Scholes option pricing model; key factors in determining the premium are the time to complete a transaction and the volatility of the asset.

Determining our risk and return assumptions

Table 21 provides a summary of the inputs and the outputs of our estimation of long-term capital market assumptions for key asset classes including social and affordable housing equity and debt. The outputs are in respect of a fully diversified portfolio. Clearly, both required and expected returns can and will vary significantly at the individual asset level depending on specific risk factors.

Because of the immaturity of the social housing investment market in England and subsequent lack of long-term historic data, the inputs to the models are based on a qualitative comparison with the risk and return characteristics of other asset classes for which more robust parameters can and have been estimated. Below we explain some of our key capital market assumptions for social housing assets as shown in Table 21.

24 Singer, B. and Terhaar, K. 1997, "Economic Foundations of Capital Market Returns", The Research Foundation of The Institute of Chartered Financial Analysts.

25 Staub, R and Diermeier, 2003, "Segmentation, Illiquidity and Returns", Journal of Investment Management, Vol. 1, No. 1, 2003.

Table 21: Indicative long-term capital market assumptions

Asset Classes	Volatility	Correlation with global capital market	Integration with global capital market	Lockup Period (years)	Long-term nominal growth	Risk Premium	Illiquidity Premium	Total Risk Premium*
UK Equity	16.0%	0.8	80%	0.0	3.0%	3.5%	0.0%	3.5%
UK Gilts	7.3%	0.4	80%	0.0	n/a	1.0%	0.0%	1.0%
UK Real Estate**	14.5%	0.4	70%	1.0	0.8%	2.5%	0.5%	3.0%
Retail	15.0%	0.4	65%	1.0	0.6%	2.3%	0.5%	2.8%
Office	16.5%	0.5	70%	0.7	1.0%	2.5%	0.5%	3.0%
Industrial	15.5%	0.4	65%	1.0	0.8%	2.4%	0.5%	2.9%
Private-Rented Residential	13.0%	0.3	60%	1.0	1.5%	1.9%	0.4%	2.3%
Social Rented Equity	11.0%	0.2	45%	1.5	2.0%	1.8%	0.4%	2.1%
Affordable Rented Equity	11.8%	0.3	45%	1.5	2.0%	2.0%	0.4%	2.3%
LCHO Equity	12.5%	0.3	45%	1.5	3.0%	2.3%	0.4%	2.6%
Social/ Affordable Rented Debt	8.3%	0.4	55%	0.5	n/a	1.3%	0.2%	1.6%

Source: PFR, Staub[26]

*risk premium over the return on cash
** This represents the weighted average of the sectors to reflect weights in the MSCI UK Annual Index.
Please see the technical appendix for further explanation and a worked example of how the various inputs are used to calculate the outputs.

26 Staub, R., 2005, "Capital Market Assumptions", Global Investment Solutions, UBS.

Table 22 then builds up the expected total return and implied equilibrium income yield for the asset classes, where the total return is the sum of the real risk-free rate, inflation, and total risk premium, with the income yield estimated by deducting nominal income growth (real growth + inflation) from the total return.

Table 22: Equilibrium total return and net income yield expectations

Asset Class	Real Risk Free Rate	Inflation	Total Risk Premium	Long-term nominal growth	Equilibium Total Return	Equilibrium Net Income Yield
Retail	1.00%	2.00%	2.8%	0.6%	5.9%	5.3%
Office	1.00%	2.00%	3.0%	1.0%	6.2%	5.0%
Industrial	1.00%	2.00%	2.9%	0.8%	6.0%	5.2%
Private-Rented Residential	1.00%	2.00%	2.3%	1.5%	5.4%	3.9%
Social-Rented Equity	1.00%	2.00%	2.1%	2.0%	5.1%	3.1%
Affordable-Rented Edquity	1.00%	2.00%	2.3%	2.0%	5.3%	3.3%
LCHO Equity	1.00%	2.00%	2.6%	3.0%	5.6%	2.6%
Social/ Affordable-Rented D	1.00%	2.00%	1.6%	n/a	4.6%	n/a
UK Equity	1.00%	2.00%	3.5%	3.0%	6.5%	3.5%
UK Gilts	1.00%	2.00%	0.9%	0.0%	4.0%	4.0%

Source: PFR

> Because of the immaturity of the social housing investment market in England and subsequent lack of long-term historic data, the inputs to the models are based on a qualitative comparison with the risk and return characteristics of other asset classes, for which more robust parameters can and have been estimated

1. Volatility assumptions

For debt investments our analysis supports the assumption that the market has a similar risk characteristic to that of UK government gilts and index-linked gilts. We also know that the credit rating of such bonds indicates that the debt is high institutional quality (single A). However, we also know that social housing bonds are typically long-dated paper which means that they are likely to have higher duration risk than most government bonds. A volatility assumption of 8.3% is used for socially/affordable rented debt to reflect the relative risk to nominal UK gilts (7.3%).

For private equity investment in standing investments, the risks of the social housing sector compared to the commercial real estate are assumed to be lower. In terms of cashflows, social housing has the characteristics of a high-quality earnings sector: rents are not sensitive to changes in GDP, occupancy rates are high, and rent collection rates are high even in times of significant economic contraction. But we also know that the risk should be higher than investing in a senior debt position secured against the same asset. The volatility of private equity social housing investments should therefore sit between commercial real estate and PRP bonds. Given inflation-linked high-quality earnings the risk should sit closer to PRP bonds on the risk-return spectrum.

Differentiating between the different residential tenures is again a qualitative assessment of the relative risks explored in this report. Of particular importance are figures 36 and 37 that show the variation in profit margins for different tenures.

Social-rented tenure

- Lowest risk tenure.
- Highest proportion of rental income funded by housing benefit payments within regulated rent tenures.
- Changes in valuation impacted more by rental growth than changes in discount rates.

Affordable-rented tenure

- Rental payments typically funded by tenant's employment. This increases the risk of the quality of cashflows from the social housing sector as the ability to pay the rent is more intrinsically linked to the economic cycle.
- Initial rent is typically set in reference to the prevailing private market rent (up to 80% of private rental values) which in turn is more intrinsically linked to the strength of the local economy. Subsequent changes in rent are typically subject to the government rent formula.
- Changes in valuation impacted more by rental growth than changes in discount rates.

Low-cost homeownership

- Highest risk from social and affordable tenures: greater proportion of returns are generated through capital growth rather than rental payments.
- First tranche sales are lower risk than staircasing events as the homes are purchased below market value by the housing association and with greater certainty as to the timing of the sale.
- Subsequent staircasing events are subject to greater uncertainty in both timing and value of cashflows. Capital receipts have greater correlation to those in the private housing for sale sector which is higher risk than rental tenures.

Private-rented tenure

- Capital values and rental growth are intrinsically linked to the economic cycle with historically strong correlation between unemployment levels, house price and rental growth.

In line with the evidence presented in this report, it has been assumed that social rented tenures are lower risk than affordable rented tenures, which in turn is less risky than low-cost home ownership tenures. This is reflected in the risk premiums detailed in Table 21.

2. Integration with global capital investment markets assumptions

An assessment of the extent to which a market is integrated with global capital markets is purely a qualitative professional judgement for all asset classes. Global equities and bond markets for the UK can be assumed to be highly integrated with global capital and an integration rate of 80% (on a scale of 0-100%) has been adopted in previous models (Staub, 2005). UK commercial real estate also has experienced strong non-domestic capital flows and therefore has a relatively high degree of integration (70%). Clearly, the social and affordable rented housing market is immature by comparison and therefore requires a significantly lower integration rate. But relatively speaking, the social housing private equity market is less integrated than the social housing public debt market, given the latter has grown significantly and already has large institutional investors investing in it. Therefore, the authors have assumed low integration rates of 45% for social, affordable and LCHO equity investment and a moderately higher rate of 55% for social housing bonds.

3. Illiquidity premium assumptions

In real estate, the lock-up period refers to the estimated time it would take from deciding to sell to completing a transaction. Previous work has placed the lock-up period for UK real estate at 1 year. Therefore, due to lower liquidity, the lock-up period in the social rented equity market must be higher. Over time, as more private capital enters the market, the time to transact would be expected to decline. Readers may note, however, that the illiquidity premium for social rented equity in Table 21 is lower (0.4%) than for the commercial sector ('UK Real Estate', 0.5%). This is due to lower assumed volatility for the social rented sector. Lower volatility means that there is a smaller range of expected changes in price that can occur during the lock-up period and therefore less return is required to compensate the investor for the risk of holding the asset for this period.

4. Long-term growth assumptions

For regulated rental tenures the long-term income growth is assumed to match the CPI index, which is lower than the current rent policy of CPI+1%. The rationale for assuming a lower growth rate in perpetuity is that: (i) the impact of compounding a 1% real growth might be seen as unsustainable and (ii) for regions with lower rental growth in private rents a 1% real growth in regulated rents may see the spread between private and regulated rents narrow (for example, social rents are typically 50% of private rents but would rise should regulated rents rise faster than private sector rents). CPI is assumed to hit the Bank of England's target rate of 2% over the long-term.

For low-cost home ownership long-term growth of 1% real has been assumed due to a higher proportion of capital growth generated through changes in house prices rather than rent. These capital receipts should increase in line with private house prices which is assumed to be around 2% real on a forward-looking basis. Historically, since 1946 real house prices have increased by 2.8% per annum[27] and this includes a period of growth since the mid-90s where real house prices have increased by 4% per annum. The authors are assuming that this exceptional growth is unlikely to be sustainable due to the easing of the tailwinds for the market of falling interest rates and higher population growth that occurred in this period. To arrive at a long-term growth rate of 1% per annum the authors have assumed that 50% of the growth comes from capital receipts and 50% from income growth (set at 0% to match inflation).

27 Inflation and house price statistics sourced from the Bank of England's "A Millenium of macroeconomic data. Available: https://www.bankofengland.co.uk/statistics/research-datasets. Accessed Dec 2020.

Determining an equilibrium strategic portfolio allocation

To understand how equity and debt investment in social and affordable might fit into a portfolio, we have used a mean variance optimisation model to determine the impact that adding these asset classes has on the efficient frontier for, respectively, a multi-asset portfolio and a pure real estate equity portfolio. The long-term equilibrium assumptions for the respective asset classes are set out in Tables 23 and 24. To estimate equilibrium total return, we must add the return on risk-free assets to the respective risk premium (as shown in Table 21). The authors have assumed a real risk-free rate of 1.0% and inflation of 2.0%, with the nominal risk-free return equal to 3%.

The correlation coefficients are based on historic relationships estimated using social housing rent/EUV-SH for social/affordable rented, house prices for shared ownership, and the estimated PRP bond market total returns.

Table 23: Equilibrium covariance matrix for setting strategic asset allocation – multi-asset

Asset Class	Equilibrium Total Return	Equilibrium Expected Risk	UK Equity	UK Gilts	UK Real Estate	Social/ Affordable Bonds	Social/ Affordable Housing Portfolio
UK Equity	6.5%	16.0%	1.00				
UK Gilts	4.0%	7.3%	-0.43	1.00			
UK Real Estate	6.0%	14.5%	0.5	-0.28	1.00		
Social/ Affordable Bonds	4.6%	8.3%	0.19	0.87	-0.15	1.00	
Social/ Affordable Housing Portfolio	5.3%	11.1%	0.15	-0.07	0.30	0.05	1.00

Source: PFR, Staub[28]

Social and affordable housing portfolio comprises 40% social rented, 40% affordable rented and 20% low-cost home ownership.

Table 24: Equilibrium covariance matrix for setting strategic allocations – real estate equity

Asset Class	Equilibrium Total Return	Expected Risk	Retail	Office	Industrial	Private Rented	Social/ Affordable Housing Portfolio
Retail	5.9%	15.0%	1.00				
Office	6.2%	16.5%	0.80	1.00			
Industrial	6.0%	15.5%	0.75	0.86	1.00		
Private Rented	5.4%	13.0%	0.71	0.68	0.47	1.00	
Social/ Affordable Housing Portfolio	5.3%	11.1%	0.13	-0.01	-0.24	0.31	1.00

Source: PFR
Social and affordable housing portfolio comprises 40% social rented, 40% affordable rented and 20% low-cost home ownership.

28 Staub, R., 2005, "Capital Market Assumptions", Global Investment Solutions, UBS.

Given the respective size and maturity of the investable universe, and the sensitivity of mean-variance optimisation models to small changes in inputs, it is necessary to introduce some reasonable restrictions to the potential range of allocations for asset classes. This aims to provide a more practical and reasonable output that may be more indicative of the role an asset may play in a portfolio. The restrictions for the models shown here are as follows:

Multi-asset

- No short selling
- Equities: Maximum 70%, minimum 20%
- Gilts: Maximum 70%, minimum 10%
- UK Real Estate: Maximum 25%; minimum 5%
- Social/affordable bonds: Maximum 5%, minimum 2%
- Social and affordable equity: Maximum 5% and minimum 2%

UK real estate equity

- No short selling
- Retail: Maximum 50%, minimum 10%
- Office: Maximum 50%, minimum 10%
- Industrial: Maximum 50%, minimum 10%
- Private-Rented: Maximum 50%, minimum 5%
- Social and affordable equity: Maximum 50% and minimum 0%

With the preceding assumptions and restrictions on the mean-variance optimisation solution, two efficient frontiers can be created: one without the social/affordable equity and bond asset classes and another that includes them.

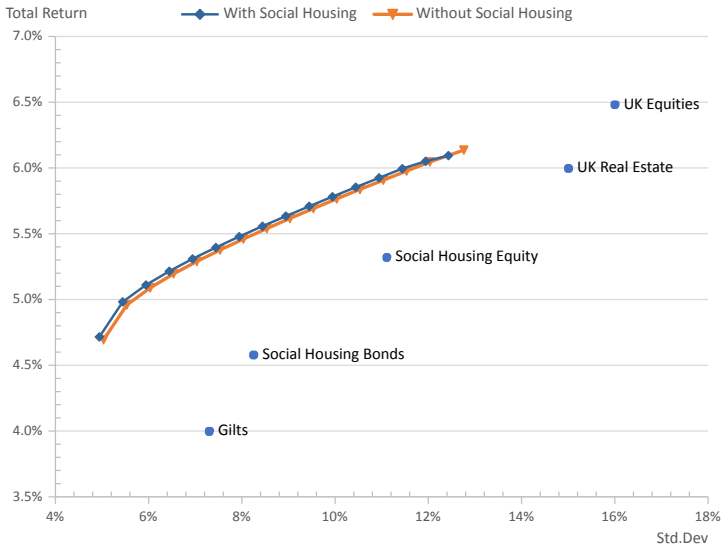
Given the risk characteristics (low correlation, medium volatility) and smaller size of the social and affordable asset class it would be expected that the addition of both social housing bonds and equity would improve the efficient frontier (shifting the curve upwards and to the left), particularly at low-medium risk levels given the respective position on both the security and capital market lines .

> The lower correlation between social housing equity and other asset classes means that our model allocates the maximum weight of 5% for all but the highest risk multi-asset portfolios on the efficient frontier where allocations to higher risk and return asset classes dominate.

1. Impact on a multi-asset portfolio

Figure 58 shows that by including social housing asset class in a multi-asset portfolio's strategic allocation, the risk-adjusted return should improve, with the efficient frontier moving up and to the left (i.e. a higher expected return for a given level of risk). The relatively small difference between the two efficient frontiers is due to the relatively low maximum allocation to social housing, reflecting its significantly smaller investable universe compared to other, more mature asset classes. The efficient frontier for portfolios with social housing is higher for all but the highest risk level where the higher risk-return asset classes dominate allocation. The widest difference between the two frontiers is found at lower risk levels.

Figure 58: Multi-asset portfolio's efficient frontier with and without social housing equity investments

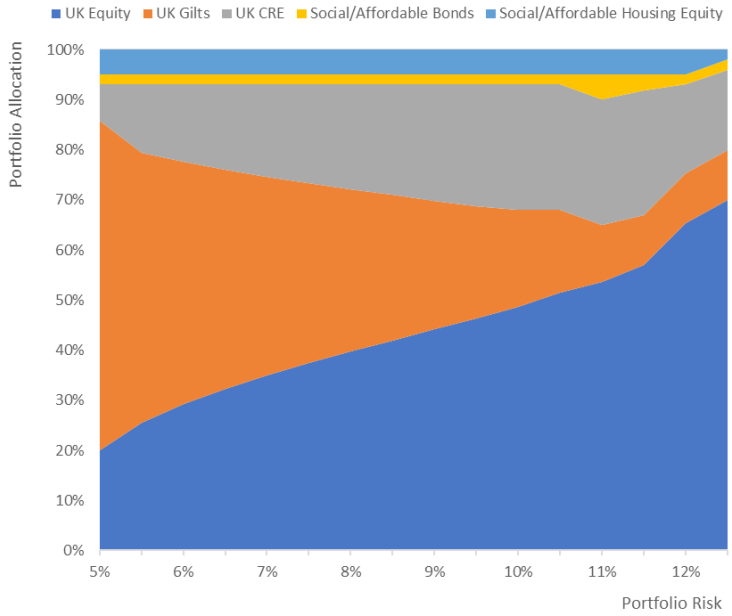


Source: PFR

In terms of an optimal percentage allocation between social housing equity and bonds, the lower correlation between social housing equity and other asset classes means that our model allocates the maximum weight of 5% for all but the highest risk multi-asset portfolios on the efficient frontier (Figure 59). For social housing bonds, the high correlation to bonds (0.87) and low positive correlation of (0.2) with equities means that allocations to the asset class is predominantly at the minimum allocation of 2%. As investors move up the risk curve then the allocation to social housing bonds does increase to 5% for some portfolios (partly by reallocating from UK government gilts), acting as a higher-returning diversifying investment. For investors seeking higher risk portfolios the allocation to equity rises and replaces bonds and (bond-like) asset classes including social housing.

However, if the correlation of social housing bonds to equities was assumed to be marginally negative (-0.2) on a forward-looking basis then the allocation to social housing bonds would also be the maximum of 5%. This illustrates the sensitivity of a mean-variance optimisation to small changes in inputs and why reasonable restrictions on the model need to be imposed to account for the fact that they are estimates rather than empirical facts.

Figure 59: Multi-asset allocation for different risk portfolios



Source: PFR

2. Impact on a real estate equity portfolio

Figure 60 shows that by including social housing assets in a real estate equity portfolio, the risk-adjusted return is again improved with the efficient frontier moving up and to the left (i.e. a higher expected return for a given level of risk). However, the impact is more significant than in the multi-asset portfolio context with the sector acting as a strong diversifier of risk. This is primarily due to the assumed low correlation with pro-cyclical commercial real estate sectors and less restrictive constraints on the maximum allocation to social/affordable tenures. Again, given the lower risk-return characteristics of the social housing sector, the impact is most evident at lower portfolio risk levels.

In terms of percentage allocations in a real estate equity portfolio, the model allocates up to 50% (the maximum permitted) to social and affordable at the lowest portfolio risk levels (Figure 61). The allocation then reduces in a linear fashion as the portfolio risk increases with less than 5% allocated to social and affordable within the highest risk portfolio.

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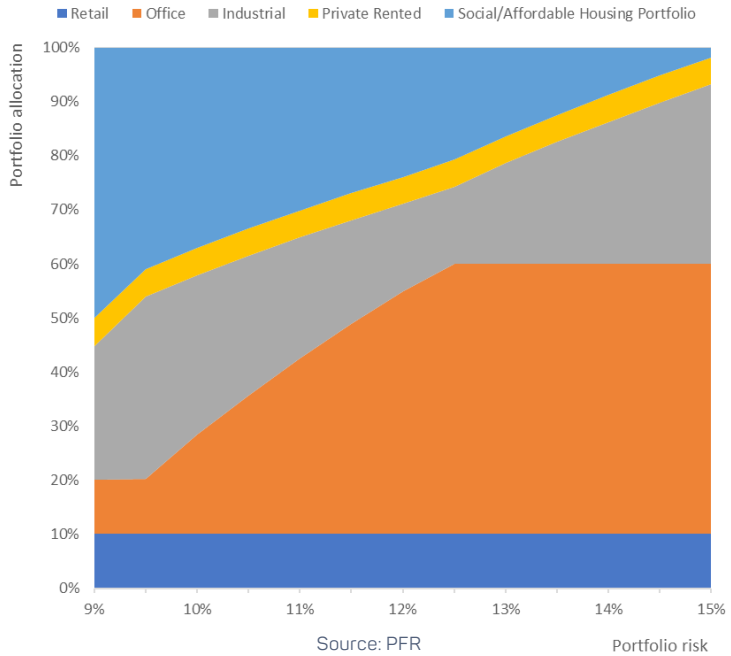
By including social housing assets in a real estate equity portfolio, the risk-adjusted return is improved. However, the impact is more significant than in the multi-asset portfolio context with the sector acting as a strong diversifier of risk.

Figure 60: Real estate private equity efficient frontier with and without social housing bond and equity investments

Source: PFR

Figure 61: Real estate equity allocations for different risk levels



Source: PFR

FINAL THOUGHTS

Conclusion

This research has explored the social and affordable housing sector and attempted to assess the investment characteristics from a pure financial perspective (this report has not reflected on potential ESG and impact characteristics of the sector).

As with the wider residential market, social and affordable housing tenures have supply and demand imbalances. With public capital for investment declining, there is a clear role for private capital in financing the much-needed investment.

Our research indicates that this investment should offer attractive risk and return characteristics for both debt and equity investors. From a cashflow perspective the benefits of the sector are broadly summarised as:

- Stable income driven by low voids, low bad debts, and low tenant turnover.
- Low sensitivity to changes in the economy with strong rent collection levels through economic crises.
- Strong, positive relationship with changes in inflation with annual rent reviews typically linked with inflation indexes.

Where private capital has been active in the sector for several years, is via the public debt market. The credit rating for these bonds is typically single A. The average maturity at issuance is high at 25-30 years, indicating that the duration risk will also be higher. Investors in the sector have benefited from declining interest rates, with market values rising significantly as bond yields have fallen from around 5.5% in 2010 to 1.8% by the end of 2020. Although private sector debt has increased as a source of capital to the sector, overall credit fundamentals remain strong: interest coverage ratios have stayed at around 1.6-1.8x and net gearing ratios at 35-40% over the past five years.

Public equity opportunities in the social housing sector include specialist real estate investment trusts (REITs) such as Civitas Social Housing PLC, Triple Point Social Housing REIT, Residential Secure Income PLC, and Home REIT. Historic performance of public equity is limited. But the performance of these REITs during the Covid-19 pandemic versus REITs operating in other sectors suggests investors have recognised the stability of their underlying cashflows. Share prices for social housing focused REITs have outperformed traditional commercial sector REITs since February 2020.

Private equity investment into social and affordable housing is growing gradually. Whilst a range of operating models between the private capital and PRPs exist, there are broadly two ways for investors to obtain equity exposure to the sector: (i) by becoming a registered provider and owning stock (either as a principal or through a fund), and (ii) through lease-based providers. For instance, L&G and Blackstone have established FPRPs to operate affordable tenures that have been funded through their balance sheet capital. This differs from unlisted funds where third party capital is aggregated and invested by the fund manager primarily through adopting a lease-based operating model.

Using the capital asset pricing model as a framework to estimate forward-looking risk and return assumptions, an efficient frontier was estimated for multi-asset and real estate portfolios to analyse the impact of adding debt and equity social housing assets. It was found that adding both debt and equity social housing investments increased the risk-adjusted return of portfolios across the efficient frontier with the greatest impact evident for lower-risk portfolios (i.e. portfolios with social housing assets should achieve a higher return for a given risk level than portfolios without these asset classes).

Investment into social housing assets – whether through debt or public and private equity – is still in its infancy. But the attributes that we have outlined in this report suggest it may become an increasingly significant component of institutional investment portfolios seeking strong, stable and diversified cashflows, underpinned by good credit fundamentals and low correlation to other sectors of the property market and the broader economy.

However, there are unique challenges and risks that investors need to understand and innovate to solve or mitigate to achieve the scale of investment required to meet the demand for new homes.

- The sector requires resource-intensive day-to-day management to manage the high number of assets and/or tenancies. This granularity can be exacerbated by the complexities associated with meeting required standards and regulations which in turn will vary depending on the ultimate occupant's needs. New entrants need to carefully plan how to invest and at the same time achieve operational efficiency.
- A key area of real and perceived risk for investors in the sector is the impact of government regulation. A change in government policy will always be regarded as a risk as it could affect the expected future revenues from the sector and therefore impact the ability of the PRPs to meet financial obligations.
- Investors in the social and affordable housing sector will have to set aside a sizeable budget to maintain its existing stock and to ensure that all the homes meet the Decent Homes Standard which will no doubt evolve over time to capture changing trends and expectations especially regarding energy efficiency and sustainability.
- The social and affordable housing sector provides homes for some of the most vulnerable members of society. A conflict can exist between the need to provide safe and good quality homes for people versus the need to provide an agreed level of return from investors' commitments – investors who could ultimately be pensioners and savers who are dependent on these returns. There is a very real reputational risk for investors and fund managers to manage, how they will manage the enforcement of covenants in bonds and leases for profit, as well as increased levels of scrutiny from local and central government, tenants, local communities, regulators, and media. The only way to minimise the potential fall-out from this is to ensure that the risk (and therefore return) is correctly apportioned between the various parties, with the aim of allowing private capital to achieve a fair risk-adjusted return, rather than excessive risk-adjusted returns.

Technical appendix

Additional detail on the calculations of the long-term capital market pricing assumptions.

Risk Premium

The Singer-Terhaar model[29] uses a combination of two CAPM models. The first assumes that all asset classes are fully integrated, and therefore uses a single global market portfolio to estimate a risk premium for all assets (Equation 1). The second model assumes that all markets are segmented and therefore should be priced without regard for other countries and/or asset classes or opportunities for diversification (Equation 2). In this model, the asset class is treated as its own market portfolio (i.e. correlation and Beta both equal 1). The final risk premium is a weighted average of the two models using an estimate as to the degree to which an asset class is integrated with the global market portfolio. The Sharpe ratio (i.e. the compensation for a unit of risk) has historically been estimated as being close to 0.30[30]. For this study, a Sharpe ratio of 0.25 was used for both segmented and integrated models.

Equation 1: Integrated risk premium

$$RP_i^G = \beta_{i,GM} RP_{GM} = \rho_{i,GM} \sigma_i \left(\frac{RP_{GM}}{\sigma_{GM}} \right)$$

Equation 2: Segmented risk premium

$$RP_i^S = 1 \times RP_i^S = 1 \times \sigma_i \left(\frac{RP_i^S}{\sigma_i} \right)$$

Equation 3: Weighted average of integrated and segmented risk premium

$$RP_i = \varphi RP_i^G + (1 - \varphi) RP_i^S$$

Notes

RP = Risk Premium

GM = global market capitalisation weighted market portfolio

σ = volatility of asset class

ρ= correlation coefficient

ϕ= degree of integration of the asset class with the GM (referred to in this report as the integration rate)

Illiquidity premium

To arrive at the total risk premium for illiquid assets classes, a premium is added to compensate investors for this additional portion of risk not reflected in the above equations. There are many different approaches to estimating an illiquidity premium, the authors have chosen to use a put option approach where the discount for illiquidity should equal the value of a European put option with the exercise price set as the market value. The price of the option is estimated using the Black-Scholes model[31]. The lockup period referred to in this study is used to define the time to expiration for the calculation. All other required inputs have been pre-defined as part of the inputs for long-term risk and return estimations.

29 Singer, B. and Terhaar, K. 1997, 'Economic Foundations of Capital Market Returns', The Research Foundation of The Institute of Chartered Financial Analysts.

30 Singer, B. and Terhaar, K. 1997, 'Economic Foundations of Capital Market Returns', The Research Foundation of The Institute of Chartered Financial Analysts.

31 Black, F. and Scholes, M. 1973, "The Pricing of Options and Corporate Liabilities", Journal of Political Economy, 81 (3), 637-654.

To provide additional transparency and clarity, an example calculation has been provided below.

Social Rented Equity Equilibrium Estimates

Inputs
Real Risk Free Rate = 1.0%
Price of Risk (Sharpe Ratio) = 0.25
Inflation = 2.0%
Volatility = 11%
Long-term real growth rate = 0%
Correlation with global investment market = 0.2
Integration rate = 45%
Lockup period = 1.5

The risk premium is estimated using a three step process.

1. An integrated risk premium is estimated (equation 1) where the output is the product of the sector volatility (11%), correlation with global investment market (0.2) at the price of risk (0.25).

Integrated risk premium = 11% * 0.2 * 0.25 = 0.55%

2. Then the segmented risk premium is estimated (equation 2) where the output is the product of the sector volatility (11%) and the price of risk (0.25)

Segmented risk premium = 11% * 0.25 = 2.75%

3. The sector risk premium is then calculated as a weighted average of the integrated risk premium (0.55%) and the segmented risk premium (2.75%) with the integration rate (45%) as the weighting factor.

Risk premium = (0.55% * 45%) + (2.75% * (1-45%)) = 1.76% (rounded to 1.8% in table 21).

The illiquidity premium (0.4%), that is estimated using the Black Scholes option pricing model to value a put with the illiquidity premium equal to rate required to compensate an investor for the cost of the put is then added to the risk premium to arrive the total risk premium for the sector.

Total risk premium = 1.76% + 0.40% = 2.16% (rounded to 2.2% in table 21)

With a risk premium now estimated, other long-term equilibrium assumptions can be estimated, with the long-term total return equal to the real risk-free rate (1.0%) plus inflation (2.0%), plus total risk premium (2.2%).

Equilibrium total return = 1.0% + 2.0% + 2.2% = 5.2%

To arrive at an equilibrium yield for the sector one can then deduct the nominal long-term growth rate from the equilibrium total return. With the nominal growth rate estimated as the real growth rate (0%) plus inflation (2.0%).

Equilibrium income yield = 5.2% - 0.0% - 2.0% = 3.2%

Optimisation sensitivity

Whilst mean variance optimisation is a useful model in helping investors determine appropriate allocation policies, one of the criticisms of the model is that allocations can be very sensitive to relatively small changes in inputs, expected return, volatility, and correlations.

Out of these inputs, it is changes in expected returns that has the most significant impact on the optimal allocations. To address this specific issue the authors adopted an equilibrium approach to modelling expected returns, where the expected return is a function of the expected risk of an asset class. This ensures that there are no outliers in terms of expected risk-adjusted returns that could significantly impact on the allocations. If there were outliers, then the model by design seeks to take advantage of this mispricing in risk and over/under allocate accordingly.

In this study the key inputs are therefore the expected volatility and correlation of asset classes. To provide readers with a sense of allocations under less favourable inputs for social and affordable housing assets the authors have re-run the optimisation process for both multi-asset and under two scenarios:

- Volatility increased by 10%, correlations unchanged (e.g. a volatility of 10% would increase to 11%).
- Volatility unchanged, correlations increased by 0.3 (e.g. a correlation of +0.2 would increase to +0.5).

Given the explicit link between risk and return in our equilibrium model (assumed equilibrium Sharpe ratio of 0.25) it is expected that the allocations should be more sensitive to changes in correlation than volatility. For clarity, in both scenarios it is only the social housing assets that are changed with the inputs for the other asset classes remaining unchanged.

Multi-asset analysis

Higher volatility scenario

As expected, under the higher volatility scenario for social housing assets, there is very little change in the results of optimal allocations.

- Social housing assets move the efficient frontier above that of portfolios without (but the difference is limited due to the maximum and minimum constraints on the allocations).
- The allocations to social housing bonds increase from 2% to 5% (maximum allowed) for mid-risk portfolios. This is due to a higher return (due to increased expected risk) combined with bond-like correlations with other asset classes.

Figure 1: Multi-asset efficient frontier for higher volatility scenario

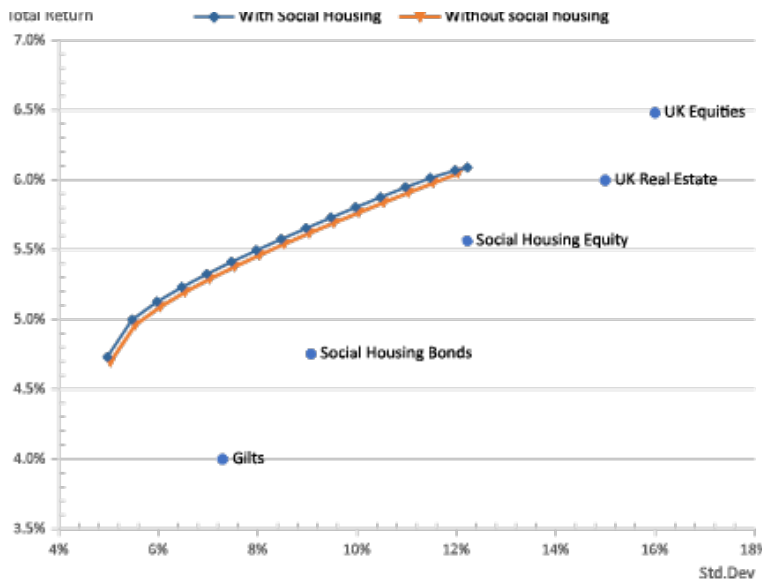
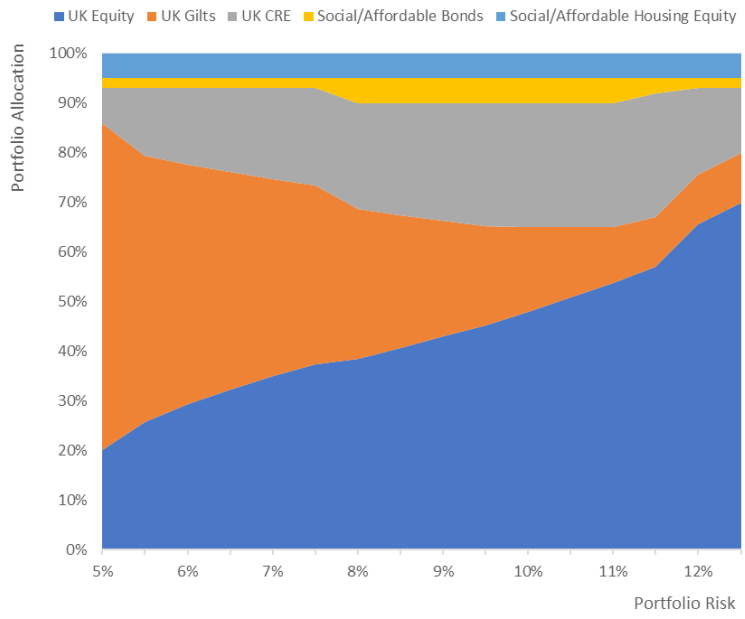


Figure 2: Multi-asset allocations for higher volatility scenario



Higher correlation scenario

Under the scenario where social housing assets are more positively correlated with other asset classes the impact of including social housing is effectively removed. The portfolios achieve a near identical return at similar risk.

At the asset allocation level, a similar trend is observed to the base scenario with allocations of social bonds at 2% and allocation to social housing equity at 5% for all but the extreme high-risk portfolios. The main difference is that in the higher correlation scenario at the lower risk portfolios the allocation to the sector is also reduced (for social housing equity) due to the reduced diversification impact this asset class has on portfolios.

Figure 3: Multi-asset efficient frontier for higher correlation scenario

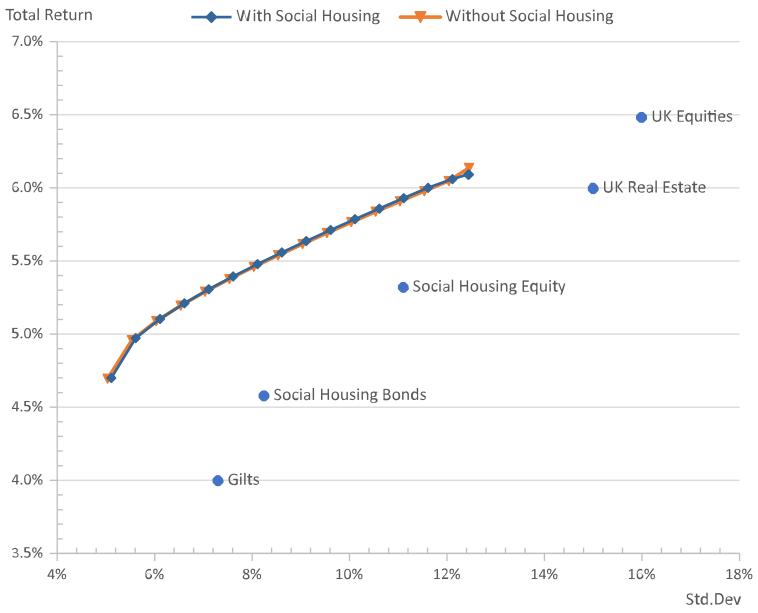
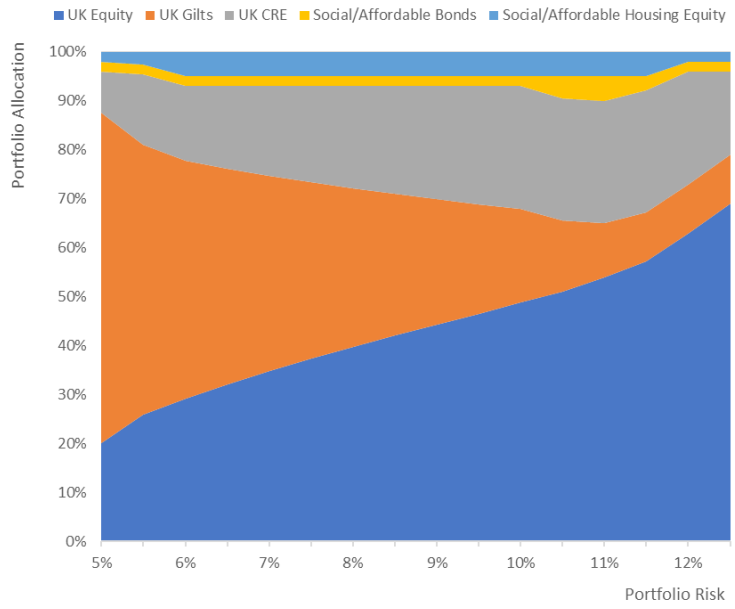


Figure 4: Multi-asset allocations for higher correlation scenario



Real estate equity analysis

Higher volatility scenario

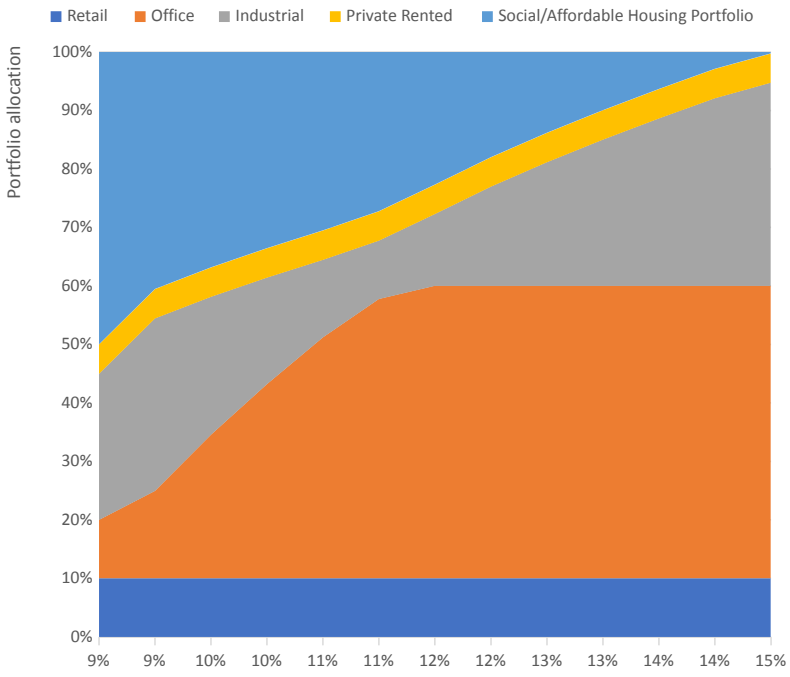
Under this scenario:

- The minimum variance portfolio (portfolio on the efficient with the lowest volatility) is higher at 8.9% versus 8.6% for the base scenario.
- The asset mix from lowest through to highest risk portfolios remains practically identical.

Again, this result is as expected given that the portfolio variance is a function of the weighted average risk of assets and the diversification impact driven by the correlations.

Figure 5 Real-estate equity efficient frontier for higher volatility scenario

Figure 6 Real-estate equity allocations for higher volatility scenario



Higher correlation scenario

Under the higher correlation scenario:

- The impact is a reduction of the diversification impact of adding the social housing assets to the portfolio. The risk is higher across the efficient frontier (i.e. the frontier moves down and to the right) and increases the risk of the minimum variance portfolio (8.6% to 10.2%).
- The asset allocation mix also changes with the allocation to social housing equity lower by around 2-6% in lower risk portfolios and by 8-12% for higher risk portfolios. For lower risk portfolios the reduced allocation to social housing is replaced by private rented residential assets. For higher risk portfolios the reduced allocation is replaced predominantly by industrial assets.

Figure 7 Real-estate equity efficient frontier for higher correlation scenario

Figure 8: Real-estate equity allocations for higher correlation scenario