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RESEARCH

The Size and Structure of the UK Property Market: End-2020



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The Size and Structure of the UK Property Market: End-2020

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This Programme supports the IPF's wider goals of enhancing the understanding and efficiency of property as an investment. The initiative provides the UK property investment market with the ability to deliver substantial, objective and high-quality analysis on a structured basis. It encourages the whole industry to engage with other financial markets, the wider business community and government on a range of complementary issues.

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The Size and Structure of the UK Property Market: End-2020

Report

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The Size and Structure of the UK Property Market: End-2020

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FOREWORD

The IPF first published research into the size and structure of the UK property market in 2005, establishing a method of estimation and compiled data to provide breakdowns by property type, location and investor type, as well as comparing the investment market with the size of the overall UK stock of commercial property and other investment markets.

Following a major review (The Size and Structure of the UK Property Market 2013: A Decade of Change), published by the IPF in 2014¹, the research has been the subject of revision annually between 2014 and 2018 and is one of the most frequently downloaded reports from the IPF's extensive Resource Library.

The brief given to the Research Team from the Cambridge Real Estate Research Centre was to undertake a thorough assessment of methodologies and data sources underpinning the research, given the changes in the UK property market sectors and investment structures since 2013, prior to producing the next (end-2020) report.

This research, as it has always been, was a challenging process that reflects a number of issues in getting reliable data in private real estate markets, the lack of transparency of parts of the real estate market and the complexities of ownership structures. As noted in the report that follows, some official estimates and data that were provided by private sector providers used in previous editions are no longer available. In some places, these estimates are informed by other sources or have been carefully assembled from individual company or fund reports, accounts and websites. Elsewhere, these estimates have had to be based on previous editions of this report with updates based upon market movements, transactions and estimates of capital expenditure. In particular, the estimates for individuals and private property companies (both UK and overseas) are more uncertain than other UK investor type data and the aggregate stock estimates.

During the preparation of the report, the Research Team had discussions with individuals responsible for preparing government statistics at the Office for National Statistics (ONS) and the Valuation Office Agency (VOA) to ensure there is an understanding of the methodological issues and underlying source data and to discuss potential improvements. Several other organisations have played an important role in trying to address some of the challenges of this research. These include MSCI, Real Capital Analytics, CoStar, Property Funds Research and INREV. MSCI continues to play a key role in benchmarking and tracking institutional real estate performance of real estate. Real Capital Analytics captures commercial property transactions above £5m. CoStar similarly captures transactions of different owners and owner types. Property Funds Research provides information and consultancy advice on funds and INREV captures part of the European fund universe. The support and help of these organisations and the ONS and VOA are very much appreciated.

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¹ <https://www.ipf.org.uk/resourceLibrary/the-size-and-structure-of-the-uk-property-market-2013--a-decade-of-change--march-2014-.html>

1. EXECUTIVE SUMMARY

This report provides an overview of the size and structure of the UK property market as at the end of 2020 and follows a series of reports, first produced in 2005 and updated annually from 2013 to 2018. It uses various sources of public and private information to arrive at estimates of the value and volume of real estate in the UK.

The report considers two main estimates of the stock of real estate.

- Total stock – all property types and including owner-occupied real estate; and
- Invested stock – that owned by institutions and other larger scale professional investors².

As shown in Table 1.1, the total value of residential and commercial real estate at the end of 2020 is estimated to be £8.1tn. Of this, £918bn relates to commercial property.

Table 1.1: Estimates of Value of Property in the UK, End-2020 (£bn)

Retail	271
Office	263
Industrial	283
Other Commercial	101
All Commercial Property	918
Residential Property	7,234
Residential + Commercial Real Estate	8,152
ONS Land, Buildings and Structures	9,881

Source: Author (Nick Mansley) estimates from Valuation Office Agency, Scottish Assessors Association, MSCI and ONS

Over the last two years, the retail sector has fallen in value by over 20% reflecting rental growth patterns and yield movements whilst the industrial sector has increased in value. As a result of these changes, the industrial sector is now the largest commercial property sector for the first time.

Of the £918bn in commercial property it is estimated that £508bn is held by investors. Overseas investors account for around 30% of this.

The directly held UK commercial property investments of UK insurers (£42bn) and pension funds (£43bn) combined to amount to approximately 16% of this invested universe but they both hold substantial additional investments indirectly. In the case of UK insurers, there is also very significant exposure to unlisted debt and their overall exposure to real estate through equity and debt combined is estimated at approximately £150bn. UK pension funds hold most of their real estate investments indirectly and overall property investment is estimated at £100bn (excluding debt).

² Referred to elsewhere within this report as 'institutional'.

1. EXECUTIVE SUMMARY

The value of the residential property stock is estimated at £7.2tn at the end of 2020. Over the two years from 2018 to 2020, residential property increased in value by 10% whilst the value of the commercial property stock is estimated to have fallen by 9%. Over the 20 years from 2000 to 2020, the value of all residential property is estimated to have increased by 259% (6.6% p.a.) whilst the value of commercial property is estimated to have increased by 76% (2.8% p.a.).

There are estimated to be 5.41m dwellings in the private rented sector (PRS) in the UK with an estimated value of £1,284bn with London accounting for £522bn (41%) of this. Institutional investment remains a small part of this (c.3.3%) but it is growing rapidly. 'Institutional' ownership of PRS is estimated at £43bn at end-2020 compared to only £10bn in mid-2013.

The Build to Rent sector (BtR) is expanding particularly quickly with an estimated 54,670 completed units at the end of 2020 (up by 77% on end-2018) and this is likely to account for over a third of the total PRS invested stock. The pipeline of BtR units suggests the number of completed BtR units is likely to exceed 100,000 in the next few years.

There has also been an increase in investment in affordable and other housing types which is estimated at approximately £10bn at end-2020. The purpose-built student accommodation market size is estimated at approximately £61bn, with the invested stock estimated at £34bn.

Total 'institutional' residential investment, including student accommodation, is estimated at approximately £87bn. Overseas investors are estimated to account for around 28% of this, although they are also significant investors in the UK collective investment vehicles, listed and private companies that invest in the residential market.

2. INTRODUCTION

2.1 Objectives and Structure of the Report

The report aims to give an overview of the size and structure of the UK property market, providing information on both the scale of the industry and what different types of investors own within the UK property market.

Section 3 sets out estimates for the value of all property stock and the value of all commercial property. Section 4 focuses on investment property, particularly commercial property investments and the ownership by different investor types. Section 5 examines the residential investment market and some of the 'alternative' sectors.

2.2 Definitions

The report uses two main measures of real estate:

- The **total stock** of property: this is a comprehensive measure including owner-occupied property, UK public sector owned property and all property owned by investors; and
- The **invested stock**: that owned and held in large-scale professionally managed investment portfolios.

In addition, investable stock is a measure of the total stock of real estate in sectors that are typically within the scope of investment. This includes commercial real estate and parts of residential but excludes owner-occupied housing as well as public sector real estate.

In terms of property types the report uses these definitions which are broadly consistent with the MSCI definition:

- **Retail** covers shops, shopping centres, retail warehouses, supermarkets, department stores and factory outlets as well as car showrooms and garden centres. Restaurants, pubs, and cafes are also included in the MSCI definition of retail – and this broader Retail, including food and beverage premises (F&B), definition is used in this report (recognising that many high streets, shopping centres and retail warehouse parks are very much a combination of retail and F&B).
- **Office** includes all types of office building. Data and computer centres are included within the Office definition in this report (in line with the Valuation Office Agency (VOA), but MSCI includes them with industrial).
- **Industrial** includes distribution warehouses, standard industrial units and workshops. This also includes storage facilities including self-storage.
- **Other commercial** covers hotels, cinemas and theatres, holiday sites and other leisure, car parks and other commercial.
- **Other non-residential** includes predominantly public sector assets, e.g. health and education, community centres, courts, and prisons etc., heavy industry and utilities.
- **Residential** includes all types of housing and flats including retirement housing and student accommodation.

These definitions are consistent as far as possible with those used in previous editions of the IPF Size and Structure report but differ from some used by the Office for National Statistics (ONS) and government agencies as outlined in Appendix A.

2. INTRODUCTION

The main UK investor types used in the analysis in the UK are consistent with those used in previous editions of the report, e.g., insurance companies include insurance company managed property funds and unit-linked life and pension funds. The focus of the investor type analysis is to identify the holdings of those investors with larger portfolios and the report does not attempt to provide a picture of the full pensions market including self-invested personal pensions (SIPPs) or identify the ultimate beneficial owners of all collective investment vehicles and real estate investment trusts (REITs) etc.

2.3 Acknowledgements, Sources and Methods.

The report uses government and industry data sources. During the preparation of the report there has been discussion with individuals responsible for preparing the government statistics to ensure there is an understanding of the methodological issues and underlying source data and to discuss potential improvements and the author is grateful to the ONS and VOA for their help. MSCI and specially commissioned Real Capital Analytics (RCA) data have been used, as well as data and information from S&P Capital IQ, CoStar, Property Funds Research, INREV and several other organisations. Thank you to all of these organisations.

Appendices A, B and D contain more details on the sources and the methods used, the calculations and some discussion of the reasons why estimates will differ. There is inevitably a reliance on quality of the data inputs as well as the appropriateness of the assumptions made and the figures in the report are simply estimates reflecting a particular set of adjustments and assumptions. Obtaining comprehensive and reliable estimates for the market and its structure remains very challenging. Indeed, in several areas, the availability and reliability of data have worsened over the past few years. The report aims to highlight where there is more uncertainty about estimates.

3. UK COMMERCIAL REAL ESTATE AND THE REAL ESTATE UNIVERSE

3.1 UK Commercial Real Estate

This section sets out estimates of the total value of commercial real estate including both owner-occupied and invested stock and high-level estimates of the value of all real estate. Details and discussion of the methodology is contained in Appendix A. Table 3.1 sets out estimates for commercial stock in the UK at end-2020.

Table 3.1: Total Commercial Stock, End-2020

	Retail Shop	F&B	Retail incl. F&B	Office	Industrial	Other Commercial	All Commercial
Floorspace (m sq.m)	120	28	148	97	384	68	698
Rental value (£psm)	137	137	137	181	46	90	88
Rental value (£bn)	16.5	3.8	20.4	17.6	17.6	6.2	61.7
Reversionary yield			7.5%	6.7%	6.2%	6.1%	6.8%
Capital value (£bn)			271	263	283	101	918

Source: Author's own estimates from VOA, Scottish Assessors Association (SAA), MSCI

The VOA estimates that floorspace has edged slightly lower in the retail sector over the past two years (-0.5%) but that there has been a more marked decline in office space (-3.0%) whilst floorspace in the industrial (+0.7%) and other sectors (+1.5%) has increased.

Figure 3.1: Value of Commercial Real Estate Stock, 2000-2020



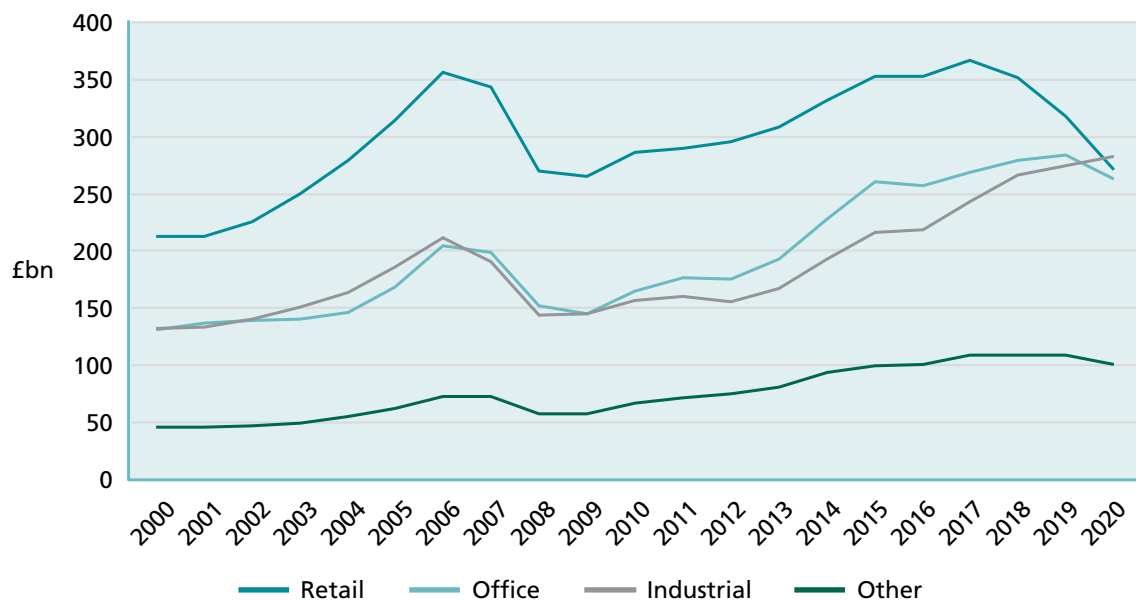
Source: Author's own estimates based on data from VOA, SAA and MSCI

3. UK COMMERCIAL REAL ESTATE AND THE REAL ESTATE UNIVERSE

Rents have fallen sharply in the retail sector and yields have increased and consequently the value of Retail in the UK has declined by over 20% over the past two years. The industrial sector has increased in value to become the largest sector of the UK property market.

Figure 3.2 shows estimates of how the value of the different commercial sectors has changed over time. Looking over the longer term, the total commercial stock is estimated to have increased in value by 75% over the last 20 years. The retail sector has shown by far the weakest growth of only 27% over this period (1.2% p.a.), whilst offices (3.5% p.a.), industrials (3.7% p.a.) and other sector (4.0% p.a.) have all increased by over 100%. This compares with a general price index (CPI) increase of 49% (2.0% p.a.), indicating that the value of the retail sector has fallen significantly in real terms over this period whilst the values of the stock of offices, industrial and other commercial properties have increased in real terms.

Figure 3.2: The Value of Commercial Real Estate Stock by Sector, 2000-2020



Source: Author's own estimates based on VOA, SAA and MSCI

3.2 Residential and the Total Real Estate Stock

The total value of residential real estate in the UK is estimated to be £7.2tn as at end-2020. The total commercial and residential real estate stock is estimated to be £8.1tn. This combines the ONS estimates for residential with the commercial real estate stock estimate above. The breakdown of this is shown in Table 3.2, along with the estimate for other land, buildings and structure that gives a broader real asset stock value (this includes infrastructure structures and associated land).

3. UK COMMERCIAL REAL ESTATE AND THE REAL ESTATE UNIVERSE

Table 3.2: Total Real Estate and Real Assets, End-2020 (£tn)

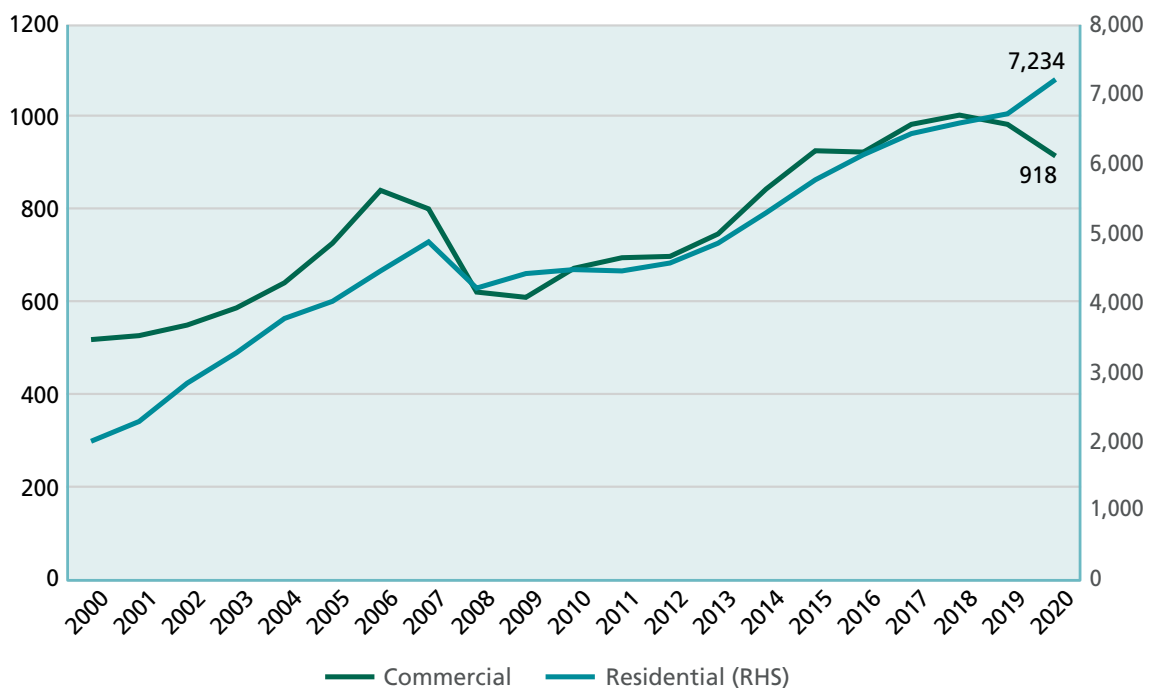
Residential	7.2
Commercial	0.9
Other Land, Buildings and Structures	1.8
Total Land, Buildings and Structures	9.9

Source: ONS and Author's own estimates

The ONS estimates of the value of real estate and the approach differ by asset type. Prices paid are used for the residential sector whilst a rent and historic yield approach is used for commercial real estate. The ONS approach to commercial real estate is described in more detail in Appendix A. The ONS figures for dwellings are used here. The ONS estimate of government (central and local) ownership of non-residential buildings amounted to 25% of the total. Most of this government-owned property, however, is non-commercial based on the definition used in this report, e.g., NHS and local authority schools and colleges.

Figure 3.3 shows estimates of the growth of the total value of commercial and residential property over time. The value of commercial property has increased from £522bn to £918bn between 2000 and 2020, a growth rate of 2.8% p.a. Over this period, the value of residential property (right hand scale) has increased from £2,014bn to £7,234bn, a growth rate of 6.6% p.a.

Figure 3.3: Value of Commercial and Residential Property, 2000-2020 (£bn)



Source: ONS and Author's own estimates based on VOA, SAA and MSCI

3. UK COMMERCIAL REAL ESTATE AND THE REAL ESTATE UNIVERSE

3.3 Construction Activity

The changes in floorspace noted in Section 3.1 reflect the combined effects of new construction activity less the removal of space because of demolition / withdrawals and change of use. Over the last four years, the value of construction output across the commercial sector as defined for this report has averaged around £30bn p.a. 2020 was markedly lower than the previous three years, down 19% on 2019. Around 90% of this construction output has been for work for the private sector. The breakdown of this construction output (for both owner-occupied and investment property) is shown in Table 3.4.

Table 3.3: Construction Output – New Work for Public and Private Sectors, 2017-2020 (£bn)

	Shops	Entertainment	Office	Industrial	Total Commercial
2017	5.8	8.2	12.8	4.9	31.8
2018	5.9	9.5	10.5	5.6	31.5
2019	5.1	9.7	10.8	6.0	31.6
2020	3.5	8.2	9.4	4.5	25.6

Source: Author's own estimates from VOA, Scottish Assessors Association (SAA), MSCI

Given the reduction in the overall stock of office floorspace of 3% (see Table E.2), these construction figures imply a significant amount of withdrawal of office space from the market.

Commercial construction activity compares with an average over the past four years of £42.2bn p.a. of construction output related to new dwellings.

Total construction activity (new work) over the last 20 years (unadjusted for inflation) is £521bn for housing, £195bn for offices, £124bn for shops/garages, £123bn for entertainment (F&B, theatres, cinemas, film studios, sports facilities and stadia and other leisure and recreation facilities) and £94bn for industrial properties (factories and warehouses). For comparison, construction activity on infrastructure was £276bn and other buildings e.g., health, education, agriculture-related was £294bn. Commercial construction activity has accounted for around one third of all new construction activity over the past 20 years.

4. INVESTED STOCK

4.1 Introduction and Overview

This section considers the investment stock, particularly that held by institutional and other larger professionally managed investors. Section A.2 in the Appendix B gives more detail on the sources and methods used. MSCI, Property Funds Research (PFR), Real Capital Analytics (RCA) and CoStar have all provided information that has supported this analysis, in addition to information from the ONS, European Association for Investors in Non-Listed Real Estate Vehicles (INREV), Association of Real Estate Funds (AREF), Association of British Insurers (ABI), Pension Protection Fund (PPF) and individual organisation report and accounts.

The investment mix of real estate investors has broadened over time (including more residential exposure) and this section reflects that, discussing overall exposure to investment property as well as the commercial property investment component. Residential investments including privately rented, affordable housing, retirement and other specialist housing, student accommodation and healthcare are considered further in Section 5. Table 4.1 focuses on commercial property investment.

Table 4.1: UK Commercial Property Investment by Investor Type

Investor Type	Commercial £bn	Share (%) of Comm'l	Comment
UK Insurance Company Funds	42	8	Overall unlisted property investment (equity and debt) approx. £150bn. approx. £20bn of NAV exposure in collectives and overseas, approx. £16bn UK collective investment vehicles
UK Pension Funds	43	8	UK private DB total property investment of approx. £80bn (approx. £4bn overseas). UK LGPS total property investments of approx. £28bn (approx. £4bn overseas). Overall UK property investment of just over approx. £100bn of which £44bn is directly held (£43bn commercial), with the remaining £56bn held in UK collective investment vehicles
UK & CI Pooled Investment Vehicles	83	16	UK institutions, particularly pension schemes, are the main investors. UK institutions are estimated to have approx. £72bn NAV in UK collective investment vehicles
Of which: MSCI/AREF	54		Property Assets (UK & CI domiciled funds only)
UK REITs	76	15	This includes share of JV ownerships but excludes share of collective investment vehicles.
UK Private Property Companies	52	10	Based on updating previous estimates using transactions data from RCA and other sources.
UK Traditional Estates	21	4	
UK Other	34	7	
UK Total	352	70	
Overseas SWF/Govt	28	5	Based on updating previous estimates using transactions data from RCA and other sources.
Overseas Institutions	13	2	
Overseas Funds	47	9	Estimated using data from PFR and INREV
Overseas REITs & Listed RE Companies	20	4	Based on updating previous estimates using RCA and other data
Overseas Private Companies & Individuals	28	5	
Overseas Other	21	4	
Overseas Total	156	30	

Note: Totals may not coincide with sum of constituent figures due to rounding

Source: Author's own estimates based on data from MSCI, RCA, PFR, INREV, CoStar and other sources

4. INVESTED STOCK

Overall, the invested commercial property stock of £507bn is estimated to account for around 56% of the total stock of commercial property.

4.2 UK Insurance Companies

Table 4.2: Insurance Company Real Estate Investments (excl. Loans), 2018-2020 (£bn)

	Total	Direct	Indirect
2018	67.4	47.4	20.1
2019	69.4	48.8	20.6
2020	68.1	47.8	20.2

Note: Totals may not coincide with sum of constituent figures due to rounding

Source: Author's own estimates based on ONS and ABI

Insurance companies are estimated to have had approx. £48bn of direct investments in real estate and a further approx. £20bn of indirect investment through private collective investment vehicles at end-2020. After making deductions for directly held residential and overseas investments, **the UK direct commercial investment estimate is £42bn.**

Insurance companies are estimated to have approx. £80bn of loans on commercial real estate as well as being investors in both real estate debt securities (bonds) and REITs. In aggregate, UK insurance companies are estimated to have exposure to UK real estate of well over £150bn. Whilst insurance companies' direct investments as a share of the overall real estate investment universe have fallen over the last two decades, they continue to be very important players in the UK real estate market.

4.3 UK Pension Funds

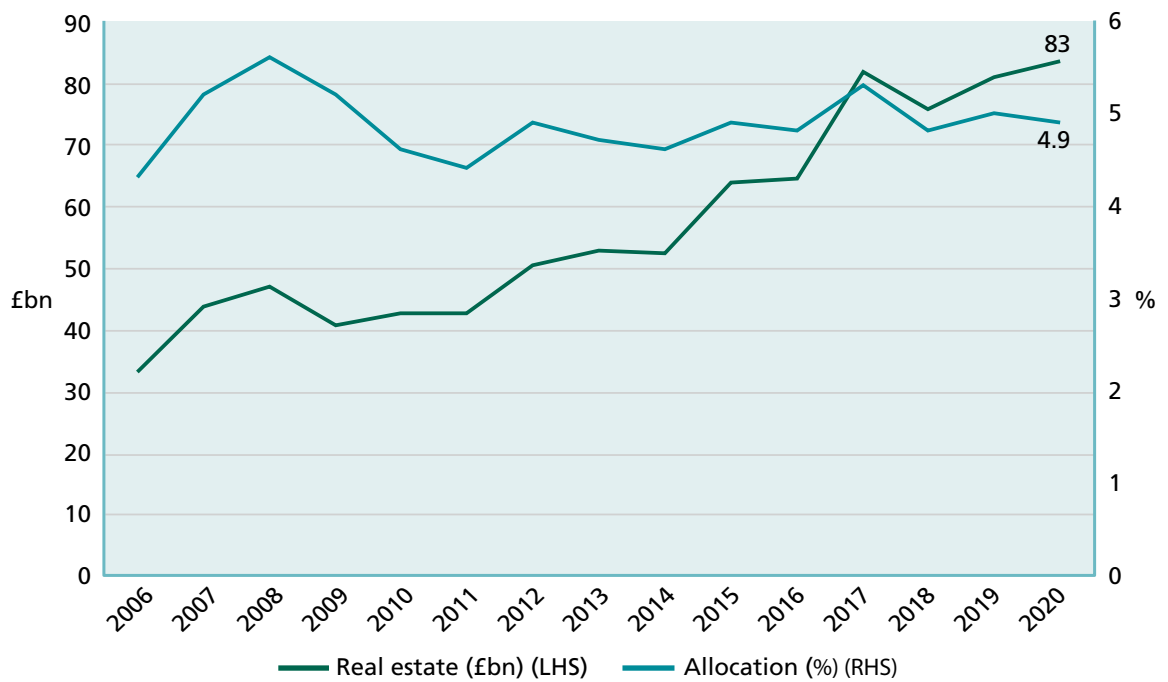
UK pension funds are estimated to have had direct exposure to real estate of approx. £44bn at end-2020, of which £43bn is in UK commercial real estate. This represented around 1.8% of total pension assets – private and funded public defined benefit (DB) schemes (1.5% of private DB, and 3.1% of public sector funded DB).

UK pension funds have substantial indirect exposure to property; indeed, this is much larger than their direct exposure and they represent a large proportion of the UK property collective investment vehicle investor base. The element of residential property within the direct portfolios of pension funds is limited but there is a growing residential element in the indirect portfolios.

Figure 4.1 shows how the value of real estate investments (direct and unlisted indirect) in £bn and as a percentage of all investment assets in private sector pension schemes has changed since the PPF's records began in 2006. The share of all private DB pension assets has been stable at around 5% but the value has increased substantially over the period 2006-2020, increasing by over 150% (compared to general price inflation of c35% over this period).

4. INVESTED STOCK

Figure 4.1: Private Sector Defined Benefit Pension Scheme Real Estate Investment, 2006-2020



Source: PPF

Appendix C provides more information on the breakdown of Local Government Pension Schemes (LGPS). In March 2020, across all UK schemes, the LGPS had £11.3bn of direct investment in UK and a further £14.1bn in indirect investment in UK property and £4bn of investment in indirect overseas property investments. The overall allocation to UK property was over £25bn. The weighted average allocation to property (including overseas) was 9.1%.

Table 4.3: LGPS Property Investments (March 2020)

	£bn
Direct UK	11.3
Indirect UK	14.1
Overseas	4.0
Total UK	25.4
Total Property	29.4

Source: Author's own estimates based on individual LGPS annual reports

4. INVESTED STOCK

The indirect exposures of both private and public sector DB schemes include both long lease real estate funds and residential funds, as well as more traditional balanced and specialist property funds.

Combining the £83.3bn of private sector DB pensions (from the PPF) and with the £29.4bn LGPS DB pensions gives an estimate of overall UK and overseas real estate investment of £113bn in March 2020. Updating to end-2020 and excluding overseas investments gives an **overall value of LGPS and private sector pension schemes UK property (direct and unlisted indirect) investments of just over £100bn. Of this, the majority, approximately £57bn, is held indirectly with total public and private sector pension direct investment of £44bn (approximately £43bn commercial).**

4.4 UK and Channel Islands Collective Investment Vehicles

The estimates for UK and Channel Islands (CI) collective investment vehicles are based on data from MSCI/AREF, INREV and Property Funds Research (PFR).

The gross asset value of UK and CI collective investment vehicles investing in UK property at end-2020 is estimated at £99.7bn. Excluding residential funds lowers this figure to £88.8bn and making an allowance for the net cash in funds results in **the net estimate of commercial property held by UK collective investment vehicles of £83bn.** Including residential funds results in a total UK property investment estimate of £93bn.

Within this total, the MSCI/AREF funds (typically 'core' funds) are estimated to account for £53.7bn (£57.4bn including residential funds). These funds experienced a significant net outflow (-£3.7bn) over the period between end-2018 and end-2020, driven by a £5.2bn net outflow for balanced funds (long income funds had a net inflow of £1.0bn).

Overall, the value of UK property owned by all UK and CI collective investment vehicles has been broadly stable with development and net investment broadly offsetting the general market decline in values. For this wider UK and CI fund universe, RCA records net investment of £0.8bn into commercial property over the end-2018 to end-2020 period, reflecting that the funds not in the MSCI/AREF database have had more positive cashflows than traditional balanced funds.

4.5 UK REITs and Listed Real Estate Companies

UK REITs and listed real estate companies had properties with a value of £87bn at the end of 2020.

Table 4.5 sets out the sector breakdown of the UK portfolios of UK listed REITs and other real estate companies. It is based on the portfolios of 60 companies. The figures exclude collective investment vehicle ownerships but include the REIT share of joint venture (JV) ownerships (excluding the JV partners ownership).

4. INVESTED STOCK

Table 4.4: UK Listed REIT Property Portfolio Valuations, December 2020 (£bn)

Retail	14.5
Office	26.5
Industrial	18.1
Other	
Self-storage	3.3
Student Accom.	5.7
Residential (ex Student Accom.)	5.0
Other	12.7
Unallocated/Mixed	1.1
Total	87.0
Commercial Property	76.3

Note: Totals may not coincide with sum of constituent figures due to rounding

Source: S&P Global IQ

4.6 UK Estates and Charities, Private Property Companies, Private Investors and Other

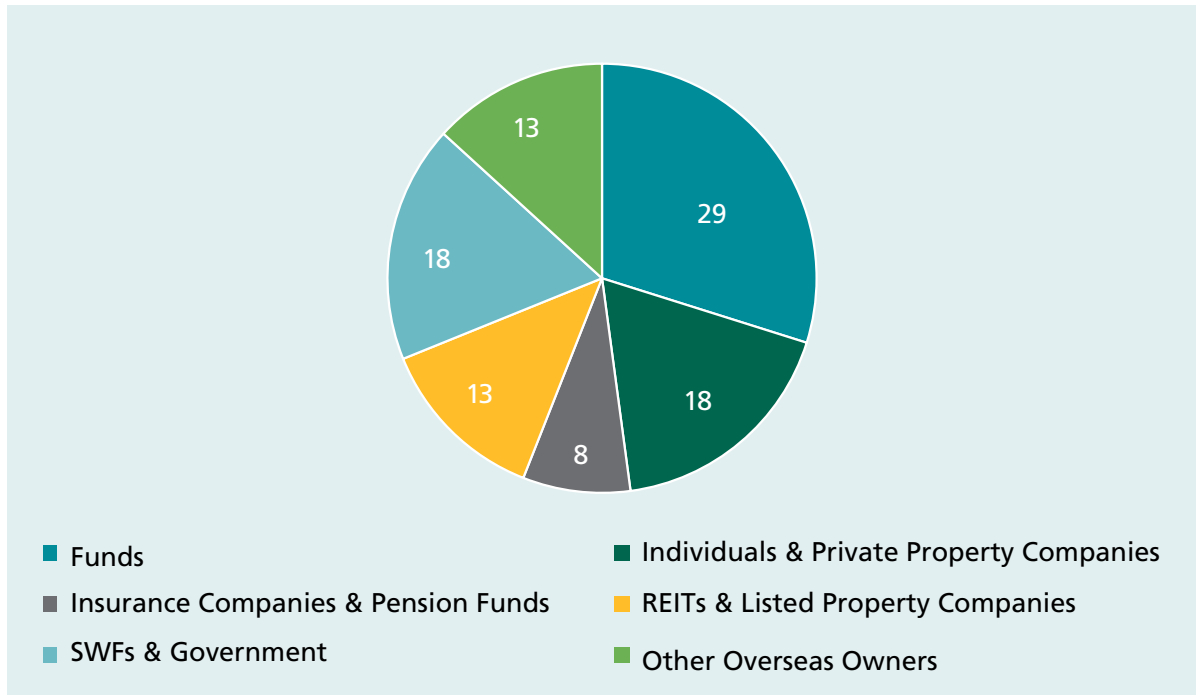
These estimates are based on updating earlier estimates using capital value movements, transactions and other information and are therefore subject to a wider margin of error than the estimates for other investor types. For UK estates and charities, transactions, and information on the value of portfolios in MSCI indices suggest values have fallen, but by slightly less than the market as a whole. Private property companies are particularly problematic to estimate as they include a disproportionate share of development activity and are significant net sellers of property and so require an estimate to be made of how much development activity is adding value to their holdings.

4.7 Overseas Investors

Overseas ownership of the invested stock has increased significantly over the longer term. Over the past two years, this trend has continued albeit at a much slower rate. Overseas owners were still significant positive net buyers of UK real estate (approx. £7bn) and are estimated to now account for 30% of the invested commercial real estate market. The breakdown of overseas investor ownership by type is shown in Figure 4.2.

4. INVESTED STOCK

Figure 4.2. Share of Overseas Investment in UK Commercial Property by Investor Type (%)



Note: Individual percentages do not total 100% due to rounding

Source: Author's own estimates based on multiple sources

5. RESIDENTIAL AND 'ALTERNATIVES'

5.1 Residential and Student Accommodation

As discussed in Section 3.2, the value of the UK's total stock of residential property in 2020 is estimated to have risen to £7.2tn; it is now over seven times larger than the commercial property sector. It is estimated to have increased by 9.6% over the past two years.

Table 5.1: Residential Stock: Universe, Invested and Student Accommodation, 2018 and 2020

	2018 £bn	2020 £bn	% Change 2018-2020
Total Residential Stock: Capital Value	6,602	7,234	10
Private Rented Residential Stock Value	1,205	1,284	9
Private Rented Investment: 'Institutional'	35	43	21
Student Accommodation Investment: 'Institutional'	28	34	22
All Residential Investment (incl. Affordable): 'Institutional' Only		87	

Source: Author's own estimates based on multiple sources³

Appendix D sets out the sources and assumptions behind these estimates. It is estimated there were 5.41m dwellings in the private rented sector (PRS) in the UK overall in 2020, fractionally up from 2018 numbers. The total value of PRS housing is estimated at £1,284bn, with London accounting for £522bn (41%) of this.

There has been rapid growth in both Build to Rent (BtR) and institutional investment in other parts of the private rented sector. 'Institutional' ownership of PRS is estimated at £43bn at end-2020, which represents a dramatic increase on 2012, when only approximately £10bn was estimated to have been invested in the sector. However, 'institutional' ownership remains a very small part of the overall PRS market, only about 3.3%, with the market dominated by individuals and smaller private property companies.

The British Property Federation (BPF)/Savills Build to Rent report gives an indication of the number of completed BtR units. As at Q4 2020 there were estimated to be 26,758 completed units in London and 27,912 in the rest of the UK giving a total number of completed units of 54,670 (up by 77% on end-2018). With approx. 50% of BtR homes located in London the average value is likely to be relatively high and completed unit value is likely to be approx. £15-20bn. The pipeline of BtR units suggests the number of completed units is likely to exceed 100,000 in the next few years.

³ Residential stock from ONS National Balance Sheet (and ONS special request); Private rented stock (Savills) the product of the number of private rented dwellings and the average value of a private rented dwelling. 'Institutional' investors from bottom-up analysis based on the IPF residential survey, reports and accounts and deals analysis.

5. RESIDENTIAL AND 'ALTERNATIVES'

The 2020 IPF residential survey highlighted growing investment in social/affordable housing in addition to market rent investments and development activity for both sale and rent. In aggregate social/affordable housing now accounts for over £6bn of investment (excluding very substantial institutional debt investment into the sector) and including 'other' residential brings this to approx. £10bn. Consequently 'institutional' equity investment in housing is now estimated to be more than £50bn, excluding housing for sale and student accommodation.

There are around 680,000 beds in purpose-built student accommodation and average value per bed of approx. £90,000 suggesting a total PBSA market size of approx. £61bn at end-2020 (the 2018 report estimate was £55bn). The private sector is estimated to own 350,000 beds and these are likely to have a slightly higher value per bed (closer to £100,000) suggesting an invested stock of approx. £34bn. The increase in private sector bed numbers and the value per bed has driven an estimated 22% increase in the size of the invested stock since the end of 2018.

It is not easy to distinguish residential and student accommodation for some investor types or to distinguish precisely how much investment is held directly by different investor types (e.g., JV or private company, direct or through a fund). As noted, 'institutional' investment in PRS is estimated at £43bn and the privately owned student accommodation sector is estimated at £34bn and with around approx. £10bn in other housing there is approx. £87bn invested in the residential sector in total by larger professional investors. Rough estimates of the breakdown of this between different investor types are shown in table 5.2.

Table 5.2: UK Residential (including PBSA) Investment by Investor Type

Investor Type	£bn	Comment
UK Insurance Company Funds	5	Investment through private companies and collectives in addition to this
UK Pension Funds	1	Investment through collectives in addition to this
UK & CI Pooled Investment Vehicles	12	
UK REITs	11	UK institutions are the main investors
Traditional Estates and Charities	11	This includes share of JV ownerships but excludes share of collective investment vehicles
Other UK 'Institutional'	22	
UK Total	63	Excludes most private cos, individuals and other but includes several major UK based operating businesses supported by institutional capital
Overseas	24	
Total	87	

Notes: Excludes most private companies and individuals

Totals may not coincide with sum of constituent figures due to rounding

Source: Author's own estimates based on data from PFR, INREV, MSCI, ABI and other sources

5. RESIDENTIAL AND 'ALTERNATIVES'

In the MSCI real estate UK (annual) universe, residential has nearly doubled as a proportion of the total over the last seven years and at end-2020 residential was 9% of the total MSCI real estate investment universe. The 2013 report estimated residential investments (including PBSA) held by mainstream investors had a value of £18bn compared to a commercial property invested stock of £364bn, residential therefore accounted for around 5% of the combined invested residential and commercial total. By the end of 2020, it is estimated that residential (including PBSA) has increased to around 15% of the combined residential and commercial invested stock.

5.2 Healthcare and hotels

This section briefly comments on healthcare/care homes and hotels.

5.2.1 Healthcare

The UK healthcare real estate market contains several elements, including primary care (doctors' surgeries and care and nursing homes). The estimated market size of the care and nursing home sector is around £33bn of which just under half is estimated to be 'invested' at around £16bn. The MSCI healthcare sector was around £8bn at end-2020 and MSCI records value growth for the sector of 3% for two years to end-2020 and 22% since the end of 2013 to end-2020.

5.2.2 Hotels

Hotels are included in the Other commercial sector in other parts of this report. There is more uncertainty about their valuations than other sectors with both income and rating valuations linked to operational trading performance. MSCI records a value decline of 5% between end-2018 and end-2020 but growth of 33% since the end of 2013.

The rental value estimates from the VOA and SAA suggest an annual rent roll of approx. £2bn, which, with a yield of approx. 4.6% (estimated based on data from MSCI and other sources), would suggest an investment universe of approx. £48bn. This compares with a 2018 estimate of £50bn, consistent with the MSCI decline in values between end-2018 and end-2020. Overall, the invested universe is probably in the £12-20bn range (just under £8bn of which is in the MSCI annual universe).

APPENDIX A: TOTAL STOCK ESTIMATES – SOURCES AND METHOD

A.1 Methodology to Calculate the Total Value of UK Real Estate and UK Commercial Real Estate

This section explains how the total stock estimates have been derived and the sources used. It starts with a discussion of the VOA data that provides the foundation for estimates of rental value and floorspace for the main commercial property sectors. It then runs through the three key steps (each containing several elements) involved in estimating the value of commercial property by sector:

Step 1: Deriving estimates of UK floorspace and rateable value (RV) by sector

Step 2: Deriving estimates of RV psm over time

Step 3: Deriving estimates of reversionary yields and capital values.

The VOA produces two sets of data – rateable value (RV) estimates and floorspace statistics. These are for England and Wales only. All properties have a RV estimate. For most commercial real estate there is a floorspace attached to this RV estimate. For the VOA data floorspace is defined as the area in metres squared used to calculate a property's rateable value. In most instances this does not include communal areas⁴. For retail and office premises, the Net Internal Area (NIA) is used, which includes most space useful to the business of an occupant and excludes common areas such as kitchens and facilities, such as toilets, stairwells, and foyers. The lift shafts, walls and columns of a property are also excluded. For factories and warehouses Gross internal area (GIA) is used, which includes all internal area but excludes external walls. Some of the floorspace estimates are based on dividing the RV by a mean RV psm estimate.

A guidance note on rateable values is available at:

<https://www.gov.uk/guidance/how-non-domestic-property-including-plant-and-machinery-is-valued#rateable-value>

Rateable values reflect an estimate of the annual rent payable on a property. As at the end of 2020 and since 2017 this has been an estimate of the rent payable on 1 April 2015. Hence, to derive an up to date (end-2020) estimate of rental values requires estimating rental value change between 1 April 2015 and 31 December 2020 as discussed further in Step 2.

The VOA RV and floorspace statistics are consistent with the relevant rating list so those for 2001-2005 the RVs are based on the 2000 rating list; 2006-2010 are based on the 2005 rating list; 2011-2017 RVs are based on the 2010 rating list and RVs for 2018-2021 are based on the 2017 rating list. The floorspace in a particular location or sector can change for several reasons, including (but not restricted to) demolished properties; new entities; reconstitution and alterations. RV psm will further be impacted by the outcome of successful challenges to valuations and Valuation Office Reports (VORs).

⁴ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1018139/Background_Information_2021.pdf

APPENDIX A: TOTAL STOCK ESTIMATES – SOURCES AND METHOD

Step 1: Floorspace and RV data for England and Wales by category and adjustment to UK

The data for England and Wales comes from:

<https://www.gov.uk/government/statistics/non-domestic-rating-stock-of-properties-including-business-floorspace-2021>

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1015623/NDR_Stock_of_Properties__2021.xlsx

Further background information on this is available at:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1018139/Background_Information_2021.pdf

This covers 2.1m rateable properties with a rateable value of £66.3bn. These datasets give both a detailed snapshot as at the end of March 2021 and a time series for Retail, Office, Industrial and Other (on the VOA definitions)⁵. For England and Wales, the figures on the VOA definitions for 2020-2021 were:

Table A.1: Rateable Values and Floorspace Estimates for England and Wales

	RV 2020 (£bn) (April 2015 rent)	Floorspace (m sq.m)
Retail	16.9	105.6
Office	15.1	86.3
Industrial	14.4	333.2
Other	19.9	56.2
TOTAL	66.3	581.3

Source: VOA

The first adjustment is to establish Retail, Office and Industrial and Other Commercial floorspace and RV estimates for Scotland and Northern Ireland.

The Scottish Assessors Association and the Northern Ireland Department of Finance were contacted to provide historical data as well as the most recent year-end estimates but unfortunately nothing additional was received.

Scottish Rating Statistics come from: <https://www.saa.gov.uk/about-the-saa/>

These provide a current indication of RV⁶ and Q3 2021 estimates have been used (end-2020 estimates were not available).

⁵ Further details on the definitions are available at:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1015622/NDR_Stock_SCat_2021__2_.xlsx

⁶ https://www.saa.gov.uk/general-statistics/?REPORT_NAME=vr_class#report_list Report 2 under <https://www.saa.gov.uk/general-statistics/>

APPENDIX A: TOTAL STOCK ESTIMATES – SOURCES AND METHOD

Unfortunately, the property type definitions in Scotland do not precisely match the England and Wales definitions. The ratio of RV in Scotland to that in England and Wales varies by property type but is generally between 7 and 11% (Scotland's population is 9.2% of the England and Wales's population). A ratio of Scotland floorspace to England and Wales floorspace is estimated and this constant factor is applied over time to the floorspace estimates for England and Wales to derive floorspace estimates for Scotland.

For Northern Ireland (NI), the only figures at a territory level produced by the Department of Finance⁷ are an estimate of domestic capital values of £99.2bn (this would appear to be as of October 2020) and a non-domestic rating total of £1.673bn. This latter figure is 2.5% of the RV for England and Wales (NI has a population that is 3.2% of the UK). The last revaluation of non-domestic properties in Northern Ireland was in 2020 and was based on April 2018 rental values. This difference in rental basis is not expected to lead to material differences. The approach used in the 2013 Size and Structure report for NI was to use the NI % share of UK GVA by sector and this report is based on a similar approach but adjusted slightly for the lower rents in NI to calculate a floorspace estimate.

The F&B sector does not have comprehensive estimates of floorspace and the ratio of rateable value in F&B to the rateable value of Retail (excl. F&B) is used to derive floorspace estimates for the sector. This gives a Retail (incl. F&B) estimate that is consistent with the definition used in earlier versions of the Size and Structure report.

For office, industrial and retail properties, nearly all (over 99% by rateable value) properties have a rateable value based on floorspace⁸ but for Other Commercial, the rating valuation approach varies depends on the specific type of property and many types of 'other' real asset do not have a floorspace record. Consequently, estimates have to be made of what element of 'other' has a floorspace record and the VOA data provided data with which to do this in a spreadsheet (The file is called 'VOA_excluded_scat_data' and is available in the NDR Stock of Properties Metadata zip file). In addition, for this report, Other Commercial also needs to be allocated across F&B, 'other' commercial and other. The ratio of Other Commercial rateable value to the rateable value of 'other' properties included in the floorspace statistics is applied to the floorspace statistics to derive a floorspace estimate consistent with the 'other commercial' definition for this report.

The estimates for floorspace are similar for Retail but lower for Office than in previous versions of the Size and Structure report, noting that historic VOA data are subject to revision.

Step 2: Estimation of RV psm over time

The RV estimates for Great Britain for 2020 are based on April 2015 rents – to generate estimates of RV over time, these are updated to reflect the rental growth between April 2015 and December 2020 using MSCI data. Over the period April 2015 to December 2020, MSCI estimates rents to have fallen by 13% in the retail sector but to have increased by 24% in the industrial sector.

Similar issues apply to the historic VOA data before April 2015. The rateable values that came into effect on 1 April 2010 were based on open market annual rental values as of 1 April 2008 and this date was used for the next seven years. Similarly, rateable values between 1 April 2005 and 31 March 2010 were based on 1 April 2003 rental values. For use in this report, these rateable values have to be updated to the rental values

⁷ <https://www.finance-ni.gov.uk/publications/summary-valuation-lists>

⁸ Exceptions are breweries, newspaper printing works and bullion/money stores.

APPENDIX A: TOTAL STOCK ESTIMATES – SOURCES AND METHOD

applicable at each year end. This updating is done using MSCI data on rental growth by sector and region but with adjustments to ensure there is consistency with the VOA growth where this is available as this is assumed to be better reflection of the whole market. This approach is very similar to that used in previous versions of the Size and Structure report (this difference in rental growth between the VOA and MSCI datasets was discussed in the 2016 report, noting the stronger rental growth in the VOA dataset in the 2003-2008 period).

The MSCI Annual Index and MSCI Quarterly Index data are used to estimate rental value change over time. These indices contain properties with a value of £196.9bn and £148.3bn respectively at the end of 2020. They reflect valuers' opinions of rental value and capital value for the quality of stock contained in these indices. The digest reference tables, and index files provide estimates of rental growth for the MSCI average quality properties in the MSCI dataset. They also provide lower (and upper) quartile, mean (weighted average) and median RV psm as at end-2020. These are compared with the estimates used in this report based on updating the VOA data in Table A.2 and indicate that MSCI lower quartile rents are typically above the VOA average rents.

Table A.2: MSCI Quarterly Index and VOA-based Estimates of Rent (£psm) End-2020 (and 2015)

	MSCI Lower Q	MSCI Wtd. Ave	VOA-based est.
Retail	131	194	137
Office	212	333	181
Industrial	60	76	46
Other Commercial	128	152	90

Source: MSCI

The rateable values used are on a psm basis, with floorspace subsequently applied to these to derive total rental value. The result of this analysis is a time series of estimated rental values by sector and region for retail, offices, industrials and the 'other' sectors. The F&B and 'other' sector estimates are subject to substantially more uncertainty than the other estimates.

Step 3: Derivation of capital values

Having established a consistent dataset of rental estimates, yields are then used to estimate capital values. The reversionary yields implied by MSCI's capital value and rental values are used as a starting point. These yields, however, require adjustment because the properties in MSCI are more prime in nature and, hence, likely to be lower yielding than average UK property. The implied reversionary yield at end-2020 on lower quartile properties was nearly 20% above the weighted average reversionary yield on all properties in MSCI, as illustrated in Table A.3 for the MSCI Annual and Quarterly Index.

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Table A.3: Reversionary Yields on Lower Quartile and Average Properties

	MSCI Lower Q - Annual	MSCI Wtd Ave - Annual	MSCI Lower Q - Quarterly	MSCI Wtd Ave - Quarterly
Retail	8.3%	6.6%	8.2%	6.7%
Office	8.1%	6.0%	8.1%	6.2%
Industrial	6.5%	5.2%	6.6%	5.4%
Other Commercial	6.2%	5.3%	6.6%	5.4%

Source: MSCI

An adjustment factor is used (consistent with the approach taken in the 2013 Size and Structure report and subsequent updates) and applied to an MSCI estimate of reversionary yields to provide an estimate of reversionary yields more representative of the wider market.

Applying these capitalisation rates to the rental series gives an estimate of capital values for the main commercial property sectors and the overall commercial property market and real estate universe.

The ONS follows a similar approach but, currently, it uses frozen historic yields and given the fall in capitalisation rates over the last two decades this is likely to understate the true value of commercial and other non-domestic real estate and other structures. The 2013 Size and Structure report noted that “the ONS estimates show a relatively jumpy and less cyclical pattern and, in particular, do not appear to reflect immediately variations in market rents (and yields).”

A.2 ONS Methodology and Estimates for Dwellings and Non-Domestic Real Estate

The ONS Blue Book contains the National Balance Sheet tables used in Figures A1.1-A1.3. The methodology behind these estimates is outlined at:

<https://www.ons.gov.uk/economy/nationalaccounts/uksectoraccounts/methodologies/capitalstocksandcapitalconsumptionqmi>

<https://www.ons.gov.uk/economy/nationalaccounts/uksectoraccounts/methodologies/nonfinancialbalancesheetqmi>

The latter of these sets out how the ONS calculates its estimates of real estate (the combined value of land and the buildings upon it) as follows:

Combined value of dwellings and its underlying land

Dwelling values are modelled using estimates of dwelling stock by Council Tax band at a regional level sourced from the Valuation Office Agency. These are broken down further through assumptions made on tenancy types, with quality of stock adjustments being applied based on housing condition surveys. As these are based on Council Tax bands, these are initially valued using estimates from the valuation year of the Council Tax bands. This valuation is based on data from the Land Registry. This is then adjusted to current year estimates using the UK House Price Index provided by the Land Registry and then aggregated up to a total economy level.

APPENDIX A: TOTAL STOCK ESTIMATES – SOURCES AND METHOD

Combined value of other buildings and structures and their underlying land

Other buildings are measured based on rateable value estimates from the Valuation Office Agency. These rateable values are adjusted to market values using capitalisation ratios, which were calculated through comparisons between rateable values and samples of market values. Further adjustments and assumptions are made for smaller aspects of other buildings, such as uncompleted buildings, and these estimates are then aggregated to produce total economy values.

The dwellings approach is updated to reflect current transaction prices (as reflected in the UK House Price Index) but the other buildings estimates do not reflect current yields and prices.

A helpful discussion with the ONS (the Capital Stocks team) raised several issues around the methodology, assumptions, and sources. The ONS is looking to revise its approach to historical estimates of capital value for land and buildings and the resulting land and building components. The VOA estimates of rental value and/or floorspace will continue to be an important building block as they provide a comprehensive picture of the stock of real estate in England and Wales. Further work to ensure the rateable value (rental value) series reflects market rents over time is needed (the working files for this report have been provided to the ONS). Currently, the ONS approach for other buildings and structures, which includes commercial real estate, is dependent on an outdated estimate of capitalisation rates (reversionary yield). This historic estimate is likely to lead to under-reporting of the true value of commercial real estate. Several approaches are potentially available to produce better estimates of reversionary yields. The first approach is to use transaction prices from the Land Registry and to combine these with the rateable (rental) value estimates from the VOA to derive better estimates of the relationship between the two. This is not straightforward, and some modelling and testing is likely to be needed to ensure the approach is robust and that transactions are representative. The second approach is to use industry data (e.g. MSCI) to estimate reversionary yields and their movement over time (this is the approach used to derive the estimates in this report – this requires the industry data to be adjusted to reflect the wider market).

The ONS has faced similar issues as for this report in how to aggregate up from England and Wales to the UK. An approach is to simply use a constant ratio or alternatively to use the information available for rents and yields and/or other market data and/or economic indicators.

The ONS does not show the split of land in recent versions of the Blue Book between residential, commercial, and other and so a special request was made for this, and the information was provided and is now publicly available at:

<https://www.ons.gov.uk/economy/nationalaccounts/uksectoraccounts/adhocs/13941landunderlyngcultivationbuildingsandstructuresestimatesfrom1995to2020>

APPENDIX A: TOTAL STOCK ESTIMATES – SOURCES AND METHOD

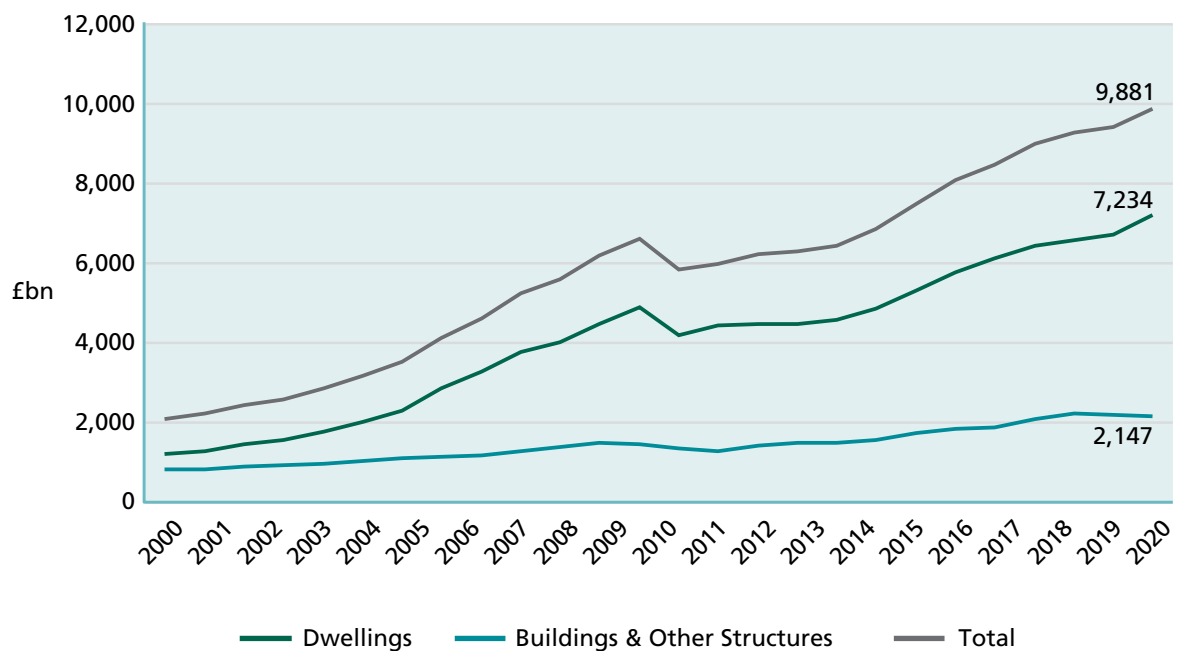
A.3 ONS estimates of UK real estate

This section reports the ONS figures from the 2021 Blue Book. As noted, the ONS is about to consult on how to improve its estimates and the research team and colleagues at the University of Cambridge will feed into this consultation.

ONS estimates of buildings and land

The ONS estimates of buildings and land indicate a total value of land, buildings, and other structures of £9.88tn. Of this dwellings account for £7.2tn and other buildings and structures (commercial real estate, other real estate, and other structures e.g., infrastructure) account for £2.15tn. The value of dwellings has increased by just over 500% over the past 25 years, with growth of 7.4% p.a.

Figure A.1: ONS Estimates of Buildings and Land Combined, 2000-2020



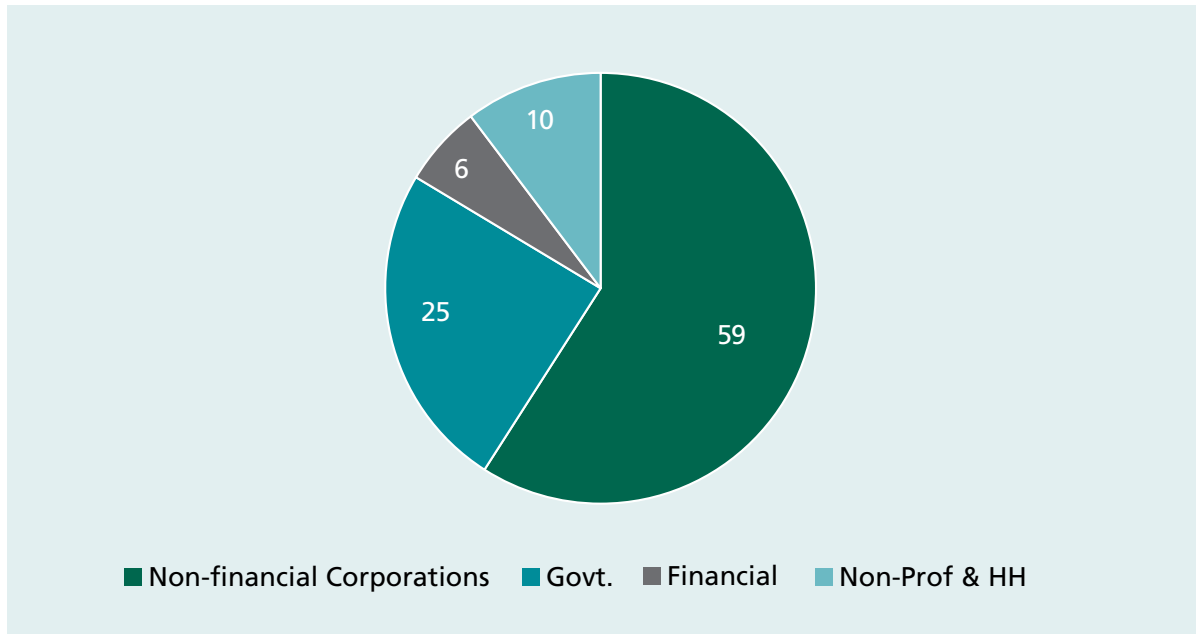
Source: ONS

The figures for buildings and other structures are not directly comparable with the 'dwellings' figures given the difference in methodology.

The following shows the split of the other buildings element across the ONS's four main sectors of the economy – the non-financial corporations' element is almost exclusively private non-financial corporations approx. 99% of the non-financial corporation's total. This non-financial corporation sector includes pensions and insurance funds as well as private and listed real estate companies.

APPENDIX A: TOTAL STOCK ESTIMATES – SOURCES AND METHOD

Figure A.2: Split of Buildings, (excl. Dwellings) by Economic Sector (%)



Source: ONS

APPENDIX B: OWNERSHIP BY INVESTOR TYPE – SOURCES AND METHOD

This appendix explains the sources and method used to derive the estimates of invested stock by investor type. It firstly explains how the figures for UK institutional investment (insurance companies and pension funds) are derived, then runs through the other main investor types in the UK. It concludes with a brief summary of how overseas investment by investor type has been estimated.

The ONS is updating all the financial and investment statistics and so the last estimates for UK institutional investment holdings (and investment) are end-2018. (The 2018 Size and Structure update was based on 2017).

'Mq5referencetablesq42018' are used. These are downloadable from

<https://www.ons.gov.uk/economy/investmentpensionsandtrusts/datasets/mq5investmentbyinsurancecompaniespensionfundsandtrusts>

B.1 Insurance Companies

The MQ5 data suggest insurance companies owned £46.2bn of property directly in long term and general insurance at end-2017. Net investment was £858m in 2018. Assuming capital growth in line with MSCI, an average capital return for 2018 of 0.6% gives an estimate of £47.4bn for end-2018.

The ABI provided data on the real estate exposure of ABI members and how this exposure has changed over the last few years. The ABI also provided information on membership, notably that their figures exclude Legal and General and Aegon UK. Adjusting for these using their report and accounts and the adjustments mentioned above gives the following estimates for real estate exposure and direct and indirect exposure. Residential is estimated to be predominantly held through indirect ownerships (as are overseas investments) so the UK direct commercial estimate is £44bn.

Table B.1: Insurance Company Real Estate Investments (excluding loans) (£bn)

	Total	Direct	Indirect
2018	67.4	47.4	20.1
2019	69.4	48.8	20.6
2020	68.1	47.8	20.2

Note: Totals may not be coincide with sum of constituent figures due to rounding.

Source: Author's own estimates, ABI, ONS.

In addition, insurance companies are estimated to have approximately £80bn of loans on commercial real estate as well as being investors in both real estate debt securities (bonds) and REITs. In aggregate, UK insurance companies are estimated to have exposure to UK real estate of well over £150bn.

APPENDIX B: OWNERSHIP BY INVESTOR TYPE – SOURCES AND METHOD

B.2 Pension Funds

The ONS financial survey of pension schemes is used. This is available at:

<https://www.ons.gov.uk/economy/investmentpensionsandtrusts/datasets/fundedoccupationalpensionschemesintheuk>

The ONS financial survey of pension schemes identifies UK private sector (DB and DC) direct investment in property of £30bn with a further £14bn invested by UK public sector DB pension schemes in December 2020. This is out of a gross asset total of £2.603tn. This gives a total direct property investments figure for UK pension funds of £44bn, noting that this excludes all indirect property investments. This appears consistent with the ONS MQ5 series which had £44.4bn at end-2017 and which, if applying capital growth and net investment, produces an estimate of £45.0bn for end-2018.

The extent of UK pension fund investment in the UK property market goes far beyond this direct figure, given they are very significant investors in property collective investment vehicles, as well as investing in REITs, real estate debt securities and private real estate debt.

To give a better indication of the aggregate exposure of UK pension funds, the PPF Purple Book and local authority pension scheme report and accounts have been used to build a picture of the unlisted equity exposure to private real estate funds and, effectively, the extent to which UK pension funds are beneficial owners of UK real estate.

Private Sector Pensions

The PPF Purple Book – Private Sector DB Pension Funds – is downloadable from:

<https://www.ppf.co.uk/purple-book>

The PPF Purple Book gives more detail on the profile of private sector DB pension fund investments in property. This indicates total property investments of £83.3bn in March 2020. This represents 4.9% of total private sector DB pension fund assets of £1,701bn covered by the PPF Purple Book at this date. This total figure compares to an ONS figure for Private Sector DB and hybrid pension scheme total assets of £1,895bn as of March 2020 and £1,967bn as of December 2020. (The ONS estimates private sector DC assets to be £192bn at end-2020 – with the vast majority, £178bn, held in pooled investment vehicles).

Private sector DB pension scheme data total assets increased from £1,298.3bn in 2015 to £1573.3bn in 2018 and £1,700.6bn in 2020. The percentage in property was 4.9% in 2015, 4.8% in 2018 and 4.9% in 2020 indicating an increase in property investment from £63.6bn in 2015, to £75.5bn in 2018 to the 2020 figure of £83.3bn. This compares with an ONS figure of £32bn at this point, suggesting approx. £51.3bn in pooled property investment vehicles. Updating both figures to end-2020 would suggest private DB pensions had approx. £50bn in pooled property investment vehicles at the year-end. The vast majority of this (approx. £45bn) is likely to be in UK vehicles (in the PPF Purple Book no distinction is made between UK and non-UK investment, but the vast majority of this total is believed to be UK investment). The overall total of £83.3bn in March 2020 represents the value of direct holdings combined with the NAV of unlisted property fund holdings and to the extent that these funds have leverage this will understate the overall extent of property exposure.

APPENDIX B: OWNERSHIP BY INVESTOR TYPE – SOURCES AND METHOD

Overall, it seems likely that the overall investment in UK property by private sector DB pension schemes was slightly under £80bn at end-2020 e.g., excluding overseas property from the £83bn.

Public Sector Pensions

The ONS figure for Public Sector DB and hybrid pension scheme total assets is £445bn as at December 2020 (£378bn as at March 2020 and £404bn as at December 2019). As noted, this is estimated to include £14bn of direct property investments at December 2020 – the same as in March 2020 (noting rounding may disguise a modest decline). Local government pension schemes (LGPS) are the main funded public sector DB scheme. Data on their exposure to real estate has been assembled using individual pension fund report and accounts for every local government pension scheme. These were sourced from each fund's website – links to many of the individual reports for 2020 for England and Wales are available at:

<https://www.lgpsboard.org/index.php/fund-annual-reports-2020>

The report and accounts usually set out total exposure to real estate and the direct and indirect split and further searching and analysis of the documents allowed a further split between UK and overseas. A similar exercise was conducted for Scotland and Northern Ireland.

<https://www.lgpsboard.org/index.php/scheme-investments>

For England and Wales, the LGPS breakdown in 2013 shows direct investments in property of £4.4bn, with a further £6.1bn in indirect investment – hence £10.5bn in total property investments. Our detailed analysis of LGPS in E&W in 2020 (end-March given reporting date) finds £7.8bn of direct investments in property (down by over £1bn over the year since March 2019) and a further £12.7bn of exposure to UK indirect property investments. In addition, the England and Wales LGPS had £3.8bn of exposure to overseas property investment vehicles. In aggregate total exposure to property averages 9%.

The Scottish LGPS and NILGOSC have approx. £3.6bn direct investment in UK real estate but lower exposure to UK and overseas indirect investments of approx. £1.4bn and £0.1bn respectively.

In March 2020, across all UK schemes, the LGPS have £11.3bn of direct investment in UK and a further £14.1bn in indirect investment in UK property and £4.0bn of investment in indirect overseas property investments. The overall allocation to UK property is consequently over £25bn. The weighted average allocation to property (including overseas) was 9.1%.

Whilst some funds have released 2021 accounts, it is not yet possible to build the same picture to help interpolate the December 2020 figure. Overall, public and private sector pension schemes are estimated to have had around £55-60bn of exposure to UK property pooled investment vehicles in December 2020. Given the coverage of public sector pension schemes is not comprehensive this might be a slight underestimate. There are some funded public sector pensions beyond those captured via the LGPS.

MSCI figures on the capital value of segregated pension property portfolios suggest the value of property is broadly unchanged between 2018 and 2020. MSCI covers £38bn of the £44bn estimated direct property holdings of UK pension schemes.

APPENDIX B: OWNERSHIP BY INVESTOR TYPE – SOURCES AND METHOD

B.3 Collective Investment Vehicles

The 'MSCI/AREF Investment Universe' predominantly covers core funds and the 59 funds in the database had £59.1bn of property in Q4 2020 as set out in Table B.2.

Table B.2: MSCI/AREF UK Real Estate Fund Universe, December 2020

	Number of Funds	Property Value £bn	GAV (incl. cash) £bn	NAV £bn	Net New Inv. (2019 & 2020) £bn
Balanced	38	35.8	40.5	40.0	-5.2
Long Income	8	11.8	12.2	12.2	1.0
Specialist	13	11.5	11.9	8.4	0.4
Total	59	59.1	64.6	60.6	-3.7

Note: totals may not coincide with sum of constituent figures due to rounding.

Source: MSCI/AREF

This database is focussed on core UK real estate funds. These have seen net outflows over the last two years of £3.7bn because of the outflows from balanced real estate funds. Excluding residential (including student accommodation) gives a commercial property value of £55.8bn in these funds. Two of these funds are non-UK domiciled and excluding these gives a total of £53.7bn property value for UK and Channel Island domiciled commercial property funds (and a total value of £57.4bn including residential funds).

There are a significant number of UK and Channel Island domiciled funds, particularly specialist and opportunistic funds, that are not captured in the MSCI/AREF database. Two approaches have been used to estimate this wider UK fund estimate. Firstly, Property Funds Research data has been used, this formed the basis for the 2013 and 2016 Size and Structure estimates. Secondly, RCA data on transactions has been combined with previous Size and Structure report estimates and development activity estimates (by the author) to derive estimates of commercial property held by these vehicles.

Over the past two years, for this wider fund universe, RCA records net investment of £0.8bn into commercial property, reflecting that the funds not in the MSCI/AREF database have had more positive cashflows. In addition, some of these funds have undertaken significant amounts of development activity. Consequently, despite falling market values, the value of commercial property held by UK and Channel Islands domiciled funds has not fallen significantly.

The gross asset value of UK collectives investing in UK property at end-2020 is estimated at £99.7bn. Excluding residential funds lowers this figure to £88.8bn and making an allowance for the net cash in funds results in the net estimate of commercial property held by UK collectives of £83bn. Including residential funds to give a value of UK property held by UK collectives gives a figure of £93bn.

APPENDIX B: OWNERSHIP BY INVESTOR TYPE – SOURCES AND METHOD

B.4 UK REITs and Listed Real Estate Companies

The figures for listed companies come from datasets based on annual reports of the companies. The individual company annual reports have been used to check figures. It is estimated that UK REITs and listed real estate had UK real estate investments of £87bn. The sector split of these investments is included in Section 4.5.

B.5 UK Estates and Charities, Private Companies and Other

There is more uncertainty about the estimates for these components of the UK real estate market.

MSCI data suggest the value of the UK property portfolios of traditional estates and charities has fallen by 7% since 2018. The 2016 Size and Structure report estimated this element of the market at £23bn and the 2018 report estimate was also £23bn. The 7% decline suggests an end-2020 value of £21.4bn. This estimate is consistent with the slight positive net investment in RCA data and significant development activity by some of the traditional estates.

There is less information on changes in the invested stock of other investors and private property companies. The latter is particularly challenging given that private property companies are major players in the development industry and undertook a disproportionate share of new construction activity. Between end-2016 and end-2018, private property companies were net sellers of approximately £8bn of commercial real estate and between end-2018 and end-2020 they sold a further £4.7bn. However, given that investors are estimated to have undertaken £15-20bn of new construction activity in this period beyond that on existing stock it seems likely that a significant element of this was by private property companies. An adjustment to reflect this of over £4bn has been included in the private property company estimates.

The other investor types are based on a similar approach, but development is believed to be much less significant in impacting net investment flows for these types of investors. However, coverage of smaller transactions is more limited, which may bias results and lead to under or over-estimation.

B.6 Overseas Investors

For overseas investors the approach has been to use previous estimates and update these using information from RCA and CoStar and MSCI. For overseas collective investment vehicles detailed data was provided by INREV for the funds they had information for. This included the value of the property portfolio and its allocation by country. This led to an estimate of £16bn for INREV funds. However, this data was constrained to under 50 funds with UK exposure where INREV had the detailed data on values and allocations. PFR provided a dataset with coverage of other funds, including opportunistic funds, that is believed gives a much closer to comprehensive coverage of overseas funds investing in the UK. This dataset was combined with the INREV information and then web searches were used to check and provide additional information on the extent to which equity raised had been invested and whether there were additional overseas domiciled funds under the control of the managers in this broader dataset. The end result was a spreadsheet containing estimates for over 170 funds of their UK real estate exposure at end-2020. This identified slightly over £60bn of UK property held by overseas collective investment vehicles, of which £14bn is in residential and student accommodation. The £47bn estimate for commercial property, derived using the updating of previous estimates with market movements, transaction and development activity is consistent with this.

APPENDIX C: ESTIMATED LGPS PROPERTY EXPOSURE, MARCH 2020 (£M)

Local Authority	UK Direct Property	UK Indirect Property	Overseas Pooled Property	Total UK Property	Total Property	Proportion Total Assets
Avon	0	229	195	229	424	9%
Barking and Dagenham	0	23	37	23	60	6%
Barnet	0	35	25	35	60	6%
Bedfordshire	0	205	0	205	251	12%
Berkshire	6	30	264	36	294	13%
Bexley	0	84	0	84	84	10%
Brent	0	0	0	0	0	0%
Bromley	0	47	0	47	47	5%
Buckinghamshire	0	171	43	171	213	7%
Cambridgeshire	0	113	113	113	225	7%
Camden	0	89	95	89	184	12%
Cardiff	0	107	58	107	165	8%
Cheshire	398	71	8	469	477	9%
City of London	0	66	0	66	66	6%
City of Westminster	0	130	0	130	130	10%
Clwyd	0	63	63	63	127	7%
Cornwall	0	130	5	130	136	7%
Croydon	0	177	0	177	177	15%
Cumbria	156	79	0	235	235	9%
Derbyshire	240	119	52	358	410	9%
Devon	0	315	58	315	373	9%
Dorset	265	36	0	301	301	11%
Durham	0	21	199	21	219	8%
Dyfed	6	288	26	294	320	13%
Ealing	0	119	0	119	119	10%
East Riding	0	499	126	499	625	13%
East Sussex	0	318	0	318	318	9%
Enfield	0	97	0	97	97	9%
Environment Agency – active	0	18	162	18	180	5%
Essex	398	165	31	563	595	9%

APPENDIX C: ESTIMATED LGPS PROPERTY EXPOSURE, MARCH 2020 (£M)

Local Authority	UK Direct Property	UK Indirect Property	Overseas Pooled Property	Total UK Property	Total Property	Proportion Total Assets
Gloucestershire	0	200	15	186	200	9%
Greater Gwent (Torfaen)	0	73	0	73	73	3%
Greater Manchester	836	466	242	1,302	1,544	7%
Greenwich	2	137	0	139	139	11%
Gwynedd	0	191	0	191	191	10%
Hackney	0	154	0	154	154	10%
Hammersmith and Fulham	0	59	0	59	103	10%
Hampshire	455	54	0	509	510	8%
Haringey	0	141	0	141	141	11%
Harrow	0	64	0	64	64	8%
Havering	0	41	29	41	70	10%
Hertfordshire	0	155	277	155	432	9%
Hillingdon	0	165	0	165	165	17%
Hounslow	0	49	0	49	49	5%
Isle of Wight	0	35	0	35	35	6%
Islington	0	237	20	237	257	19%
Kensington and Chelsea	25	42	0	67	67	6%
Kent	478	287	0	765	765	13%
Kingston upon Thames	0	43	0	43	43	5%
Lambeth	0	42	130	42	172	12%
Lancashire	110	1,130	0	1,240	1,240	15%
Leicestershire	100	279	0	379	379	9%
Lewisham	0	106	0	106	106	8%
Lincolnshire	0	176	15	176	191	9%
London Pensions Fund Authority	0	587	0	587	587	10%
Merseyside	472	72	215	544	759	9%
Merton	0	24	0	24	24	4%
Newham	0	83	82	83	164	12%
Norfolk	1	290	73	292	364	10%

APPENDIX C: ESTIMATED LGPS PROPERTY EXPOSURE, MARCH 2020 (£M)

Local Authority	UK Direct Property	UK Indirect Property	Overseas Pooled Property	Total UK Property	Total Property	Proportion Total Assets
North Yorkshire	0	276	0	276	276	8%
Northamptonshire	0	193	0	193	193	8%
Nottinghamshire	481	156	110	637	747	15%
Oxfordshire	0	120	42	120	162	7%
Powys	0	62	0	62	61	10%
Redbridge	0	69	0	69	69	9%
Rhondda Cynon Taf	0	288	0	288	288	9%
Shropshire	0	0	85	0	85	5%
Somerset	0	194	0	194	194	9%
South Yorkshire	698	62	14	760	774	9%
Southwark	190	56	0	246	246	16%
Staffordshire	415	51	0	466	466	10%
Suffolk	0	0	0	0	271	10%
Surrey	0	196	84	196	280	7%
Sutton	0	39	15	39	54	9%
Swansea	0	51	49	51	100	5%
Teesside	278	51	0	330	330	9%
Tower Hamlets	0	148	0	148	148	10%
Tyne and Wear	431	64	380	495	874	10%
Waltham Forest	0	83	0	83	83	10%
Wandsworth	0	104	0	104	104	5%
Warwickshire	0	217	0	217	217	11%
West Midlands	965	187	156	1,152	1,308	9%
West Sussex	366	0	0	366	366	9%
West Yorkshire	7	522	87	529	616	5%
Wiltshire	0	247	82	247	330	13%
Worcestershire	0	75	75	75	150	6%
ENG & WALES	7,779	12,741	3,835	20,505	24,611	9.0%

APPENDIX C: ESTIMATED LGPS PROPERTY EXPOSURE, MARCH 2020 (£M)

Local Authority	UK Direct Property	UK Indirect Property	Overseas Pooled Property	Total UK Property	Total Property	Proportion Total Assets
Dumfries and Galloway	0	87	0	87	87	11%
Falkirk	3	138	1	141	141	6%
Fife	0	214	3	214	217	9%
Highland	0	180	0	180	180	10%
Lothian	367	87	0	454	454	6%
North East Scotland	349	9	22	358	380	9%
Orkney Islands	0	0	0	0	0	0%
Scottish Borders	0	97	0	97	97	14%
Shetland Islands	0	51	0	51	51	11%
Strathclyde No.1	2,126	21	98	2,147	2,245	11%
Tayside	0	450	0	450	450	12%
NILGOSC	725	104	0	830	830	11%
SC + NI	3,570	1,439	124	5,009	5,133	10%
UK	11,349	14,179	3,958	25,514	29,743	9.1%

APPENDIX D: RESIDENTIAL AND ALTERNATIVES – SOURCES AND METHOD

D.1 Private Rented Sector Housing

Estimating the value of the private rented sector (PRS) is challenging because there are no up to date estimates of the number of dwellings in the sector for the UK as a whole, with Northern Ireland data unavailable after 2014. The last estimate for the UK as a whole was 5.342m in March 2014 when the Great Britain total was 5.212m. Source: UK Dwellings Dataset. <https://www.ons.gov.uk/peoplepopulationandcommunity/housing/datasets/dwellingstockbytenureuk>

The last estimate for Great Britain was 5.367m as at March 2018. The most recent estimates for England are available from Ministry of Housing, Communities and Local Government (MHCLG) at:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/987564/Dwelling_Stock_Estimates_31_March_2020_Release.pdf

These figures are subject to revision but showed a fall from 4.773m in March 2018 to 4.762m in March 2019 before increasing back to 4.799m in March 2020. This suggests the number of PRS dwellings in England is slightly above 2018 levels (by approx. 26k).

This would indicate around 5.41m PRS dwellings in the UK overall in 2020 fractionally up from 2018 numbers. Given the fluidity between the PRS and owner-occupied sector, one approach to valuation is to estimate the Open Market Vacant Possession (OMVP) value of the dwellings in the sector adjusting for the property type and regional mix of the properties in the sector. This is the approach used by Savills, Zoopla, and others. Savills' estimates of regional breakdown of the PRS sector are shown in Table D.1.

Table D.1: Estimates of the Value of UK Private Rented Sector (£bn)

Region	2019	2020
East Midlands	54.0	55.7
East of England	100.4	99.7
London	505.2	522.6
North East	21.3	21.8
North West	75.3	77.8
Northern Ireland	16.7	17.2
Scotland	48.1	49.2
South East	189.0	192.2
South West	98.2	100.4
Wales	32.5	33.6
West Midlands	61.9	60.8
Yorkshire and the Humber	55.2	53.3
United Kingdom	1,257.6	1,284.3

Note: totals may not be coincide with sum of constituent figures due to rounding

Source: Savills

APPENDIX D: RESIDENTIAL AND ALTERNATIVES – SOURCES AND METHOD

The English Housing Survey Private Rented Sector Report contains a variety of information on PRS housing. It is available at:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1000052/EHS_19-20_PRS_report.pdf

Amongst other things the report notes that just over 4.4 million households lived in the private rented sector in England, accounting for 18.7% of households. The difference between the number of PRS households (approx. 4.4m) and the stock of PRS dwellings (approx. 4.8m) represents vacancy. Household incomes of PRS households are close to but slightly below average. This survey contains an estimate of average rents of £201pw (nearly double that of social renters at £103pw). Figures for Scotland, Wales and Northern Ireland on private sector rents suggest significantly lower average rents.

<https://www.gov.scot/publications/private-sector-rent-statistics-scotland-2010-2021/>

<https://statswales.gov.wales/Catalogue/Housing/Private-Sector-Rents>

<https://www.nihe.gov.uk/Documents/Research/Private-Rental-Market-OLD/private-rental-market-NI-January-June-2020.aspx>

Combining the estimates for the different parts of the UK suggests an average rental of approx. £10,000p.a. for the UK overall and implies a total rent (ERV) for UK PRS of approx. £55bn. There is a lack of reliable data on yields. MSCI data are skewed towards London but suggests a yield of 4-4.5% is probably appropriate for the UK overall. The figures from funds and companies that report the Estimated Rental Value (ERV) and value of their portfolios are also consistent with this (with higher yields outside London). This would suggest a value of PRS housing between £1.23tn and £1.38tn, consistent with the Savills estimates based on mix-adjusted prices.

Estimates for the investment into PRS by major investors are based on analysis of IPF residential survey responses, deal news, web searches and the report and accounts of those known to be active in the sector. As a bottom-up estimate it is unlikely to capture all institutional and larger investors in the sectors and an assessment has been made for the main institutional investor categories for some of the unknown amounts. There has been rapid growth in institutional investment in the private rented sector, particularly BtR. 'Institutional' ownership of PRS is estimated at £43bn at end-2020 which represents a dramatic increase on 2012 when only approx. £10bn was estimated to have been invested in the sector. However, 'institutional' ownership remains a very small part of the overall PRS market of only about 3.3%, with the market dominated by individuals and smaller private property companies.

The BPF/Savills build to rent report (available at <https://bpf.org.uk/about-real-estate/build-to-rent/>) gives an indication of the number of completed BtR units.

APPENDIX D: RESIDENTIAL AND ALTERNATIVES – SOURCES AND METHOD

The BPF report highlights the BtR pipeline and how completions have grown over the past few years and the change between end-2018 and end-2020 is highlighted in Table D.2:

Table D.2: Completed BtR Units

	Q4 2018	Q4 2020	% Change
London	17,581	26,758	52%
RUK	13,326	27,912	109%
UK	30,907	54,670	77%

Source: BPF Built to Rent Q3 2021

The pipeline of BtR units suggests the number of completed units is likely to exceed 100,000 in the next few years.

The ONS publishes experimental statistics on the private rental market.

<https://www.ons.gov.uk/economy/inflationandpriceindices/bulletins/indexofprivatehousingrentalprices/september2021#private-rental-data>

These indicate growth in PRS rents over the last four years as follows:

Table D.3: Private Residential Rental Growth, 2017-2020

To December	% Change in rent
2017	1.2
2018	1.0
2019	1.4
2020	1.4

Source: ONS

The ONS notes higher and more volatile rental growth on new lets. Overall, rents in the PRS sector are growing slowly but downward pressure on yields has resulted in more significant capital growth over the last two years.

D.2 Other Residential Investment and Student Accommodation

The 2020 IPF residential survey highlighted the growing investment in social/affordable housing in addition to market rent investments and development activity for both sale and rent. In aggregate, social/ housing now accounts for over £6bn of investment (excluding very substantial institutional debt investment into the sector) and including 'other' residential brings this to approx. £10bn. Consequently 'institutional' investment in housing is now estimated to be more than £50bn excluding housing for sale and student accommodation.

APPENDIX D: RESIDENTIAL AND ALTERNATIVES – SOURCES AND METHOD

In terms of student accommodation, there are 2.015m students in full-time education (and a further 517,000 in part-time education). Source: <https://www.hesa.ac.uk/data-and-analysis/students/whos-in-he/>

It is estimated that there are around 680,000 beds in purpose-built student accommodation (Source: Cushman and Wakefield (C&W), Student Accommodation Report 2020/21, Avison Young has a similar estimate, and this is also consistent with numbers from Savills).

The average value per bed at end-2020 is estimated at approx. 90k. (Source: Savills). Investment yields range substantially depending on lease structure, quality, and location (from sub 4% through to over 8%). An average yield of approx. 5% and with average gross rents of approx. £6,500 and an allowance of approx. 30% for voids, expenses etc. is consistent with this £90k per bed. Applying this per bed figure to the number of beds suggests a total PBSA market size of approx. £61bn at end-2020 (the 2018 S&S report estimate was £55bn).

The private sector is estimated to own 350,000 beds (Source: C&W) and these are likely to have a slightly higher value per bed (closer to £100,000) suggesting an invested stock of approx. £34bn. The increase in private sector bed numbers and the value per bed has driven an estimated 22% increase in the size of the invested stock since the end of 2018.

The top 10 operators of student accommodation are estimated to account for around 60% of private sector beds in the sector (Source: C&W). Amongst the largest 10 owners are a mix of UK listed companies (Unite, Empiric and GCP), UK and non-UK domiciled funds (Unite fund, Blackstone, Brookfield) and UK&CI and overseas businesses (GSA, Arlington Investors (Channel Island based but Middle East capital), Greystar, Mapletree).

D.3 Overall Residential Investment (including Student)

It is not easy to distinguish residential and student accommodation for some investor types or to distinguish precisely how much investment is held directly by different investor types (e.g., JV or private company, direct or through a fund). As noted, 'institutional' investment in PRS is estimated at £43bn and the privately owned student accommodation sector is estimated at £34bn and with around £10bn in other housing there is approx. £87bn invested in the residential sector in total. Rough estimates of the breakdown of this between different investor types are shown in table D.4.

APPENDIX D: RESIDENTIAL AND ALTERNATIVES – SOURCES AND METHOD

Table D.4: UK Residential (including PBSA) Investment by Investor Type

Investor type	£bn	Comment
UK insurance Company Funds	5	Investment through private companies and collectives in addition to this
UK Pension Funds	1	Investment through collectives in addition to this
UK & CI Pooled Investment Vehicles	12	UK institutions are the main investors
UK REITs	11	This includes share of JV ownerships but excludes share of collective investment vehicles
Traditional Estates and Charities	11	
Other UK 'Institutional'	22	Excludes most private cos, individuals and other but includes several major UK based operating businesses supported by institutional capital
UK Total	63	
Overseas	24	
Total	87	

Note: excludes most private cos and individuals.

Source: Author's own estimates

In the MSCI real estate UK (annual) universe, residential has nearly doubled as a proportion of the total over the last seven years to 9% of the total MSCI investment universe. The 2013 report estimated residential investments (including PBSA) held by mainstream investors had a value of £18bn compared to a commercial property invested stock of £364bn; residential therefore accounted for around 5% of the combined invested residential and commercial total. By the end of 2020, it is estimated that residential (including PBSA) has increased to around 15% of the combined residential and commercial invested stock.

D.4 Other Alternative Sectors

This section briefly comments on healthcare/care homes and hotels.

D.4.1 Healthcare

The UK healthcare real estate market contains several elements, both primary care and care and nursing homes. The UK collectives investing in the sector are estimated to have had property assets with a value of approx. £1.4bn at end-2020. The UK REITs and listed companies in the healthcare space (Assura, Impact Healthcare, Primary Health Properties and Target Healthcare) contain assets of £6bn but the care home element is only approx. £1bn of this.

APPENDIX D: RESIDENTIAL AND ALTERNATIVES – SOURCES AND METHOD

JLL estimated the care home market at 465,000 beds with modern purpose-built homes accounting for 22% of care home supply (Source: JLL UK Care Homes: Where's the opportunity? 2020). This includes the homes owned by local authorities etc. Value per bed for the listed REITs was approx. £72k per bed for Impact Healthcare and £123k for Target Healthcare. Impact is believed to be more representative of the wider market. Applying £70k per bed would imply a market size of approx. £32.6bn. The MSCI healthcare component was £8.1bn at end-2020 and the wider 'invested' market is probably around £16bn. MSCI estimates value growth of 3% since the end of 2018 and 22% since the end of 2013.

D.4.2 Hotels

Hotels are included in Other Commercial, as a sector. However, there is more uncertainty about their value than other sectors with both income and rating valuations linked to operational trading performance.

Trading performance in 2019 showed a difference between London and the regions with Revenue Per Available Room (RevPAR) up 3.7% on 2018 in London whilst falling 1.9% outside London (Source: HVS Hotel Market Tracker/STR). 2020 was a much more challenging year. Covid-19 and its impact on operational performance makes valuation of hotels particularly challenging. MSCI records a value decline of 5% between end-2018 and end-2020 but growth of 33% since the end of 2013. In the MSCI annual universe, hotels with a value of just under £8bn account for just under 4% of the total for all property.

The rental value estimates from the VOA, SAA, etc. suggest an annual rent roll of approx. £2bn, which with a yield of approx. 4.6%, would suggest an investment universe of approx. £48bn. Reviewing hotel transactions highlights that a significant number of hotels have been bought for the long-term income cashflows available either through ground rent structures or simply long leases to operating businesses. Overall, the invested universe is probably in the £12-20bn range.

APPENDIX E: VALUE OF COMMERCIAL REAL ESTATE STOCK AND COMPONENTS BY SECTOR

Table E1: Retail Values, 2000-2020

	Floorspace m sq.m	RV psm £	Rental Value £bn	Reversionary Yield %	Capital Value £bn
2000	135.4	117.9	16.0	7.5%	213
2001	136.1	121.7	16.6	7.8%	213
2002	137.1	126.5	17.3	7.7%	226
2003	138.3	131.9	18.2	7.3%	251
2004	139.3	137.3	19.1	6.9%	279
2005	138.9	142.7	19.8	6.3%	314
2006	140.0	147.0	20.6	5.8%	356
2007	140.8	151.5	21.3	6.2%	343
2008	141.8	153.4	21.7	8.0%	270
2009	142.9	146.4	20.9	7.9%	265
2010	143.7	146.2	21.0	7.3%	287
2011	145.0	147.4	21.4	7.4%	289
2012	145.8	148.4	21.6	7.3%	296
2013	146.7	150.0	22.0	7.1%	309
2014	147.3	152.2	22.4	6.8%	332
2015	148.2	156.6	23.2	6.6%	353
2016	148.4	158.4	23.5	6.7%	353
2017	149.0	160.5	23.9	6.5%	366
2018	149.2	158.1	23.6	6.7%	352
2019	148.8	151.4	22.5	7.1%	318
2020	148.4	137.2	20.4	7.5%	271

APPENDIX E: VALUE OF COMMERCIAL REAL ESTATE STOCK AND COMPONENTS BY SECTOR

Table E2: Office Values, 2000-2020

	Floorspace m sq.m	RV psm £	Rental Value £bn	Reversionary Yield %	Capital Value £bn
2000	89.7	127.7	11.4	8.7%	131
2001	91.6	133.3	12.2	8.9%	137
2002	93.3	126.5	11.8	8.5%	139
2003	94.7	117.8	11.2	7.9%	141
2004	95.7	120.3	11.5	7.9%	146
2005	95.0	125.5	11.9	7.1%	168
2006	95.8	135.7	13.0	6.3%	205
2007	96.7	150.1	14.5	7.3%	199
2008	97.9	147.2	14.4	9.5%	152
2009	98.9	131.1	13.0	8.9%	145
2010	100.0	133.9	13.4	8.1%	165
2011	100.6	139.5	14.0	7.9%	177
2012	101.1	142.7	14.4	8.2%	175
2013	101.5	148.9	15.1	7.8%	193
2014	101.3	158.7	16.1	7.1%	228
2015	101.2	172.4	17.5	6.7%	261
2016	100.6	177.0	17.8	6.9%	257
2017	100.6	179.4	18.0	6.7%	269
2018	100.4	181.0	18.2	6.5%	280
2019	99.2	183.9	18.2	6.4%	284
2020	97.3	181.3	17.6	6.7%	263

APPENDIX E: VALUE OF COMMERCIAL REAL ESTATE STOCK AND COMPONENTS BY SECTOR

Table E3: Industrial Values, 2000-2020

	Floorspace m sq.m	RV psm £	Rental Value £bn	Reversionary Yield %	Capital Value £bn
2000	397.5	31.2	12.4	9.4%	132
2001	399.5	32.0	12.8	9.5%	134
2002	400.6	32.4	13.0	9.2%	141
2003	400.0	32.9	13.1	8.7%	150
2004	397.5	33.5	13.3	8.1%	164
2005	396.8	34.2	13.6	7.3%	186
2006	396.5	35.0	13.9	6.6%	211
2007	393.5	36.0	14.2	7.4%	190
2008	385.9	36.4	14.1	9.8%	144
2009	383.9	35.4	13.6	9.4%	145
2010	377.4	35.4	13.4	8.5%	157
2011	376.7	35.6	13.4	8.3%	160
2012	375.5	35.8	13.4	8.6%	156
2013	375.3	36.4	13.7	8.2%	167
2014	375.1	37.3	14.0	7.3%	193
2015	376.5	39.4	14.8	6.9%	216
2016	378.2	40.5	15.3	7.0%	218
2017	380.1	42.3	16.1	6.6%	243
2018	381.4	43.9	16.7	6.3%	266
2019	382.8	44.9	17.2	6.2%	275
2020	384.0	45.7	17.6	6.2%	283

APPENDIX E: VALUE OF COMMERCIAL REAL ESTATE STOCK AND COMPONENTS BY SECTOR

Table E4: Other Values, 2000-2020

	Floorspace m sq.m	RV psm £	Rental Value £bn	Reversionary Yield %	Capital Value £bn
2000	61.6	64.5	4.0	8.6%	46
2001	62.2	65.0	4.0	8.8%	46
2002	62.2	65.1	4.0	8.5%	48
2003	62.5	64.4	4.0	8.1%	49
2004	63.3	65.9	4.2	7.5%	56
2005	63.6	68.2	4.3	6.9%	63
2006	64.4	71.9	4.6	6.4%	73
2007	64.8	75.0	4.9	6.7%	72
2008	65.3	78.2	5.1	8.8%	58
2009	65.9	76.5	5.0	8.7%	58
2010	65.7	79.4	5.2	7.8%	67
2011	66.1	80.7	5.3	7.5%	71
2012	66.5	82.4	5.5	7.3%	75
2013	67.1	84.6	5.7	7.0%	81
2014	67.8	87.8	5.9	6.4%	93
2015	67.7	88.6	6.0	6.0%	100
2016	66.9	89.3	6.0	6.0%	100
2017	66.8	90.9	6.1	5.6%	109
2018	67.2	91.9	6.2	5.6%	109
2019	67.7	92.8	6.3	5.8%	109
2020	68.2	90.3	6.2	6.1%	101

APPENDIX E: VALUE OF COMMERCIAL REAL ESTATE STOCK AND COMPONENTS BY SECTOR

Table E5: All Property Values, 2000-2020

	Floorspace m sq.m	RV psm £	Rental Value £bn	Reversionary Yield %	Capital Value £bn
2000	684.2	64.0	43.8	8.4%	523
2001	689.4	66.1	45.6	8.6%	530
2002	693.1	66.6	46.2	8.3%	554
2003	695.5	67.0	46.6	7.9%	591
2004	695.8	69.2	48.1	7.5%	645
2005	694.3	71.5	49.7	6.8%	731
2006	696.6	74.7	52.1	6.2%	845
2007	695.8	78.9	54.9	6.8%	805
2008	691.0	80.1	55.3	8.9%	625
2009	691.6	75.9	52.5	8.6%	613
2010	686.8	77.2	53.0	7.8%	676
2011	688.3	78.6	54.1	7.8%	698
2012	688.9	79.8	55.0	7.8%	702
2013	690.6	81.8	56.5	7.5%	750
2014	691.5	84.5	58.4	6.9%	846
2015	693.6	88.6	61.5	6.6%	930
2016	694.1	90.2	62.6	6.7%	928
2017	696.5	92.0	64.1	6.5%	987
2018	698.1	92.6	64.7	6.4%	1,007
2019	698.5	92.0	64.2	6.5%	986
2020	697.8	88.5	61.7	6.7%	918



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