



September 2019

# Performance metrics, required returns and achieved returns for UK real estate development





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**Published by the Royal Institution of Chartered Surveyors (RICS)**

RICS, Parliament Square, London SW1P 3AD

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Study sponsored by :



The RICS Research Trust, a registered charity established by RICS in 1955 to support research and education in the field of surveying.

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## List of abbreviations

<b>CAPM</b>	capital asset pricing model
<b>DCF</b>	discounted cash flow
<b>GDV</b>	gross development value
<b>IPD</b>	Investment Property Databank
<b>IRR</b>	internal rate of return
<b>KPI</b>	key performance indicator
<b>OL</b>	operational leverage
<b>MSCI</b>	Morgan Stanley Capital International
<b>NPV</b>	net present value
<b>ROCE</b>	return on capital employed
<b>ROE</b>	return on equity
<b>WACC</b>	weighted average cost of capital

## Glossary

<b>Development yield</b>	Annual revenue from a completed development divided by the cost of the development
<b>Internal rate of return</b>	Discount rate that makes the NPV of all cash flows from a project equal to zero
<b>Land bank to completions ratio</b>	Number of plots owned and controlled in the landbank by the developer divided by the number of plot completions by that developer
<b>Operating profit margin</b>	Ratio of operating income to sales revenue
<b>Plot completions</b>	Number of residential plots developed in a year
<b>Profit on cost</b>	Development profit divided by development cost
<b>Profit on value</b>	Development profit divided by development value
<b>Profit per plot</b>	Development profit per residential plot
<b>Required rate of return</b>	Developer's target annual rate of return from a development project
<b>Return on capital employed</b>	Development profit divided by development cost [including a share of company overheads]
<b>Return on equity</b>	Developer's profit divided by the developer's equity stake
<b>Revenue per plot</b>	Sale revenue per residential plot

# Executive summary

**The aim of this research is to improve the understanding of the form, extent and variability of the financial returns achieved by real estate developers, focusing on the UK real estate market.**

Profits or returns from real estate development vary depending on the nature, location and timing of each scheme. Development appraisal methods vary in the way that they incorporate or measure developer returns. Cash margins on cost or value are very common, while rates of return are frequently used as well. Sometimes finance is incorporated in the valuation explicitly and sometimes it is absorbed within the developer's rate of return. This variation among market participants and across methods in the handling of developer returns raises methodological questions when it comes to development appraisal. For example, is there a relationship between expected cash margins (profit on cost or value, for example) and rates of return, what is an 'appropriate' developer return, and how do returns vary depending on scheme, timing and the way the return is measured?

This research attempts to answer these questions by (a) reviewing relevant literature, (b) examining published development viability appraisals, (c) analysing published accounts for real estate developers, and (d) undertaking a survey of developers, supplemented by a small number of confidential interviews with market participants.

The literature revealed that the practice of development appraisal in the UK shows similarities with practices in project appraisal generally in that a variety of techniques are used that vary in their level of sophistication. In development, these range from simple residual valuation techniques with cash margins for developer's profit, to more sophisticated cash-flow models using periodic rates of return. The project appraisal literature suggests that the size of firm appears important, with larger organisations tending to adopt more sophisticated approaches and return target measures. The literature also highlights the limitations of mainstream discounted cash flow (DCF) where projects have option-like features or are subject to great uncertainty around future cash flows.

It was found from the survey that the conventional residual method of valuation, together with profit margins on either cost or value, dominate project appraisal practice for small and medium sized developers, as opposed to more contemporary cash-flow based techniques. Larger developers tend to use cash-flow techniques and rate of return based performance measures, albeit in combination with cash-margin measures. There was also a divide in practice between those developers that focused solely on residential development, who favoured residual methods of appraisal and cash margin based metrics, and those who undertook either commercial

development or both commercial and residential schemes. The latter were more likely to undertake cash-flow modelling of feasibility alongside any residual valuation-based assessment of profit or land bid.

Profit that is expressed as a simple cash margin does not reflect the timing of receipts, and it is hard to compare such a measure with expected returns from alternative investment opportunities, which are often quoted as rates of return. Nevertheless, residual techniques may approximate the outcomes from more sophisticated cash-flow models, if the target profit margin is adjusted in ways that mirror how target rates in a cash-flow setting might be altered for projects with different attributes and hence different risks.

The review of published development appraisals and associated literature suggests that residential developers favour the use of cash-based target returns. From the survey, a figure of 20% profit on costs was mentioned regularly for sites without significant risks (for example, risks relating to planning permission), and 25% for those sites with higher levels of perceived risk. These levels of profit on cost imply a profit on gross development value (GDV) of around 15 to 20%. The larger developers, utilising cash-flow techniques and developing longer schemes, quoted target rates of return of around 10 to 12%, and this reconciles with higher cash returns that are typically required for longer projects. Inclusion of finance within development appraisals is common.

Finally, it should be noted that evidence of achieved returns from development schemes was very difficult to find. Both scheme-specific and market performance in the real estate development sector remains opaque.

# 1.0 Introduction

Real estate development is often characterised as being entrepreneurial and risky, with returns varying significantly depending on the nature, location and timing of each scheme. Standard texts and professional guidance on the appraisal of developments suggest that this variation is inherent in the nature of the business (for example, RICS, 2008; Reed and Sims, 2015; Wyatt, 2013). This literature also suggests a variety of appraisal approaches based on both direct comparison and on the application of various residual-based techniques. This may partly explain why practice also varies when estimating the return required from a particular development scheme. Some developers will use models that are based on cash margins on cost or value, while others use models that lead to the assessment or calculation of periodic rates of return. Accounting measures may also have some influence, such as weighted average cost of capital (WACC) or return on capital employed (ROCE).

Debt finance is often required for development projects and the cost of this finance is sometimes itemised in the appraisal, while at other times it is incorporated within the developer's cost of capital and decision on required return rate. These variations in approach raise important questions when it comes to identifying the profit metric within development appraisal; most obviously, what is an 'appropriate' developer return and how does this vary depending on scheme, timing and appraisal method?

Estimating the expected returns from investment properties is challenging enough and this sector benefits from a relatively fulsome supply of market transaction evidence to impute yields. Developments, which are fewer and more heterogeneous, do not have this advantage. Little is understood regarding either expected or achieved developer returns. The Investment Property Databank or IPD (now MSCI, the Morgan Stanley Capital International) Development Performance study (IPD, 2010) revealed high specific risk and high cyclical sensitivity in outturn performance metrics, but this was set against a backdrop of not knowing what developer returns should be: very little has been published on the nature and magnitude of developer returns.

The aim of this research is to improve the understanding of the form, extent and variability of real estate developer returns. A multi-mode method is used in order to triangulate the findings. First, there is a government policy issue within the UK planning system. Appraisals are used to assess the ability of developments to contribute fully to local infrastructure and affordable housing need, while ensuring adequate returns to the developer and landowner. Published examples of these appraisals were investigated in order to elicit the developer return assumptions. Second, data on achieved returns was

analysed from a number of listed property companies and large housebuilders based on company accounts and reporting comments. This was supplemented by an analysis of MSCI development returns data. Third, an online survey of residential and commercial developers provided an overview of the use of development appraisal models in general and the issues surrounding different development profit metrics. Fourth, to delve more deeply into the results of the questionnaire, several confidential interviews were carried out with development consultants, financial institutions and developers of both residential and non-residential property.

It is hoped that this gathering of intelligence on developer returns will be useful for consultants undertaking development viability and other appraisals, along with other stakeholders involved in interpreting these appraisals for planning policy and development management. It will also be useful for new entrants into real estate development; for example, investors seeking knowledge on the likely range of returns from new markets such as build-to-rent. The research is focused on the UK real estate development market, but its findings will be relevant in other countries where the range and volume of development activity is comparable.

The report is structured as follows. The next section looks at development return measures and appraisal techniques to set the context for the rest of the analysis. Section 3 reviews published material on both required returns and achieved returns from real estate development. Evidence on required returns draws principally on case studies of development viability assessments within the UK, while the discussion of achieved returns focuses on MSCI data for developments undertaken between 1983 and 2004. Section 4 then discusses the methods used to obtain further information on expected and achieved returns within the UK development sector. Section 5 identifies delivered returns to the development portfolios within listed property companies, principally the major housebuilders. Section 5 then sets out the results of the questionnaire survey, supported by discussion of the interview findings and clarifications. The final section of the report discusses the research findings and the implications for theory and practice.



## 2.0 Developer returns: appraisal techniques and measures of returns



Developers and their advisors must attempt to make informed decisions about development profitability. Texts on development appraisal invariably identify two approaches, which are also set out in the recently revised RICS Guidance Note for the Valuation of Development Property (RICS, 2019). These are the market comparison approach and the residual valuation approach. The residual approach can range from a very basic deduction of the costs of development from the estimated value of the completed assets to more sophisticated discounted cash-flow (DCF) models. Such models can be used to identify either land value or the profitability of a development scheme (see, for example, Brown and Matysiak, 2000; Coleman et al., 2013; Wyatt, 2013). In the former case, development profit or return rate is an input, while, in the latter case, it is an output from the analysis. The basic residual model usually incorporates developer's profit as a cash-margin measure, either as a percentage of cost or percentage of value, whereas the DCF models usually incorporate developer's profit as a rate of return. It is worth noting at this point that, when a developer's profit sum is expressed as a percentage of either development value or development cost, these two measures are mathematically related. Appendix A illustrates this relationship.

Early evidence on the models used in UK practice is provided by Marshall and Kennedy (1993). They found that 90% of development companies, financial institutions and advisors surveyed used profit on cost as the return metric and 70% did not use a cash-flow based appraisal

technique. More recently, Hutchison et al. (2017) examined property investment appraisal practices, collecting some evidence on development appraisal in the process. For organisations conducting both types of appraisal, they found that practices differed, with a greater tendency to use fixed profit or return rate hurdles for development schemes, and with profit on cost remaining in widespread use as a return metric. There was little evidence that more complex approaches, such as real options, were in use, despite their potential relevance to development and other value-add activities.

Coleman et al. (2013) examined 19 development viability appraisals published between 2007 and 2011. They found that 17 of these appraisals incorporated profit as a cash margin, while only one used a rate of return. This is despite the fact that the use of cash-flow models and target rates is now widespread in property investment appraisal. Meanwhile, all of the appraisals in the sample incorporated finance costs within the valuation, under the assumption that development costs would be 100% debt financed. The commonplace inclusion of finance costs was also noted by Hutchison et al. (2017). In a similar vein, a review of appraisals by the London Borough of Southwark found that only two of 19 appraisals submitted as part of planning applications expressed the developer's profit as a rate of return (Southwark LBC, 2014). Finally, Sayce et al. (2017) examined viability appraisals for development sites in London, and profit was not expressed as a rate of return in any of the cases.

The distinction between a developer's rate of return and a cash margin is important because property development projects take time, sometimes many years, and a profit that is expressed as a simple cash margin does not reflect the length of time that it will take to receive income or sales proceeds from a scheme. Therefore, performance measures set in this manner might not compensate developers appropriately for risk and could lead to incorrect choices. For example, projects could be initiated that do not provide enough reward for risk once the length of time has been considered, and incorrect choices between mutually exclusive projects might be made if the time frame is not considered and the profit margin adjusted accordingly. Moreover, it is hard to compare cash margins with expected returns from investment opportunities in mainstream asset classes, which are quoted typically as rates of return per period (typically per annum).

Coleman et al. (2013) provide a fuller critique of the conventional residual valuation model in which the use of a cash margin to express the required amount of profit is one principal feature. They argue that basic residual techniques are inconsistent with mainstream capital budgeting principles owing to the treatment of forecasting, of profit and of finance costs within the model. However, Crosby et al. (2018) note that conventional residual valuation models may approximate outcomes from more sophisticated cash-flow techniques if market participants adjust the required profit in ways that mirror how target rates of return might be altered for projects with different attributes. This point is echoed in the capital budgeting literature when discussing projects where cash-flows are very uncertain and possess option-like features (see McDonald as cited in Graham and Harvey, 2001). Hence, one could increase the profit margin in appraisals of schemes that are riskier, in much the same way as one might increase the target rate in a cash-flow model. This raises questions around whether such adjustments are performed in practice and how they are quantified.

Crosby et al. (2018) explore the relationship between simple profit metrics used in conventional residual appraisals and the internal rates of return that the use of different profit levels imply. They find that, for a sample of published development appraisals, developer's profit is typically incorporated as a cash margin – either profit on cost or profit on value. They also find that limited variation in these cash-margin assumptions across different types and lengths of scheme implies large differences in expected internal rates of return (IRR). Simulated examples illustrate the implications of applying cash margins to schemes of different lengths and with different levels of land value. The findings for project duration are noteworthy since they indicate that lower IRRs are implied for longer projects, though this relationship is not necessarily rational. In short, despite widespread acceptance of DCF and IRR in corporate finance, real estate developers tend to rely on simple appraisal techniques and cash margins for developer's profit instead.

How does this fit into the more general literature on corporate project appraisal practices? There have been surveys of practice in the UK and the US concerning how projects are appraised and evaluated by different types and sizes of companies. Results for both large and small companies provide interesting benchmarks for development appraisal practices, given the diversity of sizes among organisations involved in real estate development. While housebuilders and institutional investors are relatively large in corporate terms, there are many specialist property development companies that are relatively small in scale.

Arnold and Hatzopoulos (2000) surveyed major UK companies. Of the 96 companies that responded, most used cash-flow techniques, with net present value (NPV) and IRR used to similar extents. Yet many firms supplemented these techniques with rule-of-thumb measures of profitability. It was argued that multiple methods helped in cases where NPV rule assumptions might be violated; projects with real options were cited as one such case. Geltner and de Neufville (2018) and Brown and Matysiak (2000), among others, identify such options for development projects, including options to commence, pause and alter schemes in response to changing economic and market conditions. Respondents in Arnold and Hatzopoulos (2000) indicated targets for payback, IRR, etc., within ranges. For cash-flow modelling, WACC based on the capital asset pricing model (CAPM) was popular for setting target rates of return, but simpler approaches were also used.

In the US, Graham and Harvey (2001) conducted a survey of major corporations and received responses from 392 chief financial officers. Most firms used cash-flow techniques, with IRR only slightly ahead of NPV as the favoured decision rule. Smaller firms were more likely to use techniques like payback period. Once again, the argument propounded for this was that payback and other rule-of-thumb techniques could approximate optimal decision rules for complex projects with option like features and/or high uncertainty. Most firms used the CAPM to set their target rate of return.

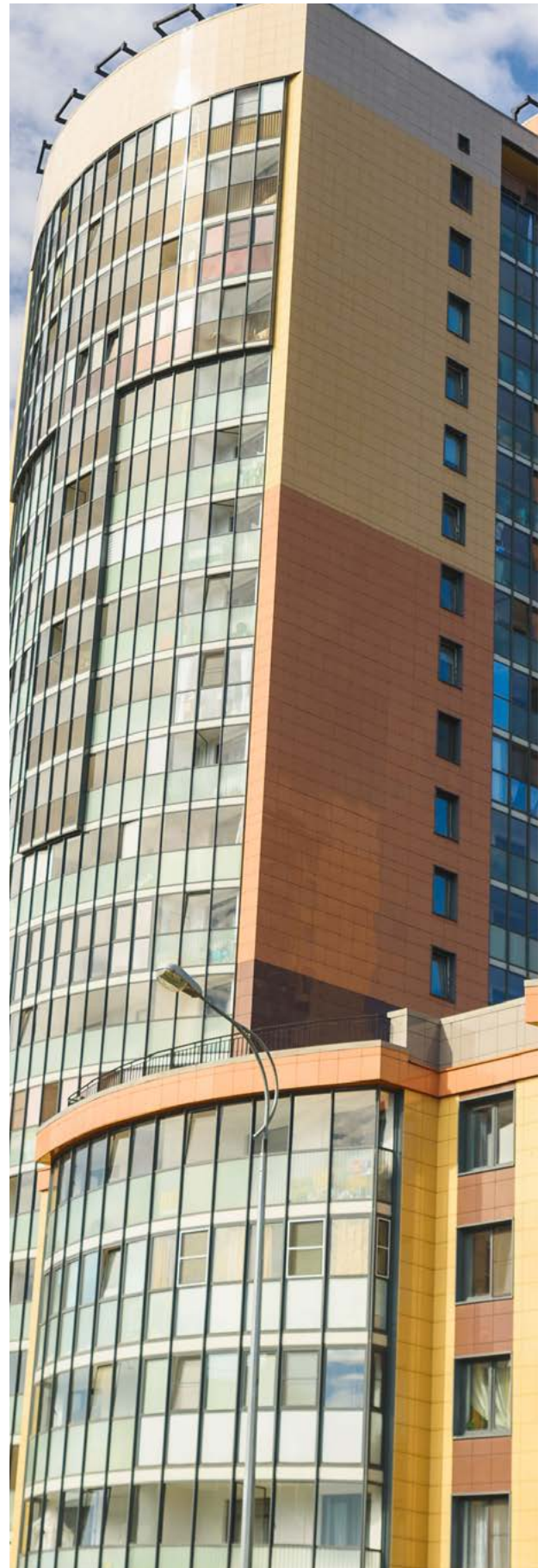
Danielson and Scott (2006) reviewed a survey of 792 small and medium US businesses, defined as having fewer than 250 employees, with most having fewer than ten. In comparison to large firms, such businesses have fewer personnel and fewer resources for complex project evaluation, and they typically operate with greater capital constraints. It was found that these small firms were far less likely to use DCF as the primary evaluation tool and some did not use it at all. Gut feeling was the most common approach to project evaluation, then payback, then accounting rate of return, then DCF. The use of multiple methods was not common, which the authors linked to personnel constraints. Harjoto and Paglia (2012) surveyed (mostly small) privately owned US companies, with approximately 350 responses. They found that

the choice of appraisal method was influenced by the approach to business planning in general, and by the sources of funding used by the firm (family, private equity, venture capital, banks, etc.). The most common decision methods were payback, general market analysis and gut feeling. Between 30% and 40% used IRR and DCF techniques, with more use in cases where cash flow uncertainty was lower. Few small businesses appeared to calculate their own WACC.

To summarise, the appraisal of developments in the UK is similar to other areas of project appraisal in that a variety of techniques are used that vary in their level of sophistication. The project appraisal literature suggests that size of firm appears important, with the larger organisations generally adopting more sophisticated approaches and return target measures. This needs to be investigated for the real estate development industry.

Less obviously, there is a strand of argument within this literature that highlights the limitations of mainstream DCF where projects have option-like features or are subject to great uncertainty around future cash flows. This might explain why organisations involved in land promotion activities at the early stage of the development process, when the level of optionality is high, prefer to use simple appraisal techniques and rely on cash margins for benchmarking developer's profit. Meanwhile, another strand of argument in this literature highlights why the target rates or cash margins used in appraisals might be much higher than a firm's WACC would suggest. It relates to the desire to focus on the most profitable opportunities in a setting where finances and/or operational capacity are constrained. So, if firms cannot do all the positive NPV projects that they identify, they need to focus on those that will provide very good returns.

There is limited literature on what the required returns or profit margins might be in the UK development industry and even less on what rates of return have been achieved. This is in contrast with the commercial real estate investment sector, where performance measurement and benchmarking against competitors is an established activity. The next section examines the sparse material that does exist on required and achieved returns for real estate development activity.



## 3.0 Developer returns: evidence on required and achieved returns

### 3.1 Required returns

There is little theoretical discussion of the target or required rate of returns for real estate development projects in the academic literature. Yet estimating a required rate of return is necessary when deciding to bid for, retain or sell sites, or commence development on a particular site. It is inherent to the process and an unavoidable element of all project evaluations. One obstacle to the choice of a profit figure or return rate is that little is known about the performance of development schemes in general, while each individual scheme represents the creation of a new asset with no prior cash flow and with highly-specific features concerning the site, process and intended end-product. Nevertheless, the appraisal of a development site requires an estimate of expected return, either as an input into the appraisal or as a benchmark against which the results of the appraisal can be compared.

One approach has been suggested by Geltner and Miller (2000) as an alternative to making simple, judgemental assessments of the target rate. This has been extended by Geltner et al. (2007) and Geltner and de Neufville (2018). These authors argue that the cash flows from a development scheme can be separated into the construction costs and the revenues from the built assets,

and that different target rates can be applied to each set of cash flows within a discounted cash-flow framework. They contend that the rate applied to construction costs should be lower than that applied to expected revenues as they argue that the former is less volatile than the latter. Once a land value has been obtained from the appraisal, the single, blended rate that reconciles this sum with the present value of all the inflows and outflows can then be backed out. Key to this approach is the assumption that target rates for built assets and for construction costs are easier to determine than a target rate for the development scheme outright. Meanwhile, both Brown and Matysiak (2000) and Geltner and Miller (2000) suggest the use of historical return data from listed real estate development companies as a potential reference point.

There are two main sources of empirical evidence on required returns or profit margins for real estate development projects in the UK: evidence from surveys and evidence from published development viability appraisals. Beginning with the former, Marshall and Kennedy (1993) found that the developers' minimum cash margin was between 15% and 18% of development costs in the majority (60%) of responses to their survey, while it was 18% to 21% of costs in 30% of responses and between 12% and 15% of costs in 10% of responses.



Out of seventeen area-wide viability studies examined in Coleman et al. (2013), seven adopted a profit margin of 20% of GDV, four were below this figure and two were above this figure. Three studies adopted profit on costs between 15% and 20% and one used an IRR of 15% per annum.

Southwark London Borough Council (2014) looked at viability appraisals undertaken in their borough. Nineteen appraisals separated the profit margin for private housing from affordable housing and five used a blended margin. Of the nineteen margins on private housing, twelve were expressed as a percentage of GDV (six at 20%, five below 20% and one above), five as a percentage of cost (ranging between 10.5% and 20%), and two were expressed as IRRs (at 20% per annum). The five blended margins were of a similar order, ranging between 17% and 20% of GDV or cost.

Crosby and Wyatt (2016) found that, out of twenty UK planning appeal cases where the level of developer's return was reported, ten adopted a profit margin of 20% of GDV, six were below this figure and one was above. Three adopted a profit on costs margin between 15% and 22.5%. This variety in metrics and margins continues to be apparent in more recent cases. Looking at a viability study, a planning appeal and a renegotiation of a S106 agreement from 2017, profit margins range from 17.5% to 20% and an IRR is agreed at 20%<sup>1</sup>.

The Investment Property Forum (IPF, 2015) reported that housebuilders undertaking development with planning risk sought target rates of return of 20% per annum, and these dropped to 15% per annum for schemes without planning risk. Developers/investors constructing and then retaining schemes were reported to seek rates of return of 10-12% per annum. This report is notable for stating target rates rather than cash margins and this raises the issue as to whether the types of organisation discussed (housebuilders and institutional investors) are adopting different methods and types of return metric to those used traditionally in the real estate development sector. Yet the evidence of Hutchison et al. (2017) cited above suggested otherwise.

Savills (2017) published a report that discussed residential developer returns in some details, stating that:

*'[t]he level of return required by a willing developer needs to have regard to the scale and complexity of the project in question, its cash efficiency, the scale of investment required and the embedded sales risk'*

and the

*'[...] developer margin is essentially split into three components with Net Operating Margin, overheads and finance needing to be considered in order to derive a gross hurdle rate' (p2).*

In terms of quantum, Savills (2017) reported targets for operating margin of between 15-20% of GDV across the economic cycle, and between 5% and 12% of GDV for overheads and finance, depending on the scale and type of developer. Combined, Savills' analysis suggests a developer's cash margin between 20% and 25% of GDV, but higher for SMEs (in the region of 25-30%) to reflect higher project finance costs. Savills notes that this target return does not take account of any abnormal costs, and that target returns will be at the lower end of the range for small, low density and less constrained sites and at the higher end for large, complex sites, particularly ones that are brownfield.

Interestingly, Savills (2017) goes on to discuss another widely used metric for developer returns, Return on Capital Employed (ROCE), stating that:

*'[...] in most cases, Return on Capital Employed (ROCE) is considered to be an equally important indicator, particularly on large capital-intensive schemes. A target ROCE needs to be achieved alongside the Site Level Net Margin of 20-25% on GDV' (p3).*

Savills regards a minimum developer return of 25% of capital employed. Savills (2017) quotes four *ex ante* developer returns from planning appeals that occurred between 2013 and 2015, and three of them are 20% of GDV and one is 22% of GDV<sup>2</sup>. Finally, Savills argues that if a *rate* of return is used, then it should also be a minimum of 25% per annum. However, this is not consistent necessarily with a cash margin at this level; it depends on the length and nature of the scheme as to how closely these metrics match (see Crosby et al., 2018).

Major housebuilders often have targets reported in their end-of-year annual reports and accounts. For example, Barratt Developments suggests that its target for ROCE is a minimum of 25%, while the target gross margin for new land acquisition is 23%. Meanwhile, Taylor Wimpey report a target operating profit margin of 21-22%.<sup>3</sup>

Focusing on cash-flow development appraisals, Crosby et al. (2018) gathered evidence from published appraisals that reported target rates of return either in place of or alongside the more typical cash margins. These appraisals were undertaken as part of the planning process for estimating and negotiating levels of planning obligations and infrastructure payments. Table 1 summarises their findings. Some of the rates of return are either very large or counter-intuitive. This is because profit on cost or value is the target metric and the rates of return are reported as output IRRs when using standard development appraisal software.

<sup>1</sup> Warwick Road Estate Options Viability Report for the Royal Borough of Kensington & Chelsea by CBRE: 20% on cost. Parkhurst Road, Islington, appeal: 18% on cost. Appeal relating to land off Lowfield Road, Bolton upon Dearne, Barnsley [Ref APP/R4408/W/17/3170851]: 17.5% for private housing and 8% for affordable housing. Battersea Power Station deed of variation to S106 agreement, Wandsworth London Borough Council: 20% IRR

<sup>2</sup> Land at The Manor, Shinfield, Reading [Ref: APP/X0360/A/12/2179141 - dated 8th January 2013]: 20% GDV. Land at Lowfield Road, Rotherham [Ref: APP/R4408/Q/14/2216976 - dated 9th September 2014]: 22% GDV. Land between Lydney Bypass and Highfield Road [Ref: APP/P1615/Q/14/2215840 - dated 18th June 2014]: 20% GDV. Land to the North and East of Lisvane, Lisvane, Cardiff [Ref: APP/Z6815/A/14/2224216 - dated 28th August 2015]: 20% GDV.

<sup>3</sup> As reported in Barratt Developments Plc Annual Report and Accounts 2018, pages 8-9, and in Taylor Wimpey Annual Report and Accounts 2018, page 26.

Table 1

Sample of development project IRRs from viability studies

Report	IRR (per annum)	Appraiser
Strategic Housing Land Availability Assessment for Wyre Forest District Council (2009)	15% to 80%, most likely as a result of assuming a standard developer's profit of 20% on costs for schemes with different development periods	GVA
Planning appeal for Holsworthy Showground, Devon (2010)	32% [profit on value input as 18%]	DTZ
As above	43% [profit on value input as 20%]	Alder King
Planning appeal: Mount Pleasant Delivery and Sorting Office, London (2010)	20%	Gerald Eve
Chelmsford City Council CIL Non-Residential Evidence Base – Update, (2013)	19% to 40%. The variation resulted from different letting void periods. Including a letting void increased costs, but as profit was calculated as a percentage of those costs, there was no obvious penalty [or risk] associated with it. Instead, land value was reduced and the landowner was penalized. Yet the implied IRR for the developer fell owing to the delay in receiving revenue that is associated with the void.	Roger Tym and Partners
City of London CIL viability study, 2013	14% [assuming no growth] 18% [assuming growth]	Gerald Eve

In Annex D of the Independent Review of Build Out (Letwin, 2018) Justin Graze, Head of Residential Development Land, and Grainne Gilmore, Head of UK Residential Research at Knight Frank, say that housebuilders look at profit on sale and ROCE whereas commercial developers look at profit on cost. However, it is then reported that 20% profit on costs is equivalent to 25% of GDV, whereas this should be the other way around. David Jackson, Head of Planning and Emily Williams, Senior Researcher at Savills, say that 'typically developers sought a profit margin of 15-20% (gross sale value)' (Letwin, 2018, p.AX126). A developers' round table meeting, held on 8 February 2018 as part of the Letwin Review, found wide agreement that, on large sites, a typical operating margin (before cost of finance) would be 20%.

Most recently, to try and reform the practice of viability assessments and stop any possible distortion of land markets (see Crosby and Wyatt, 2016), the UK Government (MHCLG, 2018) has published a new set of Planning Practice Guidance and specified a 'suitable' developer profit of between 15% and 20% of GDV. This accords with the findings above as to the typical cash margins used by real estate developers. However, it does not specify in which cases the lower or higher ends of this range should be used and is subject to the more general criticism around using a cash margin for schemes of different lengths, which can imply widely differing IRRs as the evidence in Table 1 demonstrates.

### 3.2 Achieved returns

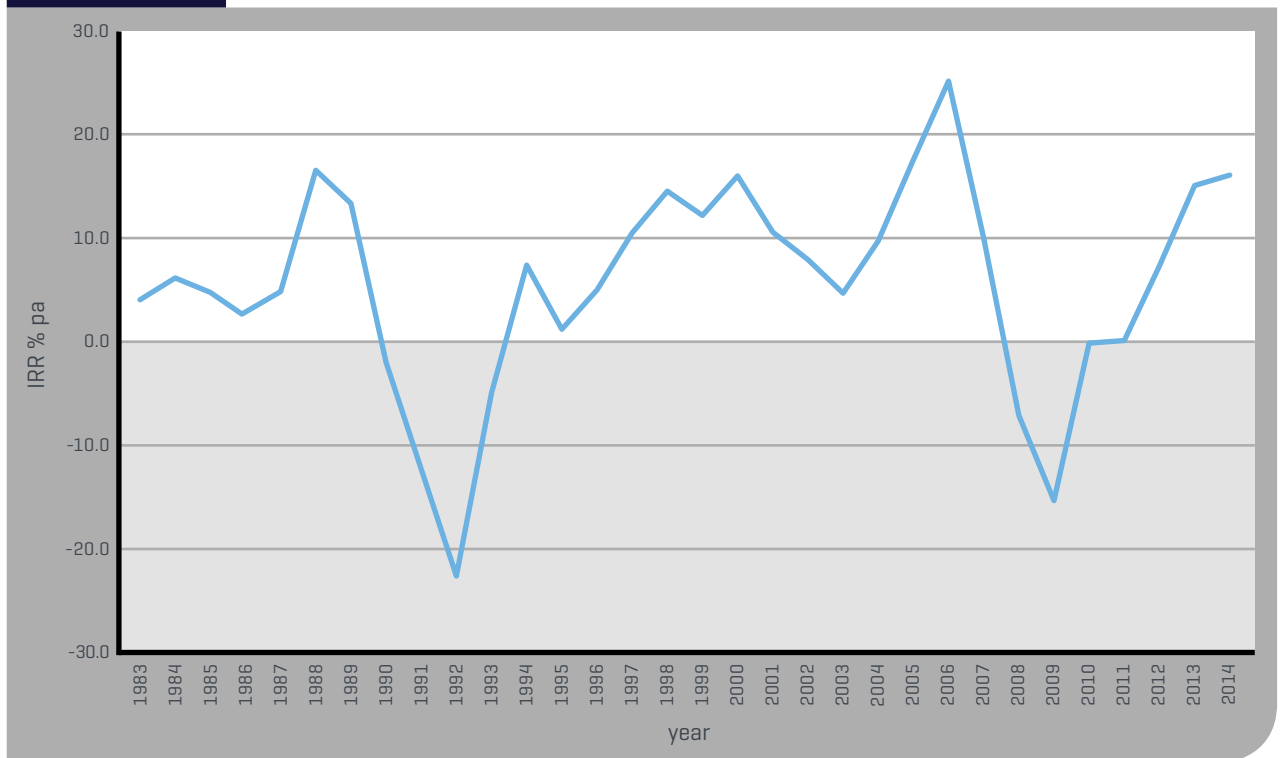
Unlike standing investments, for which a multitude of performance measures and market information is available, there is very little reported analysis of achieved financial returns to development projects. Whether developments, on average, achieve the returns that developers and other stakeholders expect is an important question for understanding whether land and property markets are operating effectively, and whether development as an activity is adequately compensated for the risks that are undertaken.

One way of inferring the financial performance of developments is to examine the accounts of real estate developers, which is the subject of section 5 of this report. However, real estate companies may be involved in a mix of investment and development activities, and aggregate performance does not shed much light on the range in returns achieved by individual schemes. An important source of data on the performance of individual development schemes is a study released by IPD (2010) together with series published later as part of the MSCI *UK Annual Property Digest*.

IPD (now MSCI) produced a development returns series from data supplied by its clients on development schemes within their real estate investment portfolios.

Figure 1

Median IRR from UK developments, all property types: 1983 to 2014



Source: Based on data from IPD [2015].

Note that this series predominantly reflects the performance of commercial real estate developments rather than residential schemes. As development returns have not been published by MSCI since the end of 2014, the analysis below focuses on data on returns for up to that point in time (see IPD, 2015). Figure 1 charts the median IRR in each year from 3,876 UK developments completed between the beginning of 1983 and the end of 2014, an average of 121 developments per annum. The return is the annualized IRR recorded as at the year of completion.

The mean of this time series is 5.5%, with a median of 6.5% and a standard deviation of 10.3%, while the range is 48.5%. These numbers indicate that there is huge variation through time in the 'typical' return achieved from development projects, the best years for completion being 1988, 2000, 2005 and 2006, and the worst years being 1991, 1992 and 2009. The variation is perhaps unsurprising, but the mean and median are notable, as they are below the mean and median for total returns on standing investments over the same period, which were 9.6% and 10.6%, respectively (again based on IPD, 2015). This is displayed visually in Figure 2, where the average returns for investments are shown to be almost double those of developments, while the standard deviation in each series is virtually the same. The figures for developments

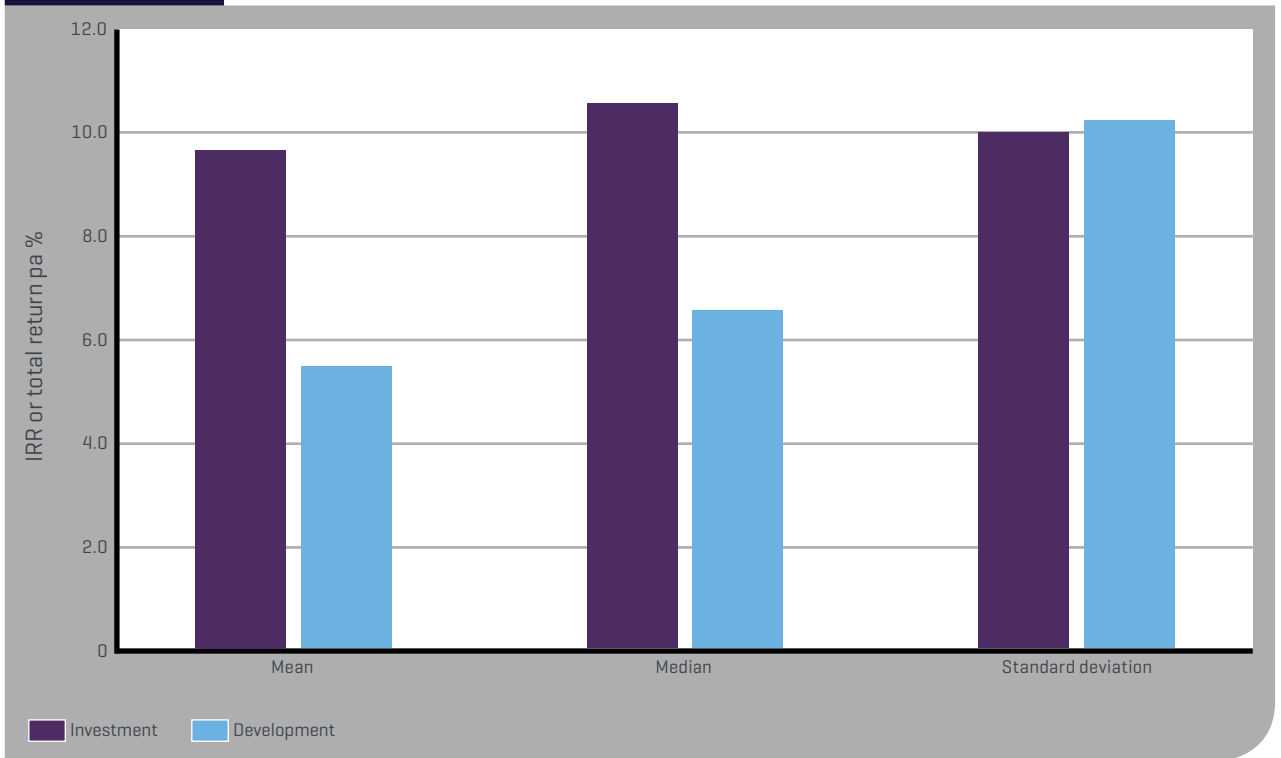
and standing investments are not strictly comparable, as the returns are not computed in the same way, but these findings seem counter-intuitive, as development is perceived to be more volatile and riskier than owning existing investment properties, thus justifying higher returns.

In the early part of the period from 1983 to 2014, development activity recorded by MSCI was dominated by schemes in the retail and office sectors, but, following the financial crisis, the importance of these sectors declined and the 'other' category became the leading sector in terms of number of schemes. In this dataset, this category includes healthcare, education, leisure, hotels and residential, though residential is now identified separately within MSCI publications, reflecting how the institutional real estate investment market in the UK is changing.<sup>4</sup> As the composition of the sample of developments has changed through time, this raises the question as to what returns have been achieved by schemes of different types. Figure 3 illustrates that the highest average IRR was achieved by the retail sector, at 8.3% per annum, while office schemes were the worst performing at 4.3% per annum, though this masks significant regional variation, with office schemes in Central London performing better on average than those in the UK regions (as also found by IPD, 2010). The retail and office sector series also exhibit the most variation.

<sup>4</sup> Appendix B provides a more detailed breakdown of these sectors

**Figure 2**

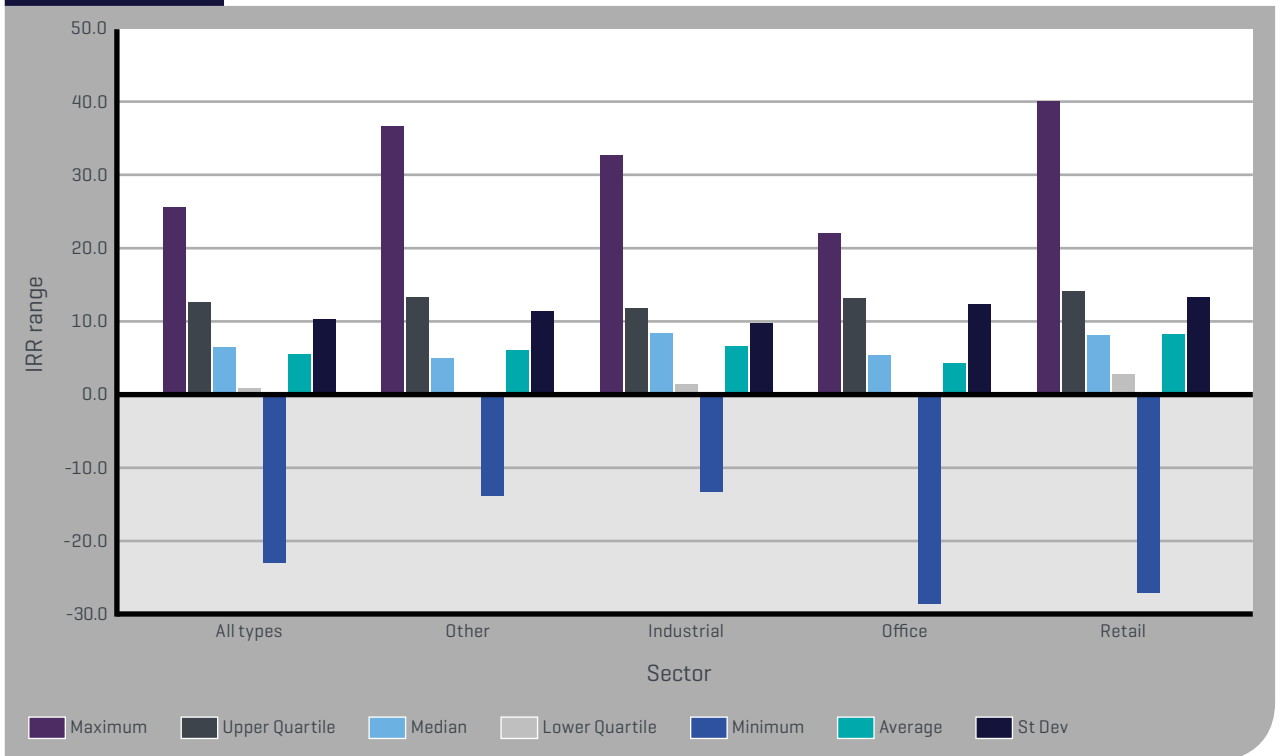
**Comparison of returns from all standing investments and all developments: 1983 to 2014**



Source: Based on data from IPD [2015].

**Figure 3**

**Mean, median, standard deviation and range of IRRs, by sector: 1983 to 2014**



Source: Based on data from IPD [2015].



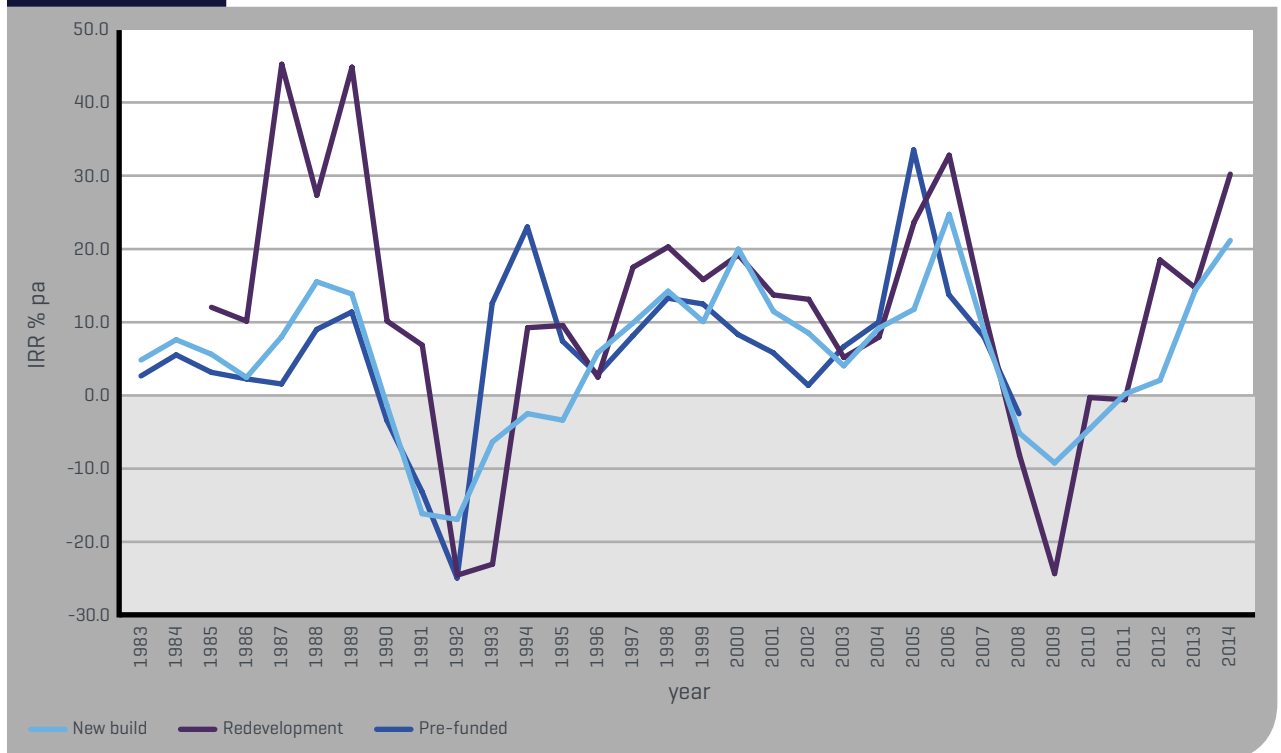
The MSCI sample does not consist purely of new build development schemes. Instead, there is a mixture of new build schemes, redevelopments and pre-funding of schemes in this dataset. This could be a factor influencing the findings for achieved returns by year or sector, but how these different project types are spread across time or property types is not known. Figure 4 illustrates the returns from the different types of project and it highlights that redevelopment / refurbishment has been the most profitable form of activity in this sample of developments, with an average median IRR of over 11%, though it also has more volatility than the other categories. Pre-funding of developments has produced a similar profile of median IRRs over the measurement period to new build schemes, with only a slightly lower median return overall. Again this seems counter-intuitive given the significant increased risk of the different types of activities.

Finally, Figure 5 illustrates the impact of the development length on IRR per annum. It shows that, over the period covered by the data series, the longer schemes produced the lowest annualised IRRs. Average returns were fairly consistent between developments of different durations up

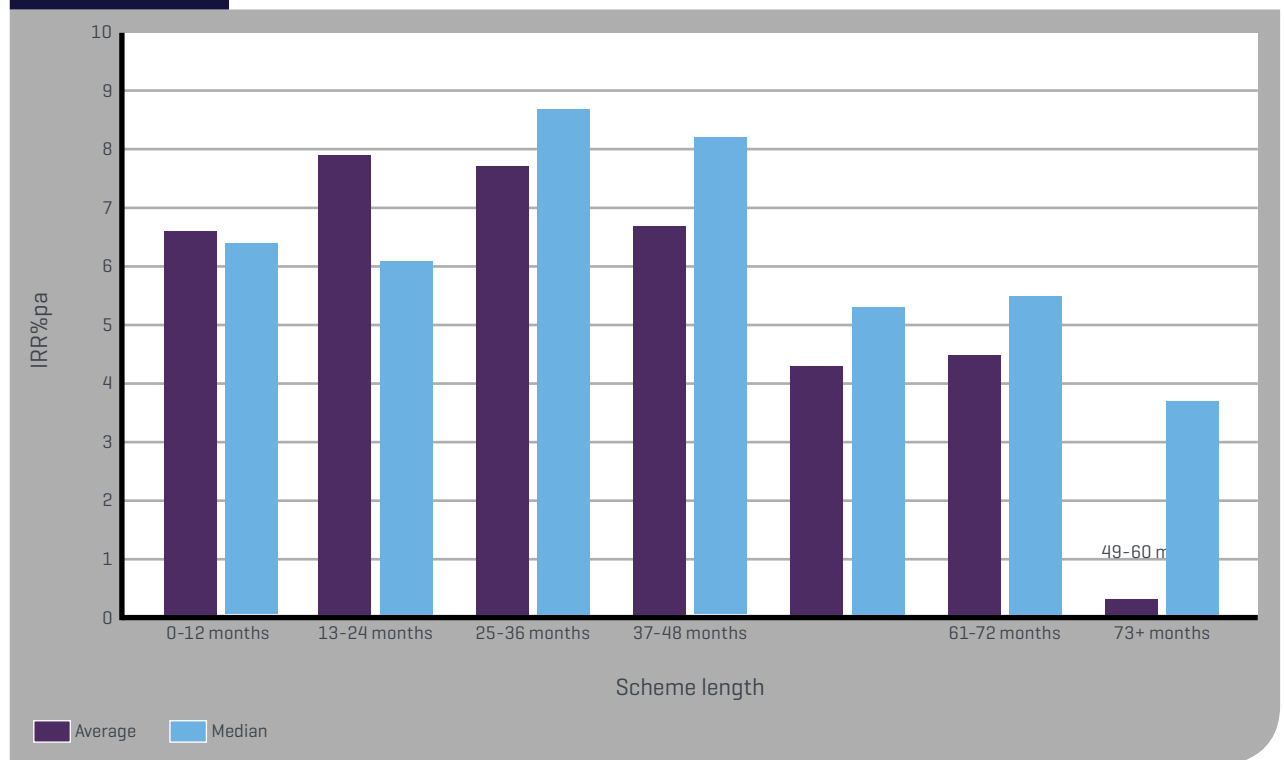
to four years in length, but appear to reduce for schemes that are longer, though the sample sizes decline as scheme length increases. The characteristics of the longer schemes are not known; they could include periods of inactivity or phasing of completions where multiple buildings are being built. Nonetheless, the pattern is notable.

IPD (2010) sets out in more detail some of the definitions and assumptions relating to the MSCI dataset. For example, in calculating returns, it is assumed that the completion date was either six months after the end of the construction period or the date at which 75% of the accommodation had been let. MSCI (and IPD before) did not collect from investors their own measures of rates of return, but calculated IRRs using their records of valuations or purchase/sale prices and cash flows. A redevelopment was identified via the proportion of capital spend relative to capital value; 25% being the arbitrary benchmark. The 2010 study also has more information on the dispersion of achieved IRRs across individual development projects, owing to the access the authors had to performance data at scheme level.

**Figure 4** Median IRR for all projects, by development type: 1983 to 2014



Source: Based on data from IPD [2015].

**Figure 5****Median IRRs for all development projects, by scheme length: 1983 to 2014**

Source: Based on data from IPD [2015].

There are issues with the assessment of development returns when schemes being measured are not limited to the process of new site purchase, build and sale. The MSCI data covers major refurbishments, extensions and redevelopments of existing buildings, split phases of ongoing larger schemes, and pre-funding agreements between investors and developers. The records do not include information on original target returns, planning status, debt financing, or precise timing of construction and letting to allow more detailed analysis of the determinants of achieved IRRs to take place. There may be issues of deciding precisely what the date of commencement and date of completion are, particularly when developments are notionally sold into an investment portfolio. This also raises the issue of the 'price' at which such assets are transferred. However, this source represents the only large-scale dataset on the financial performance of developments of which the authors are aware. Even analysis of the aggregate data raises interesting questions for research in this area. For example, if high expected returns are being built into development appraisals, why is the achieved performance for this sample of schemes worse than that from holding existing buildings? Why do longer schemes appear to achieve lower per annum returns than shorter schemes? Some of these issues are picked up in later sections of this report.

## 4.0 Research methods



Given the fragmented information available on the profitability of development and the different metrics that can be applied within different appraisal models, this research set out to extend knowledge of how development appraisals were being used in practice and how profitability was being assessed within the sector. The method consisted of three strands. First, financial data relating to development companies was explored for evidence of the metrics used. This data consisted of financial databases, directories and the published accounts of individual companies. The results of this analysis are shown in section 5. Second, a questionnaire survey of development companies was undertaken. Third, interviews with developers explored in more depth some of the issues raised by the analysis of accounts and the survey. The results of the questionnaire and interviews are presented together in section 6.

For the questionnaire, the ‘population’ of UK real estate developers was taken to be all those companies listed in the directories published by Property Data (2018a, 2018b). There are two directories released each year. In 2018, these were:

- The UK Commercial Developers Directory 2018 Edition
- The UK Housebuilders Directory 2018 Edition

Contact details for developers are recorded in these directories, but, following the introduction of the General Data Protection Regulations in 2018, personal email

addresses are no longer available. This meant that the questionnaires were sent to company email addresses. Many of the companies listed in the directory are subsidiaries of parent companies – regional offices for example. Only the parent companies were sent questionnaires in these cases. Also, the directories did not have email addresses for all the companies listed, 50 were missing from each directory. Questionnaire participants were sent details of the research project and its purpose, as well as contact details for the researchers should further information be required. The responses were analysed and presented so that anonymity of the respondents was preserved. A copy of the questionnaire survey instrument is included in Appendix C. The questionnaire was first piloted with 50 developers, 25 from the commercial developer directory and 25 from the housebuilder directory. For the main survey, 1,271 commercial developers and 1,450 residential developers were emailed the questionnaire, a total of 2,721 recipients. A total of 160 responses were received, representing a response rate of 6%. While the response rate appears low, it is not out of line with surveys of corporate financial practices.<sup>5</sup> The absolute number of responses allowed for disaggregation by type of developer – whether the developer was solely residential in scope or not solely residential (encompassing commercial developers and developers of both asset types). This classification was based on the information supplied by respondents and not the directory from which a respondent was sampled.

<sup>5</sup> For example, the response rate reported by Graham and Harvey [2001] was 9% and the response rate reported in Jagannathan et al. [2016] was 3.4%.



The Property Data directories also include selected financial details (turnover, profit, etc.) of some companies and this information was analysed as part of the first strand of the primary research to give a snapshot of current and recent profitability (using the updated 2019 edition for housebuilders published in January 2019, after the surveys were carried out but before the publication of the results). However, most developers listed in the commercial developer and housebuilder directories are very small companies and financial information is not available. Of the commercial developers, 325 had financial data and, of the residential developers, 248 had financial details reported in the directories.

In the latest financial year for which financial data were available, the total turnover from the residential developers recorded by Property Data (2019) was £38.7 billion. For the commercial developers it was £14.4 billion (Property Data, 2018a). A small number of very large housebuilders are responsible for most of the turnover. £24.7 billion (64%) of turnover is produced by the top eleven housebuilders. For commercial development the equivalent statistic is £4.6 billion (13%), so not nearly as concentrated as the residential sector. Put another way, the top 26 commercial developers account for 50% of turnover in that group, whereas the top six residential developers account for 50% of the recorded turnover in the residential sample. However, many of the commercial developers are also investors, so the financial comparisons between residential and commercial developers are not like with like.

The analysis of the financial data in Property Data (2018a, 2019) was supported by financial data extracted from the S&P Global Market Intelligence database (formerly the SNL database).<sup>6</sup> S&P Global Market Intelligence reports and analyses key corporate, financial and portfolio data for companies in the real estate sector worldwide over a long period. Here, analysis was undertaken of the profitability ratios for seven of the largest UK housebuilders from 1998 to 2017. This data was supplemented by data from individual annual reports and accounts of the seven major UK housebuilders, focusing on the period from 2010 to 2017.

The third strand of the research was the interview exercise. Eight interviewees were purposively selected from a cross-section of organisations involved with residential and commercial development. To preserve the authors' anonymity of the interviewees and their organisations, the authors have not reported the names of either the participants or their companies. This, it is hoped, encouraged the interviewees to speak more freely about the discussion topics. The organisations included a large national housebuilder; a leading investment institution; a major mixed residential and commercial company with separate land promotion, development and construction arms; one large and one small development consulting company; a land promotion company; an urban regeneration organisation; and a major property company. Interview participation occurred under standard principles of knowledge of the research purpose, provision of informed consent, anonymity for interviewees, and the right to withdraw from the study post-interview.

<sup>6</sup> See [www.spglobal.com/marketintelligence/en/](http://www.spglobal.com/marketintelligence/en/) for further information

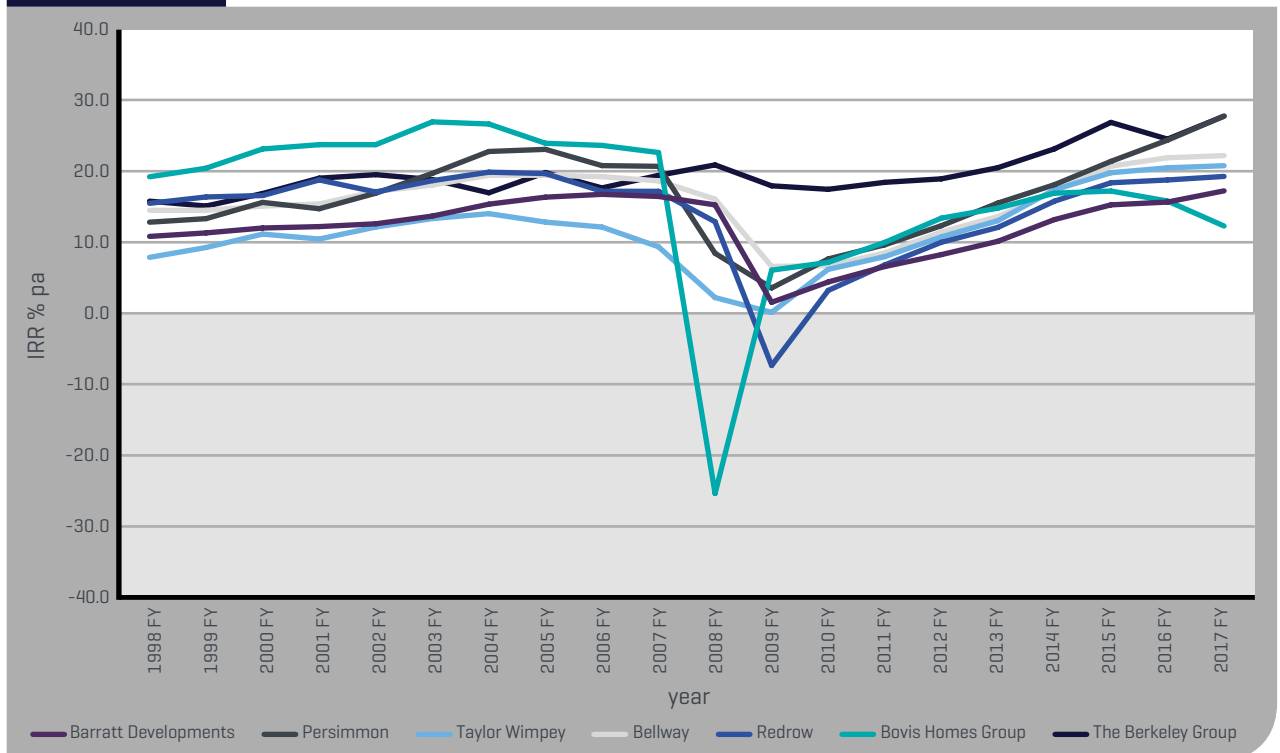
# 5.0 Analysis of financial accounts of developers

To the knowledge of the authors, there is little in the way of formal research on the financial performance and profitability of real estate development companies. However, there are often articles analysing housebuilders and developers in the trade press for the property and investment sectors. For example, Oakley (2016) analysed the financial performance of the major listed house building companies and suggested the key variables determining profit mimicked the basic residual valuation inputs of the selling price of housing, the cost of land and the build costs. He also indicated, confirmed by the interview carried out with the housebuilder as part of this research, that speed of building and selling was crucial to profitability and being able to cover fixed costs. Oakley suggests that the most important financial measures for housebuilders are the return on equity (post tax profits as a percentage of shareholder investment) and the operating profit margin (the percentage of turnover turned into profit before interest and tax).

The examination of financial accounts conducted for this research focused on a sample of the largest commercial and residential developers when ranked by turnover. This enabled a comparison to be made more easily between the aspirations of developers, their outcomes and any mismatch between required and achieved returns. Figures 6, 7 and 8 illustrate the operating profit margin, return on capital and return on equity, respectively, for the current top seven housebuilders (by revenue) over the period 1998 to 2017. In each case, figures relate to the financial year of the company, which may not be the same across firms owing to the use of different financial year end dates.

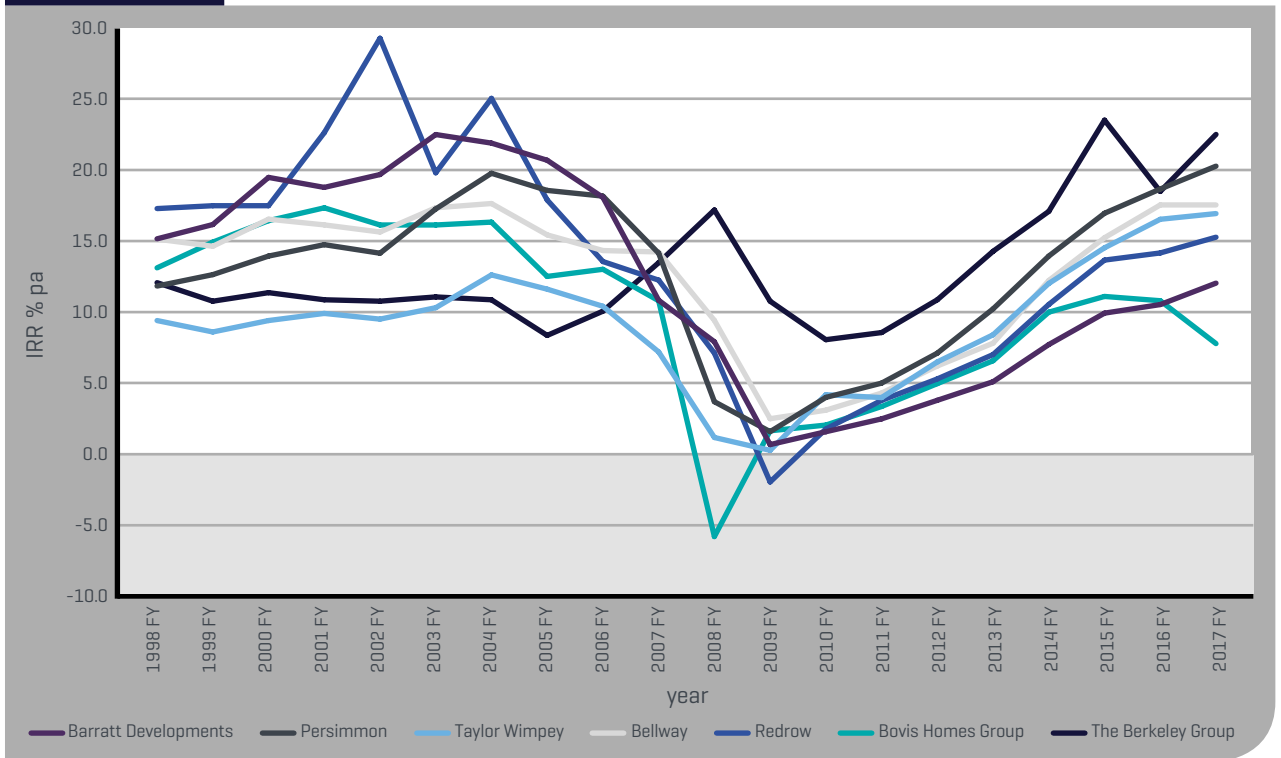
Following a volatile period associated with the early 1990s downturn in the UK housing market, Figure 6 shows that operating profit margins increased steadily through the late 1990s and early 2000s for this group of firms, from an average of 14% in 1998 to 19% by 2005. However, margins then fell during the financial crisis of 2007-09 and only recovered to pre-crisis levels from c.2014, though

**Figure 6** Housebuilders' operating profit margins: 1998 to 2017



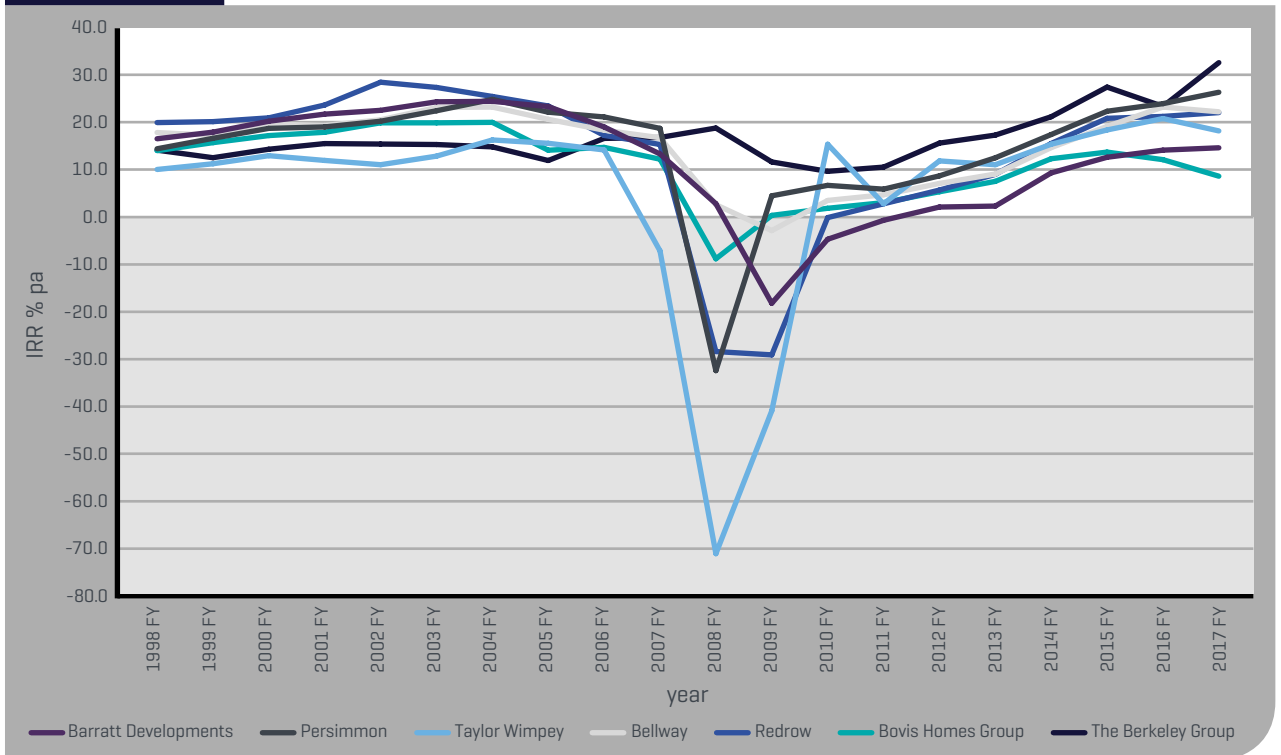
Source: Based on data extracted from the S&P Global Market Intelligence database

**Figure 7** Housebuilders' return on capital: 1998 to 2017



Source: Based on data extracted from the S&P Global Market Intelligence database

**Figure 8** Housebuilders' return on equity: 1998 to 2017



Source: Based on data extracted from the S&P Global Market Intelligence database

the average for the 2017 financial year was 21%. Similarly, Figures 7 and 8 show increases in the return on capital and return on equity for most firms up to about 2005-06. Both measures then decline, with average return on equity being negative in both 2008 and 2009, before rebounding in the 2010s.<sup>7</sup> The improvement in recent years is further captured by Figure 9, but the longer-term perspective illustrates that housebuilding, like all real estate development, is a cyclical industry. Only the Berkeley Group – by building almost exclusively in the London region – maintained a relatively consistent return on capital, return on equity and operating profit margin through the crisis period, which may reflect the amount of foreign buyer activity in that market.

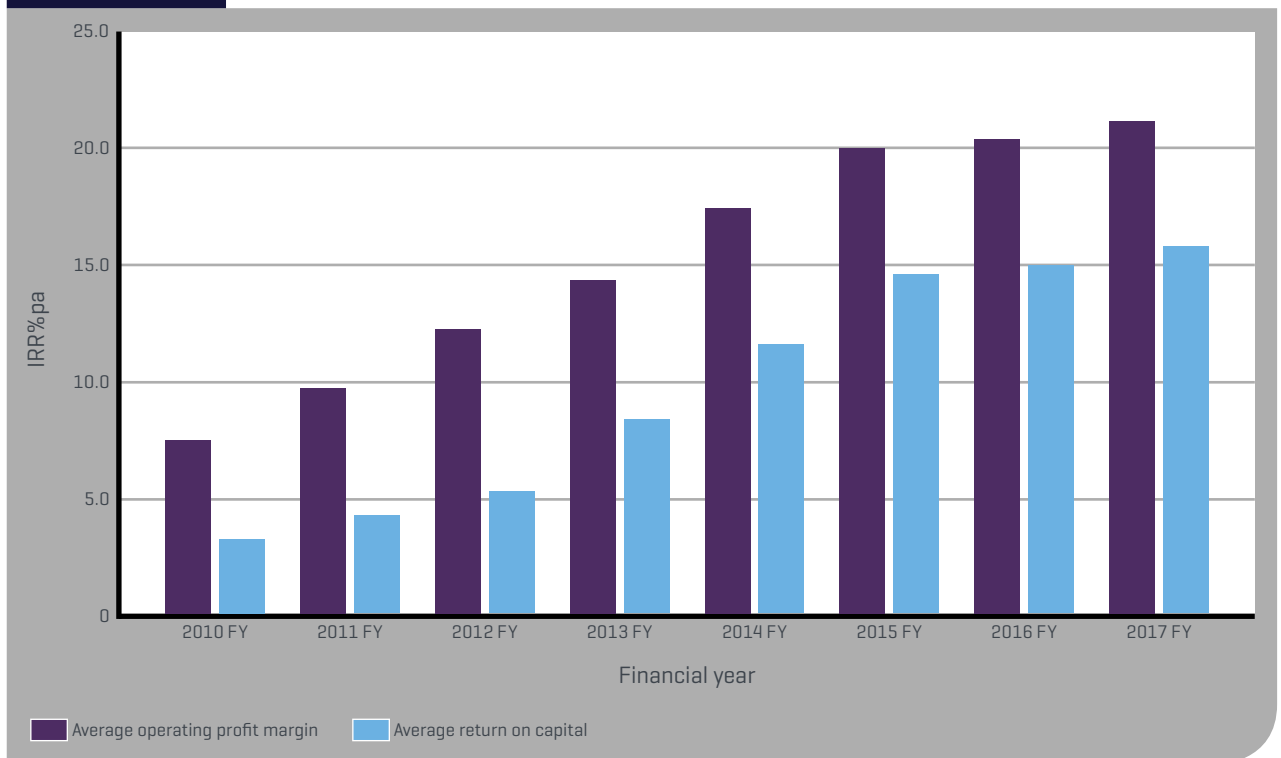
Figures 10 to 13 illustrate the plot completions, revenue per plot, profit per plot and the land bank to completions ratio of the seven major housebuilders. In line with the housing market recovery following the financial crisis, these indicators show a rising trend. Total completions increased from 42,000 in 2010 to over 70,000 in 2017 and land banks increased from less than 250,000 plots to nearly 340,000 by 2017. Hence, both output and potential for future output have increased in recent years. Yet land bank to completions ratios have fallen slightly as the number of plots in the land banks has not risen quite as quickly as completions. Rising from a very low level

in the aftermath of the financial crisis, profits before tax have risen from £280m to well over £4 billion in 2017. Both revenues and profits per plot also rose as UK house prices increased and market conditions improved. 67% more plots were delivered (Figure 10), while profits increased by 800% per plot (Figure 13) in the period studied.

Property Data (2018a; 2019) rank the top 200 housebuilders by turnover and list both turnover and pre-tax profit, enabling a comparison of operating margin by size of firm. Figure 14 illustrates the relationship between turnover and operating margin for firms in different size bands. The six largest firms by revenue have an annual turnover of between £2 billion and £5 billion and, on average, these firms achieved annual pre-tax profits on revenue of over 20% in all three of their last financial years recorded in the Property Data directories. The returns made by the top six firms are not repeated across other size bands, with the smaller firms, operating at below £50m turnover, achieving less than half the returns of the top six. This suggests that the profits across the housebuilding industry are not evenly distributed.

The Property Data directories do not contain information on profitability for commercial real estate developers. As many commercial development companies are multi-faceted, the returns that are reported (based on pre-tax profit and net asset value, for example) do not give any

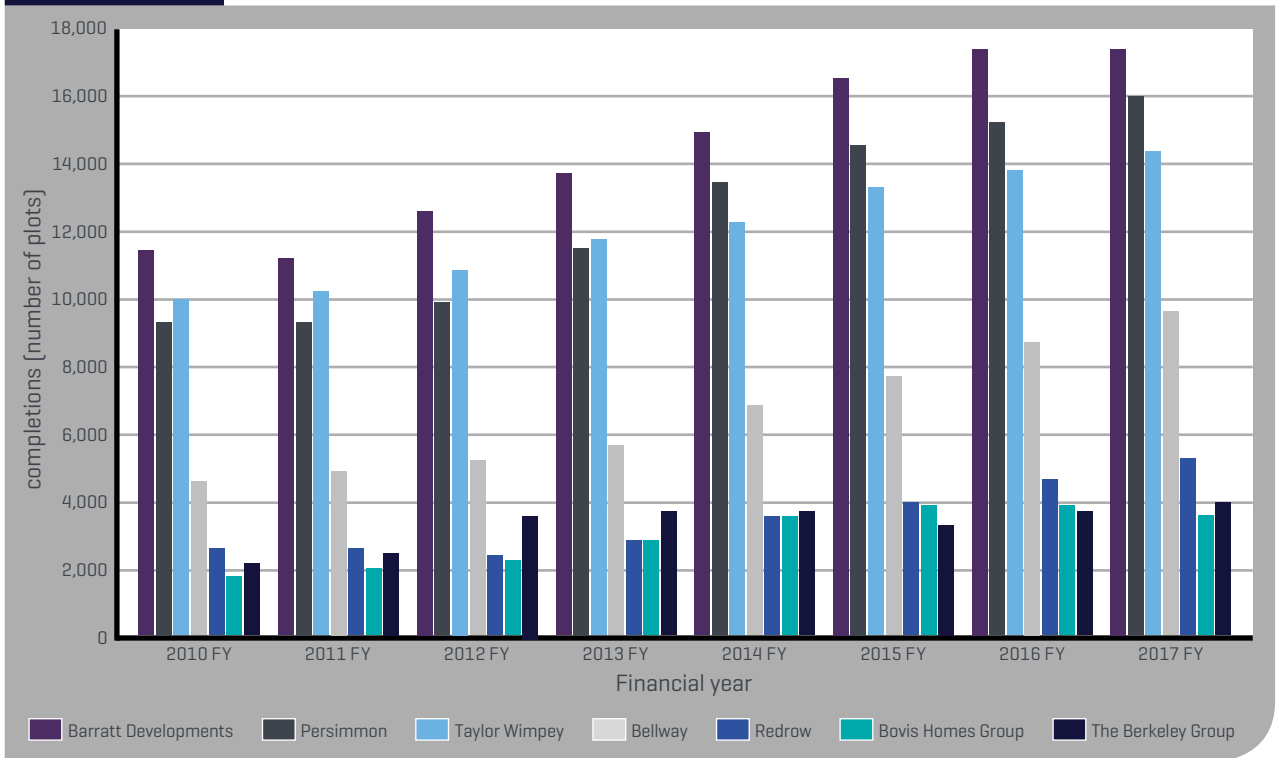
**Figure 9** Average profit margin and return on capital for selected housebuilders: 2010 to 2017



Source: Based on data extracted from the S&P Global Market Intelligence database

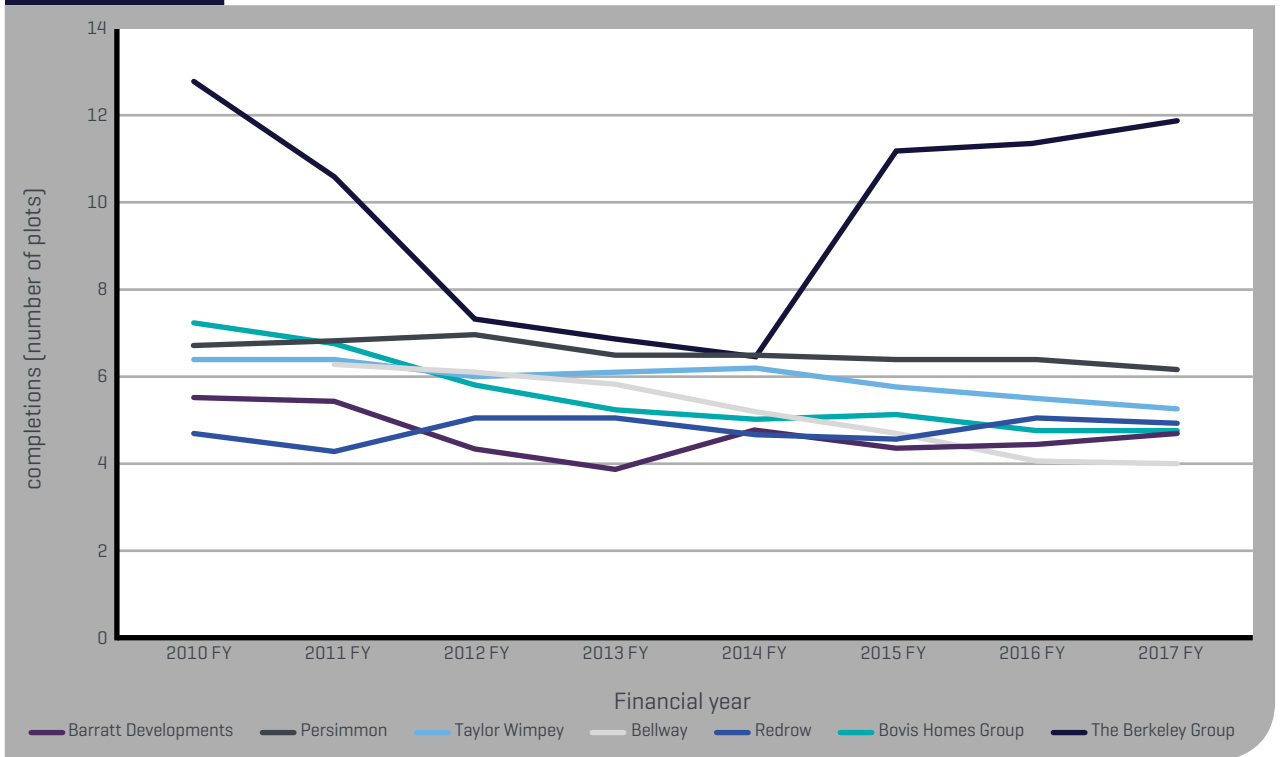
<sup>7</sup> S&P Global Market Intelligence record return on equity at -70% in 2008 and -40% in 2009 for Taylor Wimpey. The authors have chosen to curtail Figure 8 to illustrate better the trends for the other companies and periods in the dataset.

**Figure 10** Plot completions: 2010 to 2017



Source: Extracted by the authors from the published annual reports and accounts of each company

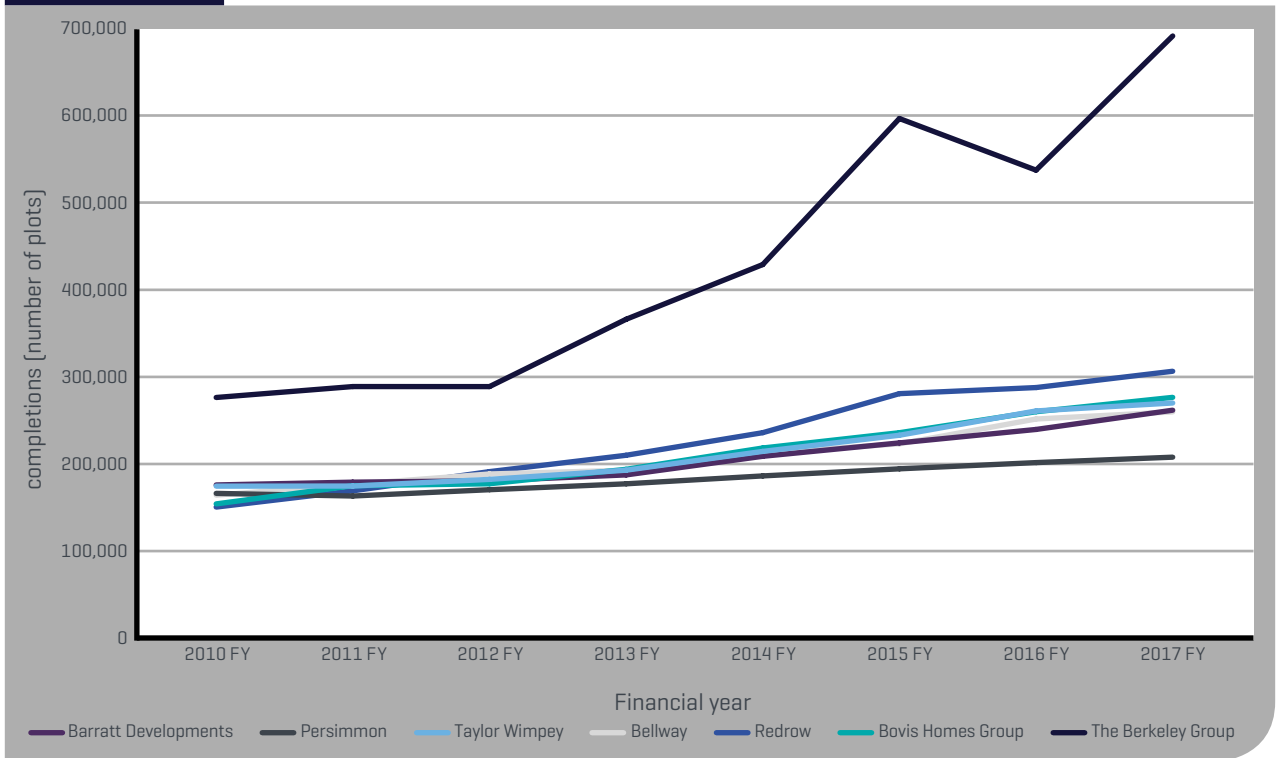
**Figure 11** Land bank to completions ratio: 2010 to 2017



Source: Calculated from data extracted from the published annual reports and accounts in each case

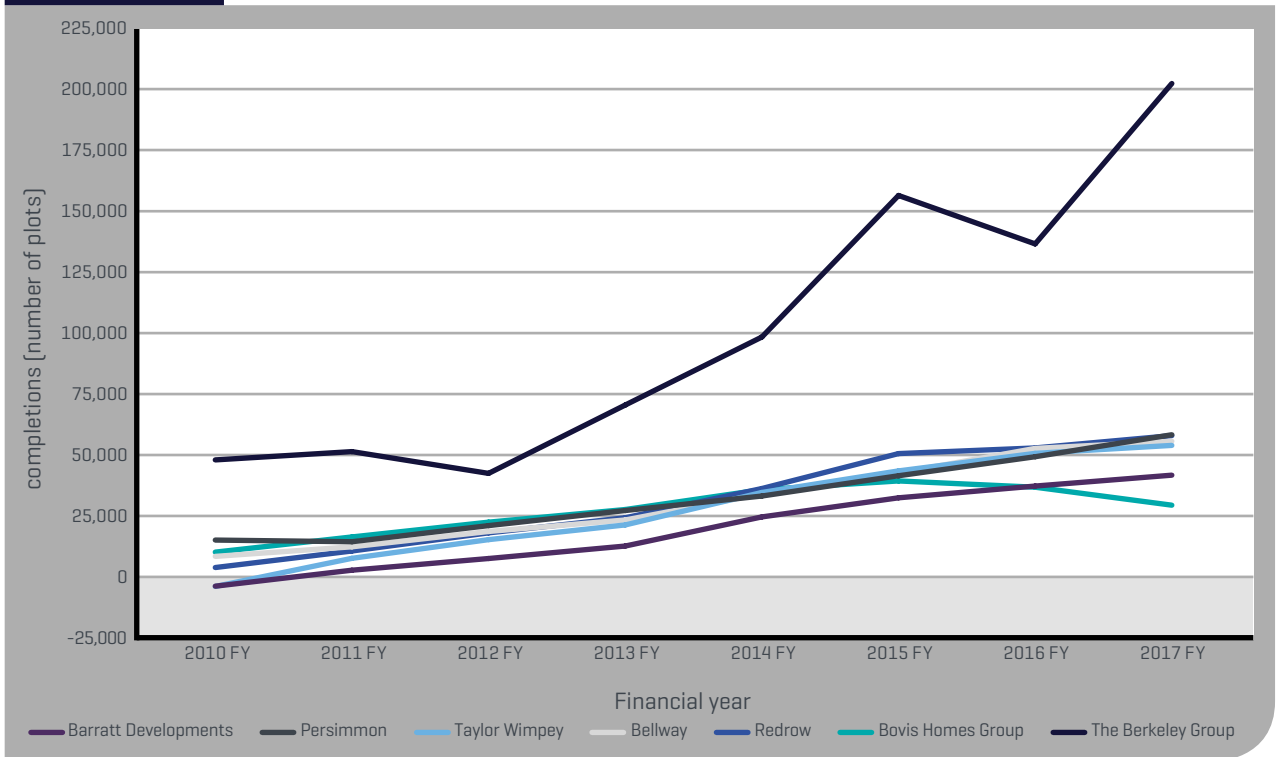


**Figure 12** Mean revenue per plot: 2010 to 2017



Source: Calculated from data extracted from the published annual reports and accounts in each case

**Figure 13** Mean profit per plot: 2010 to 2017



Source: Calculated from data extracted from the published annual reports and accounts in each case

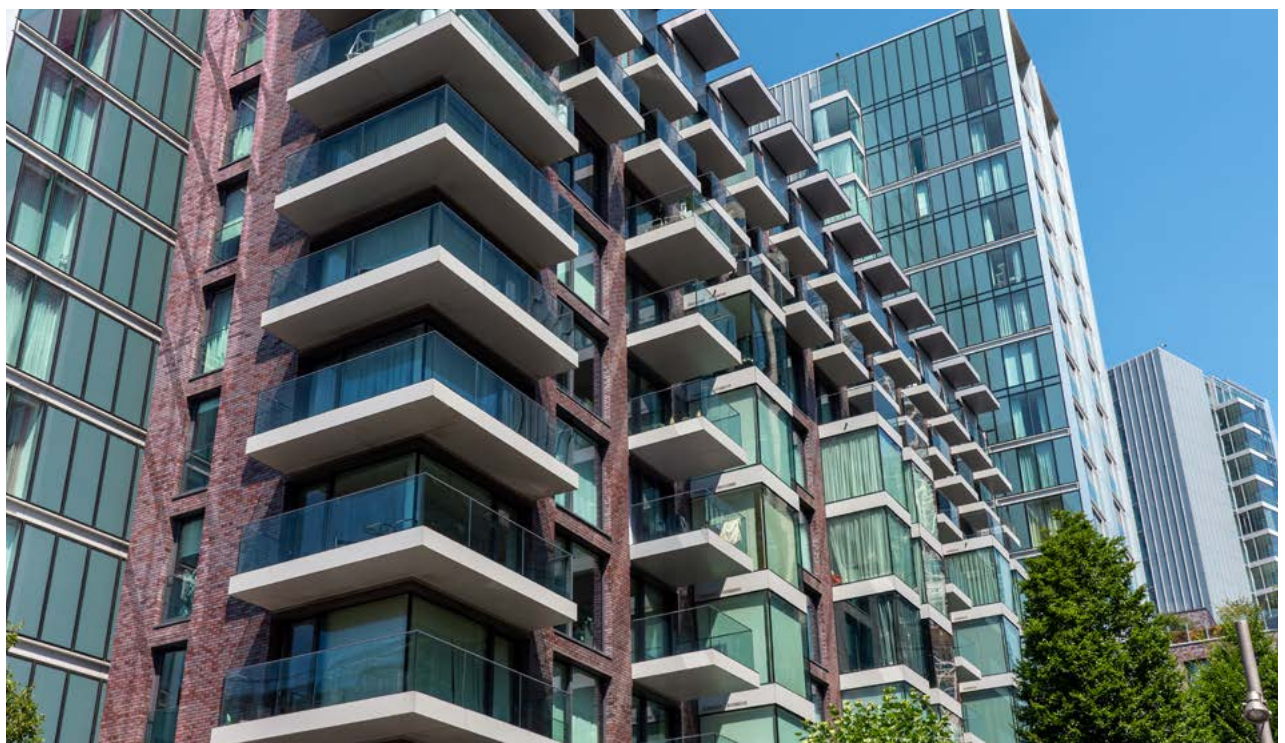
indication of development profitability. Even some of the largest listed property companies, such as Land Securities and British Land, do not necessarily report performance measures for development activity separately from that of their investment and other activities. The median ratio of pre-tax profit as a percentage of net asset value for 325 companies listed in Property Data (2018a) that undertake commercial development as part of their portfolio of activities was just under 10% in the last reported financial year (ending in 2016 or 2017) before publication of the Commercial Property Directory (Property Data, 2018a). The median return of profit as a percentage of turnover was 27.5%.

There are exceptions to this paucity of development-specific performance data. Since 2012/2013 Great Portland Estates has been reporting its development activity profit margins in the form of a return on costs and IRR from completed schemes. These are set out in Figure 15. The returns dipped in 2017 but appear to be well above those reported in the IPD analysis for the comparative periods of 2013 and 2014 (although those two years were high performing years within the context of the IPD long run data). The average return on costs over this period was 34% with an average IRR of 24%.

It appears that from 2015 onwards, in the same period that the housebuilders increased their profitability, the performance of the commercial real estate developments of Great Portland Estates went in the other direction. Regarding a specific case, in their 2016 annual report, Great Portland Estates reported an outturn IRR for one of their flagship developments at 33 Margaret Street in

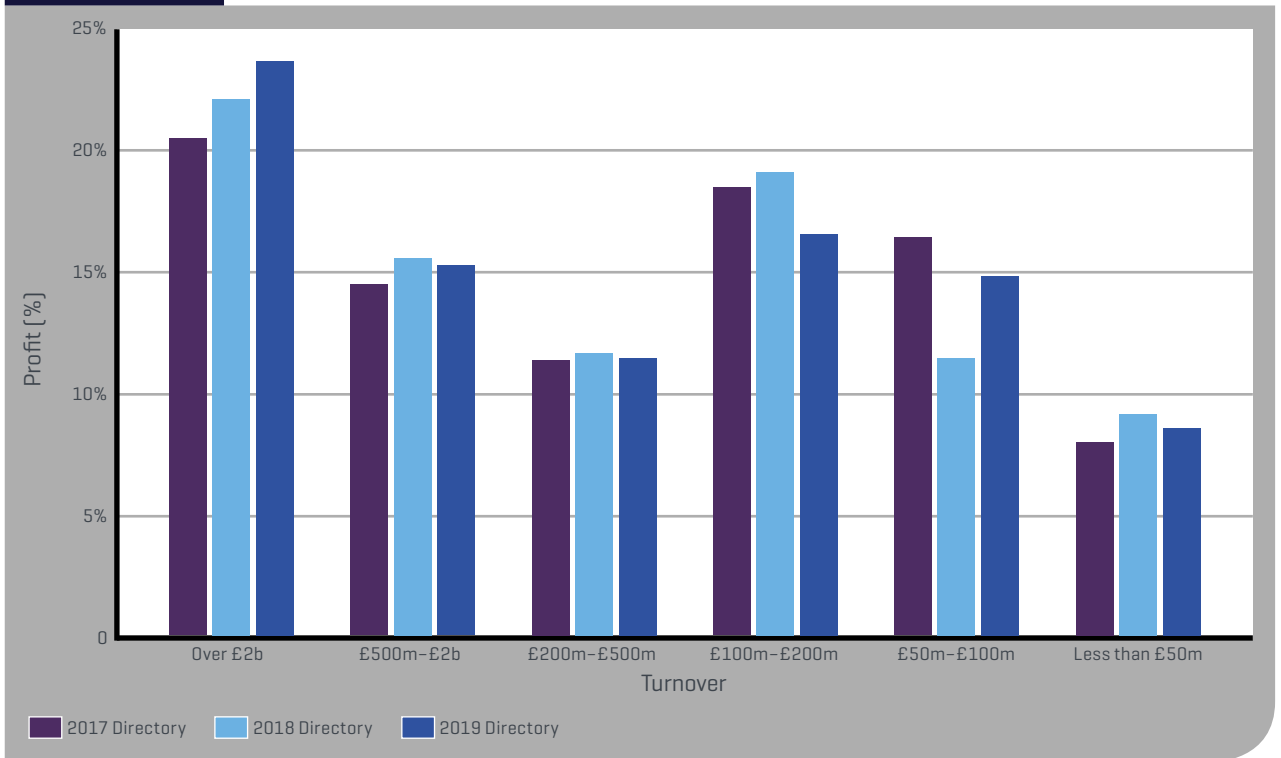
London. The ungeared IRR was 23.5% p.a. for the six-year scheme, representing a profit on cost of 137%. Great Portland Estates' reported key performance indicators for such projects at that time were an ungeared IRR of 18% p.a. and a profit on cost of 27.1%. However, the disclosure of performance for individual schemes is very rare and the level of disclosure by Great Portland Estates does not appear to be more widely replicated.

This section highlights that the performance of large listed real estate companies, particularly housebuilders, sheds some light on the profitability of development activity through time. It shows that, while profits have been strong in recent years, the performance of developments is cyclical, as also indicated by the IPD/MSCI analysis earlier. However, most of the metrics presented vary from those that are employed to assess or benchmark individual schemes as part of the appraisal process. Returns on capital, returns on equity and operating profit margins are annual, accounts-based metrics, while IRR is a cash flow-based metric and profit on cost or profit on value relate to profit over the duration of a scheme, unadjusted for the time value of money. They provide limited help in understanding the appropriate return rate or profit for individual projects. The reporting of the profitability of individual schemes is rare. A gap remains in terms of understanding what market participants expect in terms of returns from individual schemes and how such schemes perform relative to those expectations, if ex-post performance evaluation is conducted. The next section explores these themes in more depth through surveys and interviews with professionals in the real estate development industry.



**Figure 14**

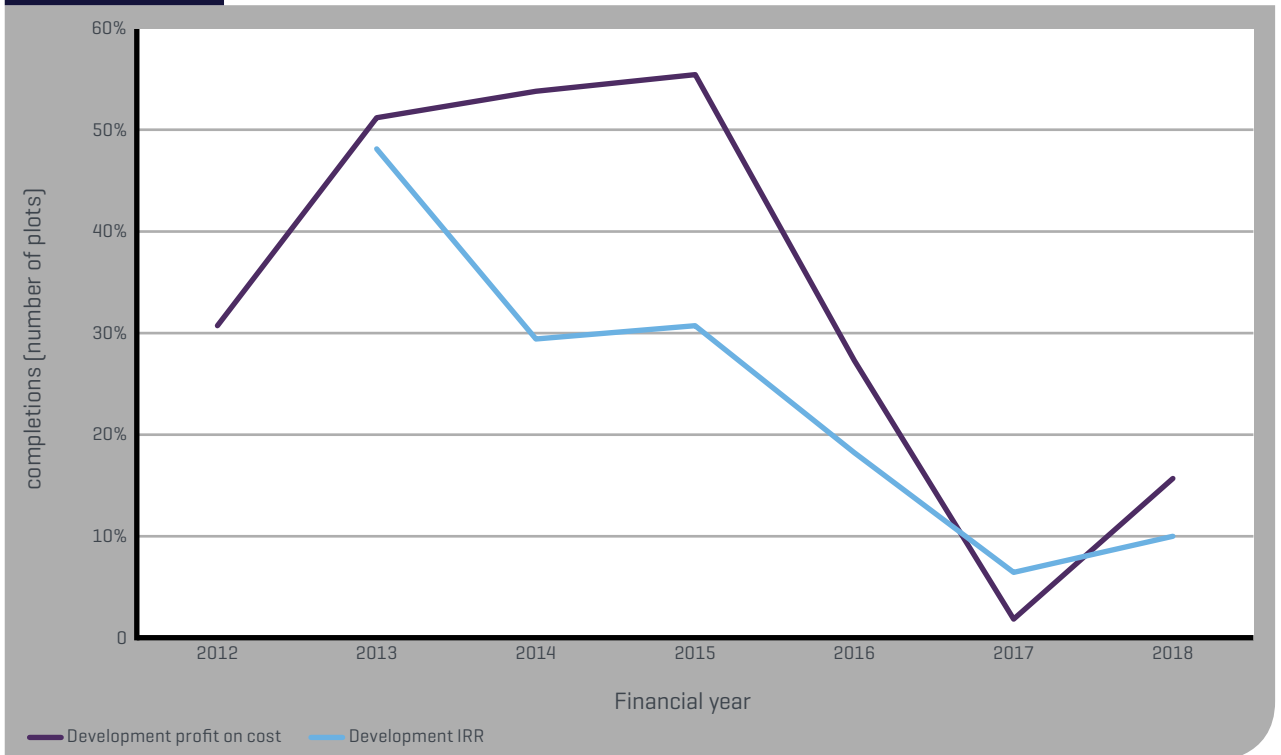
**Mean operating profit for the top 200 housebuilders, by turnover of firm: 2017 to 2019**



Source: Calculated by the authors from data extracted from Property Data [2019]

**Figure 15**

**Great Portland Estates development profitability: 2012 to 2018**



Source: Calculated from data extracted from the published accounts of Great Portland Estates

## 6.0 Questionnaire and interview survey findings

The results of the questionnaire exercise carried out for this research are presented below. As indicated previously, there were 160 respondents to the questionnaire survey. The different types of organisation responding are set out in Figure 16. Most responses were from smaller organisations within the sample – only ten responses were received from the top 50 residential and top 50 commercial operators by turnover. This limited disaggregation of results according to size of organisation. Most responses (97 or 55%) were received from residential developers, but 37 responses (21%) were received from commercial developers and 31 responses (18%) were received from developers of mixed-use schemes, which did enable disaggregation according to scope of development activity. Eleven respondents (6%) specified their main development activity separately, and these responses were as follows:

- Healthcare and retirement living (4 responses)
- Student accommodation (2 responses)
- Leisure
- Industrial
- Build to rent
- Land
- Either predominantly residential-led or commercial-led mixed-use schemes, but rarely a single use.

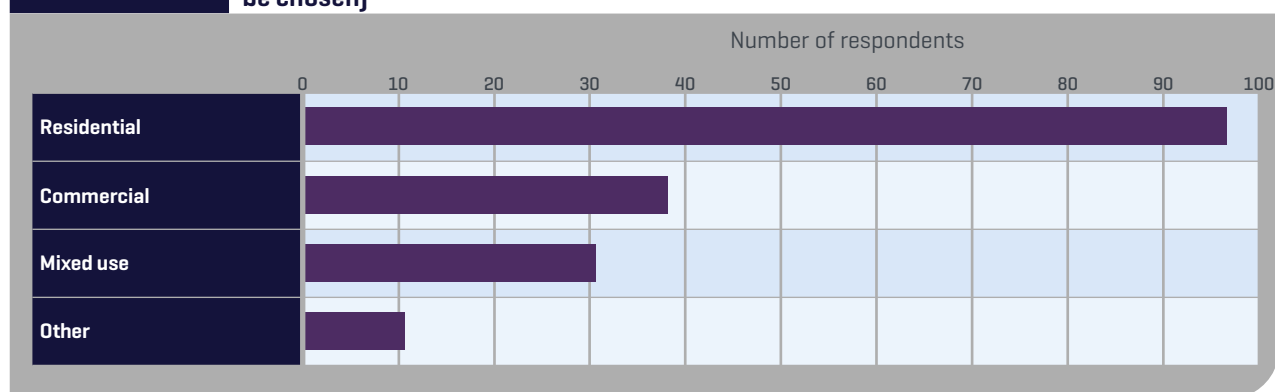
### 6.1 Appraisal techniques

The survey asked how developers typically appraise development schemes at the outset of the development process, either to estimate profitability or land value, and the results are shown in Figure 17. The two options presented were a residual valuation or a cash-flow appraisal; 118 respondents (64%) stated that they used the residual method while 56 (30%) used cash flows, a roughly two-thirds to one-third split. The choice was not mutually exclusive – respondents could select both options if they used more than one approach. Twelve respondents (6%) preferred to describe their appraisal technique in their own words and the written responses identified several issues in relation to the appraisal techniques used.

Two respondents emphasised the importance of using comparable evidence as a check and one respondent used a range of techniques that included a residual valuation, market comparison, cash-flow modelling, forecasting and sensitivity analysis. The latter is not strictly an appraisal technique but involves testing the sensitivity of the outputs from appraisal models; this technique was also mentioned by another respondent who mentioned stress-testing the profitability of schemes. One respondent indicated that they already own sites that are brought forward for development and another, a registered social landlord, factored in the availability of grant funding for social housing when appraising financial feasibility.

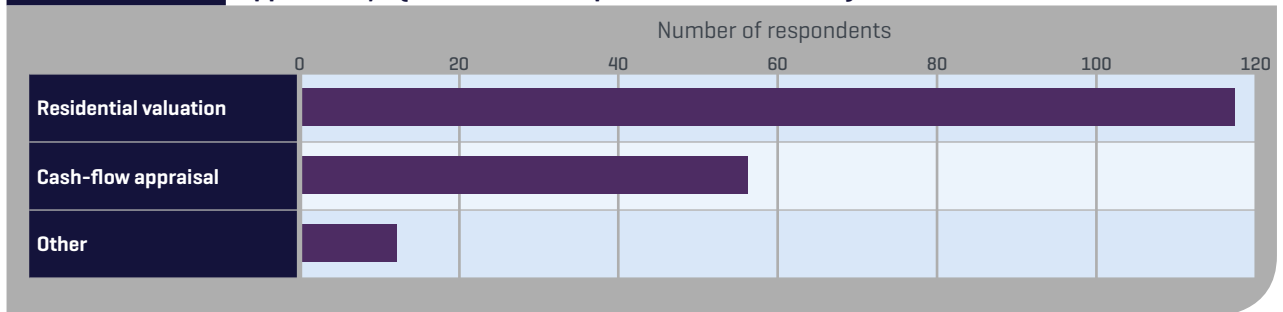
**Figure 16**

**How would you categorise your main development activity? (more than one option could be chosen)**



**Figure 17**

**How would you typically appraise the profitability of, or land value for, a development opportunity? (more than one option could be chosen)**



There is a difference between the response of developers who recorded their business as entirely residential and those who developed either commercial alone, mixed use, or both commercial and residential. Table 2 sets out a cross tabulation between the type of developer and the appraisal approach. There is some loss of data because, even though respondents could indicate more than one category when completing the questionnaire, only one response could be accepted in the cross-tabulation. Nonetheless, the table suggests a greater use of cash-flow techniques among non-residential or mixed-use developers versus those that undertake residential development alone. Figure 18 compares the sole residential developers with the rest and illustrates that these developers are less likely to use cash flows either as the main or as the supporting appraisal technique (the differences are statistically significant at the 10% level).

The interview exercise identified some further nuances to the use of the basic residual model and more sophisticated cash-flow analysis. The larger companies represented in the interviews, dealing with the larger

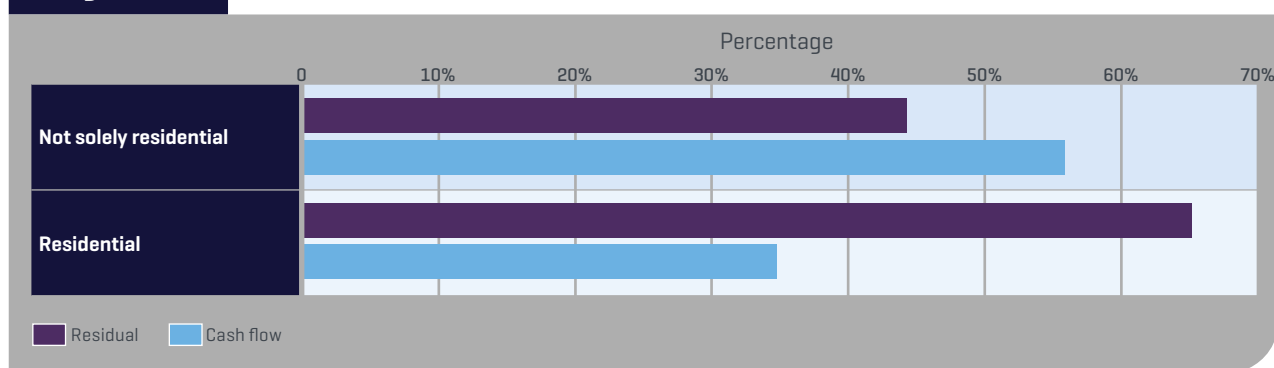
schemes, typically used the more sophisticated techniques. However, the land promotion companies tended to use the basic residual techniques, and this was on account of them not planning to carry out developments themselves. As a result, they were reluctant to use more detailed inputs such as detailed costings from consultants, etc. The lack of detail and the fact they were basically predicting the price that developers would buy land at did not warrant the application of more sophisticated approaches in their view.

The interview exercise also identified that developers would be reluctant to put in a great amount of effort into preliminary appraisals at the very early stages of a development when basic feasibility was being assessed. At this point of the process, there is likely to be the most uncertainty as to the nature of the scheme and when work on the scheme might begin. Thus, this behaviour is consistent with the messages from the corporate finance literature reviewed earlier on the use of basic project appraisal techniques for projects where uncertainty is greater, and more option-like features are present.

**Table 2**

**Type of development appraisal used**

Type of developer	Type of appraisal			
	Residual	Cash Flow	Both	Total
Commercial	10 [50%]	3 [15%]	7 [35%]	20 [100%]
Residential	49 [65%]	3 [4%]	23 [31%]	75 [100%]
Mixed	14 [40%]	4 [11%]	17 [49%]	35 [100%]
<b>Total</b>	<b>73</b>	<b>10</b>	<b>47</b>	<b>130</b>

**Figure 18**
**Residential and not solely residential developers' use of cash flow and residual methods**


However, this perspective was less true of the investors/developers who already held their development opportunity within their investment portfolio in the form of existing built assets. A much more detailed assessment would take place as part of the portfolio review of assets. This would include the feasibility of various alternative strategies for the building, of which a major refurbishment or redevelopment would be one, as would a potential change of use. They may use their own bespoke cash-flow models or use proprietary ones off the shelf.

It is difficult to reliably test the hypothesis that larger organisations would use the more sophisticated approaches more often, since, as noted above, only 10 questionnaire responses came from the top 50 residential or top 50 commercial operators by turnover.

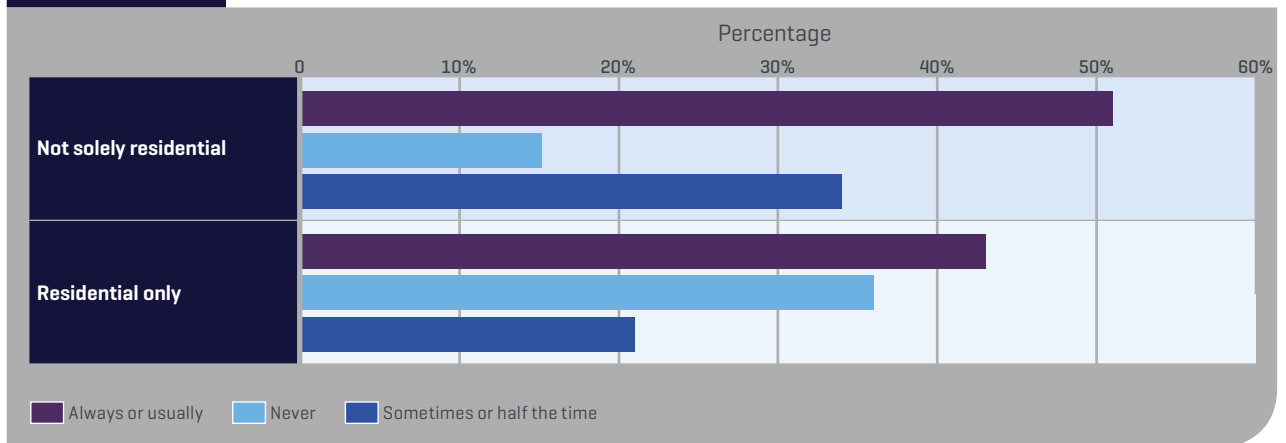
The interviews did suggest some support for this hypothesis while also supporting the findings concerning differences in practices between residential and commercial real estate developers.

Turning to the issue of developer's return, the survey asked how developers benchmarked the profitability of development schemes. Respondents could indicate the frequency with which they used various benchmarks. Table 3 summarises the results. The pattern is marked in terms of the preference for cash-based metrics such as profit on cost or profit on value versus return-based metrics such as project or equity IRRs. Given that debt is often used to help finance development schemes, it is interesting that the metrics concerned with rewards to developer equity are less well used. However, this

**Table 3**
**At the initial feasibility stage, how would you benchmark the expected profit/return from a development scheme?**

	Always	Usually	Around half the time	Sometimes	Never	Total
Profit on costs	68 [64%]	22 [21%]	1 [1%]	5 [5%]	11 [10%]	107
Profit on value	43 [46%]	18 [19%]	0	17 [18%]	15 [16%]	93
Return on capital employed	36 [38%]	17 [18%]	4 [4%]	26 [27%]	12 [13%]	95
Project IRR	30 [32%]	14 [15%]	6 [6%]	20 [21%]	25 [26%]	95
Profit on equity invested	24 [28%]	11 [13%]	3 [4%]	18 [21%]	29 [34%]	85
Equity IRR	13 [17%]	12 [15%]	5 [6%]	9 [12%]	39 [50%]	78
Equity multiple	8 [11%]	10 [14%]	4 [5%]	10 [14%]	42 [57%]	74
Other	4 [16%]	2 [8%]	1 [4%]	1 [4%]	17 [68%]	25

**Figure 19** Use of project IRR by different type of developer



may reflect that the details of any financial structure are likely to be unknown at the initial feasibility stage, and the emphasis on returns to equity may therefore increase for appraisals conducted at a later stage.

When profit performance benchmarks are cross-tabulated with the type of developer, there is a similar finding regarding the use of project IRRs to the choice of appraisal method. The developers who deal solely with residential have a greater propensity not to use IRR, as shown by Figure 19 (again statistically significant at the 10% level). This matches their response to the cash-flow/basic residual question in that, if they are not using cash flows as much, they are not going to be able to identify IRRs. Of the 25 respondents who never used IRR, 19 of them were residential developers, whereas 23 residential developers used IRR either always or usually. For the developers who did mixed or commercial, only 6 respondents never used IRR, while 20 did so usually or always. Only 18 respondents undertook solely commercial development and 10 of these undertook cash-flow appraisals, often alongside residuals. However, only 6 respondents said their cash-flow appraisals always or usually used IRR, 2 used return on equity and one respondent did not respond to the profit metric question. The other one suggested they used ROCE.

Commercial, residential and mixed-use developers are all just as likely to use profit on cost as a benchmark as they would a project IRR. However, residential developers are much more likely to use profit on gross development value than the other types of developer.

Other benchmarks were specified too. Development yield was indicated as a benchmark by three respondents, with one specifying that an 'annual dividend returns on equity invested' was used. Development yield as a performance metric is often preferred when developments are to be retained as either investments or as operations assets such as social housing. A registered social landlord indicated that they look at return over a 30-year period.

One respondent mentioned that net present value (NPV) was an important output, another used profit as a cash sum only (not scaled to costs or values) and another mentioned cash on cash return, particularly on commercial redevelopment opportunities. Finally, one respondent indicated that they did not use any of the suggested performance benchmarks for their build-to-rent projects.

The interviews also shed further light on the relationship between the model and the profit/return metric used. There was an understanding that cash-flow modelling produced rates of return and basic residuals produced profit on costs or values, and so the choice of metrics followed the choice of approach to modelling to some extent. The more surprising finding was that, although the differences were well known, profit on gross development value or profit on cost tended to be the default measure of profitability in most cases, even when more sophisticated modelling was used that generated internal rates of return.

## 6.2 Required returns

Respondents to the questionnaire survey were provided with a list of factors that the research team considered to be possible key influences on the level of the developer's required profit or required rate of return. These factors could be scored from 0 to 100 to understand which were considered more important in practice. Table 4 sets out the results. Market state, planning status, any site-specific risks and location scored more highly than the development type and size of the scheme being undertaken.

The ratio of costs to value or operating leverage (OL) is the relationship between fixed costs and varying revenue and is the mid-point of issues identified as key to the determination of the level of profit. Projects with high operating leverage have high fixed costs relative to revenue. (Also, according to Geltner et al. (2007), high operating leverage occurs when the realisation of revenue occurs sooner relative to the incidence of costs).

Table 4

**What determines the level of developer's required profit/return? (respondents used a sliding scale to score criteria from 0 to 100)**

	Mean	Standard deviation	Number of responses
State of market	70.0	22.5	114
Planning permission status	68.0	26.6	108
Site-specific risk [e.g. brownfield, abnormal costs]	67.5	22.3	112
Location [region, in/out of town or urban/rural]	64.5	27.1	107
Ratio of costs to value	61.8	26.4	104
Land use [office, retail, industrial, housing, apartments, mixed]	56.5	29.7	108
Nature of end-user [investor/occupier, market/not-for-profit]	55.7	27.3	103
Size of scheme	52.0	24.7	106

Such projects have a residual land value that is small and therefore more sensitive to changes in revenue. This implies that landowners and developers in low land value areas (where OL is high) should require a higher rate of return (cf. options literature and uncertainty). Developer's return is more sensitive to revenue shifts when operational leverage ratio between fixed costs and revenue is high.

The questionnaire did not ask respondents about the levels of profit or returns sought from schemes, as it was anticipated that completion of this question would be low, and responses might be difficult to interpret. However, this topic was raised during the interviews, since interviewees would have the opportunity to explain how target levels of profit or return vary according to situations and types of scheme, if they wished to respond. The interviewees were quite forthcoming about the levels of return expected from their development activity.<sup>8</sup> A number of interviewees quoted specific target return rates and/or profit on cost/profit on value ratios.

The more sophisticated developers did not follow the Savills (2017) expectations that returns on value and IRRs should be similar. IRR expectations of 10% for commercial or mixed-use projects that were generally longer than five years were matched to a 20% return on costs target by several interviewees. Two suggested that this would change to between 15% to 20% IRR and 20% to 25% return on cost for sites without planning consent. An IRR of 10% or more with a return on cost of 15% was mentioned as a target on another mixed-use town centre development

scheme. For housebuilders, targets were more likely to be expressed as profit on value or revenue, with expectations quoted between 23% and 30%, which fits with some of the housebuilders quoted targets within their annual reports.

One of the characteristics of the conventional residual method of appraising development schemes is that finance is included as a project cost rather than being separated out from assessment of the project itself. It is also assumed that the finance provided is 100% debt, i.e. no equity is used.<sup>9</sup> In contrast, conventional cash-flow appraisals ignore finance for the assessment of the project itself, but enable the impact of different financial structures, including different proportions of debt and equity, to be examined at a later stage. This allows the project to be appraised without the influence of gearing.

The survey therefore asked how finance costs were handled in the chosen appraisal technique at the initial feasibility stage. Table 5 summarises the responses to this question and it can be seen that the largest share (77 responses or 46%) include finance as a cost within the residual method of valuation. This is unsurprising given that it is an inherent feature of this technique. Perhaps more surprising is that over a third of respondents (61 or 37%) include finance in a cash-flow appraisal. So the vast majority of developers who responded to this survey – 84% of responses – do not appear to undertake a pre-finance project appraisal at the initial feasibility stage; finance is an integral cost in development appraisals from the outset.

<sup>8</sup> Perhaps based on the confidentiality assurances and the decision not to list the interviewees.

<sup>9</sup> See Coleman et al. [2013] for a more in-depth discussion



**Table 5** At the initial feasibility stage, how do you include finance costs?

	%	Count
As a cost of finance in a residual valuation	46%	77
As interest payments in a cash flow	37%	61
Explicitly blended into the rate of return as a Weighted Average Cost of Capital	3%	5
Finance costs are not included in the valuation/appraisal	10%	17
Other	4%	7
<b>Total</b>	<b>100%</b>	<b>167</b>

Several specific comments were submitted in response to the question about finance costs. One noted that the finance costs were included in a residual valuation approach, but the finance cost itself was calculated using a cash-flow model. This is a more thorough alternative to the simplified approach that is often used in a residual valuation, where the construction-related costs are assumed to accrue interest over half of the building period (or it is accrued over the whole period, but on half the costs) as a means of averaging finance drawdown over the time frame. Nonetheless, it is still subject to the critique found in the literature that project performance should be capable of analysis separately from the impact of any assumed financial structure.

One respondent stated that the decision on whether and how to include finance costs depended on the size of the scheme being appraised: 'on large schemes it is the project IRR. On smaller schemes it is a range of profit metrics, some of which include finance costs.'

Another respondent noted that finance costs would be added after an initial appraisal and a further respondent noted that finance costs were included in a residual valuation initially and then in a cash flow at a later, more detailed, stage of the appraisal process:

*'for residual land value, typically assume 100% debt funding to avoid cost of equity assumption which causes confusion with the developer's profit in my mind. Use a residual land value to back out a price with these high-level assumptions. Then put it into a more detailed cash flow to see if this works for us and how we can make adjustments to increase/decrease bid price.'*

One respondent indicated that they do not include finance costs in their appraisals because they do not use debt finance to fund their projects. Another indicated their target range for the unlevered IRR as between 10% and 12%. A more bespoke approach was explained by one respondent: 'we also will look at roll-up of interest in notional coupons as a discount to the sale price such as a forward funding model.'

Again, the interview survey tended to support these findings with some, but not all, developers running net of finance cash flows (i.e. including finance within the appraisal from the outset). Although cash flows report returns both net and gross of finance, several major schemes appear to be driven by the basic metrics of profit on cost and profit on value rather than required rates of return. It is unclear what role net of finance returns play in decision-making.

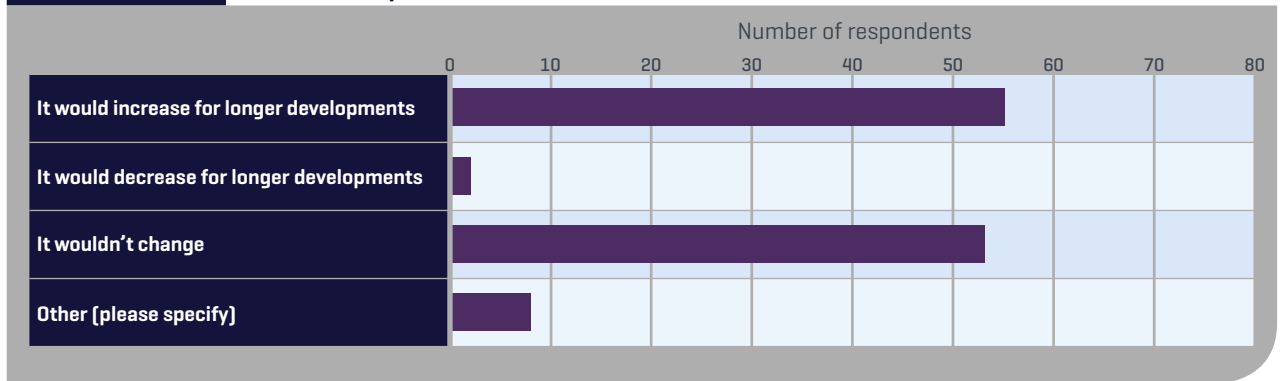
Developers were asked a series of questions regarding factors that might lead them to alter the target level of developer's profit or return. These factors were:

- a) Length of development
- b) Whether the scheme was to be phased or not
- c) Whether the scheme was to be sold or retained
- d) Whether the scheme was single use or mixed use

For development length, respondents were equally divided between either increasing the profit target for longer developments and not adjusting the target at all. This is shown in Figure 20.

**Figure 20**

**Would your developer's profit/return target change depending on the length of the development?**



Two respondents suggested reasons why they increase the IRR for longer schemes. The first mentioned exposure to cyclical risk and the second that it would increase to allow for a longer period of borrowing. One respondent noted that 'it might increase, but in practice, this is often reflected in higher costs which are spread over a longer period.' Another respondent stated that adjustment is 'not relevant, schemes return based on NPV and IRR'. This could be interpreted to mean that time is taken into account within rates of return, so no adjustment to the rate is needed. The resultant IRR would still need to be benchmarked against a target to help assess the feasibility of the project. One respondent indicated that the decision on whether to change the target return was more of a site-specific matter and another stated that 'we more often look at the profit based on achieving a certain IRR.'

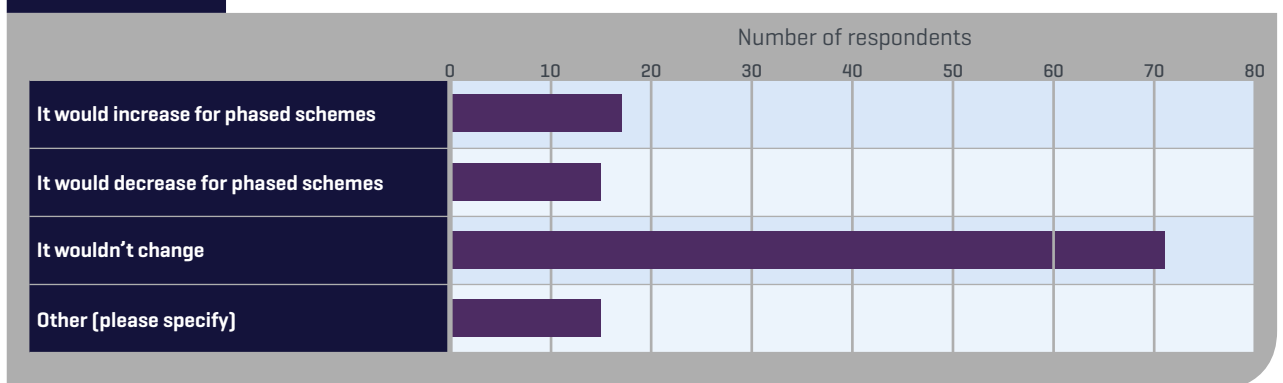
The analysis of MSCI data in section 3.2 indicates that achieved returns fall the longer the duration of the project, so this appears to contradict the findings of

the questionnaire survey. Hence, the impact of time on returns was discussed in some detail within the interviews. These conversations tended to support the conclusion that, although time is an important factor in analysing developments, the profit on costs/value metric is kept relatively static irrespective of the duration of the development being appraised. The interviewees were mainly dealing with longer, larger developments so, arguably, the impact of each scheme taking a longer time was not quite so crucial to the return as for smaller, shorter schemes. Nevertheless, although the developers appear to aspire to constant IRR targets, it would also seem that they have targets for their profit on cost and profit on value measures that do not change much with time.

For phased schemes, the response was pretty conclusive; the majority of developers would not alter their target profit for phased schemes. The responses are shown by Figure 21.

**Figure 21**

**Would your developer's profit/return target change for a scheme built in phases?**



There were some detailed comments in response to this question. One respondent felt that the question was too generalised and that ‘assuming it is still the overall return being looked at, schemes can be distinguished between phased and those that cannot be phased in terms of risk and return.’ Another respondent noted that:

*‘phases de-risks from my perspective (assuming that they are severable). If not severable it probably increases risk (hence margin increases). Also, apply higher margin to later phases as there is more uncertainty in assumptions and viability (whether it will even happen).’*

Three respondents emphasised the importance of infrastructure costs. If these were significant and were to be incurred in the early part of a development project, then this would influence the target profit benchmark. Approaches to adjustment of the target profit/return did seem to vary somewhat: one respondent suggested that it depends on the reasons for phasing, another that returns are looked at consistently per phase. One respondent noted that phasing may mean reduced finance costs, but that the change to target profit would not be huge. Another respondent indicated that their ROCE benchmark would remain constant.

The response was more divided for schemes that were to be held as investments rather than sold. In response to a question on this issue, many (44%) of the respondents would not alter the target profit, but 25% said that they would decrease it for schemes that were to be retained. These results are shown in Figure 22.

Comments provided by several respondents offer some explanations for the responses received. One respondent that their target profit would not change:

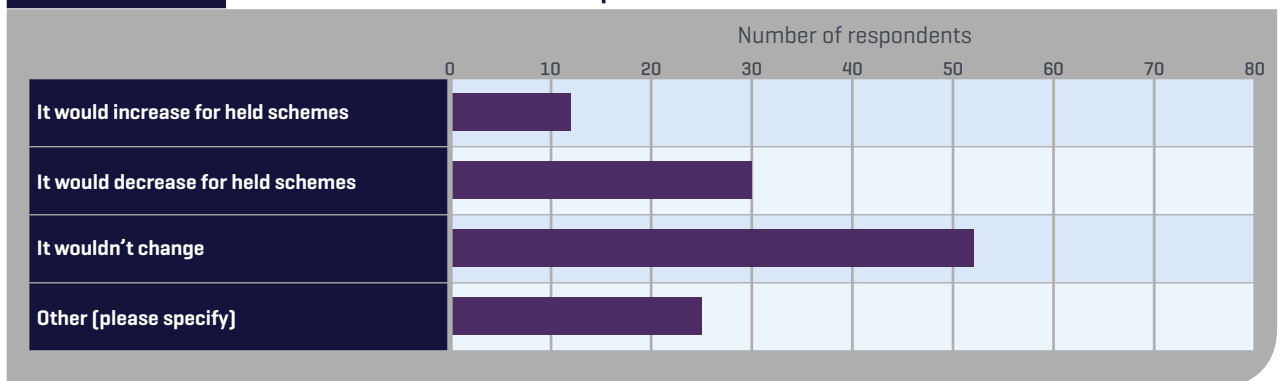
*‘because it is still the development risk and therefore return required to compensate for that risk and not the required holding return. The two types of risk should not be mixed up and in practice are treated differently hence transferring between development portfolios and investment portfolios.’*

Similarly, another respondent commented ‘profit in development phase would need to be greater than investment due to risk profile.’ These comments show how the development and standing investment activities are kept separate as far as performance benchmarking is concerned. Interviewees representing organisations that were retaining developments agreed that the developments were assessed separately from the investment portfolios and therefore return expectations vary.

One of the other respondents who indicated that they hold their completed developments commented that: ‘we generally always hold but look at return over initial development/re-stabilisation stage i.e. to when [it] could be sold as risky element then refinance.’ Another noted that ‘there is less pressure where we are holding, but we do try and maintain the desired levels [of profit].’ Although off topic for this question, a further respondent suggested that the profit target could be adjusted upwards or downwards depending on the state of the market.

**Figure 22**

**Would your developer’s profit/return target change depending on whether you planned to hold rather than sell the completed scheme?**



**Table 6** Would your developer’s profit/return target change for a mixed-use scheme?

	%	Count
It would increase for mixed use schemes	25.66%	29
It would decrease for mixed use schemes	11.50%	13
It wouldn't change	47.79%	54
Other [please specify]:	15.04%	17
<b>Total</b>	<b>100%</b>	<b>113</b>

Generally speaking, the holding of completed schemes as investments is not undertaken by housebuilders, as explained in the following comment: ‘as a housebuilder we would not hold any plots therefore our profit would always remain consistent.’ Fourteen further respondents concurred with this point of view; they do not hold completed schemes.

Table 6 illustrates the responses concerning changes in target return for mixed-use schemes. The responses to this question varied markedly.

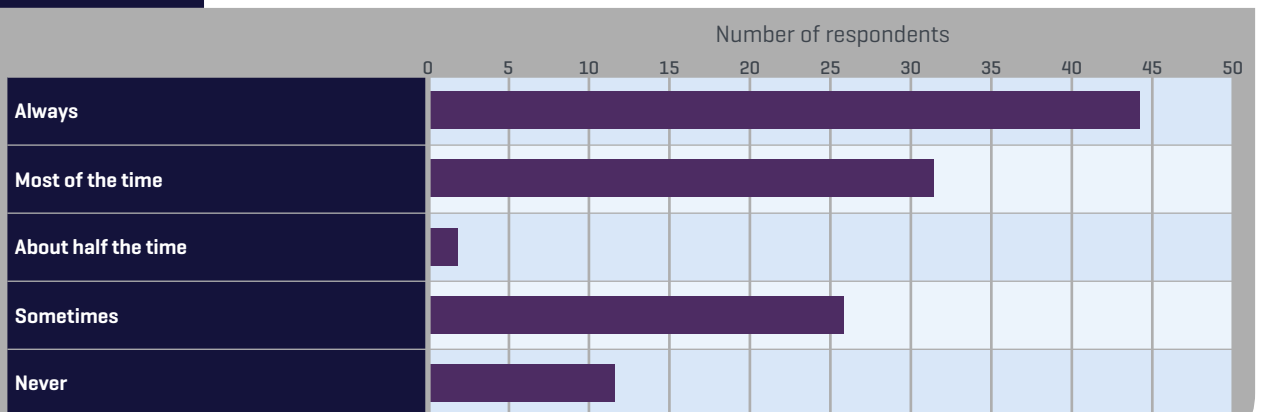
One respondent felt the question was too generalised and stated that ‘it depends on the scheme. Some schemes as with property portfolios can lower risk whereas other development can increase risk dependent on the nature of the uses.’

Another respondent explained that they worked with a development partner when the scheme was mixed-use:

*‘we would only deliver the residential element therefore our profit would remain consistent. On [a] mixed-use scheme we would choose [a] partner to deliver [the] non-residential element – they would do [a] separate viability and determine [their] own level of profit which could be more/less depending upon use.’*

Several developers stated that it depends on the specific nature of each project and the level of perceived risk. One respondent suggested that the ability to pre-sell to reduce risk profiles was important; another that it would depend on the balance of the mix of uses (but noting that generally, it would not change); another respondent always weights the expected return against perceived risk and timescale to

**Figure 23** Do you undertake a back-test of the feasibility appraisal once the project is completed?



complete; and another respondent noted that it depends on the use classes being developed within the mix and the timing of delivery to the market.

The final question concerned the extent of analysis of schemes once they were completed. The results are set out in Figure 23. Around 65% of the respondents usually or always tested the outcome, leaving over 20% undertaking this exercise occasionally and 10% of respondents never back testing the project against the feasibility appraisal. The interviewees who undertook development schemes stated that they looked back and compared the outcome against their expectations and targets; some in more detail than others. However, the interviews did not explore further how back-testing exercises were conducted or how the results were used subsequently.

The questionnaires and interviews have attempted to explore in more depth how return or profit targets for development schemes are set by market participants. The samples of both questionnaire respondents and interviewees included both residential and commercial real estate developers. The interviews confirm the dominance of basic residual valuation techniques for assessing the feasibility of development schemes.

Similarly, they confirm the prevalence of cash-margin measures such as profit on value and profit on cost for assessing the performance of potential schemes or determining a land bid based on assumed development potential. This is unsurprising, since method and profit metric are linked to each other.

Regardless of method, the inclusion of finance within the feasibility appraisal is common. Profit or return targets are sometimes adjusted for factors such as length of scheme, phasing or intention to retain the completed development. However, the responses indicated significant variation within the sample and the questionnaire and interview comments shed further light on the different opinions that exist regarding the effects of factors such as phasing or mixed-uses on risk, which feeds into the profit or rate of return sought. The next section seeks to draw together these and the other findings, and offer conclusions and directions for further research.



## 7.0 Discussion and conclusions

The aim of this research was to improve the understanding of the form, extent and variability of real estate developer returns. The research methods were designed to elicit knowledge from a broad spectrum of the development industry. The non-residential development sector is more challenging to analyse because of the interplay between investment and development activity that typifies that sector, whereas housebuilders tend to focus on development only. The research methods included examination of appraisals in the public domain (section 3.1), the analysis of existing data on development and developer performance (sections 3.2 and 5), a questionnaire survey and a small number of in-depth interviews (section 6). The survey results are biased towards the practices of smaller companies, whereas the interviews are biased more towards larger organisations, which included land promotion companies and institutional investors. This multi-faceted approach enabled gathering information from across the real estate development industry.

Regarding the sophistication of development appraisal techniques, the literature, the case study material (i.e. examples of appraisals in the public domain), the questionnaire findings and the interview findings all reveal two differences; first, between residential and non-residential developers and, second, between larger and smaller organisations. Larger, commercial real estate or mixed-use developers tend to use more sophisticated cash-flow techniques of appraisal, often in combination with more conventional techniques, whereas smaller firms and housebuilders are more likely to use more conventional residual valuation techniques as their only appraisal technique. This leads to a similar distinction regarding the type of performance metric favoured; those firms using residual techniques tend to favour profit on cost or revenue-based margins for assessing financial viability, while those using cash-flow appraisals adopt internal rates of return.

The questionnaire survey findings suggest that residual techniques, together with profit margins on either cost or value, dominate development appraisal practice. However, only ten respondents were from the top 50 residential and top 50 commercial developers when ranked by turnover, so this outcome might reflect practice among small to medium-sized developers rather than the real estate development industry as a whole. The interview survey, which focused on larger organisations, revealed that more sophisticated cash-flow techniques and rate of return performance metrics were being used, albeit in combination with cash-margin metrics. This is especially true at the more advanced stages of projects, and for the larger commercial property developers, which are also large investors in the built environment. Smaller developers may be more likely to be involved with shorter development projects, which lend themselves to measurement using these simple cash profits on cost or value rather than rate of return metrics such as IRR.

Looking specifically at the ten respondents from the top 50 residential and top 50 commercial developer rankings, there did not appear to be any clear preference for either residual or cash-flow appraisal techniques, both were employed in equal measure. The interview survey, which included several very large organisations and a good mix of developer types, reinforced this. Similarly, in terms of performance metrics, four of the ten larger respondents always used profit-on-cost, profit-on-value and ROCE, and five of the ten larger respondents always used IRR, with one expressing no preference. It was revealed, at least from this very small sample, that larger developers are using several types of performance metric. In one example of a large-scale town centre mixed-use development scheme, the rival bids reported profit on cost, profit on GDV and IRR and employed both a cash flow and a residual approach, but the main performance measure was the profit on value.

Of this same subset of large organisations who responded to the questionnaire, all but one that responded to this specific question incorporated finance as a cost in their appraisals, either as a cost item in a residual valuation or as interest payments in a cash flow. Furthermore, six stated that they undertake post-development reviews of their appraisals, two never did and one did so sometimes. Without back testing, it is not possible to find out how the projects performed or how accurate the preliminary appraisals were (and, if inaccurate, which elements caused the differences between expectation and outcome). One of the more surprising results of the research was that back testing of completed schemes to identify how achieved project returns deviated from original estimates was far from routine across the industry.

Respondents and interviewees identified the types of rates of return metrics and cash margins that they typically use in appraisals. The findings concur with those identified in the literature and in the individual case studies of appraisals in the public domain. Residential developers use cash returns, and these vary, but a figure of 20% on costs was mentioned regularly for sites without significant risks such as the need to obtain planning consent, and 25% for sites with additional risks. This implies a return on GDV of around 15% to 20%, the figure set out in the new Planning Practice Guidance on Viability.<sup>10</sup> The larger commercial developers, utilising cash-flow appraisals and developing longer schemes, quoted IRR targets of around 10-12%, and this reconciles with higher cash returns that are typically required for longer projects. Crosby, et al. (2018) found that IRRs and returns on cost were similar for projects of around two years' duration, with shorter projects producing much higher IRRs and longer projects producing lower IRRs from a static target profit on cost ratio. There was some comment in the interviews about target returns increasing for longer projects and this requires more analysis. Such an approach would seem logical for cash-return metrics in order to maintain a constant IRR.

<sup>10</sup> See <https://www.gov.uk/guidance/viability>

The evidence for actual achieved returns is sparse but MSCI data on achieved scheme IRRs was investigated in section 3.2. This data shows that IRRs reduce as the project gets longer, which suggests that the development sector is driven more by cash metrics than rates of return, corroborating earlier findings by Hutchison et al. (2017). This data also raises questions about investment and development risks, since conventional wisdom would suggest that development is riskier than investment, yet the MSCI data shows that investment returns have been, on average, nearly double those of development, despite a similar standard deviation in returns through time (though there are issues comparing the series). However, this might be a characteristic of the dataset rather than an indication that development, contrary to all perspectives, is actually a low risk/low return business. For example, many of the schemes in this dataset will involve refurbishment or redevelopment of existing buildings, as well as the development of in-town sites. There are also definitional issues around the transfer of developments into investment portfolios. Therefore, the MSCI data cannot be taken completely at face value, though it does offer some interesting insights.

Commercial developers listed in the Property Data directory were operating at a 10% profit on net asset value in 2017 but this does not distinguish between investment and development returns achieved by these organisations. Residential development returns can be observed from several perspectives. One is the performance of the housebuilders, and since the global financial crisis of 2008, their performance has been steadily improving. Profitability has been improving from a very low base, but operating profits of the major housebuilders are now above 20% of revenue. This may disguise some differences across the sector according to firm size or specialism.

What does this mean for the development industry and the appraisal profession? The authors of this research expect interest in development appraisal to grow more rapidly in the future. The development industry now involves many participants: landowners, land agents, land buyers, promoters, commercial developers and housebuilders. These are joined by new market entrants such as housing associations, build-to-rent developers, student and young living accommodation, and later-years and care accommodation. Funding arrangements have become more sophisticated too, with new entrants and sophisticated profit-sharing arrangements. In some jurisdictions, policy makers now require financial viability appraisals to be undertaken in support of plan making and planning decisions. A wide variety of schemes – from small residential developments to large urban expansions – will need to be appraised. Such widespread use of appraisals underlines the importance of robustness and consistency of method.

The literature reveals that development appraisal has had less attention than investment appraisal in the past but this growing interest in the methods and application has been accompanied by an expanding academic and professional literature. Although the use of the conventional residual method remains widespread, many – particularly larger – developers now routinely use cash-flow methods too. Simple cash margins are often supplemented with rates of return metrics, both before and after finance. The new Guidance Note on the Valuation of Development Property (RICS, forthcoming) will provide detailed support for valuers in this area and will expand significantly the advice on the two valuation approaches, drawing off this expanding literature and developments in professional practice. It is hoped that this report offers further insight into one of the key aspects underpinning improved knowledge around development appraisals – the return to the developer.



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# Appendices

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# Appendix A: Developer's profit as a percentage of cost or as a percentage of value

Applying the residual valuation formula in the form:

$$DP = DV - (DC + LC)$$

Where: **DP** = developer's profit

**DV** = development value

**DC** = development cost

**LC** = land cost

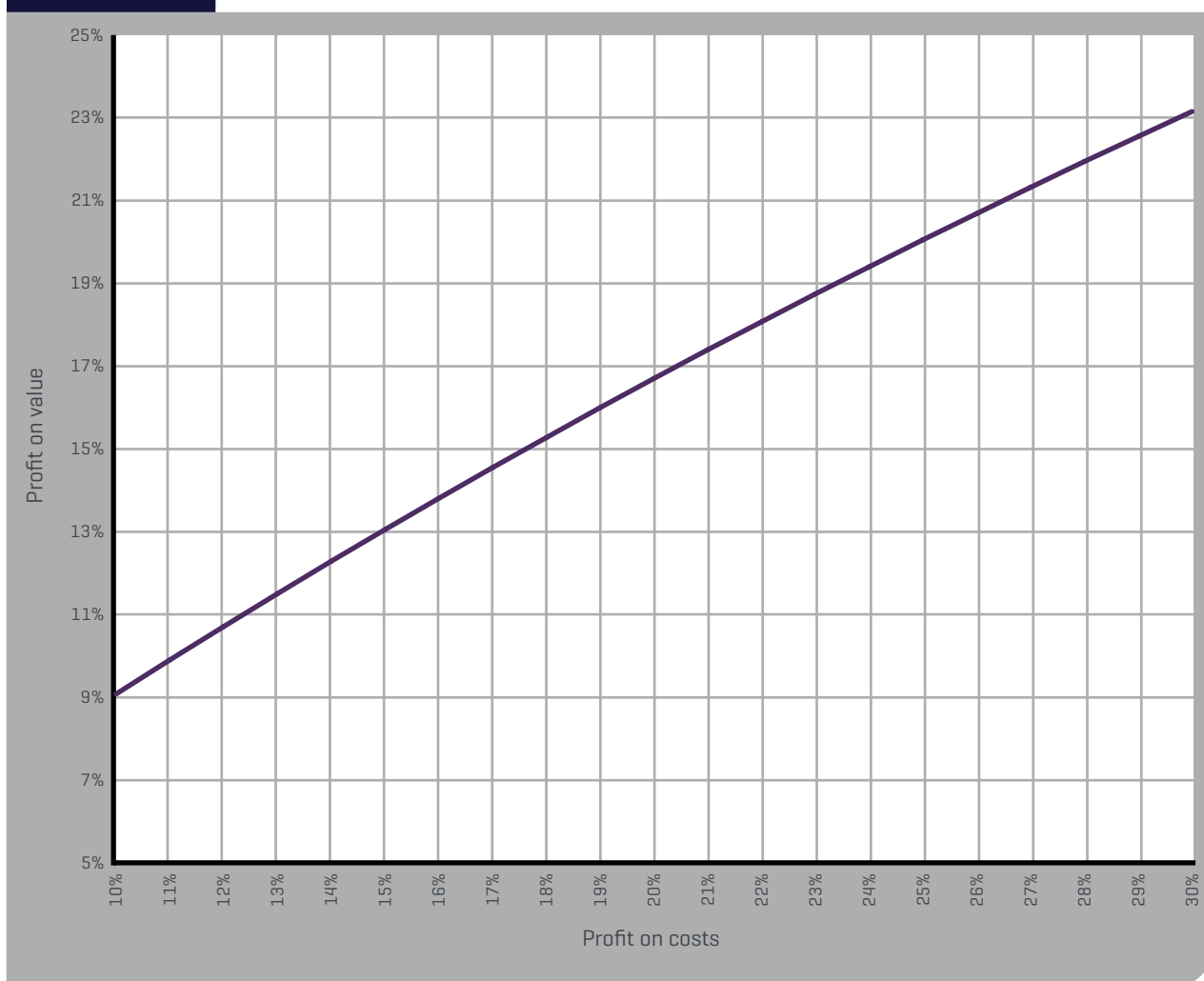
If **DV = £100** and **DC+LC = £80**, then profit = **£20**  
(this is 20% of DV and 25% of DC+LC)

If **DV = £120** and **DC+LC = £105**, then profit = **£15**  
(12.5% of DV and 14.3% of DC+LC)

Figure A1 shows the mathematical relationship between profit as expressed as a percentage of development cost or as a percentage of development value. It does not matter whether profit is expressed as a percentage of value or costs, so long as the correct ratio between the two is maintained.

**Figure A1**

**Relationship between profit on value and profit on costs**



# Appendix B – MSCI (2019) Global Methodology Standards for Real Estate Investment: Detailed property types

## Retail

### Shopping centres

Super regional, major regional, regional, small regional, district/community, local/neighbourhood, local convenience centre, lifestyle centre, theme/festival centre, outlet centre, power centre, other.

### Retail warehouse

Big box retail, retail warehouse solus units, retail warehouse park, other

### Other retail

Unit shop, showroom, gallery, kiosk, bank, post office, bars & pubs, restaurant, supermarket, hypermarket, variety store, department store, arcade, other.

## Office

Free standing office, office terrace, office park (whole or single unit), high rise office, low rise office, medical offices, other.

## Industrial

### Warehouse/distribution

Warehouse, distribution centre, refrigerated distribution.

### Manufacturing/production

Light manufacturing, heavy manufacturing.

### Other industrial

Workshops, R&D flex, warehouse showroom, data/switch centre, truck terminal, personal storage/self-storage, industrial park, other.

## Hotel

Luxury, upper upscale, upscale, upper midscale, midscale, economy, other.

## Residential

### Apartments, houses, other residential

Houses, bungalow, high rise apartments/flats, low rise apartments/flats, other housing with shared facilities, other.

## Other

### Leisure

Cinema (dominant use), theatre (dominant use), holiday resort (dominant use), health/sports centre, leisure parks, marinas, other.

### Education

Pre-school, schools, tertiary education, other.

### Healthcare

Hospitals, GP surgery, dentist surgeries, medical centres, specialist treatment, physical & learning disability homes, mental health hospital, nursing homes, care homes, ambulance station, other

### Land

Farmland, forestry, development land & sites, other land.

### Other

Garage, parking, parking box, service station, community hall, places of worship, other.

# Appendix C – Questionnaire Survey Instrument

## University of Reading – Survey of Developer Returns

We are surveying a sample of leading commercial and residential developers in the UK, seeking views on expected returns and profit margins from development activity. The aim of this survey, together with a series of in-depth interviews later in the year, is to contribute to our understanding of the form, extent and variability of real estate developer returns.

We would be very grateful if you were able to participate in this research by answering the following ten questions. Participation should take around five minutes and all responses will be anonymised and stored on a secure University of Reading network drive. The survey can be completed on a PC, tablet or phone. The results of the study will be published in an RICS research report and an academic journal. The study has been subject to an ethical review and details of the University's policy on personal information can be found here.

**How would you categorise your main development activity?** (more than one option can be chosen)

- Residential
- Commercial
- Mixed Use
- Other (please specify): \_\_\_\_\_

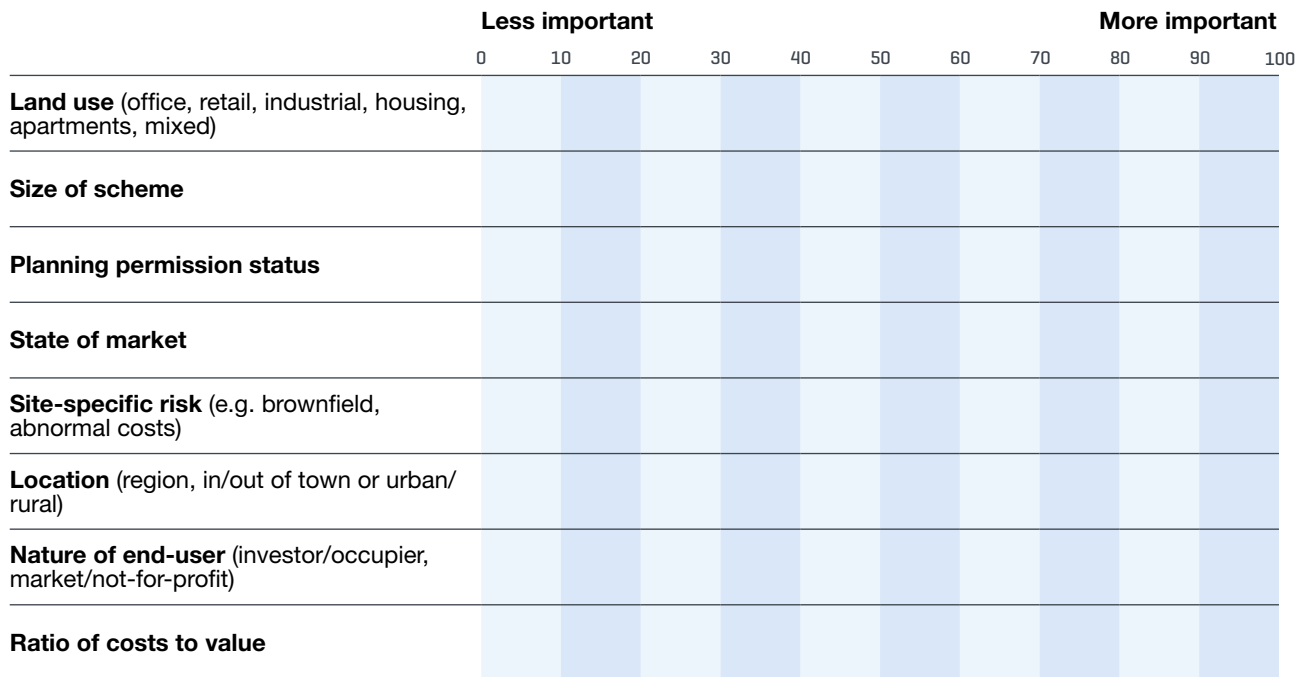
**Prior to site acquisition or other financial commitment, how would you typically appraise the profitability of, or land value for, a development opportunity?** (more than one option can be chosen)

- Residual valuation
- Cash flow appraisal
- Other (please specify): \_\_\_\_\_

**At this initial feasibility stage, how would you benchmark the expected profit/return from a development scheme?**

	Always	Usually	Around half the time	Sometimes	Never
<b>Profit on costs</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Profit on value</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Return on capital employed</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Project IRR</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Profit on equity invested</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Equity IRR</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Equity multiple</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Other (please specify):</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**What determines the level of developer’s required profit/return?**



**At this initial feasibility stage, how do you include finance costs?** (more than one option can be chosen)

- As a cost of finance in a residual valuation
- As interest payments in a cash flow
- Explicitly blended into the rate of return as a Weighted Average Cost of Capital
- Finance costs are not included in the valuation/appraisal
- Other (please specify): \_\_\_\_\_

**Would your developer’s profit/return target change depending on the length of the development?**

(more than one option can be chosen)

- It would increase for longer developments
- It would decrease for longer developments
- It wouldn’t change
- Other (please specify): \_\_\_\_\_

**Would your developer’s profit/return target change for a scheme built in phases?**

- It would increase for phased schemes
- It would decrease for phased schemes
- It wouldn’t change
- Other (please specify): \_\_\_\_\_

**Would your developer’s profit/return target change depending on whether you planned to hold rather than sell the competed scheme?**

- It would increase for held schemes
- It would decrease for held schemes
- It wouldn’t change
- Other (please specify): \_\_\_\_\_

**Would your developer's profit/return target change depending on whether you planned to hold rather than sell the completed scheme?**

- It would increase for mixed-use schemes
- It would decrease for mixed-use schemes
- It wouldn't change
- Other (please specify): \_\_\_\_\_

**Do you undertake a back-test of the feasibility appraisal once the project is completed?**

- Always
- Most of the time
- About half the time
- Sometimes
- Never





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