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Exploring the Impact of the Recession on British Volume Housebuilders: a behavioural analysis

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Abstract

The 2008/9 recession had a pronounced impact on the financial performance, stability and output of Britain's volume housebuilders, leading to a historic decline in new housing supply. Whereas current policy ambitions signal the need for a substantial increase in speculative housing provision, little is known about how the recession affected the attitudes and motivations of Britain's volume housebuilders or what such behavioural legacies might mean for post-recession housing delivery. Indeed, whilst the British economy and housing market are showing positive signs of recovery and growth, speculative housebuilding completions remain well below policy ambitions. It is therefore unclear whether Britain's volume housebuilders, in light of their recessionary experiences, have the capacity to deliver such a step change in housing supply. In addressing this gap in knowledge, this paper examines the recessionary attitudes and motivations of Britain's biggest housebuilders and, in doing so, outlines a number of key challenges that may confront policy makers and the housebuilders themselves in their attempts to meet the housing needs of a post-recession Britain.

Keywords: *Housebuilding, housing supply constraints, recession, risk, housing market recovery, behavioural analysis.*

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Introduction

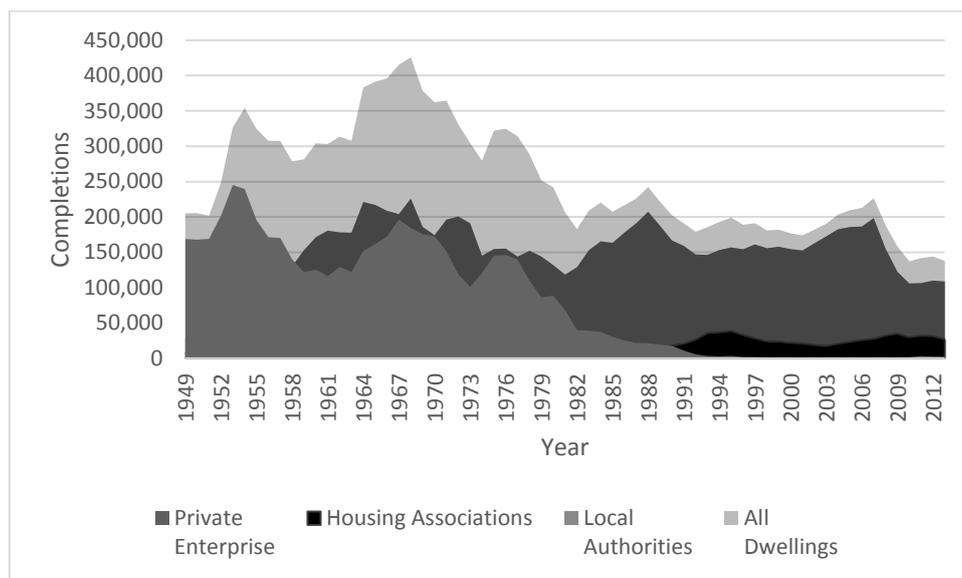
The supply of new homes is one of the biggest political and societal challenges facing the UK Government in the early 21st century. The historic undersupply and continuing shortage of new homes (CLA 2013), rapidly accelerated by the 2007/8 housing market crash, has contributed to what some commentators argue to be the worst housing crisis of a generation (KPMG/Shelter 2014). Rising household formation rates (DCLG 2010) remain unquenched by historically low levels of housing production. An increase in the house price-to-earnings ratio together with real rising house prices (Halifax 2015) is leading to worsening affordability (Fingleton 2008, Meen and Andrew 2008, Meen 2011), reaffirming housing's status as a basic human need (Leckie 1992, Edgar et al 2002) and reshaping traditional notions of housing as a commodity (Sweeney 1974, Pattillo 2013).

In recent decades, the study of new housing has been dominated by a concerted interest not in the housebuilders themselves, but rather in understanding the structural causes of housing supply constraints (Bramley 1993, White & Allmendinger 2003, Saiz 2010, Ball 2011, Ball and Nanda 2014). Particular attention in this regard has focused primarily on issues pertaining to the slow and complex planning system (Monk & Whitehead 1999, Mayo & Sheppard 2001, Bramley 2007, Barker 2008, Ball 2010, 2011) and the lack of available housing land (Monk and Whitehead 1996, Dixon and Adams 2008). Despite this valuable scholarly endeavour, there remains an under-emphasis on investigating how the attitudes, motivations and business strategies of British speculative housebuilders - the key delivery agents of new homes – limit or stimulate new home delivery; not least in the housebuilding industry's relationship with important political priorities around planning for housing development. There remains a key test for academics and policy makers in better understanding the nature and operation of British housebuilders if policies seeking greater levels of output from them are to be realised. A more nuanced understanding of the causes and consequences of behavioural change in the speculative housebuilding industry

and a deeper understanding of what limits or stimulates speculative residential development, is arguably necessary (Payne 2013).

The 2007/8 credit crunch and ensuing recession had a significant impact upon the British speculative housebuilding industry in financial and output terms. During this time, Britain bore witness to some of the lowest housebuilding rates since records began (see Figure 1) and the financial stability of Britain’s biggest volume housebuilders was significantly undermined (see Figure 2 and Figure 3). Whilst it is not clear if the credit crunch or recession had a lasting effect on the structure and organisation of the housebuilding industry (see Gibb et al 1997), as the dominant players still remain (see: www.constructionindex.com), it is likely that the legacy of such substantial economic shock on the structure of housing provision (Ball 1999) will significantly shape the trajectory of housing supply as Britain transitions into the post-recession era.

Figure 1: United Kingdom Housebuilding: permanent dwellings completed, by tenure, 1949 - 2013



Source: DCLG, Live Table 241

The coming together of a growing housing crisis (KPMG/Shelter 2014) with the recessionary experience of the speculative housebuilding industry introduces a number of new opportunities and threats to the British model of new housing supply, which will potentially require new terms and conditions between policy makers and housebuilders and new relations between the state and the market. Indeed, whilst the state has demonstrable faith in the market to deliver new homes, exemplified by the outsourcing of new housing provision to speculative housebuilders since the early 1980s (See Figure 1), the post-recession direction of British housing provision is likely to involve increasing state activity in market behaviour. Indeed, such is already demonstrable in the package of measures introduced under the Coalition Government (see: <https://www.gov.uk/government/policies/increasing-the-number-of-available-homes>) to ‘get Britain building’ (DCLG 2012b). Whilst market stimulus measures, such as Help to Buy (DCLG 2012b), are designed ostensibly to support a beleaguered housebuilding industry out of recession, the different normative aims of policy makers and speculative housebuilders raises a series of significant questions around how we build consensus and narratives for post-recession housing growth. Indeed, Gibb et al (1997) remind us that ‘...the ceaseless conflict between builders and planners is in part inevitable because of irreconcilable disputes over the use of land and a division between profit orientation and the wider social goals and responsibilities of the planning profession’ (p. 1756).

With this in mind, this paper sets out to examine the impact of the recession on the attitudes and motivations of Britain’s biggest housebuilders with the purpose of investigating what behavioural legacies could confront policy makers in their attempts to meet the housing needs of a post-recession Britain. In order to explore these issues, the paper asks the following three research questions:

1. How did the recession affect the attitudes and perceptions of Britain's biggest volume housebuilders?
2. What changes, if any, to the volume business model emerged during the recessionary era and how did this change the risk culture of volume housebuilders?
3. How might the recessionary experiences of the British volume housebuilders reframe state market relations in the structure of new housing provision and how might this affect housing supply in the emerging post-recession era?

British Volume Housebuilding in the 2000s: from fervency to collapse

The first decade of the 21st century was a game of two halves for the British speculative housebuilding industry. During the early 2000s, the industry enjoyed a wave of relative prosperity, where the market demand for new homes, reflected in year on year increases in house prices (Nationwide 2015) and household formation rates (DCLG 2010), was matched by increased rates in permissions, starts and completions (DCLG 2015). This increased activity was a profitable one, with many of the biggest housebuilders reporting record outputs in turnover, margin and pre-tax profit (Figure 2). These markers of prosperity were to change in 2007, where the onset of the credit crunch and global financial crisis had significant impacts on the financial stability of much of the industry (Figure 3). This journey through boom and bust in speculative housebuilding in the early 21st century, from fervency to collapse, is an exemplar of the inherent nature of risk and speculation underpinning the structure of housing provision in Britain and indeed, of the price and value of risk and reward.

FIGURE 2: THE PRE-RECESSIONARY FINANCIAL PERFORMANCE OF BRITAIN'S 5 BIGGEST HOUSEBUILDERS, 2004 – 2007

Company	Pre Tax Profit, £millions				Revenue, £millions				Operating Margin, %				Completions, Units			
	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007
Barratt	367.7	390.2	385.3	424.8	2,516	2,484.7	2,431.4	3,046.1	15.7	16	17	16.7	14,021	14,351	14,601	17,168
Persimmon	468	495.4	566.7	585.1	2,131.3	2,285.7	3,141.9	3,014.9	23.4	23.1	21.6	21.8	12,360	12,636	16,701	15,905
Taylor Wimpey¹	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	360.2	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	4,714	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	15.2	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	14,862
Bellway	205.5	213.8	220.7	234.8	1,092.6	1,178.1	1,240.2	1,354	19.5	19.5	19.3	18.7	6,610	7,001	7,117	7,638
Redrow	124.1	139	120.5	121.1	670.3	780.4	770.1	834.3	19.8	19.6	17.5	16.4	4,284	4,372	4,735	4,823

Source: Authors own Analysis. Data taken from published Annual Report and Accounts as detailed in the reference list.

¹ Taylor Wimpey was formed on 3rd July 2007 as the result of a merger between George Wimpey Homes and Taylor Woodrow Construction.

FIGURE 3: THE RECESSIONARY FINANCIAL PERFORMANCE OF BRITAIN'S 5 BIGGEST HOUSEBUILDERS, 2008 - 2010

Company	Pre Tax Profit, £millions			Revenue, £millions			Operating Margin, %			Completions, Units		
	2008	2009	2010	2008	2009	2010	2008	2009	2010	2008	2009	2010
Barratt	137.3	-678.9	-162.9	3,554.7	2,285.2	2,035.2	15.5	1.9	5.9	18,588	13,277	11,377
Persimmon	124.8	7	95.5	1,755.1	1,420.6	1,589.5	11.3	4	8.2	10,202	8,976	9,384
Taylor Wimpey	-74.4	-96.1	75.1	3,467.7	2,595.6	2,603	2.2	0.8	7.1	13,394	10,186	9,962
Bellway	165.7	29.8	44.4	1,149.5	683.8	768.3	16.1	6.7	6.7	6,556	4,380	4,595
Redrow	65.5	-44.2	0.7	650.1	301.8	396.4	13	7.4	3.2	3,925	2,113	2,587

Source: Authors own Analysis. Data taken from published Annual Report and Accounts as detailed in the reference list.

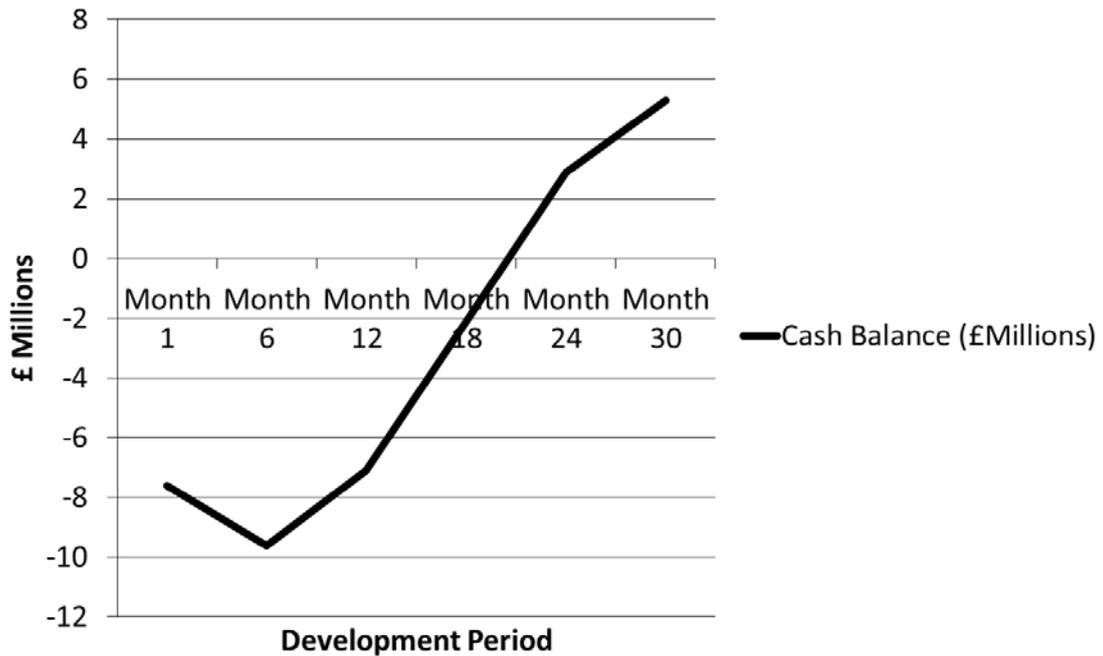
Risk in Speculative Housebuilding: explaining land acquisition and construction efficiency as key business strategies

Risk in speculative housebuilding is dynamic and the result of a complex set of market and policy interactions combined with fluctuations in broader macroeconomic, political and demographic contexts (Payne & Barker 2015). In this sense, risk is contingent on broader shifts in the institutional environment of speculative housebuilding as well as being the result of individual firm decisions (Payne 2013). The extent of, and exposure to risk varies greatly during Britain's cyclical housing market, where price volatility in land and housing markets establishes inflationary expectations and fuels unsustainable house price booms, further reinforcing volatility (Stephens 2011). Stephens' (2011) important analysis of housing market volatility serves to highlight the magnitude of uncertainty of price and value in the land and housing markets within which speculative housebuilders operate. Indeed, volatility reduces the ability of housebuilders to accurately predict (i.e. speculate on) the sales values of their end products when buying their raw material, land, thereby increasing risk to profit, turnover and efficient capital return. As such, risk is most acute for housebuilders when they engage in land and housing markets as they are subject to these dynamic, often volatile market mechanisms which influence the price and value of the key inputs (land) and outputs (homes) of the speculative business model (Barker 2004, Payne & Barker 2015).

Speculative volume housing development typically involves housebuilders committing capital upfront to land acquisition, planning permission and construction programmes before its return as profit via the sale of the new homes developed (Adams & Tiesdell 2013). This process can take, on average, anywhere from 6 months to 20 years, depending on the size and complexity of the site or the amount of units being built (Payne 2009). A worked example of this cash flow process is shown in Figure 4. The speculation of capital in this way introduces a series of risks in speculative housing development and helps explain the prevalence of a strategic focus by

housebuilders on two key aspects of that development process, namely land acquisition and construction efficiency (Payne 2013).

Figure 4: A worked example of cash flow on a 30 month housing development project



Source: Authors own analysis

During the land acquisition process, a speculative housebuilder will search for suitable development sites in the best market locations (Adams and Watkins 2002) as determined by its individual strategic business focus and development priorities (Payne 2013). Once identified, the housebuilder will generate a land value with which to make an offer to the landowner. To do so, the housebuilder must accurately forecast total revenue (the sales values of their end products) and deduct from this the total cost of development (including planning, design, construction and profit costs), to arrive at a residual land value (Leishman et al 2000). If acceptable, the landowner will typically enter into a conditional contract with the housebuilder, who it is agreed will buy the land upon the receipt of both a fully implementable planning consent and a satisfactory detailed

site investigation survey (Payne 2009). Once land is under the ownership of the housebuilder, the predicted profit and return on capital employed are determined by *achieved* rather than *predicted* sales values and construction costs, which can increase or decrease during the development period (Leishman et al 2000, Jones et al 2009). It follows that the risk of inaccurately forecasting sales values or construction costs at the point of land purchase, or the onset of unanticipated systematic risk in the structure of housing provision (such as house price deflation or skills and materials shortages), can significantly erode profit margin and reduce the efficiency of capital employed in individual development sites (Jones et al 2009). Conversely, house price inflation can, over the course of a development project, reward speculative housebuilders with an increased rate of return through larger than predicted profits and a more efficient return on capital employed (Adams and Leishman 2008). Whilst no research exists to determine whether housing land restrictions (see Ball 2006) have encouraged housebuilders to generate competitive land bids, through forecasting heightened predicted sales values in line with *anticipated* house price inflation in a rising housing market, the very nature of speculation implies that this might have been one reason for the significant rise (and subsequent fall) in pre-recession housing land values (see Savills 2014). Nonetheless, the risks inherent in the accurate valuation of land during its acquisition process, together with stiff competition in the land market to secure a ready flow of suitable development sites (Adams 2004), has guided the strategic focus of speculative housebuilders towards accurate cost and value forecasting and spawned a resolute focus on land acquisition as their most important business strategy (Payne 2013).

The volume housebuilding industry's fundamental focus on land acquisition as a key business driver means, for some authors at least, that housebuilders are more concerned with acquiring the best possible land at the best possible price (Adams and Watkins 2002), than with issues of design or product and process innovation (Ball 1999, Adams 2004, Adams and Tiesdell 2004). However, whilst not emphasised in the literature, risk also contributes to the way in which

housebuilders approach design. It is well known that speculative volume housebuilders favour the use of standardised housing products and construction materials (Nicol and Hooper 1999) and limit the use of innovative process methods and product design (Ball 1999, Tiesdell & Adams 2004). This is because design standardisation promotes construction efficiency due to economies of scale and scope in design costs, logistics and procurement (Gibb 1999), allowing for the benefits of repetitive skills, accurate cost and time forecasting and achieving blanket building regulations (Adams and Watkins 2002). However, Carmona et al (2003: 47) remind us that standardised approaches to design can also represent a rational response to the range of risk and uncertainty that housebuilders constantly face, including:

- Volatility in the market and land costs (in the pattern of demand and confidence of potential purchasers).
- Risks of delay between the decision to build and completion.
- Changes in the availability of financing for both builder and purchaser.
- Changes in the availability and cost of materials and labour.

Like Kate Barker in her review of housing supply (Barker 2004), Carmona et al (2003) argue that the long and irreversible nature of the speculative housing production process (by comparison with other commodities) increases the uncertainty faced by speculative housebuilders, which leads to ‘...difficulties in accommodating substantial changes during the production process’ (p.47). Such reinforces the use of standardised design and construction efficiency in speculative housing production (see also Payne 2013).

In summary, risk is inherent in the speculative business model of housing supply and has fundamentally shaped the way in which housebuilders approach residential development. The reliance on standardised design and production processes, together with a resolute focus on land

acquisition, are as much the result of risk mitigation as of other, more prosaic explanations such as economies of scale or restricted land supply.

Towards a behavioural analysis of recessionary British housebuilding

Effective solutions to tackling chronic housing undersupply in Britain by lifting housing output remain elusive, in policy terms at least, and Britain continues to bear witness to some of the lowest housebuilding rates since records began (DCLG 2015). However, it remains obvious that a significant increase in the volume of new homes built will be necessary to tackle undersupply and relieve the upward pressure on house prices (Stephens 2011). This, in turn, will require a step change in the business practices and output rates of the speculative housebuilding industry, who whilst remaining the key delivery agents of new homes, may see little reason to increase output whilst uncertainties remain (Whitehead and Williams 2011), particularly given their financial hardship during recessionary times (Figure 3).

The most recent boom/bust cycle of the British housing market placed significant constraint on speculative housebuilding activity. These constraints - a combination of demand-side constraints (e.g. on housing finance) and supply-side difficulties (e.g., land supply and loan/debt finance for housebuilders) - have increased institutional risk in the speculative housebuilding model and development risk in the housebuilding process, making many housing developments unviable (Jones et al 2009) and raising questions over whether the volume housebuilding model can survive (Payne 2012).

Despite the return to profitability for many of Britain's volume housebuilders (see Payne 2012), housing markets are not delivering the amount of housing required (CLA 2013) and in many parts of Britain, latent demand for new housing is not being expressed as effective demand. Whilst this calls into question the effectiveness of market signals in the housing planning system

(Cheshire and Sheppard 2005), it also raises questions over what stimulates or limits housebuilders' development practices in recessionary times and whether policy makers and planners understand the causes and consequences of such practices.

Whilst some insight into housebuilders' recessionary behaviours can be seen in the re-negotiation of s106 agreements and reduced housebuilding rates on sites that were consented prior to the credit crunch (DCLG 2013), it is likely that assumptions around the expected and/or anticipated behavioural response of housebuilders to the recession are largely based on activity from previous boom/bust cycles in the housing market (see Gibb et al 1997). Indeed, variance in the severity, duration, frequency and intensity of housing market boom/bust cycles, and the regional differentiation of such, implies that the behavioural response of housebuilders cannot be judged to be the same for each occurring cycle, or be assumed to be spatially homogenised.

Research Method

The empirical work presented here set out to examine the behavioural reactions of British volume housebuilders to the recession. The research approach centred on using qualitative methods to provide a detailed investigation of the attitudes and motivations of volume housebuilders at Group level. The empirical research was undertaken during 2014, five years after the British economy left recession and when national annual house price inflation demonstrated a positive upward trend from the previous deflation of 2008, 2009 and 2011 (ONS 2015).

The research sought data at the Group firm level through detailed interviews with Group Directors and CEO's of 15 sample volume companies operating nationally. Targeted sampling of the Top 20 housebuilders by volume output was undertaken (Housing Market Intelligence Report 2012). For confidentiality and commercial sensitivity reasons, individual companies,

employee names and job titles are withheld. The interviews were semi-structured and followed the same broad format, with each interview lasting between 60 and 90 minutes. This approach presented the opportunity to explore, in some detail, firm-specific strategies in response to the 2008/9 recession.

Recessionary Responses: towards a ‘new normal’ in British volume housebuilding

Whilst key performance indicators provide a broad brush view of how the recession affected the British housebuilding industry (see Figure 2 and Figure 3), it remains unclear how the attitudes, motivations and business strategies of British housebuilders changed as a result of such unprecedented economic shock. In offering a more nuanced insight of such impact, this section indicates the emergence of a ‘new normal’ in speculative housebuilding, where housebuilders, whilst cognisant of broader macroeconomic turbulence, sought to maintain the traditional functions of their business model by adopting a more risk averse ethos.

Immediate behavioural responses to the credit crunch and housing market crash

During 2008/9, in the immediate aftermath of the credit crunch and the shift of the British economy into recession, Britain’s biggest housebuilders were dealing with an ensuing shock and awe rippling through the collapsing finance, housing and land markets of speculative housing provision. Whilst the ways in which housebuilders were financially affected by such a turn of events has been well documented, it is less clear how housebuilders responded behaviourally to such turbulence or what the nature of their decision making was during those testing times.

The research revealed that the immediate response of housebuilders to the credit crunch and ensuing recession was, serendipitously, dependent on their financial position immediately before the crash, specifically their level of gearing and exposure to risk through capital lock up in land purchases and construction programmes. Whereas some housebuilders were unfortunate as a

result of being highly geared with significant capital lock up, others were comparatively in a more beneficial position owing to limited amounts of debt, reasonable cash reserves and limited capital lock up in high value land assets and construction programmes. These serendipitous peculiarities of each housebuilding firm affected their ability to manoeuvre within the emerging crisis and influenced their immediate behavioural response, as the following quotes illustrating positive positions show:

“I think we only had two years where we actually made a loss. In the worst year of the recession my office made a £5million profit...And it was simply because we’d done a good land deal on one site and we had another one that performed admirably well at the top of the market. We were selling houses at a million pounds and it was very counter to what was happening out there”.

“... [T]here was less pressure on us to go and turn the cash, to turn work into cash, we didn’t do the deals. We had guys knocking on our door saying ‘We’ll buy your flats at £80,000’ and we were just going ‘No chance’, and they couldn’t understand. They were going ‘Why are you not doing it... everybody else is doing it’, where we were going ‘Well we don’t need to’”.

Despite the differential financial positioning of housebuilders affecting their immediate sensitivity to the credit crunch, the research revealed that the business approaches adopted by housebuilders during those turbulent times followed a broadly similar pattern. This was because all housebuilders found themselves with vastly reduced sales rates (and therefore income) but an ongoing requirement to service existing loan and credit facilities, which required a return on the capital employed in existing development programmes. As nationally operating volume housebuilders can typically have between 200-300 sites under construction, in varying geographical locations, at varying stages of developmental maturation and with varying amounts of capital lock up, finding ways of returning the capital employed on those sites to service debt and credit facilities became a core feature of housebuilders’ recessionary business behaviours. The following quote explains:

“...we had a series of bankers every month saying to us we need to find X million this month otherwise you’re defaulting on your loan and we’re going to close you down. So you know we weren’t into buying land or thinking about business strategies, it was just five years of hand-to-mouth we must bring cash in to service that loan”.

The prioritisation of cash return demoted other pre-recessionary features of speculative housebuilding, such as profit and volume output, to secondary considerations, as the following quotes illustrate:

“Don’t spend it and get it back. That was the two things, everything else was second to that you know, even profit margins, rate of return, get your cash back and don’t spend any money. Dead simple”.

“Price became eroded...we still have to maintain a volume, we’ve got to get return on our volume once we’ve invested in buying land and we’ve got to develop it out. Because how do we get our money back? It was all about trying to unlock the cash during those times”.

An ongoing requirement to service existing loan and credit facilities also necessitated a significant reduction in outgoings and expenditure. For most housebuilders, in addition to slowing down or stopping construction programmes, reduced spending came in the form of significant reductions in land purchase and employed personnel:

“To put some numbers on that, we lost 60% of staff between July 08 and November 08... I mean, you build an overhead up to generate a certain product and a certain level of turnover and if that turnover just sort of disappears substantially then you have to look closely at your overheads in any business. And that’s what happened”.

The impact of this stalwart focus on cash return during early recessionary times meant that housebuilders had to focus on two key features of the residential development process and conduct them with great levels of determination. The first was to find ways of continuing to sell housing units in order to generate and maintain a flow of income. The second was to ascertain what the selling prices of those units would be, a difficult endeavour in an unstable and falling housing market. The following quote provides a neat illustration of such measures:

“Our model was that we continue to try and trade through by selling whatever the designated number of units on the site were per month. So if it was sell two houses and they were half a million pounds apiece, if the market’s now saying these are £450,000, drop the price and sell them for £450,000 and get down there and get it done. And just do the business and find where the floor is and then trade on. Now, the point was it kept on stepping down so you were having to continually cut your prices down”.

This motivation to ‘find the floor’ was also necessary for housebuilders in reappraising their budgets, ascertaining their income levels over the course of a financial year and managing their balance sheets, as the following quote illustrates:

“What we tried to do was find the floor before the market found the floor. And when I say that, by constantly reappraising our budget on what we thought our income was going to be from sites”.

Two other ways in which housebuilders sought to generate and maintain a flow of income through the recession was to entice sales by offering incentives such as discounts, deposits and part exchange to prospective purchasers; and, to work in partnership with housing associations to build and deliver their product on owned sites:

“...part-exchange became such a big thing because we were actually generating people’s deposit by overpaying them for their own house”.

“We brought in some housing association... [I]here were some associations that were looking to expand. And they took advantage of builders as well, looking to expand their asset base in the recession by buying units off-stock. But we actually built their product for them, we took their designs on board, built their product and we kept the site going... [I]t gave us our completions and kept our cashflow”.

Beyond the need to keep building in order to generate income, a small number of housebuilders sought to maintain a presence on site for reputational reasons, in the hope this would drive sales. By continuing to build houses during the downturn, these housebuilders sought to create the perception that they were still ‘in the game’, hoping it would have a positive impact on the

marketing success and sales rates of their developments. The following quote illustrates this point:

“The focus was just saying how can we keep this building, how can we keep the scaffolds going up? Because we knew for every scaffold you put up on a site you were getting sales. People would recognise well they’ve not stopped, they’re going to keep building”.

Beyond these site-based strategies utilised by housebuilders to generate income flow and cash return during recessionary times, housebuilders also looked to their land portfolios to keep their business operations going. This strategy involved housebuilders initialising deliverable strategic land (i.e. land which had a likely chance of gaining planning permission through its allocation in the local plan), and taking it through the planning process. Upon the granting of a fully implementable planning consent, housebuilders exercised the option to purchase the land at current market value. This strategy enabled housebuilders to buy land at current market value and construct and sell houses at current market prices, all at an acceptable profit margin. The following quote explains:

“[It] was deliberate, we had a long-term option that was at a good discount that we knew ... as I said earlier you know, if you can bring a site on-stream that’s above your standard margin in a prime area with the right product designed properly, you tick all the boxes, it will sell. In a bad market good sites always sell. So we’d set it all up, everything was correct and we would have made a lot more money if we were building it today but relative to what was happening at that point we made an awful lot of money on that one site”.

This section has demonstrated that the way in which housebuilders responded to the early stages of the credit crunch and recession was driven by a need to generate a flow of income in order to service bank loans and credit facilities to avoid going into liquidation. For those housebuilders that did not survive the recession, their demise may well have been caused by failed attempts to pursue cash return.

Recessionary reflections: elucidating fragility in the speculative business model

The research indicated that housebuilders' fervent pre-recessionary experiences significantly shaped their recessionary attitudes towards 'doing business' and in particular, shaped their perceptions of risk and fragility in the speculative business model. Housebuilders acknowledged that the fervent speculation characterising the height of the booming housing market was not normal. Rather, it was the result of opportunistic behaviours aimed at securing developable land in highly competitive circumstances to profitably feed hot housing markets.

The fervency evident amongst housebuilders during those pre-recessionary times has since dissipated, leaving a residual adversity which signals a cultural shift towards greater due diligence and caution and a growing desire for predictability and stability. One such housebuilder, in reflecting on this fervency, highlighted the push and pull factors of land and finance markets in shaping their pre-recession behaviours:

"Of course at the time everybody were chasing every little bit of land because the banks were pushing money at developers and therefore it were creating a false position where people were being encouraged to buy land, and that were in itself making land values totally unrealistic".

Another housebuilder reflected on the unsustainable nature of their business operations in the fervent pre-recession business environment, when contrasted with the gearing and subsequent financial exposure of their company:

"I think that the scale of money that was invested in us reflects the cost of land but the fact that as a business...when you actually looked at what we were doing relative to the gearing we had, it was unsustainable".

Such fervency was of course not considered normal by housebuilders, where one particular land-focused company highlighted those pre-recession conditions as 'crazy' and 'not healthy':

“I have to say that people talk about going back to pre-credit crunch but pre-credit crunch was not the norm. Pre-credit crunch was crazy and it’s not healthy. It was really good for us because we could sell a lot of land very quickly and easily and at good prices. Good fun to work in but it wasn’t reality; it wasn’t reality. And what happened in 2008 wasn’t reality either. Maybe what’s happening today isn’t reality but it’s a more stable, predictable and less volatile situation”.

This pre-recession fervency had a marked impact on housebuilders’ perceptions and attitudes towards speculation in the emerging recessionary era, signalling greater caution in decision-making, particularly around land acquisition and predicting sales values:

“I think also once you’ve been bitten you are twice shy... [in] 2000 the elevator just seemed to keep going you know, builders kept paying this price, record price, record price. Now we’ve just come out of recession and we’re all really thinking well let’s be very, very careful about this, careful about allocation, careful about that price, careful about lots of things”.

Almost five years on, the financial consequences of this pre-recession fervency still linger and continue to affect housebuilders’ day-to-day business decisions. Indeed, the impact of buying land ‘at record price’ and developing sites with lower than predicted sales values/rates means that most volume housebuilders are still building out these ‘legacy’ sites. For such sites, the originally predicted profit margin has all but been eroded and the endeavour is focused on breaking even and generating cash return:

“So we’re still building today with no profit on certain sites. All it’s doing is getting our cash back out... it’s been a long, painful exercise”.

“So it was really the legacy sites which were over three and four years, those were the ones where we really got hit the hardest because you had a hundred-plus units taking £40,000 off you, that’s £4million disappearing off the site...”.

So far, the research has shown that the recessionary experience of housebuilders ingrained a level of caution in their business culture, which was compounded by their reflections on the pre-recession fervency experienced. Moreover, the research also indicated that housebuilders

experienced a learning curve, which elucidated the weaknesses and sensitivities of their business model to macroeconomic shock. This further compounded the emerging cautious business culture:

“I mean, the recession’s been probably the best learning curve for everyone. And we’re probably getting back to where we should have been to some degree, a lot of the prudent decisions or ways of working are back”.

However, for a modest number of builders, the permanency of such caution remained dubious, particularly under the hypothetically considered circumstances of housing market recovery and price inflation. For some, an undercurrent of alternation remained in their thought processes of a possible shift back to the pre-recession fervency were a new boom to occur:

“...and the key thing is don’t lose them. Because as the market moves on it’s easy just to forget, easy to forget ...”.

“Your memory gets short and you forget and you start doing things that maybe were ... maybe you wouldn’t have done before and then all of a sudden, cumulatively...you’ve paid too much...you’ve expected too much you know, you predicted to sell it too quickly and before you know it ...”.

This section has demonstrated that the pre-recession fervency experienced by housebuilders had a marked impact on the way in which they did business during the recession, and in particular, on their perceptions and attitudes towards speculation. However, it also revealed that for some housebuilders, the lessons of the recession may not run that deep and a return to pre-recession fervency could emerge if sustained house price inflation becomes a feature of Britain’s post-recession era.

Changing cultures of risk: towards a more risk averse business model?

Whilst previous research refers to the risk averse nature of the British speculative housebuilding model (see Payne 2013, Payne 2012, Payne 2009), it does so at a cursory glance, providing

limited empirical evidence to elucidate the risk averse attitudes, motivations or business behaviours of housebuilding firms. In seeking to fill this gap, this section of the paper presents evidence of how the recession affected the day-to-day decision making of Britain's biggest housebuilders, particularly their land behaviours, indicating the emergence of a more risk averse recessionary business model.

The research revealed that the willingness of housebuilders to accommodate risk, in its broadest sense, within their speculative business model was notably scaled back as a result of their recessionary experience. As previously noted, the learning curve that housebuilders experienced as they transitioned through the changing macroeconomic climate highlighted fragility in the model of speculation. As such, the recessionary experience gave housebuilders an opportunity to reflect on and re-examine their business behaviours and consider new ways to mitigate against risk:

"...everybody's more risk-aware and risk-averse than they were pre-recession. But it's not necessarily a bad thing, we're probably a lot better versed in all aspects of the business than we were pre-recession".

As housebuilders' attitudes towards risk changed through their recessionary experience, so too did their perception of risk and indeed, their willingness to 'take a chance' in the speculative delivery of new homes:

"The amount of money that we risk is far less now and the decisions that we take are much more prudent... [We're] not doing things by chance now. Aye we'll make mistakes but we're making fewer mistakes now than we've ever made. And that discipline, I don't think we'll lose that discipline. I think that's now engrained in this business".

The ensuing discipline that emerged from this behavioural shift towards greater risk aversion resulted in housebuilders being unwilling to bear the same level of risk across their businesses as in pre-recession times:

“Nobody could see the risks then... The whole industry is more risk-averse. Probably in your days when you were a land buyer... you were very acquisitive people...prepared to take commercial views and take a risk and say yeah, we’ll do it and it’ll be better and don’t worry about it. Those days are gone you know, everything’s very much more due diligence, sense-checked, risk-averse”.

“...I remember our Managing Director saying to me you know, whenever you’re looking at things never bet the business. So any opportunity or things that we are looking at, if for whatever reason it all went wrong it’s never going to be catastrophic enough to take down the business. And when you look at some of the companies that aren’t here anymore you know, they probably did bet the business where again they had a willing bank that was willing to fund ...”.

Such findings, whilst elucidating the link between pre-recession fervency and post-recession risk-taking, also indicated that housebuilders’ risk appetite was driven by their ability to accurately predict price and value. Indeed, the pre-recessionary booming housing market enabled housebuilders to ‘bet on the market’ by predicting *anticipated* sales values, likely higher than ostensive predictions, thereby generating an inflated land value to beat off stiff competition in the land market. As such, the due diligence and prudent decision making evident amongst housebuilders during emergent recessionary times was targeted on their behaviour in the land market. Indeed, housebuilders’ recessionary approaches to land acquisition were notably affected by the recession, resulting largely in increased scrutiny, time and financial/personnel resource during the process:

“I think our processes have changed, there’s no doubt about it and the scrutiny and time and resource that goes into now looking at new opportunities, there’s not a stone left unturned”.

Further, the lingering unease and nervousness amongst housebuilders towards the economy and housing market during recessionary times influenced their perception toward price and value

stability and affected their confidence in accurately predicting sales prices and making land offers. This uncertainty, a ‘what if it all goes wrong again’ anxiety, dominated the recessionary risk culture of the industry and influenced the willingness of housebuilders to make conventionally risky business decisions:

“And I think you know the people have still got it fresh in their mind you know, okay that’s all great but what if it all goes wrong? And we as a business have been quite cautious...”

The impact of this reduced risk appetite meant that land promotion and option agreements were approached by housebuilders with greater caution and discretion, so to mitigate against heightened risk in the recessionary development process and minimise uncertainty:

“The deals we did pre-recession could never, ever, ever be done again you know, a million pound out on risk on a site with ... well nobody even knows the chances of success; is it 30%, is it 60%? Don’t know. You know, a million pound, two million pounds just to secure an interest, no ... like just to be granted the permission to promote it; never again, never again. Banks; no. It’s massively sharpened up our act. The downside I would say is we’ve lost a bit of risk appetite”

The research further revealed that these land-based risk averse measures introduced by housebuilders during the recession were matched by a perceived amplification of risk in the recessionary planning process. The findings indicated a distinct level of frustration amongst those housebuilders seeking to build during the recession, where site start delays frustrated their ability to generate the income flow necessary to return capital and, in some instances, secure profit:

“... [T]he challenge that all the companies are facing are site start delays. You cannot predict how long it’s going to take to get on-site, it’s really, really hard. And therefore it’s hard to predict what your profit’s going to be”

So far, the research has revealed a distinct perception amongst housebuilders of an emerging ‘new normal’ in the business of volume housebuilding. Here, whilst the fundamental aspects of the speculative housebuilding model endure, the attitudes of housebuilders towards risk are more measured and, where the process of speculative housebuilding is taking place, it is being conducted with greater caution, due diligence and discretion with a primary focus on expediting cash return. These behavioural adaptations look set to influence how housebuilders go about their day-to-day business as the shift towards recovery in the British economy and housing market takes place. Indeed, one housebuilder made it very clear that the ‘different world’ in which housebuilders now operate will yield a different way of speculative housebuilding:

“I think one of the things people think is you’ve gone down, you’re just going to come straight back up; it’s a different world and it’s a different business model to the one we had before. So although we may get back to the same amount of turnover, we’re doing it in a totally different way”.

This emerging ‘new normal’ in recessionary speculative housebuilding is arguably a paradoxical one, where the risky business of building new homes sits alongside a growing pressure to deliver increased volumes to meet the housing needs of a post-recession Britain. This ‘challenge of volume’ presents housebuilders with a pressing test, where the necessary replenishment of resources – land, labour, materials – to enable a programme of reinvestment conflicts with the focus on expediting cash return. Such a paradox is likely in the short term at least, to have an impact on the number of new homes delivered by volume housebuilders, where the desire to drive efficiencies will be central to housebuilders’ approach in driving volume, as one such housebuilder illustrated:

“Will we be driven to push volumes again? Who knows you know. But I think it’s got to be about efficiency, it’s got to be about trying to control costs, I think it’s got to be about attracting and retaining people, people are critical to our business. I think it’s got to be about construction methods which have to change you know, we can’t continue to build houses the way we’re doing for the next 20/30 years/40 years, we just won’t be able to deliver homes. There won’t be the people to build them”.

Moreover, the behavioural legacies of the fervent pre-recessionary experience, as discussed earlier in this paper, will continue to influence the way in which volume housebuilders rise to the ‘challenge of volume’, as the following quote articulates:

“I don’t think the housebuilding industry will ever be back to where it was in 2007. For good reason because there was a lot of sloppiness, a lot of overindulgence, a lot of stupidity frankly and the business was just going slightly nuts... I think what the industry’s craved for at all times but never achieved is some measure of steadiness, which is hard because economic factors [are] way out of your control”.

Towards Recovery: behavioural legacies and implications for housing supply

The level of housing delivery we can expect from the volume housebuilding industry as we transition into recovery is difficult to predict, and requires further research to unpack how housebuilders are responding to Britain’s recovering economy and housing market. Indeed, the extent to which the behavioural adaptations of recessionary speculative housebuilding emerge as behavioural legacies in the post-recession era is difficult to foresee. However, this research raises a number of issues that may lay challenge to policy makers’ ambitions of seeing a significant increase in speculative housing output. Firstly, the very fact that volume housebuilders are focussing their recessionary business on generating cash return rather than volume output indicates that a business model of driving efficiencies may well result in suppressed housing completions for some time; not least until preferable macro-economic conditions re-emerge or housebuilders achieve the levels of income return necessary to grow volume output. Whilst we do not know how housebuilders are seeking to ‘gear up’ as economic recovery takes hold, it is unlikely that volume output will occur until business stability and market confidence returns.

Secondly, where risk-averse strategies are dominating speculative business decisions, with greater levels of caution and due diligence in land acquisition practices particularly evident, we may see

housebuilders target market locations where sales prices are more stable, predictable and demonstrate less volatility; or target planning authorities where planning conditions are less onerous and policies more favourable. This could have notable implications for the geographic spread of housing completions in recessionary and post-recessionary Britain, especially given the introduction of the NPPF and its 5 year land supply policy in England (DCLG 2012a). Indeed, this may help explain the prevalence of ‘planning by appeal’ in some local authority areas (<http://www.localgov.co.uk/Councils-warn-of-planning-by-appeal/36473>).

Thirdly, the desire for a measure of steadiness by volume housebuilders and a return to calmer waters evidences a reduced fervency and appetite for speculative behaviour. Equally, it indicates an industry desiring normalcy and steadiness as the hangover from the credit crunch dissipates. The industry’s claims that their pre-recessionary experience was not normal is, in many ways, a stark warning to those who expect post-recessionary completion rates to mirror those of the pre-recessionary era, in terms of both the *quantum* and *rate* of output. Whilst this research has not revealed how housebuilders are responding to the emerging post-recession era, or what strategies housebuilders are adopting to shift from a business model of cash return to one of investment and growth, it is likely that any significant volume output from housebuilders during these times will be entirely on their terms. Such behaviours may require targeted policy interventions to stimulate market demand and improve business confidence in those market areas most deeply affected by the recession or which are currently unfavourable to the industry due to price instability or lack of strategic fit.

Indeed, policy makers pursuing nationally operative demand-side stimulus measures, such as Help to Buy, may find some success if they increase appetite for new homes by enhancing the financial opportunity to buy. Such would offer the industry confidence to invest in new land opportunities, bring land forward for planning permission and begin construction programmes

to serve those emerging markets. However, such intervention may well serve to heighten demand for land and development in market locations that have fared slightly better in the recession when compared to others. Indeed, housebuilders may decide to focus on those locations demonstrating more predictable sales values, as they offer a less risky opportunity to generate income and pay off bank debts. Such behaviour may have significant spatial implications for the delivery of new homes as Britain emerges out of recession.

However, demand side policy interventions focussing on the *output* of the speculative housebuilding model (the homes) are likely to be blunted should policy makers restrict or irritate the availability or flow of housebuilders' key *input* measures (land). As housebuilders seek to increase rates of housebuilding in response to recessionary market demand, the extent to which they can increase building and sales rates on existing individual sites may be limited (see Adams and Leishman 2008). It follows that housebuilders may wish to increase the number of outlets rather than their build out rates to meet growing market demand whilst mitigating market risk. Under such circumstances, this would challenge the planning system to effectively manage the delivery of greater levels of housing land to match any upswing in housing market demand. Further, should new housebuilding activity present a distinct spatial patterning, the result of housebuilders' behavioural legacies from recessionary experiences seeking predictability, the planning system may find itself under greater pressure to mediate between the spatially-targeted appetites of the land and housing markets.

Conclusion

The UK is approaching a new era in housebuilding. Chronic housing shortages and a housing supply system catastrophically afflicted by the global financial crisis look set to redefine both the institutional relationship between the state and market in housing supply and the capacity of the speculative housebuilding industry to respond to the shifting policy ideals of increased housing

output. The state, through its planning, finance and regulatory systems, is attempting the complex orchestration of change, but it is a process that is seeking to influence an equally complex, weather-beaten housebuilding industry with a lack of understanding and certainty over future conditions (Carmona et al 2003).

It is likely that the effective reorientation of the state and the market towards a new era of housebuilding will require common understanding, dialogue and synergy. However, Adams (2011) reminds us that policy questions around planning for housing over the past 40 years have been an ‘...incidence of conflict, turbulence and at times, simple re-invention of wheels that have been previously discarded, rather than mutual learning and progression towards an agreed rationality’ (pg. 958). The recessionary experience of the British housebuilding industry looks set further fuel to ‘wicked problem of planning for housing’ (Adams 2011), as housebuilders’ calls for steadiness and predictability are challenged by unrealistic policy agendas claiming significant increases in new housebuilding rates (see The Lyons Housing Review 2015).

Further, whether housebuilders are exhibiting a familiar pattern of learning lessons and then forgetting them, as each business cycle through boom and bust takes place, is an interesting contention. Does each cycle through recession and recovery yield similar behavioural patterns of fervency and collapse in volume speculative housebuilding? Whereas this research presents a familiar tale of fervency to collapse (see Gibb et al 1997), it is difficult to contend that similar behavioural responses follow, as no comparative research exists. However, this research indicates that the business cycle of the first decade of the 21st century induced a myriad of institutionally-constituted behavioural responses by housebuilders; arguably, these are more characteristic of the institutional model of speculation in British housing supply than those more prosaic explanations focusing solely on the profit and greed motivations or financial mismanagement of individual housebuilders. From this perspective, it is the inherent characteristics of the system,

rather than the individual business decisions of housebuilders, that become the focus of analysis and indeed, the target of policy interventions. It follows that a better understanding of how the model of speculation limits or stimulates volume housebuilding activity will yield more appropriate policy interventions.

This paper has emphasised the importance of understanding behavioural change as a key feature in assessing and evaluating Britain's housing supply issues and the capacity of the volume housebuilding industry to respond to government initiatives seeking significant increases in housing output. It has sought to develop a deeper understanding of recessionary behaviour and to challenge assumptions behind housebuilders' supply behaviours. The purpose of such an endeavour is to highlight the role of academics in selling the benefits of behavioural analysis to inform policy development, implementation and evaluation and to contribute to the growing literatures on constraint and behavioural analysis in housing supply.

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References

- ADAMS, D. (2004), 'The changing regulatory environment for speculative house builders and the construction of core competences for brownfield development', *Environment and Planning A*, **36**, 601–24.
- ADAMS, D. (2011), 'The 'wicked problem' of planning for housing development in the UK', *Housing Studies*, **26**(6), 951-960.
- ADAMS, D. and LEISHMAN, C. (2008), '*Factors Affecting Build Out Rates*', Report for Department for Communities and Local Government.

- ADAMS, D., LEISHMAN, C., and WATKINS, C. (2012), 'House builder networks and residential land markets', *Urban Studies*, **49**(4), 705-720.
- ADAMS, D. and PAYNE, S. (2011), 'Business as usual? Exploring the design response of UK speculative house builders to the brownfield development challenge', in S. Tiesdell and D. Adams (eds), *Urban Design in the Real Estate Development Process*, Oxford, Blackwell, 199–218.
- ADAMS, D., and TIESDELL, S. (2013), *Shaping Places: Urban Planning, Design and Development*. Routledge, London.
- ADAMS, D., and TIESDELL, S. (2010), 'Planners as market actors: rethinking state-market relations in land and property', *Planning Theory and Practice*, **11**(2), 187-207.
- ADAMS, D. and WATKINS, C. (2002), *Greenfields, Brownfields and Housing Development*, Blackwells, Oxford.
- ADAMS, D., WATKINS., and WHITE, M. (2005), 'Planning, Public Policy and Property Markets', Blackwells, Oxford.
- Ball, M. (2010), 'Housing supply and planning controls: the impact of development control processing times on housing supply in England', Report, National Housing and Planning Advice Unit, 2010.
- BALL, M. (2011), 'UK planning controls and the market responsiveness of housing supply', *Urban Studies*, **48**(2), 349-362.
- Ball, M. and Nanda, A. (2014), 'Does infrastructure investment stimulate building supply? The case of the English regions', *Regional Studies*, **48**(3), 425-438.
- BARKER, K. (2004), *Review of Housing Supply – Delivering Stability: Securing Our Future Housing Needs. Final Report - Recommendations*, London, HMSO.
- BARKER, K. (2008), 'Planning policy, planning practice, and housing supply', *Oxford Review of Economic Policy*, **24** (1), 34-49.
- BARRATT DEVELOPMENTS PLC (2010) Annual Report and Accounts 2010.
- BARRATT DEVELOPMENTS PLC (2009) Annual Report and Accounts 2009.
- BARRATT DEVELOPMENTS PLC (2008) Annual Report and Accounts 2008.
- BARRATT DEVELOPMENTS PLC (2007) Annual Report and Accounts 2007.
- BARRATT DEVELOPMENTS PLC (2006) Annual Report and Accounts 2006.
- BARRATT DEVELOPMENTS PLC (2005) Annual Report and Accounts 2005.
- BARRATT DEVELOPMENTS PLC (2004) Annual Report and Accounts 2004.
- BRAMLEY, G. (2007), 'The sudden rediscovery of housing supply as a key policy challenge', *Housing Studies*, **22**(2), 221-242.
- BRAMLEY, G. (1993), 'Land-use planning and the housing market in Britain: the impact on housebuilding and house prices', *Environment and Planning A* **25**(7), 1021 – 1051.

BELLWAY PLC (2010) Annual Report and Accounts 2010.

BELLWAY PLC (2009) Annual Report and Accounts 2009.

BELLWAY PLC (2008) Annual Report and Accounts 2008.

BELLWAY PLC (2007) Annual Report and Accounts 2007.

BELLWAY PLC (2006) Annual Report and Accounts 2006.

BELLWAY PLC (2005) Annual Report and Accounts 2005.

BELLWAY PLC (2004) Annual Report and Accounts 2004.

BIS (DEPARTMENT FOR BUSINESS INNOVATION AND SKILLS). (2013), 'UK Construction: an economic analysis of the sector', London, HMSO.

CARMONA, M. CARMONA, S. and GALLEN, N. (2003), 'Delivering New Homes: Processes, planners and providers', Routledge, London.

Cheshire, P. and Sheppard, S. (2005), 'The Introduction of Price Signals into Land Use Planning Decision-making: A Proposal', *Urban Studies*, **42**(4), 647-663.

CLA (2013), 'Tackling the housing crisis in England: CLA policy on securing and increasing housing supply in England 2013-2018', CLA, London.

CONSTRUCTIONINDEX.CO.UK (2012), 'Gloom in construction as other industries exit recession'. Available at <http://www.theconstructionindex.co.uk/news/view/gloom-in-construction-as-other-industries-exit-recession> [Accessed 1 March 2015].

DCLG (DEPARTMENT FOR COMMUNITIES AND LOCAL GOVERNMENT). (2015), Live tables, permanent dwellings completed by tenure, United Kingdom, historical calendar year series. Available at <https://www.gov.uk/government/statistical-data-sets/live-tables-on-house-building> [Accessed 1 March 2015].

DCLG (DEPARTMENT FOR COMMUNITIES AND LOCAL GOVERNMENT). (2013), *Section 106 affordable housing requirements review and appeal*, HMSO, London.

DCLG (DEPARTMENT FOR COMMUNITIES AND LOCAL GOVERNMENT). (2012a), 'The National Planning Policy Framework', HMSO, London.

DCLG (DEPARTMENT FOR COMMUNITIES AND LOCAL GOVERNMENT). (2012b), *Get Britain Building*, HMSO, London.

DCLG (DEPARTMENT FOR COMMUNITIES AND LOCAL GOVERNMENT). (2010), *Household Projections 2008 to 2033 England*, HMSO, London. Available at <https://www.gov.uk/government/policies/increasing-the-number-of-available-homes/supporting-pages/get-britain-building> [Accessed 3rd March 2015].
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6395/1780763.pdf [accessed 1 March 2015].

- DIXON, T. and ADAMS, D. (2008), 'Housing supply and brownfield regeneration in a post-Barker world: is there enough brownfield land in England and Scotland?', *Urban Studies*, **45**(1), 115-139.
- EDGAR, B. DOHERTY, J. and MEERT H. (2002), 'Access to housing. Homelessness and vulnerability in Europe', The Policy Press, London.
- FINGLETON, B (2008), 'Housing supply, housing demand and affordability', *Urban Studies*, **45**(8), 1545-1563.
- GIBB, K., MCGREGOR, A. and MUNRO, M. (1997), 'Housebuilding in recession: a regional case study', *Environment and Planning A*, **29**, 1739–58.
- GIBB, K. (1999), 'Regional differentiation and the Scottish private housebuilding sector', *Housing Studies*, **14**, 43–56.
- GORDON, G., and DITOMASO, N. (1992) 'Predicting Corporate Performance from Organizational Culture' *Journal of Management Studies*, **29**(6), 783–798.
- HAMEL, G., and PRAHALAD, C. (1994), '*Competing for the Future*', Harvard Business School Press, New York.
- HALIFAX (2015), House Price Index March 2015. Available at <http://www.lloydsbankinggroup.com/globalassets/documents/media/press-releases/halifax/2015/housepriceindexmarch2015.pdf> [Accessed 13 April 2015].
- HILLEBRANDT, P., CANNON, J. and LANSLEY P. (1995), '*The Construction Industry In and Out of Recession*', Macmillan, Basingstoke, Hants.
- HINCKS, S., LEISHMAN, C., and WATKINS, C. (2013), 'Planning and housing: concepts, policy instruments and market analysis', *Town Planning Review*, **84**(1), 1-7.
- HOUSING MARKET INTELLIGENCE REPORT (2012) London.
- JONES, C., LEISHMAN, C. and MACDONALD, C. (2009), 'Sustainable urban form and residential development viability', *Environment and Planning A*, **41**, 1667–90.
- KPMG/SHELTER (2014), '*Building the homes we need: a programme for the 2015 government*', KPMG/Shelter, London.
- LECKIE, S. (1992), '*From housing needs to housing rights: An analysis of the right to adequate housing under international human rights law*', The International Institute for Environment and Development, London.
- http://www.sheltercentre.org/sites/default/files/IIED_housingNeedsHousingRights.pdf [Accessed 19 April 2015].
- LEISHMAN, C., JONES, C. and FRASER, W. (2000), 'The influence of uncertainty on house builder behaviour and residential land values', *Journal of Property Research*, **17**, 147-168.

- MAYO, S. and SHEPPARD, S. (2001) 'Housing supply and the effects of stochastic development control', *Journal of Housing Economics*, **10**(2), 109–128.
- MCGRATH, R., MACMILLAN, I., YANG, E. and TSAI, W. (1992), 'Does culture endure, or is it malleable? Issues for entrepreneurial economic development', *Journal of Business Venturing*, **1**, 441–458.
- MONK, S. and WHITEHEAD, C. (1996), 'Land supply and housing: a case-study', *Housing Studies*, **11**, 407-423.
- MONK, S. and WHITEHEAD, C. (1999), 'Evaluating the economic impact of planning controls in the UK: some implications for housing', *Land Economics*, **75**(1), 74–93.
- MEEN, G. (2011), 'A long-run model of housing affordability', *Housing Studies*, **26** (7-8), 1081-1103.
- MEEN, G. and ANDREW, M. (2008), 'Planning for housing in the post-Barker era: affordability, household formation and tenure choice', *Oxford Review of Economic Policy*, **24**(1), 79-98.
- NICOL, C. and HOOPER, A. (1999), 'Contemporary change and the housebuilding industry: concentration and standardisation in production', *Housing Studies*, **14**, 57–76.
- ONS (2015) House Price Index. Available at <http://www.ons.gov.uk/ons/rel/hpi/house-price-index/index.html> [Accessed 5 March 2015].
- PATTILLO, M. (2013), 'Housing: Commodity versus Right', *Annual Review of Sociology*, **39**, 509–53.
- PAYNE, S. and BARKER, A. (2015), 'Implementing green infrastructure through residential development in the UK', in Sinnett, D; Burgess, S. & Smith, N (eds.) *Green Infrastructure: Planning, Design and Implementation*, London, Edward Elgar.
- PAYNE, S. (2013), 'Pioneers, Pragmatists & Sceptics: Speculative Housebuilders and Brownfield Development in the Early 21st Century', *Town Planning Review*, **84**, 37- 62.
- PAYNE, S. (2012), 'Can the Volume Housebuilding Model Survive?' *Town and Country Planning*, December 2012, 546-550.
- PAYNE, S. L. (2009), 'The institutional capacity of the UK speculative housebuilding industry' (unpublished PhD thesis), Glasgow, Department of Urban Studies, University of Glasgow, <http://theses.gla.ac.uk/853/>.
- PERSIMMON PLC (2010) Annual Report and Accounts 2010.
- PERSIMMON PLC (2009) Annual Report and Accounts 2009.
- PERSIMMON PLC (2008) Annual Report and Accounts 2008.
- PERSIMMON PLC (2007) Annual Report and Accounts 2007.
- PERSIMMON PLC (2006) Annual Report and Accounts 2006.

PERSIMMON PLC (2005) Annual Report and Accounts 2005.

PERSIMMON PLC (2004) Annual Report and Accounts 2004.

RATCLIFFE, J. STUBBS, M. and SHEPARD, M. (2004), *'Urban Planning and Real Estate Development, 2nd Edition'* UCL Press, Oxon.

REDROW PLC (2010) Annual Report and Accounts 2010.

REDROW PLC (2009) Annual Report and Accounts 2009.

REDROW PLC (2008) Annual Report and Accounts 2008.

REDROW PLC (2007) Annual Report and Accounts 2007.

REDROW PLC (2006) Annual Report and Accounts 2006.

REDROW PLC (2005) Annual Report and Accounts 2005.

REDROW PLC (2004) Annual Report and Accounts 2004.

SAVILLS (2014), 'UK Residential Development Land'. Available at <http://pdf.euro.savills.co.uk/uk/residential---other/mim-uk-residential-development-land.pdf> [Accessed 1 March 2015].

SAIZ, A. (2010), 'The Geographic Determinants of Housing Supply', *Quarterly Journal of Economics*, 1253-1296.

SMITH, S., MUNRO, M., and CHRISTIE, H. (2006), 'Performing (Housing) Markets', *Urban Studies*, **43**(1), 81-98.

STEPHENS, M. (2011), *Tackling Housing Market Volatility in the UK*, York, Joseph Rowntree Foundation, www.jrf.org.uk/sites/files/jrf/housing-markets-volatility-full.pdf [accessed 4 May 2015].

SWEENEY, J. (1974) 'Quality, Commodity Hierarchies, and Housing Markets', *Econometrica*, **42**(1), 147-167.

TAYLOR WIMPEY PLC (2010), Annual Report and Accounts 2010.

TAYLOR WIMPEY PLC (2009), Annual Report and Accounts 2009.

TAYLOR WIMPEY PLC (2008), Annual Report and Accounts 2008.

TAYLOR WIMPEY PLC (2007), Annual Report and Accounts 2007.

TAYLOR WIMPEY PLC (2006), Annual Report and Accounts 2006.

TAYLOR WIMPEY PLC (2005), Annual Report and Accounts 2005.

TAYLOR WIMPEY PLC (2004), Annual Report and Accounts 2004.

THE LYONS HOUSING REVIEW (2015). Available at <http://www.yourbritain.org.uk/agenda-2015/policy-review/the-lyons-housing-review> [Accessed 20 April 2015].

- TIESDELL, S. and ADAMS, D. (2004), 'Design matters: major house builders and the design challenge of brownfield development contexts', *Journal of Urban Design*, **9**, 23–45.
- WHITE, M. and ALLMENDINGER, P. (2003), 'Land-use planning and the housing market: a comparative review of the UK and the USA', *Urban Studies*, **40**(5/6), 953–972.
- WHITEHEAD, C. and WILLIAMS, P. (2011), 'Causes and consequences? Exploring the shape and direction of the housing system in the UK post the financial crisis', *Housing Studies*, **26**, 7-8.