

Preferences, quality and choice in new-build housing

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1 Introduction and context

Introduction

Private house-building firms provide the bulk of all new housing in the UK so it is of paramount importance that they should provide new housing that meets the needs of those who purchase it. In a well-functioning market, new housing would be designed with households' preferences firmly in mind. Recently, research promoted by the Joseph Rowntree Foundation has focused on the extent to which new-build housing is economically, environmentally and functionally efficient (Bartlett, 1997; Young, 1997; Bartlett *et al.*, 2002). Some commentators point to the fact that the rate of replacement of housing in the UK is very low while others note that the house-building industry itself is producer, rather than consumer, led (Ball, 1996). Common perceptions of the industry are that it is inefficient, labour intensive and technologically backward. These views tend to corroborate the idea that the industry is not particularly responsive to consumers' needs and preferences.

Surprisingly, there has been relatively little research examining house purchasers' needs, preferences and trade-offs, and so relatively little is known about the extent to which new-build housing meets people's needs. There are three main reasons for this.

- 1 Studies of preferences among moving households tend to be dominated by the 'big picture' factors (such as needing more bedrooms or a garden for children, being in the right school catchment area, or wanting a smaller more manageable home towards retirement).
- 2 There is generally insufficient fine-grained data available to distinguish properly between what makes one (similar) house preferable to another.
- 3 Studies of satisfaction among recent movers raise the concern of post hoc rationalisation: having just made the biggest financial

commitment that most households make in their lifetime, few would wish to admit that the house chosen was less than ideal.

The objective of this study is to use much more detailed data than available to previous studies of households' preferences, trade-offs and choices in order to improve our understanding of these processes. Understanding of what people want and value in new housing has potentially important policy implications, in particular the following.

- Britain's land-use planning and building-control systems exert significant control over new-build housing, in terms of where new housing is built, design guidance and construction and space standards. As a new era of substantial private new-build housing output approaches, it is especially important to know whether the controls reflect preferences.
- Similarly, the Government's brownfield house-building targets rely on encouraging households to buy new or newly converted housing in the inner cities.
- Our understanding of the key factors that drive buyers' housing choices is relatively poor while even less is known about the process by which consumers trade off factors to arrive at a final housing choice.

Aims of the study

The aims of the study are to provide:

- a detailed examination of new-build housing buyers' housing needs and preferences
- an analysis of the physical, locational and quality characteristics of housing actually constructed by house builders
- an examination of the relative importance of physical property, locational, neighbourhood and price factors to consumers in the housing choice process.

Study methods

This study set out to examine new-build housing buyers' needs and preferences by analysing the physical, locational and quality characteristics of housing actually constructed by house builders. It also set out to disentangle the relative importance of physical property, location, neighbourhood and price factors to consumers in the housing choice process.

It is unique in bringing together qualitative evidence from new house buyers with quantitative analysis of new housing output and prices. It also uses a relatively new technique in applied housing research called 'conjoint analysis'. Glasgow and Edinburgh were the locations for the study. Together, the two cities provide a good cross-section of the range of new-build housing being built in contemporary urban Britain. A number of data collection methods were used to investigate buyers' preferences and trade-offs including focus groups, interviews with recent and prospective buyers, information from planning applications and selling price data. Further details on the study methods are set out in Appendix 1. This report draws on all of these study methods and perspectives to investigate the following key research questions.

- How do new-build house buyers balance and trade off alternative locations, prices and property types? The importance of location to the housing choice process is well known

but few previous studies have made a close examination of the interaction of location, price and property type. This is the focus of Chapter 2.

- Chapter 3 considers the importance of development density, intensity and estate design to new-build house buyers.
- Are buyers really driven by the number of bedrooms that they can get for their money? How important are other issues such as bedroom sizes, the provision of storage space and trade-offs between more bathrooms and larger bedrooms? Chapter 4 takes a detailed look at these issues.
- Chapter 5 considers the importance of features such as kitchen and living room size and the presence of dining rooms and utility rooms to the housing choice process.
- What attracts house buyers to the new-build sector of the housing market? After purchase, how satisfied are buyers with the build quality of their home and the customer service they receive from the house builder? Chapter 6 examines differences between buyers' and builders' expectations focusing on build quality and customer care.
- Finally, Chapter 7 summarises the main findings of the report and provides conclusions.

2 Location, location, location ... and price?

Introduction

There have been many studies of new-build housing quality and households' preferences, and most are focused on the 'big picture' factors including property type, neighbourhood, location and size. While there is a broad consensus that these factors are particularly important determinants of people's housing choices, few studies have attempted to quantify their significance relative to each other. The result is that relatively little is known about just how important property type, neighbourhood, location and size are to new-build house buyers. This chapter re-examines the big picture factors, particularly the role of location and price, in the context of the new focus group and survey results.

Findings from previous studies

According to most previous studies of housing choice and preference, trading up in terms of property size or price are key drivers behind people's decisions to move home (School of Planning and Housing, 1991; Munro *et al.*, 1995; Chapman Hendy Associates, 1997). Location and property size/number of rooms are also well rehearsed as key determinants of choice (Chapman Hendy Associates, 1997; Taylor Nelson Sofres, 2001).

Other studies have focused on more detailed aspects of choice, such as the importance of gardens. UK-wide evidence from the Alliance & Leicester's 'MovingImproving' survey (based on 4,000 respondents) shows that two-thirds of people looking to buy a house considered a garden to be among the main features sought (Alliance & Leicester, 2001). Indeed, among this sample, buying a property with a garden was ranked higher than other prerequisites such as gas central heating, double-glazing, a garage or off-street parking. Those who most wanted a garden were in their twenties or thirties, perhaps reflecting their usefulness for households with younger children.

These findings reinforce other evidence that garden space is a particularly important factor. For example, it was rated as the second most important factor (after location) in the Chapman Hendy Survey (Chapman Hendy Associates, 1997) and was also found to be an important factor by the School of Planning and Housing (2001).

Previous studies offer mixed messages regarding the importance of property type. In Scotland, some useful insights can be obtained from analyses of the 1991 and 1996 Scottish House Condition Surveys (see Munro *et al.*, 1995). In this study, individual reasons for moving were identified as motivated by wanting a bigger property (20 per cent), personal reasons (20 per cent), to move closer to work (13 per cent), to obtain a different property type (12 per cent), to move to a better area (9 per cent) and to obtain a smaller property (8 per cent). Similarly, Scottish Homes (1997) reports that respondents to its survey aspire to live in a detached house or bungalow (66 per cent), a semi-detached property (10 per cent), a flat (10 per cent) or a terraced house (10 per cent). These findings are corroborated by the Alliance & Leicester's two surveys conducted in 2000 and 2001 (Alliance & Leicester, 2000, 2001), which found that low-density bungalows and detached properties are the most sought-after house types. Other studies suggest that property type is a less important factor than price, location and size/number of rooms (Chapman Hendy Associates, 1997; Taylor Nelson Sofres, 2001).

Relatively little is known about the role played by local amenities, proximity to employment and to family, and neighbourhood considerations in buyers' housing choices. Some studies report these as important, though not dominant, factors (Chapman Hendy Associates, 1997; School of Planning and Housing, 2001; Taylor Nelson Sofres, 2001) while others barely mention them. To a certain extent, the findings of some preference and choice studies may partly reflect the focus adopted in the survey design. Some studies are focused on

'big picture' factors while others are designed to yield information on the detailed factors behind housing choice. For example, the Popular Housing Forum (1998) and the School of Planning and Housing (2001) demonstrate that variety in housing designs, layouts and features is valued by new-build housing buyers. Similarly, estates with little variety in housing design or with insufficient open space and parking are disliked by house buyers.

While many of the previous studies provide useful insights into the important factors in buyers' housing choices, they reveal several limitations.

- All studies are agreed that there are important drivers in housing choice. For example, price, location and property size tend to be dominant factors. However, studies with a greater focus on the detailed factors tend to conclude that these are also very important to buyers.
- Very little is known about the *relative* importance of a range of 'big picture' and detailed factors.
- Similarly, little is known about the way in which buyers trade off these factors to make a final housing choice.

New evidence from this study

Statistical analysis of new-build house prices shows that location and neighbourhood are very important factors. Measures used to reflect locational and neighbourhood factors include distance from the city centre (price falls with distance), deprivation index (which also reduces prices), an index of neighbourhood weighting towards higher socio-economic group households (which increases prices) and the private housing vacancy rate at neighbourhood level. The latter is clearly an indicator of relatively unpopular areas and, as expected, high vacancies are associated with lower prices (see Aspinall *et al.*, 2003a).

There was evidence of some variety in buyers' attitudes towards location and neighbourhood factors among the focus groups. The importance of being in an area close to relatives and friends was expressed most strongly in the groups at the lower end of the market. In the majority of groups, however, the participants had moved into the area from elsewhere. In most cases, participants had visited a number of estates in different areas, but ultimately decided on the basis of wanting to live in the neighbourhood, the estate and the house as a package. Only in one estate, in a very desirable part of Edinburgh, was the house of secondary importance to the area and this was true for almost all participants in this particular group. Here, participants said they could have bought a better and/or cheaper house elsewhere but were motivated principally by the area, which was both in the city of Edinburgh but also had a rural atmosphere, local shops, buses, restaurants and other amenities.

The importance of catchment areas for good state-run schools was raised in all but one group by participants with children. Either the presence of good schools in the local area was given as a motivation for moving to that area, or else participants expressed their intention to move to another area at some future time in order to avoid their children having to attend local schools. Interestingly, this was less of an issue in both the most and the least expensive estates: the former because many of the children there attended private schools and the latter because participants had, in most cases, attended the same schools themselves and considered them to be unproblematic.

In general, the focus group results reveal some interesting insights into the range of factors that people consider important concerning locational and neighbourhood factors. However, the analysis based on the choice-based survey data yields far more detailed and insightful findings. These are summarised in Table 1 and are reported in more detail by Aspinall *et al.* (2003b).

Table 1 Characteristics of the four consumer groups identified

	Consumer group	Characteristics
Group 1	‘DINKYs’ (double income, no kids yet)	Predominantly younger single households and couples.
Group 2	‘Neo-DINKYs’	As group 1 but a slightly higher prevalence of couples and non-professional occupations.
Group 3	‘Middle-SEG (socio-economic group families’	Slightly older buyers, over half of whom have children.
Group 4	‘Higher-SEG families’	As group 3 but with a higher prevalence of single person households and a greater predominance of professional occupations.

The 400 respondents represented in the choice-based survey dataset can be drawn into four identifiable groups, based on the similarity of their preferences. The socio-demographic characteristics of these groups are described fully in Appendix 2 and are summarised in Table 1. It should be noted that the four groups have been identified from a group of new-build house and flat buyers rather than all house buyers (new and second-hand). Even prior to the analysis, the pool of new-build buyers is a relatively narrow draw or sample from the population of all house buyers.

The survey instrument was designed to allow respondents to make controlled choices centred around eight main housing attributes:

- price (six different price bands were used)
- location (city centre, near city centre, suburban and out of town)
- neighbourhood (five types, which vary in terms of density, amenities and transportation links)
- property type (six types ranging from detached to several flat types)
- public room layout (six different room options and configurations)
- bedroom layout (five different options in terms of number of rooms, size and layout)

- front garden (none, small or large)
- back garden (none, small or large).

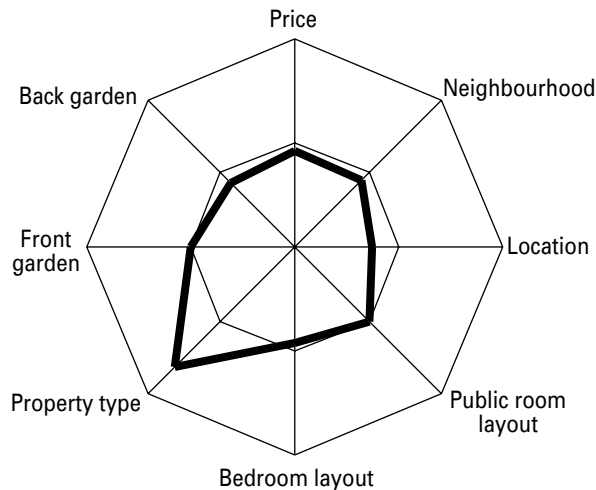
The relative importance of the eight housing attributes was calculated statistically (see Aspinall *et al.*, 2003b for more detail). Figures 1 to 4 summarise the strength of preference for the eight attributes for each of the consumer groups using ‘cobweb’ charts. The diagrams show the relative importance of the attributes (the eight attribute scores sum to 100).

The cobweb diagrams are scaled so that the inner octagon represents a score of 12.5 and the outer octagon represents 25. Since there are eight attributes, any point lying exactly on the inner octagon implies that the attribute is not of less or more than proportionate importance. Attributes that appear further from the centre point are more important than attributes closer to the centre line.

The results show that property type is the single most important factor to DINKYs while location is the least important factor (see Figure 1). DINKYs are likely to be drawn to new-build housing sites that feature the property types and public room options that appeal to them. This really means flats with abundant external space or detached houses with functional public room layouts (large living rooms, small kitchens and utility rooms).

The revealed preferences of the DINKYs are similar to those articulated by younger city

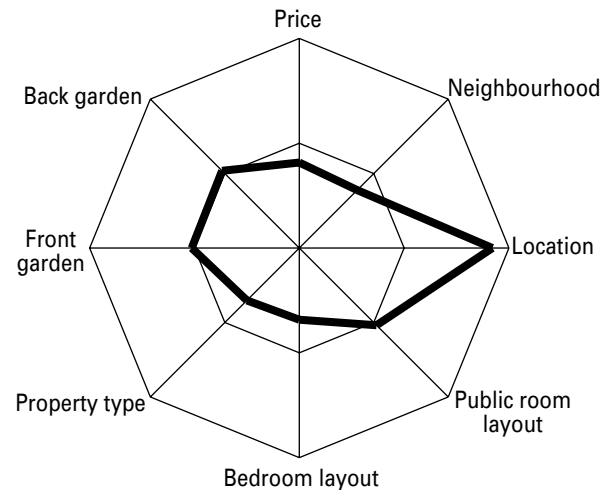
Figure 1 Summary of preferences for DINKYs



dwellers in the qualitative stage of the Joseph Rowntree Foundation CASPAR (City-centre Apartments for Single People at Affordable Rents) project (Oakes and McKee, 1997). These younger participants also sought to live in a safe area convenient for local amenities and public transport. However, most of the participants were employed in the city and, although they enjoyed the anonymity of the city, they also valued being close to open spaces where it was possible to 'escape from work'. Although the interiors of the properties were considered more important than the facade, the participants nonetheless valued traditional buildings and conversions more highly than new-build apartments. Their major concerns included sound insulation and having good space and light. In new-build flats, balconies were considered to be desirable and a large main room was perceived as a priority. The picture that emerges is that property design and specification factors are of particular importance to such households.

The revealed preferences of the neo-DINKYs are a stark contrast (see Figure 2). These buyers rate location as the most important attribute by a considerable margin and, consequently, will be drawn to particular locations rather than property types (out-of-town locations are preferred). These locational preferences are difficult to overcome

Figure 2 Summary of preferences for neo-DINKYs



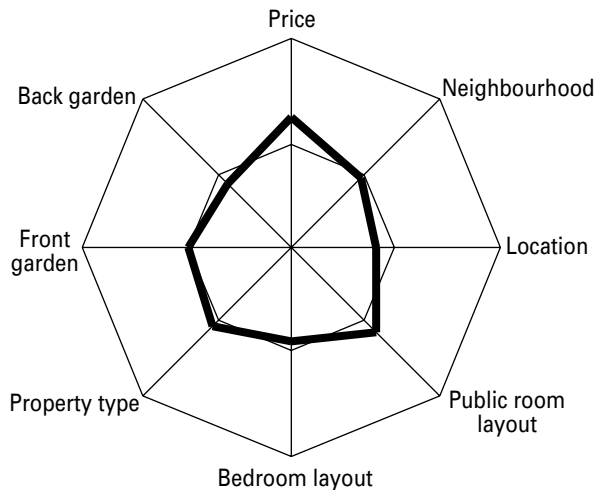
through the provision of better public room and garden characteristics despite these factors being the next most important in the decision process of these buyers.

Middle-SEG families are attracted to housing options that are in their preferred price bracket (see Figure 3). However, public room options and property characteristics are only marginally less important than price. These buyers prefer functional public room layouts (large living rooms, small kitchens and utility rooms) and semi-detached or detached houses. The analysis suggests that this group's preference for suburban locations and low-density neighbourhoods can be overcome through the provision of preferred public room options or property types in alternative locations, provided properties are marketed at the right price.

Buyers in this group have a strong aversion to flatted property types. In theory, it would be possible to compensate failure to achieve preferred location (suburbs) through the provision of similarly priced low-density housing in centrally located low-density neighbourhoods. However, there are obvious difficulties in actually providing such a combination.

Higher-SEG families are attracted to location, garden characteristics and property type (see Figure 4). Internal property characteristics and

Figure 3 Summary of preferences for middle-SEG families



price are relatively unimportant factors to these buyers although detached housing is generally preferred to higher density property types. Buyers in this group have a strong preference for out-of-town locations.

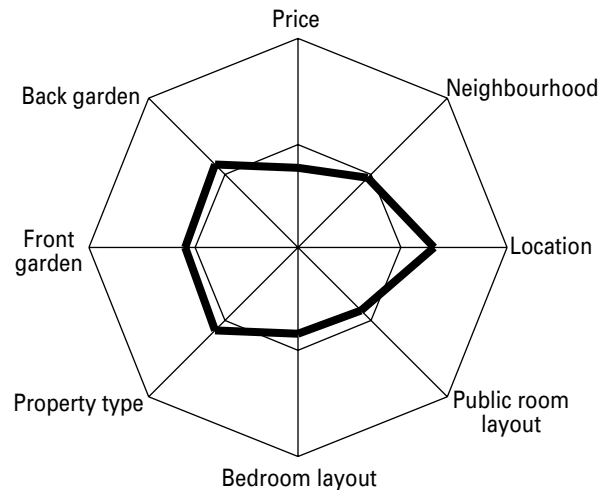
The 'big picture' preferences and trade-offs of buyers

The overall picture that emerges from the analysis of locational and neighbourhood factors is that many new-build house buyers do indeed have a strong preference for suburban or out-of-town locations and low-density property types (the neo-DINKYs and the higher-SEG families respond in this way).

A third group of buyers (the middle-SEG families) are drawn by price factors and low-density house types. While, in theory, location is not particularly important to buyers in this group, their preferred property types and prices are much more likely to be found in the suburbs or out of town than within the urban area.

The fourth group of buyers examined (the DINKYs) is associated with rather more complex property, neighbourhood and locational preferences. Property type, public room options and garden characteristics are revealed as the most

Figure 4 Summary of preferences for higher-SEG families



important factors to this group. Locational and neighbourhood factors are not particularly important. Interestingly, this group strongly prefers flatted property types, particularly those with abundant external space. This desire for external space is also reflected in the importance of one of the garden factors. Also interesting is the fact that this group reveals a preference for low-density neighbourhoods despite having a preference for high-density property types. Central, but not city centre, and suburban locations are preferred to city centre and out-of-town locations but, as noted above, these locational preferences are easily overcome by stronger preferences for property type and specification. Buyers in this group will therefore locate wherever they find properties that they consider physically desirable. This group has the greatest potential for making less conventional suburban choices, if the design and quality of alternatives is right for them.

With respect to price itself, analysis of the choice-based survey data does not generally yield surprising results. DINKYs and neo-DINKYs have a preference for lower price brackets (£100–125k and £75–100k respectively). Meanwhile, middle-SEG families and higher-SEG families – groups representing older (30–49) couples with children – have a preference for higher price brackets (£150–

200k and £125–150k respectively). More surprising is the fact that only one of the four groups reveals price as a particularly important factor in the housing choice process. This is the group representing older (30–49) couples with children and a slightly lower weighting towards higher socio-economic groups. Logically, of the four groups examined, this group is the one most likely to face considerable pressure in realising their housing needs and preferences within the available budget. The message that seems to emerge from this branch of the analysis is that price becomes a dominant factor to households in this position. This is reinforced by the fact that the other three groups of buyers that were examined respond much more strongly to locational and physical property factors than price.

Summary

There are many proponents of the view that the three most important attributes to house buyers are location, location and location. The findings of this study offer some mixed evidence with respect to that theory. Two of the consumer groups identified consider location as the most important attribute of housing, although only one of these groups reveals

location as a completely dominant factor (neo-DINKYs). The analysis shows that property type, specification, layout and garden features are also very important factors in people's housing choices. These findings tend to argue against the 'location, location, location' theory of housing choice, although it must be remembered that the choice-based survey presented highly generalised locational choices to respondents (city centre, near the centre, suburbs and so on). The study did not consider the minute aspects of location that vary street by street and neighbourhood by neighbourhood.

The importance of price and property type to many new-build buyers (particularly middle- and higher-SEG families), together with a preference for lower prices and low-density property types, means that many buyers will inevitably be drawn to the new-build housing on offer in suburban and out-of-town locations rather than sites well within the urban area. In summary, the analysis shows that buyers in three of the four consumer groups that were examined will be drawn to suburban or out-of-town locations either because of an inherent preference for these locations or because of a strong preference for the pricing and property types found there.

3 ‘Rabbit hutches on postage stamps’¹

Density and variety on new-build housing estates

The idea that housing estates consist of endless rows of unimaginative, identical, ‘box-like’ houses is a commonly expressed perception of design standards in the new-build sector of the housing market. Is this a valid representation of housing estate and property design in the house-building industry? If so, why do new-build house buyers not simply vote with their feet and choose second-hand alternatives instead?

Analysis of new-build housing sites plans linked to sale-price information yields some interesting trends. Figure 5 shows the average number of times that different house types were employed on the

housing sites examined during this study. The figures were calculated for the sample of planning application data collected for the two cities.

The analysis suggests that homogeneity, or repeated use of the same house type, is more noticeable at the lower end of the market. Although house type variety improves progressively in the middle price bands, it drops back again at the top end of the market. This is likely to be partly because the capacities of the more expensive sites tend to be lower than compared with the lower and middle priced sites. Figure 6 considers variety from the perspective of individual houses. It shows the average number of different house types immediately neighbouring or facing each house.

Figure 5 House type variety on new-build housing sites

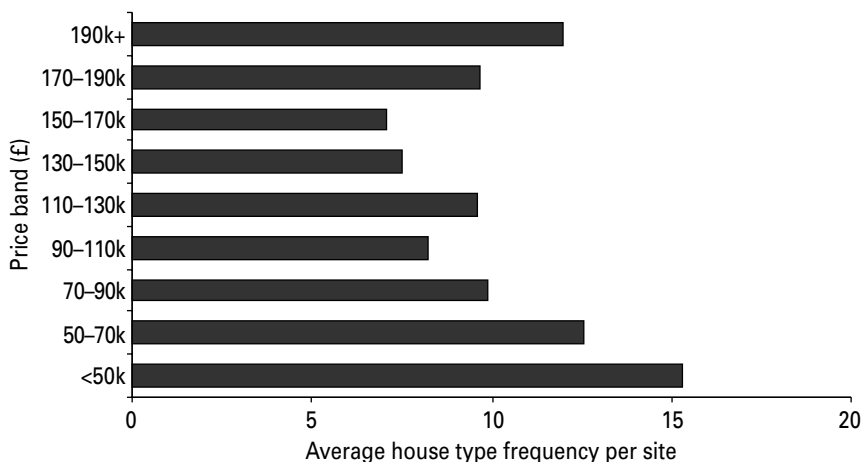


Figure 6 House type variety among neighbouring new-build houses

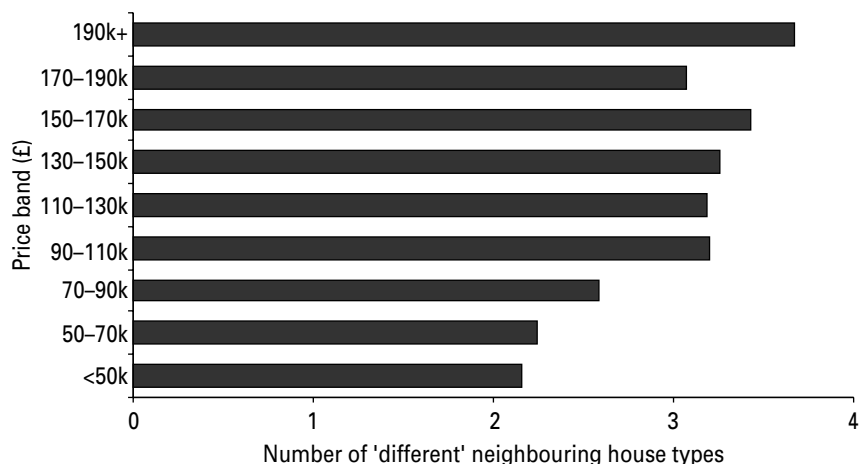


Figure 6 shows a clear pattern: cheaper houses are much more likely to be situated next to or facing identical house types than more expensive ones. Together, the analyses summarised in Figures 5 and 6 strongly suggest that new-build housing developments are rather homogeneous, particularly at the lower end of the market. The implications of this are clearer in the context of the focus group results. These suggest that the layout and atmosphere of an estate (development) is an important factor in buyers' final choice of new-build housing. Many of the focus group participants had viewed other estates but had been put off by their perceptions of the atmosphere or layout.

Low density and green spaces, in particular, are highly valued by new-build house buyers. Many focus group participants were angry and disappointed when their estate was expanded some time after they had purchased their own property, as they felt they had been misled at the point of purchase about how their estate would eventually look. Other complaints included having no direct access to shared gardens, lack of privacy because of the positioning of the house and concerns about the density of the estate. Participants in these cases felt they were deceived about the plot they bought, being misled over the size and density of the estate and being led to believe that the show home was bigger than it was (through the builder's use of 'small' furniture):

My heart sank when I saw how close my house was to the one next door.

(W1B – upper end of the market, Edinburgh)

... when we first arrived ... two builders [had] a huge open green between them which helps sell the show houses and shows the principle of the development ... but now the show houses have gone and all the houses have been sold that lovely green area is now all going to be houses.

(Mr H – upper end of the market, Glasgow)

In one up-market estate in Glasgow, the focus group participants had been attracted by the fact that a consortium of builders was developing a suburban greenfield development. Together, the house builders offered much more choice than normal in terms of the number of different house types and the varying finishing colours and brickwork used. All the participants valued individuality, with those who purchased in the most expensive estate being most opposed to the idea of living in a dense and featureless estate:

Well I think because there are so many other different houses that it doesn't look like an old-fashioned estate you know where everyone's looking the same, so we wanted the variety of houses and the landscaping.

(MB – upper end of the market, Glasgow)

I think the thing that impressed me was looking at the plan – I thought I would like to have this outlook as opposed to looking into someone else's house.

(Mr McD – upper end of the market, Glasgow)

Generally, focus group and interview respondents did not like high-density estates suggesting that density, as well as homogeneity, is an important factor to many buyers:

... the road wasn't even two cars' breadth and all you need is for one of your neighbours to have someone over as a guest, the driveways were very small and the roads were very narrow because they had obviously tried to cram so many houses in and there was traffic congestion in your own wee cul-de-sac.

(MH – upper end of the market, Glasgow)

Views and preferences regarding garden space

All the houses for which planning data were collected had a back garden and almost all had a front garden. Not surprisingly, garden size is strongly related to price, as shown in Table 2. The trend breaks down in the £170k+ price band, although this could be a consequence of the small sample size in this price bracket.

The figures clearly show that the more expensive properties generally have much better garden provision. Provision is also strongly related to property type as shown in Table 3.

The focus group results indicate that most of the house buyers sought a house with a garden. Reasons given for wanting a garden included needing a space for children to play in, for pets to use, for gardening or other leisure pursuits, for washing, or simply to maintain a way of life that people were accustomed to:

We did look at two flats and we were quite interested but ... we realised that was not for us having lived detached for so long and doing our own thing, and doing what you liked with your garden. We wanted a garden of some kind really, we are still active enough to want to have a garden and that put us off the flat idea.

(MMcD – upper end of the market, Glasgow)

On the whole, most participants felt that builders put very little thought into the design and quality of gardens, although some buyers were

happier than others. In the worst cases, participants were faced with a pile of builders' rubble, which they tried to remove but eventually had to employ gardeners, which was often expensive. Those in the more expensive estates had fewer complaints about their gardens, which had often been turfed by the house builder. Others believed that builders reserve this service for sites that are not selling well. There were numerous complaints about sloped, and occasionally waterlogged, gardens and some complaints among flat dwellers of no direct access to shared gardens.

Satisfaction with garden size depended heavily on how large a garden people got compared with their expectations and the focus group results show some discrepancy here. Several participants had strong views and felt that builders had misled them about the size, shape or even presence of the garden they were supposed to get:

We have a postage stamp at the back.

(MBW2 – middle of the market, Edinburgh)

Table 2 Mean back garden size by price (houses only)

Price (£k)	Average size (square metres)	Number of properties
Under 50	65.0	129
50–70	82.4	200
70–90	106.4	85
90–110	109.2	57
110–130	182.0	46
130–150	238.4	43
150–170	272.4	23
170+	169.1	22
All	113.4	605

Table 3 Mean back garden size by property type (houses only)

Property type	Average size (square metres)	Number of properties
Mid terraces	42.5	70
End terraces	67.1	72
Town houses	141.0	25
Semi-detached	167.9	243
Detached	175.0	238

For several participants, having privacy in their garden was very important, with the aspect and view rather less so. Most participants felt that the level of privacy in their estate/ development was acceptable and that builders now take this into account more than they did in the past.

Analysis of the choice-based survey data reveals clear correlations between age, socio-economic groupings and garden preferences. DINKYs and neo-DINKYs generally reveal an aversion to having garden space (as noted earlier, these consumer groups represent childless couples aged 20–39 with a preference for flatted property types rather than houses).

Back garden characteristics are revealed as the second most important factor in the overall housing choice process to the higher-SEG families. These households rated a large back garden as preferable to a small back garden or having none at all.

Other aspects of site density and layout

Parking provision and difficulties surrounding the maintenance of common or shared areas of ground were the other significant issues raised during the focus group sessions. In the case of the latter, all but one of the estates examined had an appointed factor (common ground maintenance contractor) responsible for the upkeep of parts of the estate. Liability for contributing to the associated costs had been written into participants' contracts when they purchased their properties. While most participants agreed in principle with the idea of having a factor, the majority did not believe that they were obtaining value for money. For some participants, having a factor had attracted them to the development, especially for those who had little time or interest in helping to maintain shared areas.

Meanwhile, parking provision was found to be an important consideration during the focus groups and individual semi-structured interviews. House buyers and flat buyers alike expressed the

importance of this in their buying decision, and occasionally as a reason for buying new-build:

I've never actually had a car park before, I've always had permit parking. And I think, I mean that never really bothered me either as there always seemed to be places, but I think yeah, it would be important if you were looking at a new development and they didn't have a car park. I think that would be quite strange.

(PB1, Edinburgh)

We like having our own garden and our own space for the cars and you can wash your car without going out to the street and so on.

(MH – upper end of the market, Glasgow)

For many house buyers, having a garage was vital and was often seen as part of the identity of living detached. Forrest and Murie (1993) found that, among potential buyers, many were considering moving in order to have a garage and so increase their storage space. Our own focus group participants and interviewees often discussed using their garages for storage rather than for parking but these participants were generally people in the more expensive, often detached, houses:

We have a garage and the cars don't go in the garage – the rubbish does.

(M3BW – middle of the market, Edinburgh)

... the garage seems to have filled up with junk – I don't understand how.

(M1BW – middle of the market, Edinburgh)

On some sites, buyers found their garages to be less useful than expected. Complaints included having a garage without water or electricity, while most complaints were about garages that were too small.

Satisfaction with parking arrangements seems to differ considerably between both people on different estates and those with different house types. Those most content with parking

arrangements were people on estates with both a garage/ driveway and on-street parking. On other estates, there had been problems with a shortage of spaces, which in one case led to disputes with neighbours. In another case, there was some confusion about parking arrangements, as some flats were allocated spaces or garages while others were not. While participants noted that there were normally spaces for everyone, the lack of allocated spaces enhanced anxiety about getting a space, and there was some resentment shown towards two-car families who were accused of taking up others' spaces.

It is one of the highest concentrations of flats and the smallest number of parking spaces.

(M1RG – middle of the market, Edinburgh)

Summary

The qualitative and statistical analyses converge to show very consistently that new-build house buyers are concerned about the quality of their external environment and that they value an environment characterised by varied design. Most

want enough external space to have good car parking provisions and a reasonably large private garden.

Statistical analysis of house prices shows that property prices are higher in estates that contain more variety in terms of design and house types. The choice-based survey results show that garden characteristics are important to some groups of buyers. Younger buyers with a preference for flats generally do not want garden space while older buyers with children prefer back garden space to front and have a preference for bigger gardens more generally. Preferences seem to be expressed much more strongly in relation to the space and design of the external space immediately around respondents' own home, rather than in terms of the neighbourhood more generally, but of course good design and provision around each home would also imply good quality in the neighbourhood overall.

Note

- 1 See Evans (1991).

4 They like space but they pay for bedrooms?

Introduction

The notion that new properties are generally small, ‘box-like’ with small rooms is a common perception of relatively low standards in the new-build sector of the owner-occupied housing market. Similarly, the idea that standards are declining over time (particularly in terms of room sizes) is much cited (Leopold and Bishop, 1983; Evans, 1991; Karn and Sheridan, 1994; Hooper, 2002).

Given that the majority of homes available on the market at any one time will be dominated by second-hand properties, it is not immediately clear how builders could successfully compete by offering a noticeably inferior (in terms of room sizes) product compared with second-hand rivals. Yet, there are several reasons for supposing that this can happen.

The focus groups reveal evidence that many buyers are attracted by the relative ease and certainty of the purchase process when buying new rather than second-hand. Other than this, there are more direct factors that allow new-build houses to remain attractive, even with small room sizes.

In the UK, owner-occupied housing is normally offered for sale via estate agencies or firms of solicitors. Prospective buyers control the time and financial costs involved in searching for a suitable property by limiting the properties they view according to a short list of criteria. Number of bedrooms is a common property descriptor. The desirable minimum is for a bedroom for each cohabiting couple and one for each of their children, or at least one for up to two children of the same sex. However, internal floor area or average room size is not normally used as a property descriptor in the UK, unlike some other countries. So, number of bedrooms is likely to be a more important factor than bedroom size in terms of generating interest in a property that is on the market.

A second and closely related reason is that private house buyers are usually interested in

housing for its investment value and performance as well as for its functionality. These objectives may not always reconcile. For example, a property with large rooms may be more functional but a property with more rooms may be more marketable and have better investment performance. For this reason, some buyers may prefer to compromise functionality for future marketability.

Finally, house building does not add many dwellings to the national housing stock each year (0.9 per cent per annum on average over the past ten years). If buyers have a general preference for newer housing, say housing built in the last 30 or 40 years, then new housing can be built to declining space standards without it appearing noticeably different from second-hand alternatives. Of course, the rate of decline in space standards would have to be modest. If people tended to want very modern houses, the rate of decline could be greater without new houses appearing noticeably different from second-hand alternatives.

Bedroom spaces and sizes

An examination of the records collected from the two planning authorities during the study reveals a number of interesting trends. The data include the number of bedrooms in each property and the dimensions of each of the bedrooms. Following Karn and Sheridan (1994), we calculate the number of ‘bed spaces’ in each property, on average, by using the National House-building Council’s (NHBC’s) guideline (see Table 4). This stipulates 9 square metres as the recommended minimum size for a double bedroom. Bedrooms measuring less than 9 square metres are described as a ‘one-bed space’ and bedrooms measuring over 9 square metres are described as a ‘two-bed space’ (as long as there is a minimum dimension of 2.7 metres).

Karn and Sheridan (1994) argued that the number of ‘two-bedroom four-bed-space’ houses (22 per cent in the Housing Association sector and

Table 4 Number of bed spaces by property size

Property size	Number	Percentage	Overall %
1 bedroom			
1 bed space	14	19.7	1.2
2 bed spaces	57	80.3	5.0
2 bedrooms			
2 bed spaces	69	13.0	6.0
3 bed spaces	308	58.1	26.8
4 bed spaces	153	28.9	13.3
3 bedrooms			
3 bed spaces	18	4.5	1.6
4 bed spaces	235	58.9	20.5
5 bed spaces	121	30.3	10.5
6 bed spaces	25	6.3	2.2
4 bedrooms			
4 bed spaces	4	2.7	0.3
5 bed spaces	27	18.2	2.4
6 bed spaces	78	52.7	6.8
7 bed spaces	24	16.2	2.1
8 bed spaces	15	10.1	1.3

6 per cent in the private sector in their study) represents a worrying trend. They argue that these properties will be very cramped unless occupied by two adults and one child. The analysis based on our sample of data shows an increase in two-bedroom four-bed-space properties, which constitute 28.9 per cent of two-bedroom properties and 13.3 per cent of the total sample. In fact, 58.1 per cent of two-bedroom properties in our sample have only three bed spaces. This suggests a significant reduction in space standards, particularly since Karn and Sheridan (1994) over-sampled at the bottom end of the market while the sample under consideration here is intended to be more representative of the market as a whole.

In the majority of properties in the sample, while the first bedroom is over 9 square metres, the additional bedrooms regularly measure less than this. For example, 58.9 per cent of three-bedroom properties had four bed spaces, so in these cases only the major bedroom was larger than 9 square metres, and the two further bedrooms measured

less than this. For four-bedroom houses, 52.7 per cent had six bed spaces. Only 26.3 per cent of four-bedroom houses have more than six bed spaces and in only 10.1 per cent of four-bedroom houses do all four bedrooms measure 9 square metres or more.

Views on bedroom sizes

The size of the property was of great importance to the participants in the focus group and interview work undertaken during the study – particularly the number of bedrooms and the room sizes. Most participants had a clear idea of how many bedrooms they had wanted when they had purchased their property – this had been guided principally by how many bedrooms they could afford. Several participants had managed to get more bedrooms than they expected for their money, which they viewed as a sound financial investment. During the focus groups and interviews, participants were asked whether they would prefer to have three small bedrooms or two large

bedrooms (or four small versus three large bedrooms depending on the circumstances). The participants almost always responded to these trade-offs by opting for more, rather than for bigger, bedrooms.

While satisfaction with room sizes varied among the participants, there was some agreement that, in two-, three- and four-bedroom houses, the second, third or fourth bedroom respectively was too small, with some participants suggesting that the house builder should have referred to the room as a 'box room' rather than a bedroom:

Because all of our bedrooms except the fourth bedroom have wardrobes and that is great but the fourth bedroom you know is already small and then you have to fit a double wardrobe in.

(Mr H – upper end of the market, Glasgow)

Analysis of the planning authority data reveals that 'the last bedroom' is often significantly smaller – the mean size for the first bedroom in our sample is 11.1 square metres but this falls to 8.7 for second bedrooms and 7.2 for third bedrooms with 26 per cent of third bedrooms being smaller than 6 square metres.

Participants who were most satisfied with bedroom sizes were either those in the most expensive houses or, more usually, people who were not using all of the bedrooms as bedrooms. Indeed, many of the participants were using additional bedrooms as storage space, as home offices or as additional public rooms. The participants who actually used all of the bedrooms as bedrooms were among those with the most complaints about small bedroom sizes, as were people with young families:

The bedroom sizes for us were alright but downstairs I find, we had three small children and this seemed okay but in the meantime they have grown and it is like Piccadilly Circus most of the time when they are back.

(M1BW – middle of the market, Edinburgh)

I think if we were being critical knowing what we know now the fourth bedroom being 8ft 2 by 9ft 11 [2.5 metres by 3 metres] really becomes very difficult to be functional by the time you are getting furniture in there and that is what criticism we have got of our fourth bedroom – it is tiny. It is not physically practical to get sensible-sized wardrobes in there, a bed and still have room to move round.

(Mr H – upper end of the market, Glasgow)

Some of the participants felt that the house builder had misled them about room sizes. Many participants, especially those from lower-priced estates, pointed out that the show home used smaller-sized furniture than normal to give the impression of more spacious rooms and bedrooms, such as using queen-sized rather than double beds. Many participants did not notice this until they moved in, which in some cases led to furniture needing to be replaced.

Adequate storage space was also a high priority for all participants. Buyers able to buy bigger houses were more satisfied with the provision they got, as mentioned earlier. For the majority of the participants, however, those who were able to utilise an unused bedroom or a garage for storage considered provision adequate, while those who could not thought that storage space provision was lacking. The lack of storage was exacerbated for some who felt that little thought was put into providing effective storage space and, in some cases, the installation of boilers in cupboards had precluded use for storage. Several participants had made alterations to their houses in order to maximise the space available, which they felt the builders had failed to do.

Revealed preferences on bedroom sizes

Statistical analysis of house prices suggests that the number of bedrooms is a key driver of house prices. Moving from two to three bedrooms or from three to four bedrooms involves an increase in

value of around 16 per cent (all other factors assumed constant). Adding a bathroom to a new-build house without a compensating increase in floor area involves a reduction in value of around 11 per cent. This suggests that reducing room sizes to accommodate an extra bedroom increases value while reducing sizes in order to accommodate an extra bathroom actually lowers value (see Aspinall *et al.*, 2003a for a full review of the statistical analyses drawn upon here).

Analysis of the choice-based study data shows that people are not particularly responsive to choices regarding number of bedrooms, bedroom size and bathroom/storage space provision. In the choice-based survey dataset, these aspects of choice are outranked by price, location, property type, public room characteristics and garden characteristics. It must be noted, however, that the choice-based study presented respondents with choices regarding the number of bedrooms and bedroom size – but total bedroom area was held constant.

Although bedroom layout choice (within a given floor area) does not appear strongly to drive housing choice, analysis of the choice-based study data does reveal differences in preferred bedroom layouts between the four identifiable consumer groups. Both DINKYs and higher-SEG families favoured a large number of small bedrooms, forgoing storage space and additional bathrooms. Both neo-DINKYs and middle-SEG families opted for a middle number of bedrooms. Neo-DINKYs opted for larger bedrooms while higher-SEG families opted for additional storage space.

Summary

The analysis in this chapter strongly suggests that house-building outcomes are very different from people's needs and preferences. The chapter

summarises analysis of trends in new-build housing design standards, actual and prospective house buyers' stated preferences, their revealed preferences and the way in which the market values such features.

The analysis shows that the trend of buyers receiving an ever-increasing number of ever-smaller bedrooms in new-build housing has continued since the work of Karn and Sheridan (1994). The research shows dissatisfaction among new-build house buyers and prospective buyers. Yet, buyers do not appear to be particularly responsive to different bedroom configurations and sizes in their housing choice process. This is reinforced by the fact that the number of bedrooms, rather than bedroom size, is a very important driver in determining the market price or value of housing.

It appears as though people, as individuals, do not want a large number of small or compromised bedrooms. Collectively, through the formation of a market, people pay more for a large number of small bedrooms, however. This is partly because house buyers wish to protect the investment value of their purchase. Builders naturally follow these price signals and provide the most profitable bedroom layouts/sizes. If builders form a consensus in terms of what they offer buyers, then such design standards tend to become viewed as a market norm by those buyers.

Of particular interest are the mixed messages of the statistical and the choice-based survey analyses. The former shows that the number of bedrooms does tend to drive house prices. The latter shows that (with a given floor area) people are not particularly responsive to choice between the number of bedrooms, bedroom size and bathroom/storage provision. This is highly suggestive that floor space is the underlying driver in house buyers' choices.

5 Preferences and satisfaction with room layouts and features

Introduction

There is some consensus that, unlike other major industries in contemporary society, the private house-building industry is producer rather than consumer led, taking little account of consumers' needs and preferences. The industry is often contrasted with the car manufacturing industry, which invests vast sums to improve knowledge of its consumer market (Bazlinton and Bartlett, 1997; Auchterlounie and Hinks, 2001). House builders in Britain conduct very little consumer research, with many companies failing to collect even the most basic consumer data (Mills, 2000).

Other commentators note that the industry is reluctant to innovate (Gibb, 1999), while Mills (2000) argues that the house-building industry suffers from 'insularity and myopia'. Similarly, Jones (1997) accuses house builders of 'shoe-horning people into boxes' that they want to make rather than researching house purchasers' preferences. House types are developed specifically for pre-defined target groups (first-time buyers, family homes and so on) rather than through detailed research (Barlow and Ozaki, 2003). Similarly, house builders limit consumer involvement to choices regarding fixtures and fittings, rather than layout or design (Nicol and Hooper, 1999).

The continued industry trend of concentration into an ever smaller number of volume house builders has been interpreted by some as a setback to rectifying the producer-led nature of the industry (Gibb, 1999). Others warn that the growth in standardisation of house types, enhanced by concentration in the industry, will result in the development of monotonous designs and layouts (Leopold and Bishop, 1983). In their study of change in the house-building industry, Nicol and Hooper (1999) challenge the latter argument, asserting that, while the use of standardised designs is on the rise, most builders have increased their range of house types.

Even within a constrained plot and building 'footprint', there is potential for some variation in the internal space: bedroom sizes can vary, as can the provision of bathroom(s), WCs and the configuration of downstairs space between living, cooking and eating areas. This provides at least some scope for buyers to choose a design that suits their needs and preferences. This chapter examines house buyers' views of room options and design features, and considers the importance of these factors in the overall housing choice process.

Public room design and layout

The results of the choice-based survey show that public room configuration is the second most important factor for three of the four consumer groups identified in the choice-based survey. In the survey, the 'public room' attribute consisted of different configurations of kitchen, utility room, dining room and living room options (see Appendix 1 for examples).

DINKYs and middle-SEG families had a preference for a large living room, small kitchen and a utility room with no dining room. Meanwhile, neo-DINKYs rated a small living room, large kitchen, no utility room but with a dining room. Higher-SEG families rated a small living room, large kitchen and a utility room with no dining room.

The focus groups showed that participants with a dining room had actively sought a house with one. For other participants, the dining room was not considered to be a particularly important feature. Parents of young children regularly considered dining rooms to be places of sanctuary away from the children's chaos found in the rest of the house. Most of the participants with dining rooms thought they were too small and it was commented that you could not get much into the room apart from a table and four chairs.

Many of the participants who had small children considered a kitchen large enough to dine in a priority. These participants spent a lot of time in the kitchen, both socialising and doing household chores, and wanted enough space to do these comfortably. Although most participants would also have liked a utility room, this was generally seen as unaffordable, particularly in addition to a large kitchen.

For the rest of the participants, the living room was the most used and most important room in the house. Especially for the men who lived alone in these groups, this was far more important than having a large kitchen. On the whole, most participants were content with the layout and size of the living room, with only a few participants feeling it was too small.

The main findings from the statistical modelling of house prices are that the price of new-build housing is higher when larger public rooms and/or a dining room are included in the specification. Other aspects of non-bedroom layout such as kitchen size and utility rooms do not appear to have any significant impact on price. This is not surprising in light of the wide variation in tastes and preferences uncovered by the choice-based survey and focus groups. The importance of public room and kitchen design and layout, together with the wide variation in preference, means that these aspects of housing design are very important in determining what makes one property preferable to another at an individual level.

These findings also demonstrate the potential dangers in evaluating preferences and trade-offs without first identifying consumer groups. The statistical modelling suggests that dining rooms add value looking at the market as a whole but, as noted above, not all consumer groups rate dining rooms and some place greater importance on other features. Statistical modelling can yield the average effect of various features on price but this can mask significant differences between consumer groups.

Provision of bathrooms

The statistical modelling of new-build property prices shows that en suite bathrooms tend to add value universally while other additional bathrooms add value provided that they are at least 7 square metres in size.

However, when faced with trade-offs (as in the choice-based survey), consumers show that they strongly prefer additional bedrooms or larger rooms sizes to additional bathrooms. This is also reflected in the results of the statistical modelling of house prices with additional bedrooms, larger bedrooms and larger public rooms all adding value at a greater rate than additional bathrooms.

Despite this, the focus group results indicate that en suite bathrooms are extremely popular and most participants' properties possessed these. They were considered by some to be more suitable for modern lifestyles and an inherent benefit of buying a new-build house, and some participants expressed their desire specifically for extra bathrooms or en suite bathrooms when looking to buy.

I think a new property would be much more practical. The fact that in some old houses they may have four bedrooms but they have one toilet.

(PB4 – Edinburgh)

I suppose that's one good thing about new houses, they've got lots of bathrooms, they always put in lots of you know and shower rooms, and if it's a family particularly then I'd think that was quite good.

(JD – upper end of the market, Glasgow)

The few criticisms of en suites included the view that having an en suite bathroom led to a significant reduction in the size of the main bedroom and that the bathroom itself could be too small. In fact, many participants found the size of both the main bathroom and en suites too small, especially for families. Karn and Sheridan (1994) pointed out that the price for better bathroom provision in the private sector may be smaller

bedrooms. However, our qualitative data suggest that the trade-off for extra bathrooms might be not only smaller bedrooms, but also smaller bathrooms.

But in modern houses in general the bedroom sizes are far too small. The bathroom is too small, the en suite is too small, everything is too small except this room and the kitchen, I think.

(MMcD – upper end of the market, Glasgow)

I would say that every measurement is minimum requirement or equal.

(M1BW – middle of the market, Edinburgh)

Analysis of the data collected from the two planning authorities yields a useful background on just what builders are providing. In general, bathroom provision increases with price as might be expected and clearly there is a correlation between price and property size. This is shown in Figure 7. Interestingly, as price rises, provision of en suite bathrooms increases before provision of downstairs toilets. This suggests that house builders are responding effectively to buyers' preferences.

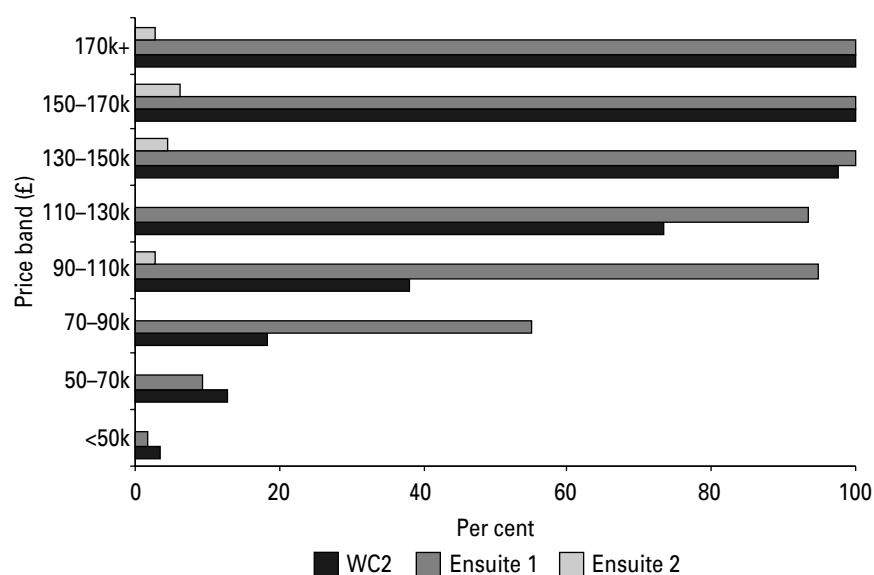
Summary

The results do not show us that one particular combination of non-bedroom layout features is always preferable to another – but this would not have been expected. Some features, though, are consistently valued by new house buyers. For example, additional bathrooms are considered by many new-build house buyers as a luxury feature but, in the choice-based survey and statistical modelling, we find that buyers ultimately prefer larger rooms and more bedrooms to such features. Dining rooms, separate from dining areas, are preferred by many respondents and this is also reflected in the statistical modelling, which predicts that dining rooms increase value, other things being equal.

Perhaps the most significant findings in this chapter are the following.

- 1 Public room layouts and options are very important factors in many house buyers' choice processes.
- 2 It is actually very difficult to predict or explain the preferences of different groups of buyers with regard to these features.

Figure 7 Toilet and bathroom provision by price band



To an extent, these findings are not surprising – most respondents felt that house builders uniformly provide standardised bedroom options, normally involving a relatively large number of bedrooms that are on the small side. In the context of this, it is perhaps unsurprising that buyers are responding more strongly to the non-bedroom layout and specification options. Although the different options may appear to be a largely idiosyncratic choice for households, they perhaps depend on unmeasured factors such as the precise age of children, hobbies, need to work at home, frequency and style of entertaining and so on.

These findings strongly suggest that the best way for builders to respond to such variety is to offer maximum flexibility and choice concerning these factors. House builders that are able to offer a range of alternative kitchen/ dining/ living room layouts (even within a given house type) are much more likely to have a product that appeals to buyers' individual tastes and preferences. As noted at the beginning of this chapter, buyers' preferences for these features are a very important determinant of choice.

6 Innovation, design and ‘build’ quality

Introduction

Some commentators argue that construction standards in the house-building industry regularly fall below consumers’ expectations. For example, Auchterlounie and Hinks (2001) point out that the house-building sector has failed to keep pace with the quality standards achieved in the rest of the construction industry. According to the authors, quality suffers as a result of the fact that house builders have a captive market and the way in which faults are left to be detected until the end of the building process. ‘Watchdogs’ wield some influence over assuring quality in house building through listing faults on site visits, yet the authors demonstrate this influence is diminished, as they must rely on verbal assurances by site managers that faults have been rectified – a problem exacerbated when the area in question is not directly visible.

In their examination of the Scottish house-building industry, Gibb *et al.* (1995) investigated builders’ views on construction standards before presenting their own concerns about quality in the house-building industry. ‘Cut-throat’ competition was a major concern expressed by builders, and is perceived as a negative influence on quality. However, the authors focus on the short-term views of house builders, which give rise to the construction of ‘what will sell’ and a general reluctance to fund research and development, training, innovative techniques or even to improve the quality of components.

Evidence to suggest that quality in new-build housing standards is not improving over time is found by comparing customer surveys on quality, which show unimpressive gains in levels of satisfaction among new-build house buyers (National Opinion Poll, 1983; Housing Forum, 2000). The former found that 37 per cent of 567 buyers on 54 sites believed that the finish of their house was poor while 82 per cent complained of defects after moving in. The latter study found that 81 per cent of respondents reported snags and

defects with their home and 48 per cent said that there were more snags than they expected.

Although levels of customer satisfaction in the latter survey appear to be high on the face of it, Auchterlounie and Hinks (2001) calculate that this leaves 1,337 people (of 10,283 total respondents) in the sample being dissatisfied with their house or the service received from house builders. They point out that this would not be celebrated as an achievement in the manufacturing industry.

Comparisons in the literature between other sections of the construction industry and the manufacturing industry alongside customer satisfaction surveys suggest that the quality of new-build housing is a cause for concern. House buyers in the Housing Forum/MORI survey ranked the quality of the product as one of the single most important issues – listing value for money, the quality of construction and finish, and internal layout and design as top priorities (Housing Forum, 2000). Meanwhile, the Office of the Deputy Prime Minister (2003) notes that only around 36 per cent of people will consider new-build housing as an option, a consequence of consumers’ generally negative perceptions of new-build housing and neighbourhood design.

New evidence from this study

In all of the focus groups carried out during this study, the fact that new-build housing is sold on a ‘fixed-price’ basis was given as a major reason for buying a new house. This is specifically a Scottish factor to some extent because second-hand housing in Scotland, unlike England and Wales, is purchased through a competitive bidding process in which prospective buyers make blind offers guided by the asking price, valuation and market conditions. In England and Wales, though, the parallel motivation might be to reduce the length of chain for buyers. In Edinburgh, which has experienced very strong housing market conditions

over the period of the study, the fact that new-build housing is purchased on a fixed price was raised more frequently and given greater importance by focus group participants. Many participants in these groups had anecdotes about losing money by repeatedly commissioning surveys but then not acquiring the target property because they were out-bid by another prospective buyer.

In all but two groups, being in a hurry to buy a house was given as a reason for buying new. Time pressures such as moving to a new job, a new city and shortly expecting a baby were given and buying a new house was believed to be the only way to move in time.

In the majority of groups, new-build housing was considered to offer good value for money at the point of purchase. Several participants made a point of expressing that they could get more for their money with a new-build property. However, for many participants, the extent of snagging (minor defects) problems they experienced meant they no longer saw their house as good value for money post purchase.

There have been lots of things – lots – not just one or two – lots of things and in my book they have been awful. They have been all sorted and everything is fine there are no complaints on that score but things that were wrong that should never have been in a new house.

(MMcD – upper end of the market, Glasgow)

If I knew it was going to be like that I would have given it some very serious consideration before buying it.

(W2RG – middle of the market, Edinburgh)

Experiences of snagging and construction problems differed considerably across the groups. Every participant in every group had experienced some snagging problems and it was quite common for participants to have outstanding problems after more than two years of waiting for them to be fixed. However, there were greatly different

degrees of severity depending on the builder, the estate and the particular house. Most groups stated that some snagging problems were to be expected but that major problems and a large volume of problems were not to be expected.

The worst and most serious problems were concentrated in the estates at the lowest end of the market. While participants on the more expensive estates had problems, they were less serious and participants were generally satisfied with the standard and promptness of customer service. In the other groups, the impression of customer service worsened with the severity of snagging problems and the groups with the most severe construction problems were extremely sceptical of customer care on new-build estates. There was some real bitterness shown towards staff in four groups with many expressing that, although sales staff were pleasant and helpful before the sale, this soon changed after the deal was signed.

The show house we went to see, that was what we were led to believe that we were buying. When they built it and we went to view it once it was built, but we had already signed the agreement and could not get out of it. There were things there at the show house but weren't in the house that had been built for us.

(W2CW – lower end of the market, Edinburgh)

The opinion was voiced in all the groups that the system of sub-contracting was largely to blame for many of the snagging and construction problems experienced. In particular, the lack of communication between workers (which was thought to be a result of this system) was often held to blame for repeat snagging problems. Snagging and construction problems ranged from damaged kitchen units, ill-fitting doors, faulty windows and condensation problems to serious flooding leading to collapsing ceilings and stairs, and faulty boilers that leaked gas. The majority of the serious snagging problems related to plumbing failures of various kinds.

Builders' and buyers' expectations

House builders were not directly included in this study. However, they might argue that they are forced to be responsive to customer requirements by the need to sell flats and houses. Some commentators have argued that builders tend to view customer care as a matter restricted to the remediation of defects or snagging (Barlow and Ozaki, 2000). The evidence from qualitative interviews carried out during this study suggests that the service offered by house builders could be improved in many ways.

Finding ways to bridge the gap between builders' and buyers' expectations is clearly a challenging task. While numerous studies have criticised standards and procedures in the house-building industry, others have adopted a more balanced approach. For example, Gibb *et al.* (1995) highlight builders' difficulties in competing both for skilled labour and for house sales while Egan (1998) notes the role that 'bad clients' may play in generating poor construction outcomes, mainly with respect to commercial construction projects. In the context of a commercial construction project, characteristics of a 'bad client' might include a lack of understanding of the requirements of the building to be commissioned, poor communication skills and a general lack of understanding about the way the construction industry is structured. There is some evidence from this study that some private housing clients (buyers) are more proactive than others:

Because we got in early all the tradesmen are still on site so you get to phone the site agent and ask them for things. The quality of tradesmen, some are bad but at least they are always there on site. If they didn't do it right, you get the site agent to get them back to do it. So they are very good.

(MC – upper end of the market, Glasgow)

Although comparisons of the house-building industry to other industries, such as the car

manufacturing industry, provide useful insights, they are also potentially unhelpful. As a result of the bespoke nature of newly constructed buildings, the large cost involved in their procurement and the amount of time involved in their construction, buildings that do not meet buyers' expectations cannot generally be returned to the manufacturer. In this respect, the construction industry is unlike almost any other industry that might be used as a basis for comparison. There is an argument that many of the perceived problems with conditions, standards and customer care in the house-building industry stem from two basic facts.

- 1 The satisfaction of clients (buyers) will be related to the amount of communication between the builder and the client as well as the degree of client involvement in the design process.
- 2 The client is often unknown during the initial stages of the housing design process and will become known only after planning permission and building warrants are obtained and construction has already commenced.

The prevailing system for procuring private housing is therefore a compromise. House builders tend to use a range of standardised house types. While offering a cost advantage, this allows them to offer something that is close to the building desired by a prospective buyer. Unfortunately, it appears as though collecting detailed information on new-build house buyers' needs, preferences and levels of satisfaction is still very low on the agenda of most house builders. There may be some signs that this situation is slowly changing. In-house, a company that specialises in continuous customer satisfaction monitoring, has a current client list that includes more than 20 major house builders and suppliers (Pitcher, 2002). Other house builders directly carry out regular and ongoing surveys of recent buyers as a means of monitoring customer

satisfaction with the property, quality, service and so on. For example, according to their web site, Laing Homes employs a market research company to distribute questionnaires about 17 aspects of the product and service among recent buyers. Similarly, Westbury Homes conducts a Home Owner Survey, which asks recent buyers about their opinions on the style of the house, which items they have added to the house since moving in and about the socio-demographic details of buyers.

Buyers' views on quality

From the perspective of house builders, there are clear potential benefits of tailoring housing, the design process and the availability of choice to consumers. The choice-based survey included questions relating to house buyers' perceptions of the quality of housing constructed by different builders. Specifically, respondents were asked to name up to three builders that they considered best in terms of quality. These responses were used to construct a 'perception of quality' index, which was then used in the statistical modelling of house prices (see Aspinall *et al.*, 2003a for more details).

When the 'perception of quality' index is used in the statistical analysis, it proves significant in helping to explain house prices. This suggests that buyers' perceptions of the quality of different house builders' houses are important factors in determining the selling price of those houses. The likely reason for this is that builders operate at different price or quality levels and that people are at least partly aware of this fact. These statistical results are corroborated by qualitative evidence from the focus groups, which demonstrate substantial variation in participants' opinions of different builders.

Some of the comments and views expressed relate to an overall impression of build and finish quality:

We were quite happy with the previous house, it was a [BUILDER 1] house and this is a [BUILDER 1] house and that is what encouraged us to buy.

(MC – upper end of the market, Glasgow)

We looked at a site built by [BUILDER 1] just down the road and we went round the show home, but there were silly things like there were no wardrobes in any of the bedrooms, no coving in some of the rooms and it was terrible and you were in a different market.

(MH – upper end of the market, Glasgow)

It really came across that this was thrown up as quickly as it [could be], don't worry if it doesn't look perfect because the average buyer will snap it up because it's a house, it's got four bedrooms or whatever and the house will sell itself, whereas [BUILDER 2] and [BUILDER 3] had far greater attention to detail in finishing the houses.

(MH – upper end of the market, Glasgow)

Other comments made by participants related primarily to the overall build quality or customer care issues:

We immediately disregarded [BUILDER 4] because he wasn't a traditional builder.

(RD – upper end of the market, Glasgow)

[BUILDER 5] has got a reputation for a higher standard of finish.

(M1RG – middle of the market, Edinburgh)

I'd never buy a new house again, never ever.

[BUILDER 6] put me off for life.

(W3CW – lower end of the market, Edinburgh)

Summary

There have been many studies focused on build quality and snagging in the house-building industry over recent years. Although these considerations have been examined briefly by this study, this chapter has focused on the gap between

buyers' and builders' expectations rather than on construction standards in isolation.

The analysis presented in this chapter strongly suggests that quality, and the perception of quality, are important issues to many new-build house buyers. As noted earlier, there are signs that the house-building industry is beginning to respond to consumers with a small number of larger house builders now becoming engaged in meaningful attempts to find out exactly what consumers want.

The focus group evidence shows that there are still quite widespread build quality issues in the house-building industry but this is not the whole story – there is also evidence of disparity between buyers' and builders' expectations. In summary, the challenge for house builders and policy makers alike is to facilitate a house-building industry that:

- procures good-quality buildings on time
- uses sufficient standardisation to keep costs down
- can respond to buyers with an interest in 'involvement' in the design process (involvement in practical terms may mean greater choice of room configuration options within a given house type)
- can respond to buyers who do not wish a choice of layouts but wish to buy a close replica of the show house, or be made aware of how the house they are buying will be different
- has a good relationship with buyers, who are also aware of their role and responsibilities in the housing procurement process.

7 Conclusions

Introduction

This report has provided a detailed examination of new-build housing buyers' housing needs and preferences. It has also examined the relative importance of physical property, locational, neighbourhood and price factors to consumers in the housing-choice process.

A number of distinct but interrelated strands of analysis have been drawn on throughout the report to provide a uniquely detailed examination of new-build housing buyers' tastes, preferences and trade-offs. Although the research is focused on Glasgow and Edinburgh, these cities include a good cross-section of the range of housing conditions and the house types being built in contemporary urban Britain. The purpose of this chapter is to provide a summary and overview of the main findings of the report together with some consideration of the policy implications.

A particularly innovative dimension to this study is the use of a rigorous combination of qualitative and statistical methods. The use of focus groups, interviews, a choice-based survey and statistical analyses has permitted more detailed analyses than possible using qualitative or statistical analysis alone. In particular, the results of the conjoint analysis demonstrate the potential value in customising housing and neighbourhood designs in order to target specific groups of prospective buyers. Although the technique is relatively new to housing research, the findings of the conjoint analysis suggest that the technique would be valuable to house builders and policy makers alike. Some future research directions are briefly discussed towards the end of this chapter.

Space and space standards

Throughout the report, the various analyses contain strong suggestions that house-building outcomes are very different from new-build house buyers' needs and preferences. Perhaps one of the

most poignant examples of this is the paradox concerning bedrooms and bedroom size.

There is a clear trend involving buyers getting an increasing number of smaller bedrooms as time goes on. This report shows significant dissatisfaction among new-build house buyers and prospective buyers. Yet, when people actually make their housing purchase decision, the number of bedrooms is an important driver, probably because buyers wish to maximise the future investment value of their purchase.

The problem can be likened to the 'Prisoner's Dilemma'. This is a simple economic game theory model that can be used to explain why people sometimes make sub-optimal decisions. To the individual buyer, larger rooms may be preferable but the individual may believe that a property with a larger number of smaller rooms will be more marketable. If this is the case, then to purchase the personally preferred option means acquiring an investment that will be difficult to sell in the future.

Locational preferences and urban renaissance

The analysis of locational preferences and trade-offs suggests that three of the four groups of buyers identified in the choice-based survey analysis are inherently motivated by the ideal of low-density suburban property types. However, locational and neighbourhood factors are not so important to a fourth group of buyers identified in the choice-based survey analysis. Instead, this group responds to property type (flats are preferred) and design/layout features. This is an encouraging finding in relation to the Government's desire to promote an urban renaissance since there is at least one identifiable group of new-build house buyers (DINKYs) prepared to consider locations other than the immediate city centre and the suburbs. The difficulty from the Government's perspective is that these buyers respond strongly to property style, design and desired features. However, the

house-building industry faces considerable difficulties in developing client participation in the housing design process (Ball, 1996, 1999; Bartlett, 1997; Egan, 1998, Barlow, 1999). Yet, providing a greater choice of room or layout options within a given house type would go some way towards providing buyers with such a design input.

Analysis of neighbourhood factors and estate design shows that people generally prefer more variety in terms of design and house types, and that this is evident in the level of house prices from estate to estate. The results are also suggestive that the role of design in people's housing choice processes has hitherto been under-estimated. One of the four groups of buyers in the choice-based survey responded very strongly to a property type shown with a balcony and access to a private roof garden or terrace. The results of the choiced-based study analysis suggest that different, or more diverse, designs could attract new groups of prospective buyers into the new-build sector of the housing market.

In summary, policies designed to promote choice and more involvement of buyers in the housing-design process are also likely to provide the potential for redirecting some buyers from suburban and out-of-town locations to more central urban locations. It should also be noted that our findings in terms of house buyers' views on housing and neighbourhood design are likely to understate the importance of these considerations in housing-choice processes. The new-build sector of the housing market does not appeal to a majority of people (only 36 per cent of potential house buyers would even consider buying a new house according to the Office of the Deputy Prime Minister, 2003). The more significant challenge for the house-building industry is to provide a product that could appeal to the majority of house buyers that choose second-hand alternatives.

Design standards and choice

Analysis of buyers' preferences and trade-offs regarding non-bedroom layout features, such as public rooms, kitchens, bathrooms and so on, shows that these factors are very important in most buyers' decision processes. Although some features are consistently valued by new house buyers, most buyers' preferences and trade-offs are difficult to predict and are likely to be a function of unmeasured factors such as the precise age of children, hobbies, the need to work at home, frequency and style of entertaining and so on.

Arguably, the best way for builders to respond to such variety is to try and offer maximum flexibility and choice concerning these factors. Yet, it is not immediately clear that builders are responding in this way. Buyers face alternative property types, locations, pricing options and builders but the continuing use of standardised house types must be a serious obstacle to the ability of builders to address aspects of design that appear to make a major impact on buyers' choices.

Construction standards and customer care

Few house builders carry out research and analysis focused on customers' needs, preferences and satisfaction, and the findings of this study reaffirm the idea that builders are not customer focused and that levels of customer care are generally poor.

Analysis of people's motivations for buying new, and their subsequent satisfaction, strongly suggest that some new-build buyers are effectively 'priced out' of the second-hand market. To these buyers, the 'price' of managing to acquire a suitable property for a monetary price they can afford seems to be problems in terms of quality, construction standards or customer care.

The extent of complaints of this sort appears worse at the lower end of the market and there is some evidence to suggest that this is driven partly by the fact that these buyers tend to be more

heavily influenced by locational and neighbourhood considerations. The implication is that people may suffer more problems, or more severe problems, when they constitute a 'captive market'.

These are particularly worrying findings, not least because buyers at the lower end of the market are not presumably well placed to compel builders to remedy defects. Further to this, for many buyers at the lower end of the market, older properties (perhaps with maintenance and repair problems) are the likely alternatives to buying new.

Policy remedies to these problems are difficult to devise. However, policy makers might borrow lessons from other industries, or from other sectors of the construction industry. Construction represents a rare industry in which consumers effectively do not have the right to return goods that they believe to be defective. In most commercial sectors of the construction industry, the client (the consumer) retains a sum of money on completion. This is released to the contractor when defects are remedied.

Conclusions and further directions

For owner occupiers, housing represents a substantial component of wealth as well as being one of the most important investments that a household ever makes. Housing makes an obvious contribution to the quality and vitality of the urban environment while the notions of shaping the housing supply system and households' housing choices are at the forefront of the Government's envisaged urban renaissance. New-build housing can be expected to form part of our urban landscape and to meet the changing needs of households for decades to come.

In these contexts, some of the findings of this study are particularly worrying. The study finds that levels of satisfaction among new-build house buyers (a relatively small proportion of all house buyers) are not particularly impressive. This raises

the question of what kind of conditions in the house-building industry would be sufficient to attract a larger proportion of house and flat buyers to the sector. Analysis of people's reasons for buying new rather than second-hand suggests that many people do so for practical reasons, including the certainty and ease of fixed prices or avoiding the potential complexities involved in forming part of a chain of second-hand buyers. The analysis uncovers little evidence that new-build buyers are attracted primarily by the quality, or 'newness', of the product.

It is also clear that the success of the Government's 'Sustainable Communities' (Office of the Deputy Prime Minister, 2003) agenda will depend on the ability of the house-building industry to attract a larger proportion, and greater representation, of buyers to the new-build sector. Research focusing explicitly on the buyers of some of the more innovative and high-quality inner-city housing that has been developing over recent years might point to some ways in which the appeal of the sector could be broadened. For example, given our finding of significant dissatisfaction with room sizes, it is possible that part of the 'Sustainable Communities' solution is to promote the development of larger properties, but at higher densities. At present, increasing densities tend to be associated with smaller properties or room sizes. Additional research might be needed to fully consider the individual impacts of higher density and smaller property/room sizes on households' preferences and housing choices.

One of the limitations of this study is that the analysis is necessarily based on the views, preferences and experiences of house and flat buyers who are already attracted to the new-build sector of the housing market. Buyers who are attracted to low-density suburban, probably for family and life-cycle reasons, and younger (often single or childless) households, are well represented in the population of existing new-build buyers. The challenge for the Government and the

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house-building industry alike is to create the conditions in which fewer of these buyers will tend towards a suburban, rather than an urban, housing choice.

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Appendix 1

Study methods

Introduction

This study draws on a number of different, but related, strands of analysis. It is unique in bringing together qualitative evidence from new house buyers, with quantitative analysis of new housing output and prices. It also uses a relatively new technique in applied housing research called conjoint analysis. The research focuses on those who have recently bought new-build housing (including flats), although there were also some interviews with prospective purchasers who were looking at buying new-build housing. A number of data collection methods were used to investigate buyers' preferences and trade-offs:

- a review of literature and existing housing preference studies
- a series of six focus groups with recent buyers of new houses, drawn across the two cities to capture experiences across the price range of new-build housing
- a series of 14 interviews with 16 people (two couples participated) – prospective buyers responded to a leaflet left in show homes while actual new-build buyers were recruited by sampling a range of estates (in terms of builders and prices)
- a survey of 400 new-build housing buyers, presenting a series of choices that allow preferences and trade-offs to be revealed through conjoint analysis ('the choice-based survey')
- qualitative and statistical analyses of the results.

The qualitative data obtained from the semi-structured interviews and focus groups were tape-recorded, transcribed and analysed by close and repeated reading to identify common themes that emerged in relation to the key issues.

The conjoint analysis approach to analysing trade-offs uses a choice-based survey dataset collected from a sample of 400 actual new-build house and flat buyers. In simple terms, respondents are presented with pairs of possible houses, that can vary by price, type, location, bedroom layout, public room layout and external space. They are asked to say which combination they prefer. Respondents carry out a number of choices or tasks, choosing from a potentially different pair of alternatives each time. Conjoint analysis is a statistical method for measuring the relative importance of, and interactions between, the factors that shape consumers' decision processes. The analysis says, for instance, not only whether detached houses are preferred to semi-detached houses, but also how strong each preference is in relation to other options. More detail on the design of the choice-based survey and the results can be found in this Appendix and in Appendix 2.

Quantitative data about the kinds of housing actually being built by house builders were also collected from house builders' applications for planning permission. A large representative sample of planning applications held by Glasgow City Council and City of Edinburgh Council were examined. Data were collected for 556 properties in Edinburgh and 592 properties in Glasgow that were sold between 1993 and 2000. This allowed:

- systematic analysis of the quality of new house building, in relation to key measures such as size of plot, size of rooms, room layouts, provision of bathrooms and so on
- development of more detailed indicators of quality for the statistical analysis.

The selling prices of the sampled developments were obtained from the Land Register (Scotland's Land equivalent of HM Land Registry). These data were used to build statistical models of house prices designed to evaluate the impact of physical property

features, design factors and locational/ neighbourhood factors on house prices. Full details of the modelling undertaken on the price and quality data are presented in Aspinall *et al.* (2003a, 2003b).

Summary of the conjoint attributes and levels in the study

The purpose of using conjoint analysis is to bring together the identified new housing preferences of households and establish how they actually shape real purchasing decisions. Conjoint analysis is undertaken using data collected from conjoint questionnaires in which respondents have made a series of choices between alternative options or goods. In the case of this project, respondents are faced with a series of alternative new-build houses and flats where each combination represents a different mix of *attributes* and *levels*.

Attributes are the basic building blocks of the product under examination (in this case: rooms, garden sizes, house types, location and so on). Levels capture variation in each attribute (1, 2, 3, 4 or small, medium, large and so on).

The attributes and their levels used in the choice-based survey (conjoint questionnaire) are as follows:

1 Price:

- £75–100k
- £100–125k
- £125–150k
- £150–200k
- £200–250k
- £250k and up.

2 Location:

- city centre
- near the city centre
- suburban
- out of town.

3 Neighbourhood:

- walkable to local amenities, high density, with transportation links

- just walkable to local amenities, high density, with transportation links
- not walkable to local amenities, low density, no transportation links
- walkable to local amenities, low density, with transportation links
- not walkable to local amenities, low density, with transportation links.

4 Property type:

- detached
- semi-detached
- terraced
- flat (with no external space)
- flat (with some external space, i.e. a balcony)
- flat (with external space, i.e. a balcony and access to a private roof garden).

5 Public room layout type:

- small living room, small kitchen, utility room, dining room
- small living room, large kitchen, utility room, no dining room
- small living room, large kitchen, no utility room, dining room
- large living room, small kitchen, utility room, no dining room
- large living room, small kitchen, no utility room, dining room
- large living room, large kitchen, no utility room, no dining room.

6 Bedroom layout type:

- two large bedrooms, extra storage, extra bathrooms
- three small bedrooms, extra storage, no extra bathrooms
- three small bedrooms, no extra storage, extra bathrooms
- three large bedrooms, no extra storage, no extra bathrooms
- four small bedrooms, no extra storage, no extra bathrooms.

7 Front garden:

- large
- small
- none.

8 Back garden:

- large
- small
- none.

The choices presented to respondents were designed using Sawtooth Software's 'Choice-based Conjoint' (CBC) and 'Advanced Design' modules. The software randomises attributes and levels to ensure that the resultant data contain enough information to yield estimates of the importance of all attributes and levels together with any trade-offs.

Respondents were presented with two alternatives at a time. No 'pass' or 'none' option was included to ensure that each respondent did make a choice for each of the 20 tasks faced. While, in theory, this means that some respondents might have been forced to make an unaffordable choice in one or two of the tasks they faced, true preferences with regard to price are revealed by the remaining

18 or 19 tasks and the method is therefore robust. When respondents are faced with tasks in which the most important features (to them) are both attractive (or are both unattractive) then their choices are likely to reflect trade-offs regarding the second most important features to them. When a respondent is forced to choose between two unaffordably priced alternatives, information on second-order preferences is obtained while it is unlikely that any biased information on price preferences is produced as a consequence.

The survey instrument

The choice-based survey instrument included a section designed to capture socio-economic and demographic information and a conjoint or choice-based task section. The conjoint section included 22 A3 size showcards, each of which depicted two housing options. Respondents were asked to select which option they would be more likely to purchase. In each case, information on the alternative housing options was conveyed using a combination of simple concept pictures, floor plans or layouts with dimensions and bullet points.

Appendix 2

Overview of the choice-based survey results

Summary of the results and consumer groups

Since the choice-based survey involved 20 choices (each of which related to a potentially different pair of housing choices), the sample contains information on 8,000 housing choices (there were 400 respondents). This is more than adequate to enable the importance of the attributes and levels to be estimated statistically, even when the 400 respondents are divided into a number of groups.

Preliminary analysis of the choice-based survey data indicates that four different groups of new-build housing buyers are represented in the data from 400 respondents. Examination of the socio-economic and demographic data yields the following group profiles.

- *Group 1:* married or living as married (80 per cent); childless couples or single adults (78 per cent); aged 20–39 (77 per cent); professionals or other types of employee (66 per cent) with partners in professional or managerial jobs (58 per cent). After a combination of private vehicle and public transportation, walking and solely private vehicle are the most common modes of transportation to work. One-car households (54 per cent).
- *Group 2:* married or living as married (62 per cent) followed by single (37 per cent); childless couples or single adults (70 per cent); aged 20–39 (76 per cent); professionals or other types of employee (58 per cent) with partners also professionals or other types of employee (51 per cent). After a combination of private vehicle and public transportation, walking and solely private vehicle are the most common modes of transportation to work. One-car households (51 per cent).

Compared to group 1, group 2 contains fewer couples, more single people and slightly fewer respondents in the higher socio-economic groups.

- *Group 3:* married (81 per cent); couples with children (54 per cent); aged 30–49 (74 per cent); professionals or other types of employee (61 per cent) with partners in a wider range of occupations including other types of employee (19 per cent), self employed (15 per cent) and managerial positions (14 per cent). A combination of private vehicle and public transportation is overridingly the most common mode of transportation to work (60 per cent main respondent and 57 per cent partner). Two-car households (53 per cent).
- *Group 4:* married (57 per cent) followed by single (24 per cent); with children (53 per cent); aged 30–49 (57 per cent); professionals and other types of employee (60 per cent) with partners in professional or managerial jobs (51 per cent). A combination of private vehicle and public transportation is overridingly the most common mode of transportation to work (52 per cent main respondent and 46 per cent partner). One-car households (43 per cent followed by two cars 38 per cent). Compared to group 3, group 4 contains fewer couples and more single people. There seem to be more people in higher socio-economic groups although car ownership is slightly lower.

The four groups reveal very different price preference profiles. Table A2.1 summarises these together with the socio-economic / demographic profiles.

Table A2.1 Price preference categories

Group	Socio-economic/demographic profile	Price preference
1	Younger childless professional couples	High
2	Younger childless households; not exclusively couples and /or professionals	Low
3	Slightly older households with children; a wider range of occupations; two cars	Complex
4	Slightly older households with children; mainly professional; not all couples	Complex

Based on the socio-economic and demographic profile of the consumers in each of the four groups together with their underlying preferences, the following working names are used to identify the groups:

- *group 1*: DINKYs (double income, no kids yet)
- *group 2*: neo-DINKYs (as above but slightly lower incomes and a wider range of professional and personal circumstances)
- *group 3*: middle-SEG families (middle socio-economic group families)
- *group 4*: higher-SEG families (high socio-economic group families).

The detailed conjoint (statistical) results based on the choice-based survey data are set out in Tables A2.2 to A2.5.

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Table A2.2 Conjoint results for the DINKYs consumer group

Price category 1	Effect	Std err	t ratio
£75,000–100,000	–2.278	1.481	–1.538
£100,000–125,000	6.795	1.467	4.631
£125,000–150,000	–5.591	1.497	–3.736
£150,000–200,000	1.625	1.492	1.089
£200,000–250,000	2.716	1.461	1.859
£250,000+	–3.267	3.126	–1.045
Walkable to local amenities, high density, transportation links	–6.684	1.469	–4.549
Just walkable to local amenities, high density, transportation links	2.851	1.449	1.967
Not walkable to local amenities, low density, no transportation links	–1.463	1.456	–1.004
Walkable to local amenities, low density, transportation links	7.57	1.463	5.174
Not walkable to local amenities, low density, transportation links	–2.274	2.709	–0.84
Located in the city centre	–2.717	1.454	–1.869
Located close to the city centre	2.176	1.453	1.498
In a suburban location	1.701	1.414	1.203
In an out-of-town location	–1.16	2.397	–0.484
Small living room, small kitchen, utility room, dining room	2.519	1.468	1.716
Small living room, large kitchen, utility room, no dining room	–2.155	1.489	–1.447
Small living room, large kitchen, no utility room, dining room	–6.062	1.487	–4.077
Large living room, small kitchen, utility room, no dining room	8.439	1.471	5.735
Large living room, small kitchen, no utility room, dining room	–3.346	1.465	–2.283
Large living room, large kitchen, no utility room, no dining room	0.605	3.089	0.196
Two large bedrooms, extra storage, extra bathrooms	–3.672	1.476	–2.487
Three small bedrooms, extra storage, no extra bathrooms	2.161	1.479	1.461
Three small bedrooms, no extra storage, extra bathrooms	–0.415	1.492	–0.278
Three large bedrooms, no extra storage, no extra bathrooms	–2.44	1.454	–1.678
Four small bedrooms, no extra storage, no extra bathrooms	4.365	2.882	1.515
Detached	2.613	1.52	1.719
Semi-detached	–5.003	1.526	–3.278
Terraced	–4.822	1.516	–3.181
Flat – no external space	–4.631	1.525	–3.036
Flat – some external space	–2.63	1.532	–1.717
Flat – with external space	14.473	3.344	4.328
Small front garden	0.264	1.461	0.181
Large front garden	–0.191	1.468	–0.13
No front garden	–0.073	2.152	–0.034
Small back garden	1.425	1.454	0.98
Large back garden	–1.352	1.47	–0.919
No back garden	–0.073	2.152	–0.034

Table A2.3 Conjoint results for the neo-DINKYs consumer group

Price category 2	Effect	Std err	t ratio
£75,000–100,000	5.375	1.483	3.626
£100,000–125,000	2.744	1.496	1.835
£125,000–150,000	–1.625	1.501	–1.083
£150,000–200,000	1.496	1.431	1.046
£200,000–250,000	0.405	1.498	0.27
£250,000+	–8.395	2.823	–2.974
Walkable to local amenities, high density, transportation links	0.756	1.501	0.503
Just walkable to local amenities, high density, transportation links	3.733	1.488	2.509
Not walkable to local amenities, low density, no transportation links	–1.024	1.495	–0.685
Walkable to local amenities, low density, transportation links	2.812	1.472	1.91
Not walkable to local amenities, low density, transportation links	–6.276	2.859	–2.196
Located in the city centre	–1.714	1.424	–1.204
Located close to the city centre	–1.829	1.472	–1.243
In a suburban location	–2.09	1.433	–1.459
In an out-of-town location	5.633	2.394	2.353
Small living room, small kitchen, utility room, dining room	–9.803	1.464	–6.697
Small living room, large kitchen, utility room, no dining room	7.056	1.477	4.776
Small living room, large kitchen, no utility room, dining room	10.702	1.507	7.102
Large living room, small kitchen, utility room, no dining room	–9.304	1.501	–6.198
Large living room, small kitchen, no utility room, dining room	4.396	1.487	2.956
Large living room, large kitchen, no utility room, no dining room	–3.047	2.872	–1.061
Two large bedrooms, extra storage, extra bathrooms	3.477	1.481	2.349
Three small bedrooms, extra storage, no extra bathrooms	–9.148	1.46	–6.265
Three small bedrooms, no extra storage, extra bathrooms	0.472	1.426	0.331
Three large bedrooms, no extra storage, no extra bathrooms	3.519	1.486	2.368
Four small bedrooms, no extra storage, no extra bathrooms	1.68	2.517	0.667
Detached	7.949	1.56	5.096
Semi-detached	10.583	1.544	6.856
Terraced	–6.726	1.558	–4.318
Flat – no external space	3.677	1.513	2.43
Flat – some external space	10.754	1.545	6.959
Flat – with external space	–26.237	3.334	–7.869
Small front garden	–3.717	1.481	–2.509
Large front garden	–0.222	1.496	–0.148
No front garden	3.938	2.181	1.806
Small back garden	–0.222	1.496	–0.148
Large back garden	–3.717	1.481	–2.509
No back garden	3.938	2.181	1.806

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Table A2.4 Conjoint results for middle-SEG families

Price category 3	Effect	Std err	t ratio
£75,000–100,000	–13.696	1.55	–8.836
£100,000–125,000	–8.423	1.77	–4.76
£125,000–150,000	–12.105	1.626	–7.446
£150,000–200,000	25.577	1.74	14.699
£200,000–250,000	0.34	1.721	0.198
£250,000+	8.307	2.914	2.851
Walkable to local amenities, high density, transportation links	–1.665	1.668	–0.999
Just walkable to local amenities, high density, transportation links	2.473	1.636	1.512
Not walkable to local amenities, low density, no transportation links	–10.921	1.695	–6.444
Walkable to local amenities, low density, transportation links	13.253	1.743	7.605
Not walkable to local amenities, low density, transportation links	–3.14	2.021	–1.554
Located in the city centre	–21.762	1.533	–14.191
Located close to the city centre	–0.416	1.52	–0.273
In a suburban location	19.838	1.634	12.143
In an out-of-town location	2.34	1.819	1.286
Small living room, small kitchen, utility room, dining room	–17.816	1.574	–11.319
Small living room, large kitchen, utility room, no dining room	6.48	1.679	3.858
Small living room, large kitchen, no utility room, dining room	–3.902	1.673	–2.333
Large living room, small kitchen, utility room, no dining room	33.141	1.672	19.821
Large living room, small kitchen, no utility room, dining room	–19.42	1.625	–11.949
Large living room, large kitchen, no utility room, no dining room	1.517	2.545	0.596
Two large bedrooms, extra storage, extra bathrooms	–24.106	1.574	–15.313
Three small bedrooms, extra storage, no extra bathrooms	25.617	1.748	14.652
Three small bedrooms, no extra storage, extra bathrooms	–5.479	1.603	–3.418
Three large bedrooms, no extra storage, no extra bathrooms	6.474	1.524	4.248
Four small bedrooms, no extra storage, no extra bathrooms	–2.507	1.745	–1.436
Detached	58.323	1.948	29.947
Semi-detached	109.129	2.084	52.375
Terraced	36.416	1.918	18.991
Flat – no external space	–72.609	1.756	–41.352
Flat – some external space	–59.303	1.85	–32.047
Flat – with external space	–71.957	3.207	–22.44
Small front garden	–45.92	1.655	–27.747
Large front garden	–12.648	1.699	–7.443
No front garden	58.568	2.623	22.328
Small back garden	–0.181	1.666	–0.109
Large back garden	–20.481	1.672	–12.252
No back garden	20.663	2.608	7.923

Table A2.5 Conjoint results for higher-SEG families

Price category 4	Effect	Std err	t ratio
£75,000–100,000	–0.452	1.464	–0.309
£100,000–125,000	1.612	1.485	1.086
£125,000–150,000	3.628	1.481	2.449
£150,000–200,000	3.096	1.479	2.094
£200,000–250,000	–0.298	1.477	–0.202
£250,000+	–7.586	3.178	–2.387
Walkable to local amenities, high density, transportation links	2.355	1.462	1.611
Just walkable to local amenities, high density, transportation links	0.861	1.468	0.586
Not walkable to local amenities, low density, no transportation links	3.106	1.456	2.134
Walkable to local amenities, low density, transportation links	–3.987	1.45	–2.75
Not walkable to local amenities, low density, transportation links	–2.334	2.733	–0.854
Located in the city centre	0.392	1.466	0.268
Located close to the city centre	–2.702	1.421	–1.901
In a suburban location	–1.689	1.454	–1.161
In an out-of-town location	3.998	2.35	1.701
Small living room, small kitchen, utility room, dining room	1.167	1.468	0.795
Small living room, large kitchen, utility room, no dining room	2.653	1.458	1.82
Small living room, large kitchen, no utility room, dining room	–0.306	1.478	–0.207
Large living room, small kitchen, utility room, no dining room	1.149	1.463	0.785
Large living room, small kitchen, no utility room, dining room	–0.465	1.484	–0.314
Large living room, large kitchen, no utility room, no dining room	–4.197	3.073	–1.366
Two large bedrooms, extra storage, extra bathrooms	0.79	1.47	0.537
Three small bedrooms, extra storage, no extra bathrooms	0.289	1.472	0.197
Three small bedrooms, no extra storage, extra bathrooms	–0.17	1.456	–0.117
Three large bedrooms, no extra storage, no extra bathrooms	–2.288	1.477	–1.55
Four small bedrooms, no extra storage, no extra bathrooms	1.379	2.823	0.488
Detached	4.206	1.499	2.806
Semi-detached	–2.411	1.496	–1.611
Terraced	–0.067	1.503	–0.044
Flat – no external space	–1.505	1.498	–1.005
Flat – some external space	3.457	1.493	2.315
Flat – with external space	–3.681	3.289	–1.119
Small front garden	–0.55	1.451	–0.379
Large front garden	–6.058	1.469	–4.125
No front garden	6.608	2.071	3.19
Small back garden	–0.678	1.476	–0.46
Large back garden	0.813	1.477	0.551
No back garden	–0.135	2.127	–0.063

