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'Can Pay? Won't Pay?' or Economic Principles of 'Affordability'

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Summary. The term 'affordability' has been gaining currency in housing policy debates, but neither government nor academic researchers have given much consideration to defining it. This paper considers what meanings have been given to the term affordability in practice and suggests a range of analytically more useful definitions. It argues from economic first principles that it is more logical to use some form of residual income definition than one based on a prescribed ratio of housing costs to income. Most researchers have been using a ratio definition. The paper then uses data from a household survey in the Glasgow Travel-to-Work Area in 1988/89 to examine the incidence of 'unaffordability' of housing costs according to a variety of definitions.

Introduction

This paper examines the possible meanings of the concept of 'affordability' in connection with individuals' housing costs. It begins with an overview of definitions in current usage and concludes that current practice would benefit from an analysis of the concept based on economic first principles. The main purpose of this paper is to propose a set of analytically more meaningful definitions than many of those currently employed. Data from a survey of incomes and housing costs are used to examine the incidence of 'unaffordability' of housing costs in the Glasgow Travel-to-Work Area in 1988/89 according to a variety of definitions.

Current Usage

The term 'affordability' has become topical in policy debates about two housing tenures (see Bramley, 1990a and 1990b; Maclennan and Williams, 1990; and Kearns, 1992). First, there have been concerns about the affordability of owner-occupation brought about by rapidly-rising house prices in certain parts of the country, the abolition of double tax relief for unmarried couples, rises in interest rates and economic recession. Increases in building society repossessions and mortgage arrears have become newsworthy in this climate (Anderson, 1990). As well as concerns about the impacts of these factors on existing buyers, there are also worries about their effects upon access to owner-occupation among the population of potential first-time buyers.

The second area in which the concept of affordability of housing has achieved currency is in the housing association sector. Associations, since the new funding regime

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of post-1988, have been urged to abandon the old principles of rent-selling whereby rent officers determined so-called fair rents for properties. In their place, they are being asked to set 'affordable rents', with the presumption that affordable rents will exceed fair rents. However, as Kearns (1992) and Bramley (1990b) have noted, the government has not set down what the principles of affordable rents are to be, and seems to have given the responsibility of defining affordable rents to the associations themselves. In attempting to determine affordability, large numbers of surveys of tenants' incomes are being carried out by associations.

If associations turned to the literature for guidance, they might well become confused. A brief survey reveals a lack of systematic thought about how affordability might be defined and measured. The majority of writers examine ratios of housing costs to incomes for evidence of affordability. The National Federation of Housing Associations, offering guidance to its members on the setting of affordable rents, argues that what associations require is "some norm for the average ratio between rent and income. This should relate to people beyond the reach of Housing Benefit, i.e., those in employment or on occupational pensions" (NFHA, 1990, p. 27). The organisation suggests a 'target' affordable rent-to-income ratio of 20 per cent. Maclennan and Williams are critical of rent-to-income ratios offered "without definition or much justification" (Maclennan and Williams, 1990, p. 11), and argue that the government should both select the appropriate ratio and also determine what items of income and expenditure should be included in both the numerator and the denominator. Maclennan, Gibb and More (1990) are also highly critical of the use of 'target' affordability ratios. Their argument is that to specify a single ratio of housing costs to incomes across all tenures, locations and household types over-simplifies. Their research shows that actual housing costs vary by tenure, location, socio-economic characteristics of households and household incomes. However, they conclude that: "There is no doubt that broad rent-to-income ratios, aggregated across sectors, do signify useful information for economic policy" (Maclennan, Gibb and More, 1990, p. 98). It is my contention that rent-to-income ratios provide, in fact, very misleading information for economic policy. V

Affordability is also usually discussed in terms of the ratio of housing costs to incomes or size of loan in relation to incomes in the literature on owner-occupation. For example, Bramley employs 'accessibility' and 'affordability gap' indices of affordability which compare building society multipliers of household incomes —i.e. a measure of loan potential—with various house prices (Bramley, 1990a, 1990b). Edwards, Director of the Australian National Housing Strategy, outlines various measures of affordability widely used in Australia for owners, especially first-time buyers. The factors which he concludes need to be taken into account in an index of affordability for first-time buyers include all the cash costs of purchase, the income of the buyer, and the criteria used by financial institutions to determine loan size, including the assumed deposit of the borrower (about 25 per cent of the house price).[1] Affordability for existing owners is judged by the percentage of average incomes necessary to meet the mortgage repayments on a median-priced house, or some other ratio between cash housing costs and incomes. These indices are tracked over time by commentators and policy-makers. Also employed in the Australian literature is a 'deposit gap' measure of 'accessibility'. This is the number of years' saving required to raise a 25 per cent deposit by a household on median income, at average saving and interest rates (Edwards, 1990).

This paper is concerned with identifying those who may be suffering from unaffordable housing from a household survey carried out in the Glasgow Travel-to-Work

Area in 1988/89. This requires a definition of what may be considered to be affordable housing costs. However, determining what is and what is not affordable is quite a different matter for determining affordable rents, since the range of rents which may be considered to be affordable will be very large, even assuming a single measure of affordability commands agreement. Affordable rents are outwith the scope of this paper: rather, what is at issue here is the concept of 'affordability' itself. The overview of some of the more considered parts of the literature on affordability described above, results in the conclusion that there is some merit to be found in a systematic consideration of the meaning and measurement of affordability of housing, beginning from economic first principles, particularly with a view to establishing, or otherwise, the usefulness of ratio measures. This paper is an attempt to begin that task.

Defining Affordability

It is useful to begin with two definitions from the literature which appear to give a reasonable starting point. Maclennan and Williams offer a very general definition:

> 'Affordability' is concerned with securing some given standard of housing (or different standards) at a price or a rent which does not impose, in the eyes of some third party (usually government) an unreasonable burden on household incomes. (Maclennan and Williams, 1990, p. 9)

Bramley's is more specific:

> that households should be able to occupy housing that meets well-established (social sector) norms of adequacy (given household type and size) at a net rent which leaves them enough income to live on without falling below some poverty standard. (Bramley, 1990b, p. 16)

Both definitions appear to conceive of non-housing consumption as a merit good. That is, they appear to say that there is some quantity of non-housing consumption which society regards as a socially-desirable minimum. Bramley's definition describes this as a "poverty standard". Maclennan and Williams's discusses it in terms of an "unreasonable burden".[2] Both definitions are therefore concerned with the notion of the opportunity cost of housing, and clearly this is the essence of the concept of affordability: what has to be foregone in order to obtain housing and whether that which is foregone is reasonable or excessive in some sense. Both definitions are also concerned with the standard of housing consumption. Maclennan and Williams speak of "some given standard of housing" and Bramley of "social sector norms of adequacy". The concern with standards of housing consumption also implies that housing is a merit good in these definitions. Although it is strictly necessary only that non-housing be considered a merit good to warrant a social concern with the affordability of housing, any approach which does not take housing to be a merit good is likely to be considered unreasonable since it implies that even if people are houseless, providing their consumption of other goods reaches acceptable levels, there is no affordability problem.

But this is culturally based?

Right to housing

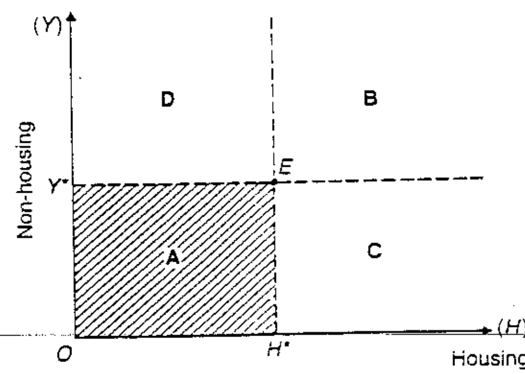

Figure 1. A minimal definition of affordability

Given information on how much housing and non-housing individuals are consuming, together with the socially-desirable minimum standards of consumption of the two goods, it is possible to determine for some of the population, those for whom affordability is a problem. Figure 1 shows combinations of quantities of housing (H) and all other goods (Y) being consumed by an individual. Y^* and H^* mark the socially-desirable minimum standards of the two goods defined for an individual, since we might expect Y^* and H^* to vary according to the size and composition of the household. Point E on the diagram therefore indicates the consumption bundle about which affordability is concerned. It is possible to say that consumption patterns represented by Region A are indicative of unaffordability of housing: if in this Region, point E is not even a consumption possibility. Conversely, consumption in area **B** is indicative of affordability without any ambiguity since the individual is consuming adequate quantities of both goods. Areas **C** and **D** are much more problematic. In these regions, the consumer is consuming enough of at least one good, but insufficient of the other. These consumption patterns have a number of possible causes which can be reduced to matters of personal choice and matters of constraints facing the consumer. In order to determine whether individuals in these areas are suffering from problems of affordability, further information is therefore required about their preferences and the opportunities they face.

A conventional economic analysis would be to take the main constraint facing individuals to be their real income—i.e. money income in relation to the prices of goods and services. Assuming that the consumer's real income is just large enough to allow him to purchase Y^* and H^*, then his alternative consumption possibilities may be represented by a budget constraint such as FG in Figure 2. The position of the budget constraint is determined by the consumer's money income; its slope by the relative prices of Y and H. Thus any consumer whose actual consumption is within the shaded area, but

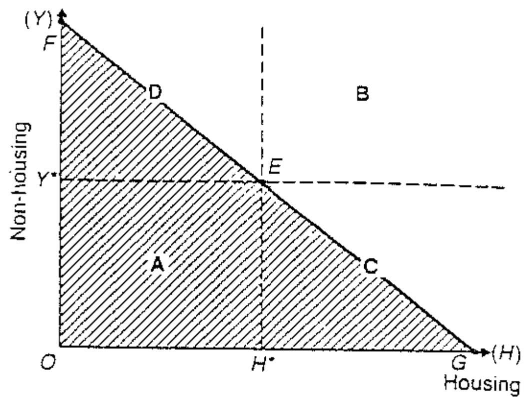

Figure 2. Affordability for an individual consumer.

not on the line FG, cannot reach E, given his income and the relative prices of the two goods. It seems reasonable therefore to define the two triangles Y^*FE and H^*GE as further areas of unaffordability of housing. Individuals whose consumption pattern is either on the line, or in the unshaded portions of areas **C** and **D**, will be consuming too little of either Y or H either through choice or because of some other, non-income constraint on their choices.

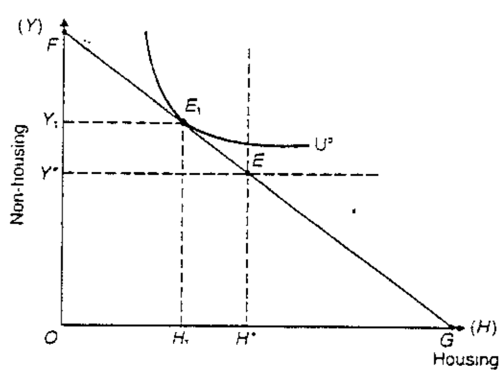

Figure 3. Affordability and 'perverse' preferences.

It is important to distinguish between the two causes of underconsumption because different policies may be appropriate in different cases. Figure 3 shows the preferences and constraints facing a consumer whose income is sufficient to purchase Y^* and H^*, but who prefers to consume Y_1 and H_1. This consumer would argue that the socially-acceptable minimum standard of housing is not affordable to him because its opportunity-cost in terms of foregone Y is too great from his own point of view. He is less happy at E than at E_1, in other words. If there are no other constraints facing him, then this is an indication of 'perversity' of preferences: Y^* and H^* is a 'can pay, won't pay' combination in this case. Possible policy interventions to induce the consumption of the socially-appropriate bundle of goods include persuasion (advertising), some supplements, price subsidies or physical allocation of the appropriate quantities of the goods. If the consumer were simply allocated H^* housing, however, with no price or income subsidy, it is likely that he would try to get round the problem of his housing being unaffordable from this point of view, by sub-letting part of his house or allowing rent arrears to accumulate, or simply absconding to the private sector, where choices are less constrained. Allocated housing would therefore either have to be subsidised or checks made to ensure that no sub-letting takes place. It is clear, however, that definitions of affordability must distinguish between the individual's conception of what is and is not affordable, and society's judgement. Consumers' opinions on the difficulty they have in meeting housing costs are of little value for policy-making on their own if policy-makers have already decided that either non-housing goods or housing or both are merit goods.

So far, the analyses have been presented as if it were possible for consumers to vary the quantity of housing they consume by very small amounts. In practice, the opportunities for doing this may be very few. There are indivisibilities in the consumption of housing: certain quantities may simply not be available. If this is the case, then consumers may simply not be able to reach E, the socially-acceptable consumption bundle, or even E_1, their optimum. In such cases, the appropriate policy response may be either to remove or ease these constraints, or to accept that what is socially-acceptable is consumption of *at least* H^*, and that income supplements or price subsidies will be required even for those whose income is apparently large enough to afford both Y^* and H^*. These are cases where unaffordability is due to the presence of an additional non-income constraint. Therefore to determine which groups are suffering from unaffordability among those whose income is sufficient to purchase Y^* and H^*, but who are not actually consuming these quantities, requires separating those with 'perverse' preferences from those with other, non-income constraints. This would be virtually impossible. However, the more pervasive one believes these non-income constraints to be, the greater the proportion of those whose actual consumption is in area C or D, but outwith the triangle OFG, should be allocated to the 'unaffordable' category. A good example of these cases is to be found with respect to the system of property rates. It was often argued that the rates system was unfair because there were people living in large houses facing high rates demands, but who had low cash incomes. Such people—principally elderly widows, living in their family homes, with no outstanding mortgage debt, occupying houses rather larger than H^*—faced high rates bills. However, the incomes of such groups were often small and thus they could not 'afford' to pay their rates bills. These are clearly examples of individuals in area C. They may be able to find the income if they reduced their housing consumption, but this may not be possible due to emotional attachments to the family home or the existence of imperfect capital markets. Opponents of the rates system relied heavily on this type of affordability argument.

Elderly

So far, it has been concluded that these concepts of affordability are all concerned with opportunity-cost: how much income has to be given up to consume H^*, or how much housing has to be sacrificed to consume Y^*? The definition represented in

Figure 1 may be regarded as minimalist and likely to have few, if any, dissenters. Using other definitions brings with it some practical problems. Confining unaffordability to the triangle represented by the consumer's budget constraint (Figure 2) implies either assuming that all consumers face the same relative prices of housing and other goods, or else determining the prices which may be faced by each individual. It is certainly highly likely that individuals face different housing prices because the housing system is far from perfectly competitive. Because of the practical difficulties of disentangling the various impacts of differences in relative prices, income and non-income constraints and consumer taste, it might be argued that a broader definition of unaffordability should be used. Including anyone who is not actually consuming Y^* and H^* in the class of those experiencing unaffordable housing (Figure 4) will increase the size of the class considerably. However, this very broad definition is likely to attract criticism because it includes some individuals who could afford to consume H^* and Y^* but choose not to. The practical problem is to determine which individuals this applies to. The solution may be to cease to consider affordability as a dichotomous concept, and to accept that there are more difficult cases which constitute shades of grey.

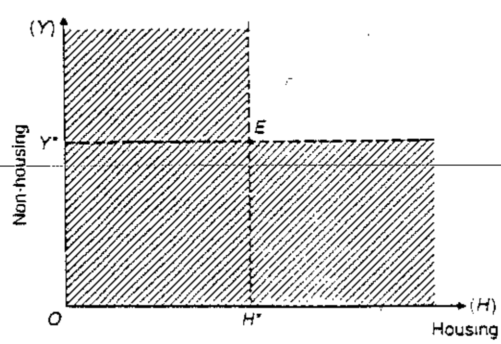

Figure 4. A broader definition of affordability.

Ratio Measures

Although the definitions of Maclennan and Williams and Bramley are useful starting points in understanding the possible meanings of the concept of affordability, in practice, both authors use ratio definitions. A ratio definition of affordability, at any given set of relative prices of Y and H, can be represented as a ray through the origin of Figure 5, such as OJ. The slope of the ray depends on both the specified ratio of housing costs to income and the relative prices of the two goods. Any point on the line represents combinations of housing costs relative to incomes which are equal to the target ratio. Any point above the line represents a ratio of housing costs to incomes below the prescribed level and indicative that housing costs are not an 'excessive burden' on incomes. Any point below it represents a ratio in excess of the 'reasonable burden' and proof that housing costs are unaffordable, in the terms of the definition. In order to make comparisons between this definition, and those discussed above, the ratio line has been chosen as that which would pass through point E, representing consumption of both Y^* and H^*. It is now possible to expose the logical flaws in a ratio definition of affordability.

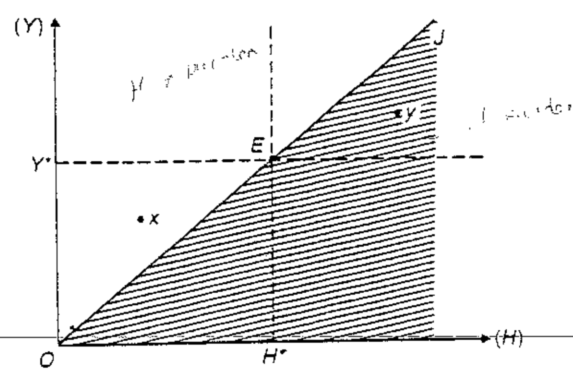

Figure 5. A ratio definition of affordability.

At levels of money income less than that represented by the line FG in Figure 2, a ratio definition defines area OFG as indicative of affordability of housing. But it has already been argued above that, if society is concerned about consumers achieving a minimum standard of consumption of both housing and non-housing goods and services, then consumption patterns in this area are indicative of unaffordability, because they involve the consumption of either insufficient housing and non-housing, or the consumption of insufficient housing. There are other problems. The unshaded portion of region **D** in Figure 2 has been argued to require further information about preferences and constraint before it can be determined whether consumption in this area is unaffordable. However, the ratio definition classifies this area as unambiguously affordable.

There are similar classification differences on the other side of the line. The unshaded portion of area **C** in Figure 2 represents another ambiguous area on other definitions of affordability. However, the NFHA/Maclennan and Williams definition classifies this as being in the unaffordable region. The ratio definition also classifies consumption in region **B** below the ray *OH* as being evidence of unaffordability of housing. However, people in this region are consuming more than the minimum standards of housing and non-housing which, on all the other definitions, is proof of affordability. The problem arises because a ratio definition says nothing about what might be an acceptable opportunity-cost of that which is being consumed. Any statement about affordability has essentially to be a statement about opportunity-cost. If the state wishes to take a view about the affordability of housing, then it has to specify what opportunity-cost it considers excessive. ~~The value of the foregone goods and~~ services is measured in terms their total cost, and not in terms of the fraction of consumers' incomes absorbed. It therefore makes little sense to define affordability in terms of the ratio of housing costs to incomes if it is believed that opportunity-cost is important. In a ratio definition, it is possible for individuals to be consuming very little of either housing or other goods and for their housing costs still to be considered affordable (see also Maclennan, Gibb and More, 1990). In order to illustrate the differences between the ratio definitions and the others, it is useful to consider the cases of individuals whose consumption patterns are represented by points x and y on Figure 5. Individuals at x are experiencing affordable housing on a ratio definition. However, they are consuming less than the socially-acceptable minimum standards of consumption of both housing and other goods. On the other hand, individuals consuming at y would be judged to be experiencing unaffordable housing costs on a ratio definition, and hence be an object of social concern. Any yet, these individuals are unambiguously better-off than those at y in that they are consuming more of both housing and other goods and services. These individuals are also consuming more than Y^* and H^*.

Official Definitions

fe - Read: ff necessary

The concepts of affordability represented by the British social security and Housing Benefit system can also be analysed in the terms just discussed. The Income-Support-scale rates could be argued to constitute a 'poverty standard' for the consumption of other goods and services, since the housing costs of those on Income Support are met by Housing Benefit. However, the Housing Benefit system does not set down minimum standards of housing consumption: Housing Benefit is not a housing policy, but rather a part of the social security system, and owners receive very little support from the Housing Benefit system for their housing costs, unless they are in receipt of Unemployment Benefits, or other state benefits. What the Housing Benefit system does do is to provide for the questionning of excessive housing costs for the needs of the household, either because of high costs per unit of housing service being consumed, or through over-consumption of housing. The implied definition of unaffordability represented by this system is shown as a shaded rectangle in Figure 6, where H_{max} represents the point at which the state considers excessive consumption of housing is reached.

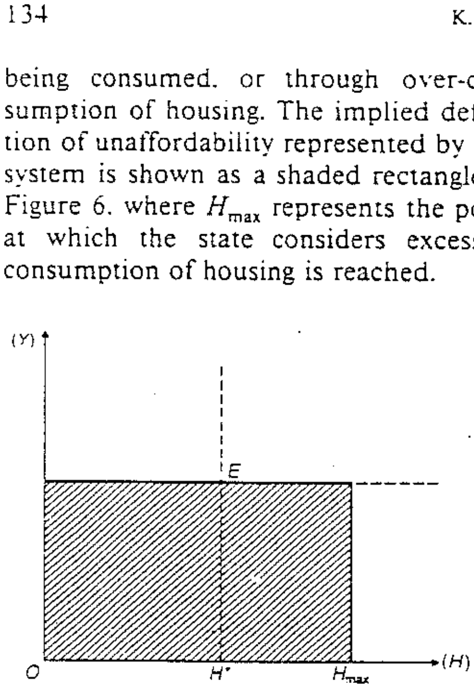

Figure 6. 'Official' definition of affordability.

It is interesting to compare the groups likely to be experiencing unaffordable housing on the implied official definition with the rather more generous definition of Figure 4. The first point of contrast is that the state's definition implies that anyone consuming more than H_{max} but less than Y^* would be regarded as experiencing affordable housing, which differs from the definition suggested by Figure 4, and in practice, this is likely to be the area in which many would argue that affordability problems exist. The only people likely to be in this region are those not on Income Support, but who either through choice or through some non-income constraint are 'over-consuming' housing. They could be in receipt of Housing Benefit, although Housing Benefit will not be meeting their full housing costs. The elderly widows for whom the poll tax was introduced are likely to be in this area.

If, notwithstanding the official definition of unaffordable housing, it were argued that the definition offered by Figure 4 was more appropriate, than those consuming more than Y^* but less than H^* should be added in to the total. People occupying this region may be under-consuming housing in order to have a higher standard of non-housing consumption. Most of those in this area are likely to be in the owner-occupied or private-rented sector, since they have more opportunities to adjust their consumption of housing below H^*, than do tenants of social-sector landlords. It could be argued that tenants of social-sector landlords are allocated housing which is of the socially-acceptable minimum standard, and so all will be to the right of the vertical line at H^*. Those not on Income Support may find that their housing costs leave them with less than Y^* to live on, and may therefore be experiencing unaffordability on both definitions. For social-rented tenants on 100 per cent Housing Benefit, housing costs are not really a problem, since meeting them has no opportunity cost in terms of Y-consumption for this group. Those on Income Support, unless there is a problem with take-up of benefit, should also have sufficient income to allow them to purchase Y^* and H^* if they are social-sector tenants, providing they are not homeless persons temporarily housed in bed-and-breakfast accommodation, which seems by common judgement to be of a lower standard that what society considers H^*.

The Housing Benefit and Income Support systems together, then, effectively treat housing cost as an item of expenditure about which the consumer has little choice. It is also worth noting that this definition on its own does not treat housing as a merit good. It is only the standards set by social-sector landlords which render housing a merit good *for their tenants.*

Measuring Affordability

To examine the prevalence of unaffordability of housing, four definitions of affordability are utilised. On a rising scale of generosity these are:

Definition 1: A 'minimalist' definition.