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Housing Expenditures and Income Poverty in EU Countries

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Abstract

Previous research has suggested that hidden income arising from home ownership has important consequences for poverty measurement as it tends to favour certain low income groups, especially the elderly, and to have a moderating effect on poverty rates in countries with high levels of home ownership. This article explores both methodological and substantive aspects of this issue using data for 14 EU countries drawn from the European Community Household Panel Survey 1996. Methodologically, in the absence of data needed to estimate hidden income from housing directly, it explores the validity of using a housing expenditures approach to take account of the income effects of housing in a poverty measurement context. Substantively, it examines whether poverty measured in this way in the 14 countries in the data set differs in expected directions from poverty as conventionally measured. The substantive effects are found to be modest overall and to conform only partially to expectations. Certain methodological problems raise a question mark over these findings, such as variation across countries in the degree to which mortgage payments capture the cost of house purchase for home owners. The article concludes that the distributive effects of housing are important for poverty measurement but need to be better understood within each country before attempting cross-country analysis.

Introduction

Cross-national research on income poverty faces many comparability problems: the composition of income differs across countries and it is difficult to devise measures which capture the components in a comparable way. Much of the difficulty arises with income-in-kind: that is, non-cash benefits or services from employers, from the state, or from assets which householders possess themselves and use to produce goods or services for their own consumption. 'Hidden' income of this kind is difficult to quantify since even the recipient is often unaware of what its cash value might be. The barriers to accurate measurement this type of income poses are often so difficult to surmount that it is either omitted altogether or under-measured in national and cross-national analyses of income poverty.

This article focuses on one general category of hidden income – that associated with housing – and explores substantive and methodological issues which arise in assessing its impact on poverty rates across EU countries. Much

of the substantive interest in this issue has arisen in connection with the housing tenure with the largest hidden income component – home ownership – and the effect of cross-country differences in home ownership rates on comparisons of poverty based on real as opposed to nominal incomes. The possible income effects of owner-occupied housing have been highlighted especially by Castles (Castles, 1998a, 1998b; Castles and Ferrera, 1996), who contrasts the New World, where home ownership is high but income inequalities, as conventionally measured, are wide, and the old (that is, western Europe) where home ownership is generally lower and income inequalities are narrower. He contends that home ownership in the New World has an equalising impact on real incomes, mainly because of its life-course distribution effects: house purchase during the economically active years leads to large expenditure savings on housing in old age and thereby boosts the real command over resources of the otherwise poverty-prone elderly. If the distributive effects of hidden housing income of this kind are taken into account, he argues, New World countries seem less like welfare laggards compared with the leading welfare states in Europe. Conley (2000) makes a similar case, arguing that ownership of one's own home can be considered a form of social security which keeps the poverty rate much lower than it actually appears in countries with high home ownership rates. Ritakallio (2003) draws on a comparison of Finland and Australia to support these arguments. Whiteford and Kennedy's (1995) analysis comes to mixed conclusions: the impact of home ownership on elderly incomes was strongly equalising in the United States and Australia, was less so in Canada, and widened inequalities in the UK and Germany (Whiteford and Kennedy, 1995: 85).

Problems of data and methodology have made it difficult to verify the poverty-reducing effects of high home ownership across an adequate range of countries. The standard approach to hidden income arising from owner-occupied housing defines it as the rent the owners of such housing would pay to themselves if they were their own landlords, using market rents for comparable housing in the private rented sector as a basis for calculation. In national accounts, rents imputed in this way are used to arrive at aggregate estimates of hidden income from housing, based on valuations of the total owner-occupied housing stock (Eurostat, 1996: para. 3.64). For poverty measurement, however, where the household is the unit of analysis, such imputation would be required at the household level, based on the market value of housing owned by different categories of households. Data of this kind are rarely available, and rent imputation in this context has to rely so much on assumption that the worth of resulting analysis is compromised (see, for example, Conley's 2000 assumption that home owners in developed countries by definition cannot be considered poor; also Whiteford and Kennedy, 1995). The rent imputation approach also faces other problems. It may miss hidden income arising in other housing tenures, such as bricks-and-mortar subsidies for social housing landlords (which

translates into subsidised rent for tenants). Housing benefits provided to private and social renters are also difficult to deal with, even though they are in cash form. They are often so complex in nature and vary so much from country to country that the degree to which they are taken into account in income measurement is often either unclear or incomplete (Ditch *et al.*, 2001). In sum, while imputation of rental values is useful as a means of assessing hidden income from owner-occupied housing at the aggregate level, it is less useful for this purpose at the household level and it has limited capacity to deal with income aspects of other housing tenures. In consequence, it can make only a limited contribution to taking account of the income effects of housing in a poverty measurement context.

In the face of these difficulties, an alternative to the income imputation approach has been adopted by a number of researchers and provides the focus of this article (for an overview, see Ritakallio, 2003). This approach focuses on what people actually spend on accessing housing, either by way of rent for tenancies or purchase costs for home ownership, rather than on notional income from housing.[1] The key issue is that, depending on their tenure arrangements, householders spend widely different amounts of income to obtain similar housing services, and so differ in the shares of their income they can devote to other consumption needs. Those who have low or zero mortgage payments because they own equity in their homes, or have low rents because they receive state subsidies towards rents, get some or all of their housing services without charge while others incur heavy payments in the form either of full market rents or mortgage repayments for the same services.

The concern of the housing expenditures approach is to adjust measured household income in order to 'correct' for these differences in levels of housing expenditure across households. Rather than impute a notional value to housing services and add it to actual income, as in the income imputation approach, this approach takes actual expenditure on rent and mortgages and subtracts it from household income. Income estimated net of housing expenditures in this way is often referred to as 'after housing' (AH) income as opposed to the standard 'before housing' (BH) income. AH income thus does not *broaden* the income concept to include the hidden income from housing. Rather, it narrows the income concept by setting aside both the hidden income from housing enjoyed by home owners and the corresponding actual income spent on housing by renters and mortgage purchasers (such spending being considered the functional equivalent of hidden income from housing). AH income thus sheds some information but in compensation focuses on an entity – income available for non-housing consumption – which can be said to be more comparable across households than BH income. Despite its narrowness, the AH income measure can thus claim to be less distorting than the BH income measure in a poverty analysis context. This claimed measurement advantage on the part of AH income is the central methodological issue of concern to us here.

Objectives and hypotheses

The objective here is to take new data on incomes, housing tenure and housing expenditure in 14 EU countries, derive the AH income measures from those data, examine the impact of using AH income to measure poverty rates, and assess both the substantive and methodological issues which arise from the exercise. The data are drawn from the user database (UDB) of the 1996 round of the European Community Household Panel survey (Eurostat, 2003). One EU member state, Sweden, is not included in the ECHP survey and is omitted from the present analysis. The ECHP was instituted in 1994, based on large samples of households in each participating country, and repeated each year up to 2000 (for a description and evaluation of this source, see Watson, 2003). The focus here is on the data from 1996, as this is the only year for which the housing data for all of the 14 ECHP countries are available (the data on housing for certain individual countries are missing in other years). In the context of this article, this data set has the limitation that it is an 'old world' data set and does not allow for the comparison with the New World countries highlighted by Castles. However, it does include countries with widely differing home ownership rates, ranging from the highest in the OECD (Ireland and Spain) to one of the lowest (Germany).

The substantive issues to be explored in the article, as outlined earlier, can be stated as three hypotheses: first, that the income benefit arising from home ownership tends to have an equalising effect on income distribution and thus to reduce poverty rates in countries with high home ownership rates; second, that this moderating effect on poverty rates tends to enhance the relative position of high home ownership countries in cross-country comparisons of poverty rates; and, third, that life-course distribution in favour of the elderly in high home ownership countries is an important mechanism contributing to these outcomes. The key methodological issue is the adequacy of the housing expenditures approach, implemented in the AH income measure, as a means of testing these hypotheses. In what follows, we first outline the *a priori* question marks which hang over the housing expenditures approach, we then test the substantive hypotheses, and from that we draw both substantive and methodological conclusions.

The housing expenditures approach

Certain *a priori* concerns about the housing expenditures approach can easily be identified. Firstly, on a strict interpretation, only the interest element of mortgage payments should be treated as analogous to rent, since the repayment of principal on a mortgage is attributable to the acquisition of an asset rather than payment for housing services. Thus mortgage expenditures *in toto* cannot properly be regarded as housing costs which are equivalent to rents. It is only on the basis of quite a loose approach, where the focus is on resources available for current non-housing consumption, that rents and mortgage payments can be treated as

more-or-less equivalent housing-related drains on income which can be corrected for in the same way.

A second limitation is that the housing expenditures approach underplays the role of consumer choice and housing quality as influences on housing expenditures. Some households may *choose* to spend more on housing than others, presumably gaining a higher housing standard as a result (for example, they may take out a larger mortgage or pay a higher rent to enjoy a better dwelling). Others may be constrained by low incomes to spend less on housing services than they would need – for example, they may be unable to afford to pay the rent or take out the mortgage necessary to move into a dwelling suited to their needs. The housing expenditures approach has limited capacity to take account of such choice or affordability factors.

Thirdly, when it comes to cross-national comparisons, countries differ in the degree to which mortgage credit is used to finance home purchase and thus in the degree to which mortgage payments accurately reflect the share of household income diverted to the acquisition of housing. One variant of this problem arises in southern European countries, where family resources, savings and self-build play the role performed by mortgage-financed house purchase in other countries (Castles and Ferrera, 1996). Acquiring a home may be just as costly for householders in southern European countries as elsewhere but that cost will not be reflected in mortgage payments. It will take the form rather of cost of purchase of building materials and the opportunity cost of own time and other own resources (such as building land) devoted to self-build. The drain on household resources which such costs give rise to is likely to be under-measured in approaches which focus on rent and mortgage payments and therefore is likely to be under-corrected for in measures of AH income. A contrary over-correction problem arises where mortgage financing is heavily used but is directed to non-housing purposes. In Denmark, for example, generous mortgage interest reliefs in the tax code incentivise repeat re-mortgaging of owner-occupied housing for general consumption purposes (OECD, 1999). The European Central Bank (2003: 45–7) estimates that by the late 1990s there were four EU countries (Netherlands, Denmark, Portugal and the UK) where the net effect of mortgage financing was to *extract* equity from the housing stock rather than put it in. In these circumstances, to count mortgage payments as expenditures on housing could amount to a significant distortion of reality.

These factors mean that estimates of AH income represent a different but not necessarily better approximation to households' command of resources than that provided by standard BH income. This explains why the UK, for example, regularly produces estimates of poverty rates based on *both* AH as well as BH income – in effect assuming that neither gives the full picture and that the truth probably lies somewhere in between (Goodman *et al.*, 1997: 27–8, 57–60). The question we are concerned with here is, first, whether the AH income measure

TABLE 1. Housing tenure across EU countries.

	Owner-occupiers						
	No mortgage	With mortgage	All owners	Public renters	Private renters	Other/ rent-free	Mortgage debt as % of GDP
	% of households						
Gr	69	7	76	0	21	3	5.2
It	62	11	73	6	13	8	7.5
Sp	62	19	81	1	12	6	18.5
Pt	52	14	66	4	20	10	22.2
Irl	42	38	80	11	6	2	27.2
Be	41	32	73	7	17	2	21.5
Fin	37	27	65	17	16	2	31.1
Lu	35	35	70	3	24	3	
Au	30	20	50	20	23	7	
Fr	29	24	53	17	24	6	20.4
UK	27	41	68	23	7	2	60.8
Ger	22	19	40	13	43	4	48.5
Nl	7	42	49	42	8	1	54.2
Dk	7	45	53	27	19	1	58.5

Source: Eurostat (2003) and Doll and Haffner (2001: 52).

yields a significantly different picture of poverty patterns than does BH income, and if so, whether that picture can be considered to be more valid.

Tenure patterns and housing costs

The broad pattern of housing tenure across EU countries is well-known: home ownership rates are highest in Ireland and Spain, at around 80 per cent, and lowest in Germany, at well under 50 per cent, while social renting is particularly high in the Netherlands (Castles, 1998a). ECHP data allow us to supplement this picture by distinguishing between ownership with and without a mortgage, an aspect of EU home ownership patterns which is important for its income effects but on which data are scarce. Greece is the EU country with the highest level of outright home ownership (69 per cent of households), and the three other southern European countries – Italy, Spain and Portugal – also score highly on this measure (Table 1). Denmark and the Netherlands have the lowest levels of outright home ownership, at less than 10 per cent of households. However, Denmark and the Netherlands also have the *highest* levels of ownership with a mortgage – while only around half of householders in these two countries are owner occupiers, nearly all of these have mortgages. In the Mediterranean countries, by contrast, although the majority of householders are homeowners only few of these have mortgages.

The relationship between homeownership levels and levels of mortgage holding can also be seen by looking at cross-country differences in aggregate

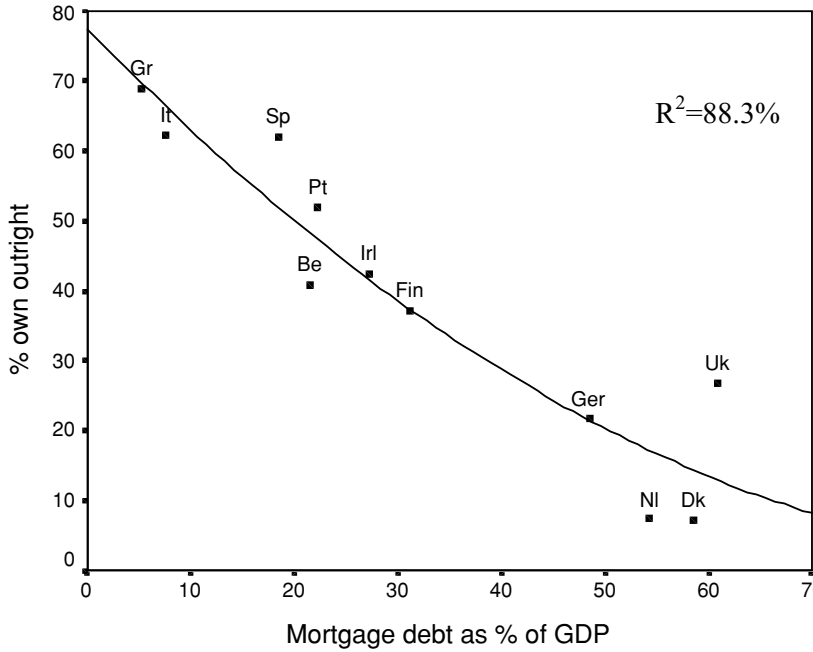

Figure 1. Relationship between aggregate mortgage debt as % of GDP and levels of outright home ownership.

level of mortgage debt, the latter being presented in Table 1 as a percent of GDP (data on this item are available for only 12 of the 14 countries). As might be expected, aggregate mortgage debt is positively correlated with the proportion of householders who have mortgages (correlation = 0.78). However, paradoxically, it is even more closely correlated in an inverse way with the proportion of householders who are outright homeowners (correlations = −0.94). As Figure 1 shows, the burden of mortgage debt is greatest in countries with the lowest levels of home ownership, since these are the countries where the proportion of homeowners with mortgages is largest.

These close and unexpected inter-linkages between overall home ownership, home ownership with and without a mortgage, and aggregate levels of mortgage debt are important for our present concerns. They suggest the implication that *corrections to household incomes to take account of mortgage payments will have the greatest effects in those countries with low levels of home ownership, since these are the countries with high levels of mortgage holding and heavy burdens of mortgage debt, and conversely will have relatively small effects in countries with high levels of home ownership*.

This implication is confirmed when we look at Table 2, which gives details on housing expenditures (defined here as monthly rent and mortgage payments)

TABLE 2. Housing expenditures (rent and mortgage payments) for households.

Mean housing cost as % net monthly income:	Au	Be	Dk	Fin	Fr	Ger	Gr	Irl	It	Lu	Nl	Pt	Sp	UK
1. For all households	12	13	26	19	17	19	7	9	7	14	23	6	7	18
2. Excluding those with no housing costs	19	22	28	32	27	25	24	17	23	22	25	16	21	26
3. For owners with mortgage	15	21	23	26	23	22	11	18	24	22	22	24	24	18
4. For renters	20	24	33	36	29	26	28	15	22	23	27	12	17	37
5. – private renters	21	26	30	36	29	26	28	24	24	24	26	14	18	34
6. – public renters	19	20	36	37	28	25	19	10	16	15	27	3	8	38
7. For owners with mortgage, age-group 25–39	16	24	27	28	27	26	15	21	30	26	25	32	25	20
8. For private renters, age-group 25–39	20	23	26	33	27	26	28	24	24	23	23	22	21	33

Source: Eurostat (2003).

as a share of net monthly household income across the 14 countries. Averaged over all households, the level of housing expenditures varies widely, lying below 10 per cent in Ireland and the southern European countries (Italy, Greece, Spain and Portugal) and above 20 per cent in Denmark and the Netherlands. The striking feature of this variation is that it is negatively related to the level of home ownership, especially of outright home ownership (the correlation coefficient is −0.89). Thus, corrections to household incomes for rent and mortgage payments together, and not just for mortgage payments alone, can be expected to have the largest effects in countries with low levels of home ownership and the smallest effects in countries with high levels of homeownership.

A further and equally important implication of Table 2 is that in most countries (Spain and Portugal being the only two exceptions) private rents account for a *larger* proportion of household income than do mortgage payments (rows 3 and 5, Table 2). This point is significant since house purchase is normally thought to impose heavier financial burdens on households than private renting: it entails both asset acquisition (represented by repayment of mortgage principal) as well as 'rent' for the use of capital (represented by interest payments), where tenants pay rent only. Yet the most common situation across the 14 countries is that tenants in the private sector pay a larger share of their incomes on rent than do purchasers on mortgage payments. It might be argued that rent includes a charge for maintenance where mortgage repayments do not and that this helps account for the higher levels of rent relative to mortgages. However, such an argument can be carried only so far, since the maintenance element in rent would have to be so large as to accumulate to something close to the full capital value of the house over 20–5 years (that is, the normal mortgage term) in order for it to outweigh the capital repayment element included in mortgage payments. Since a maintenance component in rent of this scale

seems unlikely, the puzzle about the high burden of rents relative to mortgages remains.

Rows 7 and 8 in Table 2 compare the burden of mortgage payments and private rents for younger households: that is, where the household reference person is aged 25–39 years. The intention here is to pick out those likely to be in the earlier stages of mortgage purchase and compare their housing expenditures with their age-contemporaries in private renting, thereby checking if especially heavy burdens of mortgage purchase arise in the early years of the house purchase cycle. The data suggest that some such weighting of house purchase burdens towards the early years does occur. However, it is not especially strong and causes housing expenditures for younger mortgage purchasers (relative to incomes) to rise only slightly above the level experienced by private renters. It suggests, in other words, that even for younger households, house purchase is not especially demanding in financial terms as a means of accessing accommodation, at least in comparison with the financial burdens arising for private rented accommodation. This fact in turn suggests that households gain a financial advantage from house purchase that materialises quite early in the lifecycle and that therefore would not necessarily require a forward look to old age to motivate. We will return later to the implications of this point.

Before turning to look at the consequences of these patterns for BH and AH poverty within and across countries, we should note the expenditure levels arising from the two non-ownership tenures deal with in Table 2: social and private renting. These show that a large social housing sector does not imply lower housing costs. In fact, the three countries with the largest social housing sectors – Netherlands, the UK, and Denmark – also have particularly high rent expenditures for social housing tenants (row 6, Table 2). It also emerges that social and private rents track each other closely at the country level – where one is high, so is the other (the correlation between the two across the 14 countries is 0.90). This would suggest that social housing on its own is unlikely to be a significant influence on any differences which might arise between BH and AH income distribution.

We also need to note the role of housing allowances – cash payments by the state to households to help cover their rent or mortgage expenditures – as these play an uncertain role in income measurement and it is often unclear to what extent they are fully included in household income. Table 3 indicates that housing allowances exist in all the 14 countries but vary widely in significance. They are received by 1 per cent or less of households in Belgium, Luxembourg, Italy, Greece, Spain and Portugal but by about one-fifth of households in Denmark, France, the UK and Finland. They are particularly important for renters in the UK, of whom over half receive housing allowances and for whom housing allowances account for over a quarter of household income. Similar proportions of tenants in Finland receive housing allowances, but the level of payments involved are much

TABLE 3. Housing allowances: households in receipt and significance for household income.

	Au	Be	Dk	Fin	Fr	Ger	Gr	Irl	It	Lu	Nl	Pt	Sp	UK
						% of households in receipt								
% all households	5	1	22	22	20	4	1	2	1	13	6	0	1	17
% owners	5	1	4	7	8	1	0	0	1	17	2	0	1	2
% renters	6	2	42	54	39	7	3	8	1	3	10	1	4	52
						Housing allowances as % of net annual income								
For all recipients	7	9	13	12	10	11	7	18	13	5	10	14	10	27
For owner recipients	3	2	6	6	6	5	3	8	11	5	7	3	8	16
For renter recipients	11	13	13	14	11	12	8	20	20	9	11	20	13	28
– private renters	12	25	11	15	11	12	8	20	17	15	5	20	13	33
– public renters	10	9	14	13	11	12	10		26	7	11		4	27

Source: Eurostat (2003).

smaller, accounting for about one-eighth of household income for recipients on average. There is a notable difference between Denmark and the Netherlands in the role of housing allowances, these countries being similar in many of the other aspects of housing already examined. A much larger proportion of renters receive housing allowances in Denmark than in the Netherlands, yet, as we saw earlier, the real burden of rent on both social and private tenants is similarly high in both countries. This would imply that implicit social housing subsidies might achieve the same effect in the Netherlands as housing allowances do in Denmark, but that in neither case are these subsidies large enough to bring the rent expenditures by tenants down to small shares of their incomes.

Poverty rates before and after housing

We now turn to the measurement of poverty rates across countries using the BH (before housing) and AH (after housing) income concepts already outlined. To keep the analysis at a manageable level, we focus on a single poverty standard (households with income below 60 per cent of the national median) and apply it to BH and AH income (for a discussion of alternative poverty standards that could be applied in this context, see Ritakallio, 2003).

The first hypothesis we address, as set out in the introductory section, is that the hidden income arising from home ownership tends to have an income-equalising effect and thus reduces poverty rates in countries with high home ownership levels. In countries with high levels of home ownership, poverty rates estimated on the basis of the AH income measure should be lower than those based on the BH measure, meaning that the AH/BH poverty ratio should be less than one. This hypothesis now has to be viewed in the light of the analysis carried out in the previous section, which pointed in a somewhat different direction – namely that housing expenditures are so low in countries with high levels of

TABLE 4. Before housing (BH) and after housing (AH) income poverty rates (per cent below 60 per cent of median income).

	Au	Be	Dk	Fin	Fr	Ger	Gr	Irl	It	Lu	Nl	Pt	Sp	UK
Before housing	16	16	11	10	17	15	21	22	18	13	14	24	18	19
After housing	19	18	18	14	20	18	23	20	20	16.5	20	24	19	24
Ratio AH/BH poverty rates	1.15	1.13	1.62	1.42	1.14	1.24	1.05	0.92	1.08	1.23	1.44	1.00	1.06	1.30

Source: Eurostat (2003).

TABLE 5. Correlations between country-level poverty indicators and levels of housing expenditure and home ownership.

	AH poverty rate	Ratio AH/BH poverty	Housing exp. as % of household income	Outright owners as % of total	Owners as % of total	% of renters receiving housing allowances
			Pearson correlations			
BH poverty rate	0.83**	−0.84**	0.77**	0.63*	−0.47	−0.45
Ratio AH/BH poverty			0.91**	−0.76**	−0.57*	0.62*

Source: Eurostat (2003).
Note: $^{*}p < 0.05$ $^{**}p < 0.01$.

home ownership that BH and AH income might differ from each other only to a limited degree and thus give rise to only slight differences in poverty estimates for those countries – or at least might make less difference than in countries with low levels of home ownership.

Table 4 compares BH and AH income poverty rates for the 14 countries in the ECHP, and Table 5 extends this comparison by showing the inter-relationships between these poverty levels and the levels of housing expenditure, home ownership and receipt of housing allowances by renters. The results in Table 4 indicate that the hypothesised poverty-reducing impact of housing is not confirmed: only one country – Ireland – has an AH/BH poverty ratio less than one. In all other countries, the AH/BH poverty ratio is greater than one. However, the size of this ratio varies greatly, deviating from one only slightly in many countries (especially Ireland, Greece, Italy, Portugal and Spain) and quite substantially in others (Denmark, the Netherlands and Finland). As might be expected from the analysis in the previous section, the size of the ratio is strongly influenced by the level of housing expenditures borne by households: such expenditures have to be reasonably large for AH income to differ substantially from BH income. Table 5 shows this relationship in statistical terms: the correlation between the AH/BH poverty ratio and housing expenditures as a per cent of household income is

strong at 0.91; countries where households spend a lot on housing have a higher AH/BH poverty ratio. Since, as we saw earlier, the level of housing expenditure is inversely correlated with the level of outright home ownership, we would also expect the AH/BH poverty ratio to be correlated with the level of outright home ownership, as is confirmed by the correlation coefficient of –0.76 between the two shown in Table 5.

These results mean that our first hypothesis has not fared well: home ownership generally does not have a poverty-reducing effect within EU countries, even in cases where the home ownership rate is high. What about the second hypothesis: that the impact of hidden housing income on poverty rates tends to enhance the relative position of high home ownership countries in cross-country comparisons? From what we have seen so far, we cannot expect it to fare very much better: the correlation between BH and AH poverty rates across countries shown in Table 5 is quite high (coefficient = 0.83), so that there is only limited scope for a switch from one to the other to have an effect on cross-country differences in poverty rates. However, to the limited extent that a such an effect is present, it works in the predicted direction. The countries with the lowest BH poverty rates experience the greatest rise in poverty as a result of the move to the AH income measure (thus the correlation between the BH poverty rate and the AH/BH poverty ratio in Table 5 is strongly negative, at –0.84), and this has the effect of narrowing the poverty differentials across countries. The problem for our second hypothesis is that this effect is relatively small: Finland, for example, which has the lowest poverty rate of all the countries (10 per cent) under the BH income measure, continues to have the lowest poverty rate (14 per cent) under the AH measure. Denmark experiences the highest increase in poverty rates under the AH as compared with the BH measures (18 per cent compared with 11 per cent), but that causes it to rise in the poverty rankings among the 14 countries only from second lowest to the fourth lowest. At the other end of the range, Portugal retains the highest poverty rate under both the BH and AH income measures, both rates being 24 per cent. Thus under the BH measure, the range in poverty rates between the lowest and the highest is 14 percentage points (from 10 per cent in Finland to 24 per cent in Portugal), while under the AH measure that range narrows to 10 percentage points (from 14 per cent in Finland to 24 per cent in Portugal). In sum, the impact of the AH income measure on poverty differentials between countries is not negligible but neither is it strong enough to give unambiguous support to our second hypothesis.

The impact among the elderly

We now turn to the third of our hypotheses: namely, that home ownership has a life-course distribution effect in favour of the elderly. The implication here is that the switch from a BH to an AH income measure should enhance the relative

TABLE 6. Percentage of elderly (age 65+) and non-elderly householders who own their homes outright.

	Au	Be	Dk	Fin	Fr	Ger	Gr	Irl	It	Lu	Nl	Pt	Sp	Uk
	% own homes outright among elderly and non-elderly													
Own outright elderly	42.6	74.4	17.8	73.5	58.8	35.9	84.9	80.8	73.9	76.4	18.8	65.0	78.5	55.0
Own outright non-elderly	26.7	27.6	3.6	27.4	18.3	16.7	63.3	30.5	57.0	23.5	4.2	47.1	57.8	16.0
Ratio elderly/non-elderly ownership	1.6	2.7	5.0	2.7	3.2	2.1	1.3	2.7	1.3	3.2	4.5	1.4	1.4	3.4

income position of the elderly who own their homes outright and so should substantially reduce elderly poverty rates in countries with high levels of home ownership among older people.

The first element in this hypothesis is that home ownership is a life-course issue: that is, that home ownership increases as people age and achieves higher levels of completion (as indicated by high levels of outright home ownership) among the elderly than among younger adults. Table 6 confirms that this is so in all the 14 countries in the present analysis – outright home ownership rates are everywhere higher among elderly than among non-elderly households. However, the degree to which this is so varies widely. In Denmark the level of outright home ownership among the elderly is five times greater than among the non-elderly and in the Netherlands it is 4.5 times greater – even though in these countries the level of outright home ownership among older people is low in absolute terms. At the other end of the spectrum, the corresponding ratio is only in the range 1.3 to 1.4 in Greece, Italy, Spain and Portugal. In these countries, the overall level of outright home ownership is so high that it would not be possible for wide age differentials in these levels to exist. Most of the remaining countries – especially Belgium, Finland, Ireland, Luxembourg and, to a lesser extent, France and the UK – conform better to what might be considered classic life-course patterns of acquisition of housing equity: levels of outright home ownership are moderately low among the non-elderly but rise to quite high levels among the elderly.

This then leads us to the core element of the third hypothesis, which is that elderly poverty levels should fall under an AH income measure in countries with high levels of home ownership. In order to test this hypothesis fully, we need to consider two indicators of elderly poverty: composition (the elderly as a per cent of the poor) and risk (the percentage of the elderly who are poor). For the hypothesis to be fully confirmed – that is, for a *life-course* effect on elderly poverty to be present – both indicators should fall in high home ownership countries as we move from a BH to an AH income measure. In other words, it is not just enough that the risk of elderly poverty should fall but also that it should show a greater decline than any which might occur among the non-elderly, thus reducing

TABLE 7. Incidence and risk of poverty among the elderly (aged 65+) using 'before housing' and 'after housing' income measures.

	Au	Be	Dk	Fin	Fr	Ger	Gr	Irl	It	Lu	Nl	Pt	Sp	Uk
Incidence – elderly as % of poor (below 60% of median income)														
Before housing	33	38	40	26	29	31	40	30	32	23	13	41	16	39
After housing	33	33	42	15	26	28	35	19	30	16	22	38	10	40
Ratio AH/BH	1	0.87	1.05	0.58	0.90	0.90	0.88	0.63	0.94	0.70	1.69	0.93	0.63	1.03
Risk – % of elderly who are poor														
Before housing	25	22	18	13	20	19	35	28	20	15	9	40	15	29
After housing	28	22	31	10	20	22	33	17	21	13	21	37	10	37
Ratio AH/BH	1.13	1.00	1.70	0.81	1.01	1.15	0.94	0.59	1.02	0.83	2.48	0.91	0.70	1.31

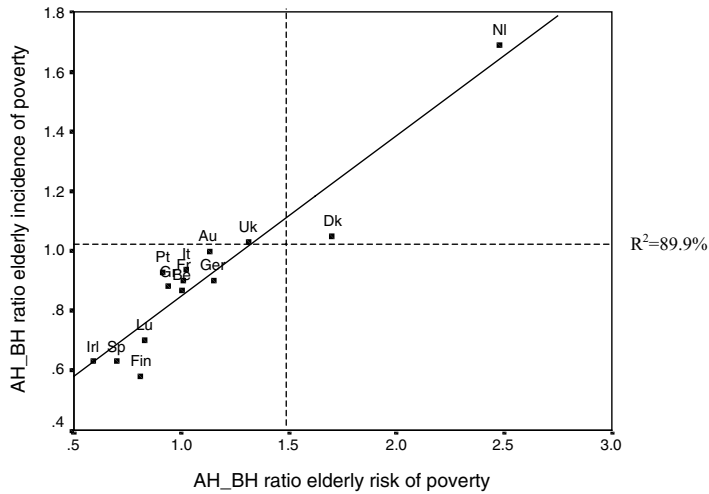

Figure 2. Scatter plot of AH/BH ratios in incidence of elderly poverty and risk of elderly poverty.

the elderly share in the population in poverty. Our hypothesis therefore predicts that the ratio between the BH and AH versions of both indicators for the elderly should be less than one in high home ownership countries, and may be either one or greater than one in low home ownership countries.

Table 7 sets out the results and Figure 2 attempts to clarify the patterns which arise by plotting the AH/BH ratios for the two indicators. The two dotted lines in Figure 2 segment the plane where the poverty effect is neutral: that is, where the AH/BH ratios for the two indicators are one. It can be seen from Figure 2 that four countries (Ireland, Spain, Finland and Luxembourg) have AH/BH ratios which fully fit the poverty reduction scenario for older people in that both ratios are substantially below one. These are the countries where there is an unambiguous poverty reduction effect among the elderly arising from the switch from a BH

to an AH income measure. One country (the Netherlands) constitutes a clear instance of the opposite: its AH/BH ratios are well in excess of one for both indicators and so it demonstrates an unambiguous poverty increasing effect for older people arising from the BH to AH switch. Denmark, and to a lesser extent the UK, produce a mixed result: their AH/BH ratio for poverty risk is greater than one but the AH/BH ration for poverty incidence is close to one. These are cases where the poverty risk for older people rises as a result of the switch from the BH to the AH income measure, but so too does the poverty risk for the non-elderly, so there is little or no change in the elderly/non-elderly shares of the population in poverty. For the other countries, the impact of the switch from BH to AH income on the two elderly poverty indicators is slight and the income effects of housing on elderly poverty in these countries are small. Looking over all the 14 countries, therefore, it is difficult to argue that high levels of home ownership have a strong and consistent tendency to reduce poverty rates among older people. That effect is present to some degree but is weak or absent in many countries and so is difficult to present as a consistent pattern.

Conclusion

This article has focused on three substantive hypotheses concerning the impact of the income effects of home ownership on poverty levels within and across countries – that home ownership has a moderating effect on poverty, that it tends to reduce differentials in poverty rates between countries with high and low levels of home ownership, and that the life-course distribution effect of home ownership in favour of the otherwise poverty-prone elderly is a key mechanism in bringing these outcomes about.

The empirical tests of these hypotheses across 14 countries produced mixed but generally negative results: the hypotheses were confirmed in some ways and for certain countries, but they were disconfirmed in others and patterns were revealed which were inconsistent with the underlying thrust of the hypotheses. The poverty reduction effect arising from home ownership was found in only one country (Ireland) and even there was not strong. In all other countries, poverty rates *rose* when incomes were adjusted to take account of the income effects of housing. However, the extent of the rise in poverty rates differed between countries and was greatest in countries where poverty rates based on conventional income measures were low. In consequence, differentials in poverty rates between countries were narrowed in the manner predicted by the second hypothesis, though the extent of such narrowing was limited. There was mixed evidence for the contribution of a life-course distribution effect to these outcomes. Such an effect was present to some degree in some countries but was weak or inconsistent in others and generally was not related to the level of home ownership in countries to the degree that the third hypothesis would require.

One question which arises about these findings is whether the method by which they were arrived at – the housing expenditures approach to adjusting household incomes for the income effects of housing – is sufficiently robust to justify them. A number of weaknesses in that method are evident. A particularly important one is its likely tendency to understate expenditure on home ownership in countries where mortgage financing of housing acquisition is rarely used and to over-state it in those countries where much mortgage financing is used for equity release purposes as well as for house purchase. This variation means that the housing expenditures method is more reliable as a means of measuring house purchase expenditures in some countries than in others and so provides a less than wholly consistent basis for adjusting household incomes for such expenditures in a cross-country poverty measurement context.

At the same time, while methodological problems such as these should caution us against being over-assertive about the findings presented here, they do not undermine them entirely. The weakness of the poverty-reducing effect of home ownership was largely present even in countries where the housing expenditures method seems to capture house purchase costs reasonably well (for a detailed examination of this point in connection with one such country – Ireland – see Fahey, 2003). This weak effect in turn is at least partly due to a further notable finding highlighted here: even among EU countries where mortgage borrowing is the main means of access to home acquisition and is little used for equity release purposes, a high level of home ownership can go hand in hand with a low level of mortgage debt and a consequent weak effect of mortgage payments on the level of income available to households for non-housing consumption. Whether this paradox may be explained by the differing degrees of maturation in house purchase systems in different societies, or by institutional factors such as the tax regime or mortgage credit system is beyond the scope of this article to say. However, this is a pattern which needs to be better explored and understood before we can begin to understand what home purchase means in financial terms in different countries.

A final point to note from the findings relates to the assumption that buying a house on a mortgage imposes heavy expenditure burdens on households – at least in comparison to the rent burdens on private renters. In fact, we saw that mortgage purchasers on average in the majority of the EU countries expend a *smaller* share of their incomes on mortgage payments than renters do on rents. Even when we consider younger mortgage purchasers who are in the early, and presumably more burdensome stages of house purchase, the share of income absorbed by mortgage payments is only modestly greater (and in some countries is less) than the share absorbed by private rents. These rent versus buying comparisons need to be further examined, as the factors which affect them may vary from country to country. Lower incomes among renters, which would give rise to high rent-to-income ratios, may be an important influence in many cases, and

confounding factors such as the maintenance component included in rents may also play a role. Other possible influences may include a fiscal bias in favour of home ownership which in effect transfers resources to house purchasers from other tenures (Joumard, 2001), or, as Fahey (2003) suggests of the Irish case, it may be partly a consequence of general inflation which, when combined with low real interest rates, has the effect of transferring resources to mortgage borrowers from savers. In any event, the possibility arises here that the distributive effects of home ownership may operate along axes other than the life-course and this possibility needs to be explored in greater depth within individual countries.

The overall conclusion to be drawn, then, can be illustrated by Ritakallio's (2003) comparison of the Finnish and Australian cases which was referred to earlier. In one sense, this comparison confirms the New World/Old World contrast suggested by Castles, since it shows that adjustments for the income effects of housing causes the poverty differential between these two countries to narrow: the Finnish poverty rises slightly and the Australian poverty rate falls. The paradox here, however, is that these two countries have exceptionally similar housing tenure distributions, with near-identical levels both of home ownership and of outright home ownership. Nevertheless, corrections to measured income for the income effects of these tenure distributions have widely different effects in the two countries. The central conclusion which we would propose here reinforces this aspects of Ritakallio's findings. It is that the income effects of housing tenure cannot simply be read off from the level of home ownership but vary from country to country in their character and direction. Until we have accumulated a much more informed understanding of these patterns within countries, we are unlikely to make much progress in generating valid cross-country generalisations.

Note

1 Such expenditures are often referred to as housing 'costs'. We avoid the term costs here since, strictly speaking, the concept of housing costs, even at the household level, encompasses more than the cash amounts expended by households on their accommodation. In particular, it also includes the opportunity cost of capital. Home ownership which entails zero expenditure on rent or mortgage could be deemed to entail an opportunity cost to the extent that the capital tied up in the house could yield a higher return in a different form of investment. A genuine 'housing costs' approach, therefore, would need to encompass the opportunity costs of capital for home owners as well as actual expenditure on housing.

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