

How important is housing market activity for durables spending?

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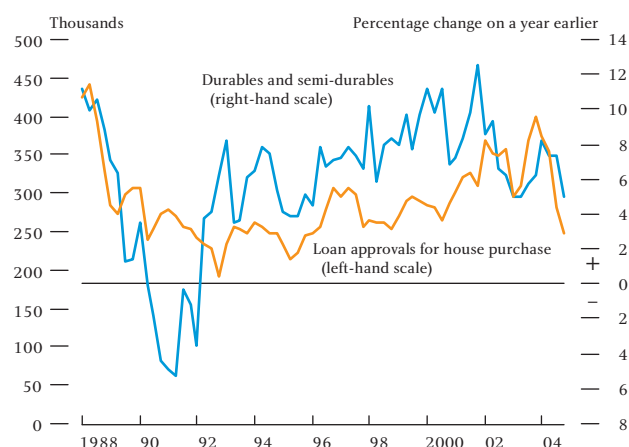
The links between the housing market and consumer spending have been the source of much debate. In this article we examine the evidence for a link between housing transactions and consumer spending, which could exist if households were more likely to purchase some goods and services when they move home. Using survey data from the British Household Panel Survey we find that households are two to three times more likely to purchase certain durable goods when they move home. But those households that move home are a small proportion of all households: so in aggregate a change in housing transactions seems likely to have only a moderate impact on durables spending. Estimates of the extent of the overall effect are, however, subject to considerable uncertainty. Furthermore, any such link can only affect spending in the short run and cannot influence consumer spending in the medium term.

Introduction

The link between house prices and spending is less straightforward than is often supposed. While higher house prices benefit households that are intending to trade down or sell a second home, they disadvantage first-time buyers and those households trading up.⁽¹⁾ But there are two other ways in which the housing market can potentially influence household spending. First, higher house prices can enable more, or cheaper, borrowing by raising the collateral at households' disposal. That might provide a short-run boost to spending. Second, a rise in housing transactions might directly boost spending in the short run if households are more likely to purchase certain goods and services when they move home. It is this second potential link that we explore in this article.

There are a number of reasons why a rise in housing transactions might bolster spending, at least in the short run. Households might prefer certain durables, such as a fridge, freezer or washing machine, to match their new home. Alternatively, moving home could be a good time to make durables purchases. Chart 1 suggests that housing transactions have been positively correlated

Chart 1
Durables expenditure and housing market transactions



Sources: Bank of England and ONS.

with the growth of expenditure on durable and semi-durable goods since 1988.⁽²⁾⁽³⁾

Very little work has been published on the importance of these transactions-related effects.⁽⁴⁾ We aim to help fill that gap in this article. Analysis of this missing link is also particularly timely because the recent slowing in consumption growth has largely been accounted for by declines in the growth of expenditure

(1) See 'House prices and consumer spending' box in the November 2004 *Inflation Report* and pages 15–16 of the May 2005 *Inflation Report*.

(2) Durable goods are defined by the ONS as goods that can be used repeatedly over a period of considerably more than one year and have a 'high' price relative to other goods. Semi-durable goods also have an expected lifetime that exceeds a year but it is less than that for durable goods and their price is lower. For example, a CD player is a durable good; a CD is a semi-durable.

(3) Housing transactions are measured by loan approvals for house purchase throughout this article. That is because there is a break in the Inland Revenue total transactions series, which was caused by a switch from the use of Particulars Delivered forms to Land Transaction Returns in December 2003.

(4) Although, see Hamilton and Morris (2002) and Power (2004) for recent analyses of UK durables spending and Caballero (1994) for an overview of the academic literature.

on durable and semi-durable goods. That slowdown has coincided with a fall in the number of housing transactions.

In this article we analyse both aggregate data from the ONS and disaggregated survey data from the British Household Panel Survey (BHPS), an annual survey broadly representative of the UK population. Such microdata allow direct analysis of individual households' behaviour, so they can often shed more light on household behaviour than aggregate data.⁽¹⁾ We focus on durable and semi-durable goods expenditure and do not analyse spending on services. That is because expenditure on legal fees and surveys, which is likely to account for most of the spending on services that are highly correlated with house purchase, is classified as investment rather than consumption in National Accounts.⁽²⁾ Removals services are classified as consumption, however.

Why might housing market transactions affect consumption?

Durable goods, as their name suggests, last and deliver their benefits for some time. So individual households tend to purchase them less frequently than non-durable goods. The timing of those purchases might be affected by a household's decision to move home.⁽³⁾ That may be because some durables may be more desirable in one home than another. For instance, a fridge, washing machine or dishwasher may fit one kitchen better in terms of size or design.⁽⁴⁾

Alternatively, it may be more efficient to purchase a range of durable goods when moving house. If a household intended to borrow to purchase a new durable, they would incur some transactions costs in arranging that borrowing. If they were moving house they could extract some home equity to fund purchases of durable goods at a much lower cost, as a new mortgage contract is already being drawn up. So households may bring forward purchases they were otherwise going to make in the months or years to come. It may also be cheaper to search and take delivery of several durables at the same time, because some costs that households incur for each individual purchase

could be incurred once rather than a number of times. For instance, free delivery may only be available for a bundle of goods or there may be discounts for purchasing more than one large durable item at the same time.

To a significant extent, these effects represent a reallocation of spending across time, rather than an increase in spending over a household's lifetime. Households' spending is constrained by their lifetime resources and moving home is unlikely to affect those resources, particularly in aggregate. So we may expect a rise in housing transactions to cause a short-term boost to durables expenditure, at the expense of expenditure that would have occurred in future years.

Moving home would be associated with an increase in lifetime resources, and the rise in durables expenditure would represent an increase in spending over a household's lifetime, if both had been prompted by an increase in income expectations. For example, a household that found better-paid employment may wish to move to a larger house and spend more on durable goods (they may, for instance, buy a bigger television). But in that case it is the rise in income expectations that would have caused a rise in durables expenditure, not the act of moving house. Because any relationship between moving home and durables expenditure could be caused by income expectations, we attempt to control for expectations in our analysis. We first focus on aggregate ONS data, before turning to the BHPS microdata.

Aggregate data

Chart 1 shows that there is a positive association between durables and semi-durables spending growth and housing transactions. The (contemporaneous) correlation coefficient is 0.37 — although, as is the case with any correlation, these do not necessarily imply any causal relationship between the variables.⁽⁵⁾ Durable and semi-durable goods together account for around 25% of consumption and a much larger proportion of the growth in the volume of total consumption over the past 20 years or so, and especially in the past 10 years (Chart 2).

(1) Indeed, that observation partially motivated previous work on the link between house prices and consumption (eg Attanasio and Weber (1994)).

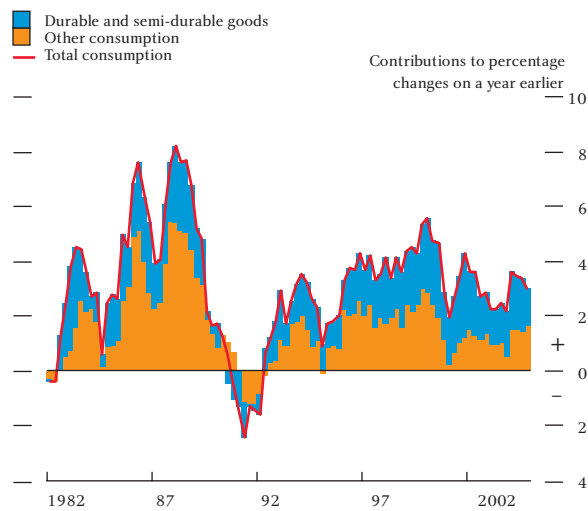
(2) They form part of what is termed 'transfer costs of non-produced assets', which is part of gross fixed capital formation.

(3) This intuition is formalised in models of purchasing durables described as (S,s) models (Caballero (1994)).

(4) In principle, a moving household could buy these durables in a second-hand market, which would not imply a link between housing transactions and the household sector's expenditure on durables (the purchase of a second-hand durable by one household from another is just a transfer within the household sector, not new expenditure). But imperfections in second-hand markets (eg the 'lemons problem') are likely to reduce their importance in practice.

(5) The correlation between these two series is statistically significant at the 1% level.

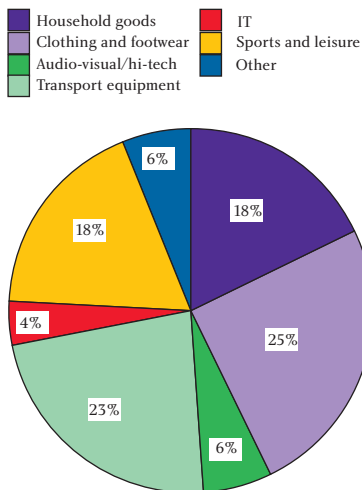
Chart 2
Contributions to consumption growth



Source: ONS.

Not all durable and semi-durable goods purchases are likely to be affected by moving home in the same way. We might expect expenditure on 'household goods' to be most closely associated with moving house. Those goods account for around one fifth of total durables and semi-durables spending (Chart 3), and restricting our attention to them in fact results in a weaker correlation

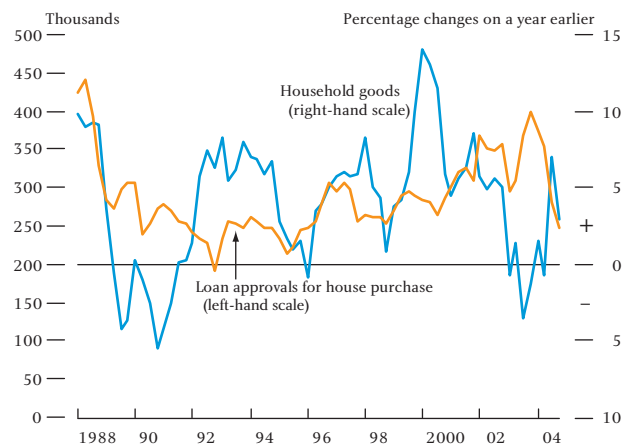
Chart 3
Composition of real durable and semi-durable goods expenditure in 2004



Source: ONS.

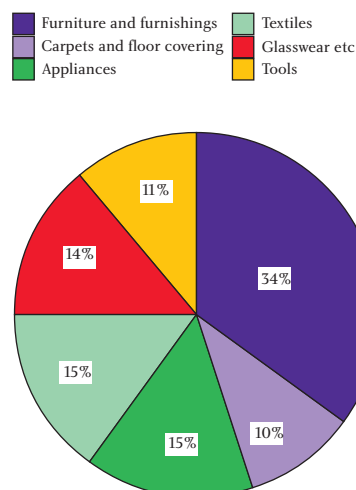
with housing transactions (Chart 4).⁽¹⁾ That weaker correlation, in itself, suggests that something else may account for the apparent link between durables spending and housing transactions. But, as with durable and semi-durable goods purchases, we might not expect purchases of all types of household goods to be affected

Chart 4
Household goods expenditure and housing market transactions



Sources: ONS and Bank of England.

Chart 5
Composition of real household goods expenditure in 2004



Note: Figures do not sum to 100 because of rounding.

Source: ONS.

to the same extent by moving home (see Chart 5 for all the components of 'household goods'). Purchases of tools (eg power-drills and chainsaws) and glasswear etc (eg cups, plates and cutlery), may be less affected by moving house than, say, purchases of appliances (eg freezers, fridges and cookers).

Although there is a significant correlation between spending on all durable and semi-durable goods and housing market transactions, spending on categories of durable and semi-durable goods that might be thought to be most strongly affected by moving home is, in fact, less correlated with housing transactions. But studying microdata can provide more detail on this question.

(1) The correlation coefficient between the two series in Chart 4 is 0.09; as a regression coefficient the correlation is not statistically significant (p -value = 0.49).

Microdata

Microdata offer an opportunity to look directly at how spending on durables differs between those households that have moved home recently and those that have not. A particular advantage of this is that many of the determinants of the demand for durables (eg the official interest rate) will be common to both movers and non-movers. This makes it easier to isolate the impact of moving home on durables spending. However, one key determinant — income expectations — is unlikely to be common across movers and non-movers. So comparisons of durables spending between movers and stayers may also be picking up something like changes in income expectations. Examining microdata could still be useful in those circumstances, because it may be possible to restrict the comparison to a set of households that are less likely to be affected by changes in income expectations. For example, higher income expectations may be less important for those who move within the publicly rented sector. In the following sections we compare the spending behaviour of movers and non-movers, and then consider whether we obtain similar results among households whose decision to move is less likely to be affected by income expectations.

Movers and non-movers

Table A provides some simple summary statistics from the BHPS data. It shows the percentage of households that have bought various durable goods and their average spending on each, comparing those who have recently moved home to those who have not. Unfortunately, the BHPS contains data on only those durables shown in the table so we have not been able to consider the range of household goods shown in Chart 5. Nevertheless, the following points can be made:

- Households that move home are much more likely to purchase a range of consumer durables.
- There is a particularly strong difference for white goods, with movers being two to three times more likely to purchase them.
- Movers' average total spend when they purchase goods is a little higher than stayers.

Table A
Annual durables spending and moving home for owner-occupiers

Item		Per cent purchasing a durable in past year		Average amount spent, if bought (£)	
		Moved	Stayed	Moved	Stayed
White goods	Freezer	24.0	6.3	276	270
	Washing machine	19.4	6.7	308	319
	Tumble dryer	9.6	3.3	152	160
	Dishwasher	13.4	3.1	248	250
	Microwave	11.5	4.9	100	105
Audio-visual	Colour TV	15.4	9.7	400	391
	VCR	11.9	7.7	167	161
	CD player	10.9	7.9	197	177
	Satellite dish	10.1	3.3	58	59
	Cable TV	4.1	1.2	n.a.	n.a.
Other	Home computer	8.4	8.4	851	919
	Telephone	16.7	8.1	73	70
	Home improvements	59.4	53.3	3,548	1,581
Summary	Any/all white goods	46.7	19.4	434	292
	Any/all audio-visual	35.6	23.4	315	300
	Any/all durables	69.6	47.5	570	458

n.a. = not available.

Note: BHPS 1991–2002, although not all questions are asked in all years (for example amount spent questions were not asked between 1991 and 1996) so the number of observations varies by question. The sample size for freezer, for instance, is 1,529 movers and 33,778 stayers. An average of 4.3% of owner-occupiers moved to another owner-occupied house. See also Benito (2004).

This is the case whether we use nominal spending (shown in the table) or use real spending calculated with ONS price deflators.⁽¹⁾

This suggests that housing transactions may have some direct impact on durables purchases, at least in the short term. That may reflect direct linkages with the purchase of durables that 'fit' the new home, as well as the cost savings that make moving home a good time to buy durables. However, the results may be indicative of moving home and durables expenditure being influenced by a common factor, such as improved income expectations.

Income expectations

The difference in spending patterns identified above may not reflect a direct causal relationship between moving home and buying durables. Instead, both may reflect improved income expectations.⁽²⁾ For example, if households have received a better-paid job offer they may be more likely to move home and to increase their spending on durables. But it would be the change in income expectations that would be driving both the house move and the increased durables spending. If this were the case, then the apparent link between housing transactions and durables spending would not be a causal one and a change in housing transactions, absent any change in expected

(1) Applying the ONS household appliance deflator to expenditure on white goods does not alter our results much because the appliances deflator fell by only around 11% between 1997 and 2002. The audio-visual deflator fell much more, by 38%. So average real audio-visual spending, over our sample period, would be substantially lower than nominal spending. But the differences between average spending by movers and stayers remain similar to those in the table.

(2) Strictly, income expectations would influence housing demand (and house prices) rather than transactions. But in the presence of a down-payment constraint this would feed through to transactions (Benito (2005)).

income, would not imply any change in durables spending.⁽¹⁾

To attempt to hold income expectations constant we look at the spending behaviour of households renting public housing. Those households that move from one publicly rented home to another are probably less likely than owner-occupiers to be doing so in response to news about income prospects. Table B shows that purchases of durables by this group of households are affected by whether or not they have moved home. The differences in behaviour of movers and stayers are smaller than those shown in Table A, but they remain.

Table B
Annual durables spending and moving home for public renters

Item		Per cent purchased a durable in past year		Average amount spent, if bought (£)	
		Moved	Stayed	Moved	Stayed
White goods	Freezer	13.9	6.2	200	230
	Washing machine	12.9	6.8	234	273
	Tumble dryer	6.0	2.9	117	139
	Dishwasher	1.1	0.8	83	212
	Microwave	9.2	5.1	83	85
Audio-visual	Colour TV	12.5	9.2	313	325
	VCR	9.3	6.6	133	142
	CD player	10.4	6.2	137	164
	Satellite dish	6.4	2.5	55	56
	Cable TV	2.5	1.0	n.a.	n.a.
Other	Home computer	6.2	4.3	594	723
	Telephone	16.8	7.6	66	58
	Home improvements	27.9	20.8	292	275
Summary	Any/all white goods	31.3	17.8	253	240
	Any/all audio-visual	30.6	20.8	251	255
	Any/all durables	56.6	40.0	366	345

n.a. = not available.

Note: Number of observations (freezers): Movers: 603; Stayers: 11,123.

This suggests that the earlier comparison of durables purchases by those who move and those who do not may exaggerate the effect of moving home on durables by failing to control for changes in income expectations. But the results for public renters may underestimate the effect. First, we noted above that moving home may be related to purchasing durables because it is a good time (ie less costly) to withdraw housing equity. This argument does not apply to those who rent their homes, so we would expect the differences in behaviour between those renters who move and those who do not move to be smaller than for owner-occupiers. Second, those who own their property have a stronger incentive to add value to their home (eg installing a new fitted kitchen). Some of those who have chosen to buy rather than rent may have done so because they attach more importance to the ability to alter their home as they please. So the behaviour of public renters is likely to provide a lower

bound to our estimates of the effect of moving home on durables spending.

We interpret the data above as confirming that even in such circumstances where the direct effect of moving home on durables purchases is likely to be at its weakest, there is still probably some link. This suggests that moving home does directly stimulate durables spending.

The impact on consumption of a change in housing transactions

In principle, the above analysis can be used to give an indication of the likely effect of a change in housing transactions on durables spending. We work with the results in Table A to provide an illustration of the possible link.

The BHPS data cover only a subset of all household goods. Within that subset, moving house tends to have a bigger impact on purchases of white goods than on others. So we have made a generous assumption that all household and audio-visual goods expenditure is affected to the same extent as white goods by moving home. That implies that a change in housing transactions of 100,000 could reduce annual spending on household and audio visual goods by 0.9%. That is equivalent to a change in durable and semi-durable spending of 0.2%, and to a change of 0.05% in annual consumption expenditure.

The size of this effect is moderate mainly because only a small proportion of households are changing their behaviour: the illustrative change in transactions is equivalent to just 0.3% of households. So this example suggests that changes in transactions of this amount are likely to have only a moderate impact on durables expenditure and consumption in aggregate, although the act of moving house does have a substantial effect on an individual households' expenditure on durables.

But this illustrative estimate is subject to considerable uncertainty. Using the figures in Table A, which do not control for changes in income expectations, would tend to lead to an overestimate of the effect. Our assumption that the impact on those white goods identified in the BHPS applies for all other household goods, including audio-visual, adds to the uncertainty of our estimates.

(1) Age of the household (younger people being more likely to form a new household) is another factor that might influence housing transactions and durables spending. But the differences shown in Table A apply to both relatively young and old households.

On the one hand, as noted above a number of the household goods, not covered by the BHPS, seem unlikely to be correlated with moving house eg major tools, glassware, and vacuum cleaners. On the other hand, some types of household goods, again not covered by the BHPS, such as carpets and curtains may be more likely to be purchased than white goods when moving home.

An additional uncertainty relates to the timing of the effect. The illustrative numbers above refer to an impact on annual consumption. But if the change in transactions and the impact on spending were concentrated in a shorter time period then it could be magnified. However, it seems unlikely that all the purchases of durable goods associated with the house move would be made in the same quarter.

The above assumptions could be varied in other ways to generate larger estimated effects. But the purpose of this discussion has been to highlight how an analysis, based on a study of the spending patterns of individual households, can be used to construct such an estimate.

Conclusions

Spending on durable goods has played an important role in accounting for movements in consumer spending in

the United Kingdom. Another recent feature of the UK economy has been a high level of housing activity relative to the early 1990s; more recently still that level of activity has fallen. In this article we have aimed to shed light on the strength of the link between housing transactions and durables spending.

We have shown that people are much more likely, around two to three times, to buy certain durables, especially white goods, when they move home. The effect is likely to be largely due to households bringing forward durables purchases to coincide with the house move. But the impact on aggregate consumption of a change in housing transactions is likely to be moderate. That is largely because plausible changes in the number of transactions from year to year are small relative to the total stock of households. However, the illustrative estimate is subject to considerable uncertainty.

The nature of the link between housing transactions and durables spending also needs to be made clear. People spend from their lifetime resources. Since moving home does not increase those resources, and in particular does not do so for the economy as a whole, then housing transactions can only provide a short-term stimulus to spending. This suggests that any pronounced change in the number of housing transactions could alter the short-term profile for spending, but not its profile in the medium term.

References

Attanasio, O and Weber, G (1994), 'The UK consumption boom of the late 1980s: aggregate implications of microeconomic evidence', *Economic Journal*, Vol. 104, pages 1,269–302.

Benito, A (2004), 'Does job insecurity affect household consumption?', *Bank of England Working Paper no. 224*, (forthcoming, Oxford Economic Papers).

Benito, A (2005), 'How does the down-payment constraint affect the UK housing market?', *Bank of England Working Paper*, forthcoming.

Caballero, R J (1994), 'Notes on the theory and evidence on aggregate purchases of durable goods', *Oxford Review of Economic Policy*, Vol. 10, pages 107–17.

Hamilton, R and Morris, B (2002), 'Durables and the recent strength of household spending', *Bank of England Quarterly Bulletin*, Summer, pages 186–91.

Power, J (2004), 'Durable spending, relative prices and consumption', *Bank of England Quarterly Bulletin*, Spring, pages 21–31.