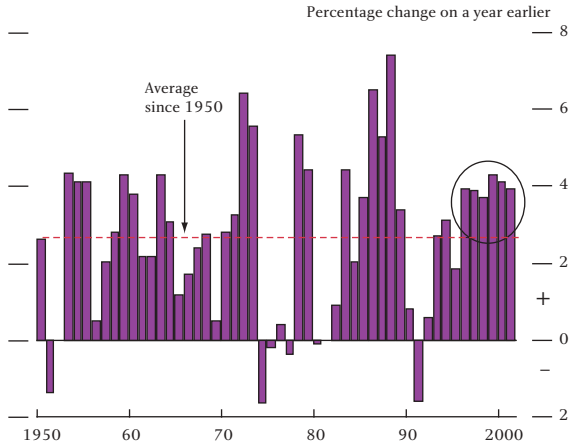
Durables and the recent strength of household spending

By Robert Hamilton of the Bank's Structural Economic Analysis Division and Beverley Morris of the Bank's Inflation Report and Bulletin Division.

Household consumption in the United Kingdom grew by about 4% during 2001. This was largely accounted for by unusually strong spending on durable goods—growth in spending on other goods and services slowed to around a six-year low. This article discusses why spending on durable goods needs to be analysed differently from that on other types of goods, and provides some possible explanations for its recent unusual strength. In addition, an alternative estimate of consumption is presented that replaces the expenditure on durable goods with the flow of services derived from them. Over the past year, this alternative measure has grown less strongly than the standard expenditure series.

Real household consumption in the United Kingdom increased by about 4% during 2001. This was the sixth consecutive year of above-average growth—the longest above-trend period over the past five decades (see Chart 1).

Chart 1
Household consumption



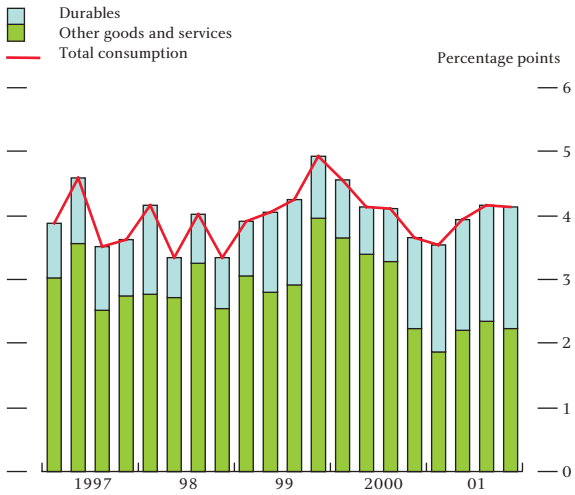
During the second half of the 1990s, consumer spending was boosted by robust growth in households' real disposable incomes, as well as strong gains in household wealth, particularly from increases in house prices.(1)

However, the continued strength of consumption growth in 2001 was surprising. For example, the Bank of England's August 2000 *Inflation Report* expressed the MPC's view that 'consumption growth is likely to moderate from its high levels in recent years'.

Consumption growth and the strength of spending on durable goods

Much of the recent buoyancy of consumer spending has been accounted for by particularly rapid growth in spending on durable goods.(2) Despite making up about 15% of total consumer spending, durables accounted for around half the growth in consumption during 2001 (see Chart 2).

Chart 2
Contribution to annual consumption growth

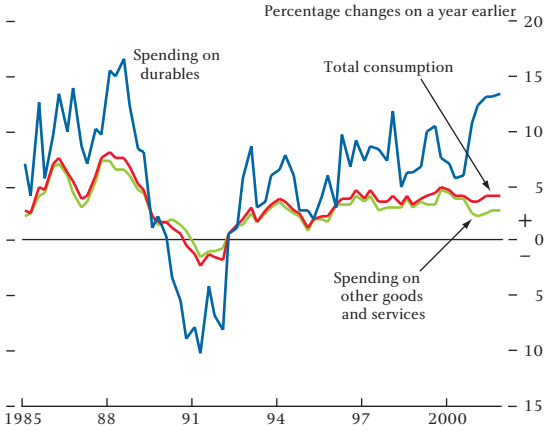


(1) See Aoki *et al* (2001) for more explanation of the transmission mechanism from house prices to consumption.
(2) Note that the Office for National Statistics' (ONS) constant price aggregates for the United Kingdom are produced on a 'fixed-weight' basis (Office for National Statistics (1998)). That is, the components of a series (such as consumption) are aggregated using weights that are only changed at periodic intervals. The ONS is planning to introduce a 'chain-linked' system, which uses annually updated weights, with the publication of the 2003 *Blue Book*. The wedge between the growth rates of consumption and durables expenditure in recent years may be less pronounced in this new system. See Tuke and Reed (2001) and Whelan (2000) for further details.

Annual growth in durables spending was above 12% throughout most of 2001. Such strength is particularly unusual, and was last exceeded in 1988 when GDP growth was higher than at any time during the past 30 years.

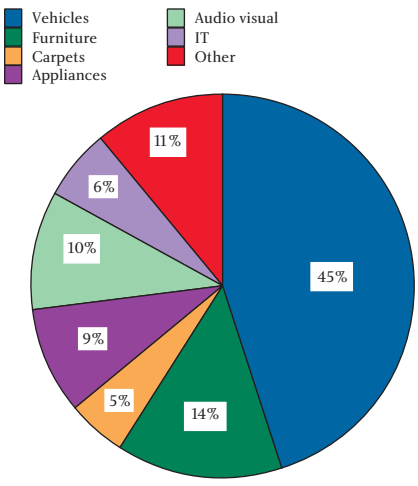
In contrast to the strong spending on durables, households' spending on other goods and services has slowed significantly, with growth in 2001 around its lowest rate for six years (see Chart 3).

Chart 3
Consumer spending (constant prices)



Vehicles accounted for a little under half the value of all durables spending in 2001 (see Chart 4). Furniture, carpets and household appliances together explained about a quarter of expenditure. Audio-visual and IT equipment contributed about 15% to spending, while other goods, which include jewellery and watches, made up the remainder.

Chart 4
Expenditure breakdown of durables consumption in 2001(a)



(a) Measured in current prices.

Why are we focusing on durable goods?

Durable goods tend to last for several periods and can be used repeatedly. This makes them rather different from most other consumption goods, which are usually consumed relatively quickly.(1)

The long-lasting nature of durable goods means that they have some of the attributes of an asset, as they provide consumers with a flow of services over a number of future periods. But in the National Accounts, consumption of durable goods is measured by the expenditure on new purchases. This ensures consistency with most other parts of the accounts, which are produced on a similar basis.

A 'flow-of-services' measure of consumption

Although measurement of the expenditure on consumer goods and services is clearly important in determining the extent of household demand in the economy, additional insight may be gained by recognising that households' behaviour will also depend on the flow of services they receive from the durable goods that they already own. In other words, the existence of a stock of durable goods that provides services for long periods means that past decisions may affect present consumption behaviour. In this article, we present an alternative 'flow-of-services' estimate of consumption that attempts to measure the goods and services consumed in each period.

The (constant price) flow of services from durable goods is calculated using the average lifetime of the goods and the value of expenditure on them in each period.(2) The flow of services from each good is assumed to be equal in each period of its life. Thus a good that originally had a value of ten units and lasts for ten years is assumed to generate a flow of real services of one unit per year. In this exercise, different goods have different

Table A
Service-life assumptions in years(a)

Audio-visual goods	8
Household appliances	10
Carpets	20
Furniture	25
Information technology	5
Vehicles	10
Other durables	10

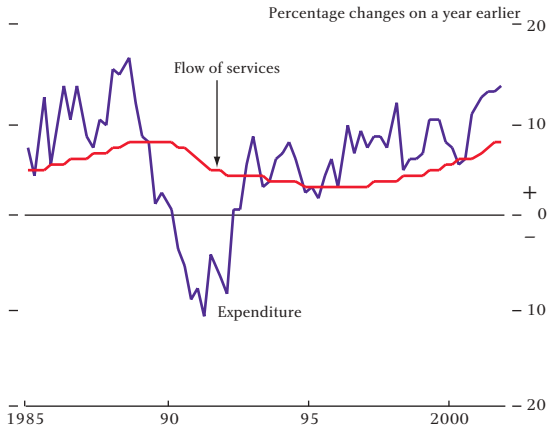
(a) From Williams (1998).

(1) Semi-durables, which include clothing and books, can also be used repeatedly for several periods, although they typically have shorter lifespans than durable goods and/or are less expensive.
(2) We follow the procedures used by Williams (1998). The approach is often referred to as the 'perpetual inventory model'.

average lifetimes, although these are assumed to have remained unchanged over time (see Table A).

The flow-of-services measure of durables consumption is significantly less volatile and far less cyclical than the standard National Accounts expenditure measure (see Chart 5). This is unsurprising because the methodology in effect spreads the expenditure on durable purchases over the lifetime of the goods. The level of services derived from durables has tended to be lower than the expenditure on the goods, reflecting the growth of expenditure on durables over time.

Chart 5
Durables: expenditure and flow of services



The service-life assumptions adopted are the medium life-length assumptions recommended in Williams (1998). They are also similar to those used by the Bureau for Economic Analysis (BEA) for the United States. Table B shows the growth rate of the flow-of-services measure of durables consumption if the medium service-life assumptions used in this article are replaced with the long or short life assumptions, also provided by Williams (1998). All variants grew by considerably less than the standard expenditure measure in 2001.

Table B
Durables growth in 2001 under alternative service-life assumptions

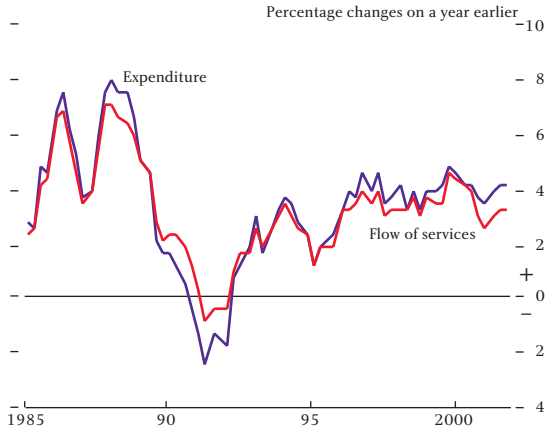
Short	9.6
Medium	7.9
Long	6.7
Expenditure	13.4

A flow-of-services measure of total consumption (C^{flow}) can be calculated from the standard expenditure measure (C^{exp}) by removing expenditure on new durable goods (D^{exp}) and replacing it with the flow of services from the stock of durable goods discussed above (D^{flow}):

$$C_t^{flow} = C_t^{exp} - D_t^{exp} + D_t^{flow}$$

Chart 6 shows that growth in the flow-of-services measure of consumption has slowed markedly since 2000. Such a slowdown might have been expected given movements in the main determinants of consumption, which include current household wealth and income (Bank of England (2000)).

Chart 6
Consumption: expenditure and flow-of-services measures



Why has durables spending been so strong?

(a) Relative price movements

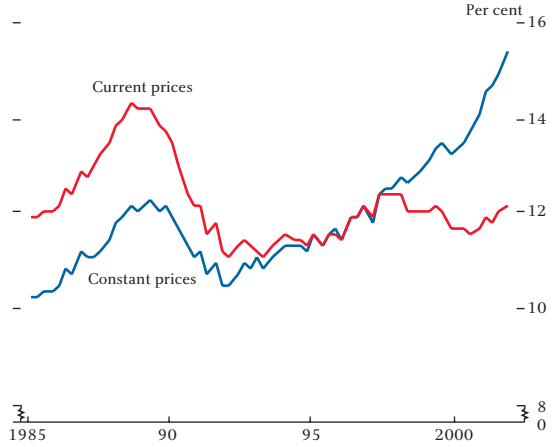
One of the most persuasive explanations for the strength of consumption of durable goods (in constant prices) is that they have experienced a fall in their price relative to the price of other consumption. And, as the relative price of durable goods has declined, consumers have substituted towards these goods.

As shown in Chart 7, although expenditure on durables has trended upwards as a proportion of total consumption in constant prices (using National Accounts expenditure deflators), the ratio has remained relatively stable when measured in current prices.

This suggests that much of the current level of real durables expenditure reflects relative price movements. Indeed, under a number of simplifying assumptions, standard price theory suggests that the current price share should remain roughly constant over time, with the increase in volume purchased offsetting the reduction in the price (Varian (1992)).(1)

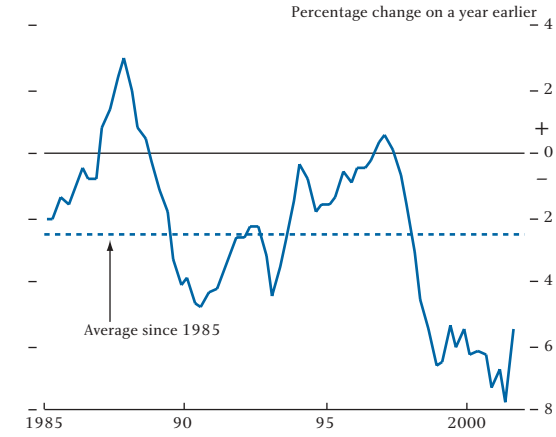
(1) One criticism of this theory it that it disregards the notion of satiation. That is, even in the presence of continuing falls in relative prices, consumers may decide that the number of durable items they hold is sufficient.

Chart 7
Share of durables in total consumption



The recent exceptionally strong growth of durables spending may therefore be because relative prices have fallen particularly quickly over the past two or three years (see Chart 8).

Chart 8
Relative price of durable goods(a)



(a) Ratio of price deflator of durable goods to that of other consumer goods and services.

Chart 9 shows that, although growth of different durable goods' components in current prices has been broadly similar, relative price movements have caused a large degree of variation in the constant price growth rates.

The decline in prices was particularly marked for IT goods, where the deflator fell by 20% in 2001. This partly reflected the increase in the quality of these goods, rather than a fall in their price per physical unit.

But even after taking into account relative price movements, recent expenditure on durables has been relatively strong. Chart 10 shows that growth in expenditure on durables in 2001 as measured in current prices was almost twice as strong as that on other

Chart 9
Durables spending in 2001

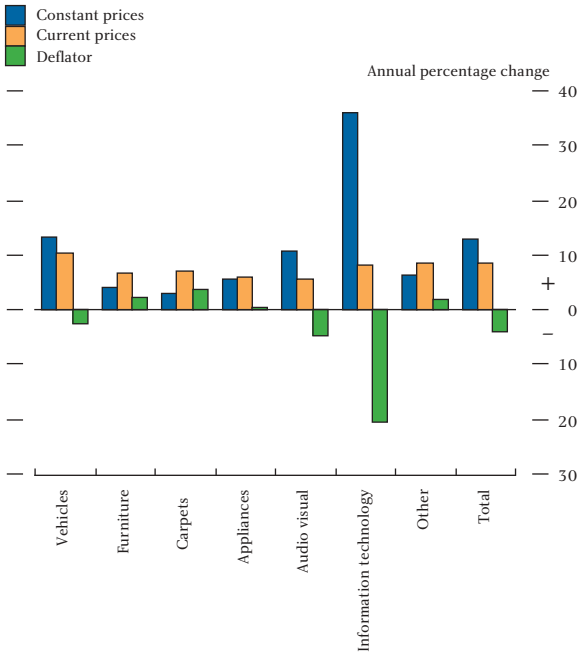
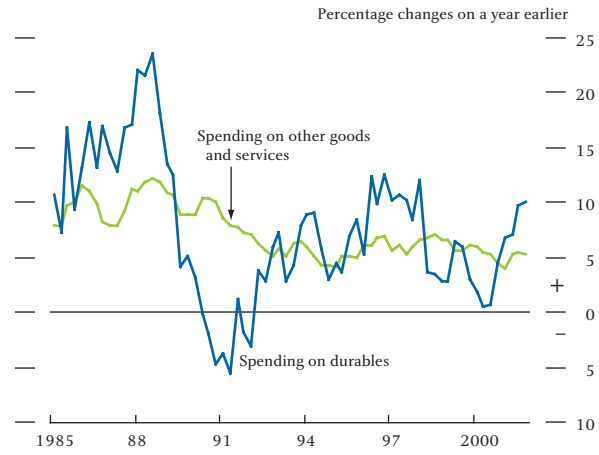


Chart 10
Consumer spending (current prices)



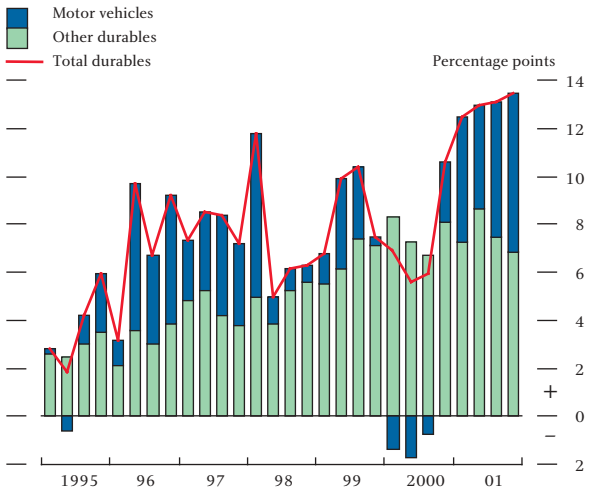
consumption. What other explanations are there for this strength?

(b) Delayed expenditure on vehicles

Some of the recent strength in durables spending can be attributed to the pick-up in expenditure on motor vehicles, following a period of unusually subdued spending during 1999–2000 (see Chart 11).

In addition to possibly being related to some of the other factors discussed in this section, the pattern of vehicle expenditure may have been influenced by the Competition Commission's inquiry into UK car retailing. Households may have delayed their purchases in the expectation that the inquiry would ultimately lead to a reduction in car prices.

Chart 11
Contribution of vehicles to annual growth in durables spending (in constant prices)



Following the publication of the Commission's Report, car producers were required to offer retailers volume-related discounts, equivalent to those offered to fleet buyers, by 1 December 2000. Around this time, new car prices fell considerably and expenditure on cars started to pick up. The flow-of-services measure of consumption presented earlier helps smooth through the effects of such temporary shifts in expenditure.

(c) Lower interest rates

Lower interest rates may allow individuals to fund additional expenditure on durable goods through borrowing. A reduction in nominal interest rates may have had a disproportionately large effect on durables spending, because purchases of these goods are more likely to be financed via borrowing than are other types of consumption.

(d) Strength of the housing market

There is a possible link between the housing market and the strength of durables spending (Carruth and Henley (1992)). In addition to the possibility that furniture, carpets and household appliances may be bought by those having recently moved home, house prices may have a direct impact on consumption via credit market effects. Houses represent collateral for homeowners, and borrowing on a secured basis against housing collateral (mortgage equity withdrawal or MEW) is generally cheaper than borrowing via a personal loan or on a credit card. So an increase in house prices raises the amount of collateral available to homeowners, which in turn may encourage them to borrow more to finance desired levels of consumption.

Data on the uses of MEW by UK households show that by far the largest proportion of consumption-related spending is accounted for by spending on 'new goods for the property'.(1) So the recent strong growth in durables spending may in part be linked to the recent high rates of house price inflation.

(e) A perceived increase in future income growth

If households have recently come to believe that their financial situation is healthier than previously thought, they may have decided to increase the flow of services that they receive from durable goods. In order to do this, they may have had to increase their current expenditure on these goods very sharply. For example, increasing the flow of consumption services by one unit from a good lasting ten years would require expenditure of ten units now.

The resulting 'bunching' in the timing of purchases caused by the desire to reach a higher flow of services from durables can generate an initial aggregate consumption boom. Growth would be likely to slow following such a boom, once households reached their new desired stock.

Conclusions

The estimated flow-of-services measure of consumption has grown considerably less rapidly than the standard expenditure series over the past year, as consumers have significantly increased their purchases of durable-type goods.

Much of the recent strength of durables can be considered a natural response by households to relative price movements. If the relative price of durables continues to fall, the upward trend in the durables share of consumption, and the relatively strong (constant price) growth in durables spending may be sustained. However, any weakening in the rate of decline of relative prices is likely to be accompanied by some slowdown in durables spending growth.

Some of the current strength of durables spending also appears to reflect the delayed purchase of vehicles. As

(1) See Davey (2001) for more details.

such, growth in durables spending should weaken once households' stock of vehicles has returned to more 'normal' levels.

It is also possible that the reductions in interest rates, or a perceived increase in future income, have temporarily increased households' desire to purchase durable goods. These factors also suggest that durables spending may weaken once the new higher desired level of durables is reached.

But the effect of any slowdown in durables spending growth on measured aggregate consumption expenditure is difficult to gauge. Aggregate consumption growth could slow sharply, given the current weakness of spending on other goods and services. But part of the current weakness in non-durables spending might reflect substitution towards durables. So any slowdown in durables spending may be accompanied by some offsetting rise elsewhere. If so, any slowdown in aggregate consumption would be more muted.

References

Aoki, K, Proudman, J and Vlieghe, G (2001), 'Why house prices matter', *Bank of England Quarterly Bulletin*, Winter, pages 460–67.

Bank of England (2000), *Economic models at the Bank of England*.

Carruth, A and Henley, A (1992), 'Consumer durables spending and housing market activity', *Scottish Journal of Political Economy*, Vol. 39(3), August, pages 261–71.

Davey, M (2001), 'Mortgage equity withdrawal and consumption', *Bank of England Quarterly Bulletin*, Spring, pages 100–03.

Office for National Statistics (1998), *United Kingdom National Accounts, Concepts, Sources and Methods*.

Tuke, A and Reed, G (2001), 'The effects of annual chain-linking on the output measure of GDP', *Economic Trends*, No. 575.

Varian, H (1992), *Microeconomic analysis*, Third edition, W W Norton and Company.

Whelan, K (2000), 'A guide to the use of chain-aggregated NIPA data', *Federal Reserve Board Finance and Economics Discussion Series*, June.

Williams, G (1998), 'The stock of consumer durables in the UK: new estimates 1948–95', *Review of income and wealth*, Series 44, Number 3.