

## Assessing the Temporary VAT Cut Policy in the UK\*

RICHARD BLUNDELL†

†*Institute for Fiscal Studies; University College London*  
(*r.blundell@ucl.ac.uk*)

### Abstract

This paper concerns the likely impact of a temporary VAT cut stimulus policy on consumer demand in the UK. It suggests that around 75 per cent of the VAT reduction will be passed on to consumers and that consumers will react by maintaining their expenditure levels and therefore increasing their demand for consumption goods. The uncertainty caused by the downturn makes this a more muted impact than we might have hoped, especially on the demand for durable goods. Nevertheless, it is a substantive impact. In general, the uncertainty caused by the recession will tend to reduce the impact of any stimulus package. It is also argued that synchronising the subsequent rise with the economic upturn is critical.

### I. Introduction

There are three key questions I want to address in this assessment of the temporary VAT cut stimulus policy that was announced on 24 November 2008 and came into effect on 1 December. First, how much of the VAT cut will retailers and producers pass on to consumers? Second, how will

\*Submitted February 2009.

The author is grateful to Stuart Adam, Thomas Crossley and Costas Meghir for helpful discussions. The work is part of the programme of research of the ESRC Centre for the Microeconomic Analysis of Public Policy at the Institute for Fiscal Studies (grant number RES-544-28-5001). Funding from the ESRC is gratefully acknowledged. The usual disclaimer applies.

Keywords: fiscal stimulus, fiscal policy, VAT, recession, consumer debt, consumer demand.

JEL classification numbers: H2, H3, E21.

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consumer demand respond to a temporary cut of this type? Third, how will the depth of the recession affect the success or otherwise of the stimulus?

## II. The pass-through to consumer prices

How will producers and retailers react to a temporary VAT cut? Will they pass on all of the reduction to consumers? The VAT cut in the UK covers those commodities subject to the full rate of VAT – around 51 per cent of consumers' expenditures.<sup>1</sup> For these, the VAT rate is reduced from 17.5 per cent to 15 per cent for a period of 13 months. The goods excluded are largely necessities and include food not consumed in restaurants, children's clothing and footwear, and domestic heating. The remaining goods, subject to the cut, are a mix of other goods and services, with around one-third in the durable goods category.

There is nothing from the economic theory of tax incidence to suggest that a VAT change will *always* be passed on fully into retail prices. Alternative models of product market competition produce differing degrees of pass-on and the magnitude is largely dependent on the degree of competition in the various good markets. As Besley and Rosen (1999) note,

Our understanding of incidence from an empirical standpoint is quite meager. Indeed, there seems to be little evidence even in the case that is theoretically the easiest – partial equilibrium commodity taxes. Are taxes levied on commodities completely shifted into their prices, or does the incidence also fall on firms? How long does the shifting process take?

Formally, the only case where we know full pass-on is assured is in a full information competitive market. The theoretical literature on tax shifting suggests that there can be over- or under-shifting in less than perfectly competitive markets.<sup>2</sup> However, empirically there is evidence of a high degree of tax shifting, at least over the longer term. Baker and Brechling (1992, page 59), in their study of excise duty reforms in the UK, conclude

The estimated pass-on parameters suggest that, with the exception of tobacco and wine which were found respectively to display under- and over-shifting behaviour, it is not possible to reject the hypothesis that revalorised changes to excise duties are reflected fully in retail price levels.

Poterba (1996) presents evidence from the US that broadly supports the view that retail sales taxes are fully passed through, raising consumer prices by the amount of the tax increase. Besley and Rosen's (1999) study tested tax shifting through a number of local commodity tax variations in the US. They

<sup>1</sup>See Crawford, Keen and Smith (2009).

<sup>2</sup>See Seade (1980), Katz and Rosen (1985), Stern (1987), Besley (1989) and Delipalla and Keen (1992).

found a variety of tax-shifting patterns but few markets where the pass-on was significantly less than 100 per cent.

Carbonnier's (2005 and 2007) recent examination of the effect of the French VAT reforms on the consumer tax burden compares the impact on two rather different industries – housing repair services and new car sales. His results suggest that the consumer share of the commodity tax burden was in excess of 75 per cent in the housing repair services market and more than 50 per cent in the new car sales market, confirming the theoretical result of the consumer share increasing with the competition level. In the IMF analysis of the German VAT changes, Carare and Danninger (2008) suggest pass-on of some 75 per cent once some anticipated price rises are accounted for. These anticipated rises seem to reflect the impact of buoyant demand, which allowed retailers to increase prices ahead of the January 2007 VAT hike.

For the majority of commodities covered by the full VAT rate in the UK, it is difficult to argue that the pass-on of a VAT cut would be much below 75 per cent, and for many goods we should expect a full pass-on. The temporary nature of the stimulus may dampen this effect, short-run adjustment costs leading to a lower rate of pass-through. Indeed, Nakamura and Zerom (2008) note that 'menu costs' can lead to delays in pass-through. However, these were found to be largely short-lived, as one would suppose in modern retailing. For the UK reform, we might expect prices to react quite swiftly, certainly within months. This would seem especially so in a recession economy, where competitive pressures on the high street are greater.

### III. Will consumers spend more?

Even with a significant pass-through of the VAT cut to retail prices, there remains a question of how consumers will react. Will they buy more goods? There are two potential effects that need to be assessed: an *income effect*, which reflects the fact that any income will now go further than it used to do; and a *substitution effect*, whereby the lower prices today make purchases more attractive. These effects tend to work in the same direction and should lead to an increase in consumer demand. But by how much?

Let us turn first to the income effect. If consumers are forward-looking and think that taxes will have to rise at some point to pay for the VAT cut, then, because of the temporary nature of the cut, the income effect may turn out to be quite small. The gains today will be offset in future years, so there will be little overall impact on lifetime wealth. In this case, the lion's share of the income gains will be saved. Of course, consumers may be myopic and discount the future heavily, in which case the income effect will be larger. Indeed, if they are credit-constrained, so that their consumption is being held back by the lack of available credit, they may wish to spend all the

additional income. For the myopic and/or credit-constrained, it is reasonable to expect that most of the 'real' income gained will lead to an increase in demand for all commodities, not just those whose price has fallen.

The only caveat to this argument concerns those in debt, who appear credit-constrained but face high costs of debt servicing. For them, it may make sense to use some of their increased real income to reduce their debt,<sup>3</sup> effectively saving the temporary income gained.

Given that the largest gains from the reduction in the VAT rate in the UK will be for middle- to higher-income households, it is the substitution effect that may be more important. Certainly among those forward-looking consumers who do not face borrowing constraints, we might expect the substitution effect to dominate. These consumers may well wish to exploit the temporary lower prices. The price of consumption is expected to rise next year and this will encourage consumption this year. Economists call this the *intertemporal* substitution effect and there is considerable empirical research on its size in the UK and elsewhere.<sup>4</sup> The evidence presented to the Mirrlees Review<sup>5</sup> suggests an intertemporal elasticity of somewhere between one-half and unity. Browning and Crossley (2000) suggest it could be even higher than this for luxury goods. As these form a large share of the goods attracting the full VAT rate in the UK, a value closer to unity seems quite reasonable. For durable goods, this intertemporal effect can be substantially higher, but it is likely that the recession itself will dampen the impact on the demand for durables quite substantively. I return to the issue of durables in the next section.

Overall, given the mix of goods involved, a unitary elasticity for the intertemporal effect of the temporary VAT cut would seem to be a reasonable central estimate. This would leave expenditure levels roughly constant. As argued above, a constant expenditure level would also be the most likely outcome for those households that are credit-constrained. This would imply a rise in purchases that *exactly* offsets the fall in prices induced by the VAT cut.

#### **IV. Will the depth of the recession itself change the impact of the stimulus?**

Before pulling together the two key components of the analysis – pass-through and consumer response – it is important to consider whether there are any characteristics of deep recessions which may have a significant bearing on the size of the impact. Apart from the obvious impact on family

<sup>3</sup>See the recent analysis of the 2008 tax rebate in the US by Shapiro and Slemrod (2009) and the IMF Staff Position Note, Spilimbergo et al. (2008).

<sup>4</sup>For example, see Attanasio and Weber (1994) and Blundell, Browning and Meghir (1994).

<sup>5</sup>Attanasio and Wakefield, 2008.

earnings and incomes, there are two clear possible candidates: first, the growth in uncertainty; and second, the growth in the number of families facing credit problems.

There is strong evidence of an increase in uncertainty during recessions. For example, Blundell, Pistaferri and Preston (2008) found that the recession in the early 1980s was characterised by a spike in income uncertainty. This spike was especially associated with uncertainty over longer-term levels of income, something particularly damaging for risk-averse consumers. Bloom (2009) shows that the variance of productivity across firms also rises during downturns. A growth in income uncertainty reduces the level of consumption – the precautionary effect. But this is in the counterfactual; that is, this reduction in consumer demand will occur in the absence of the fiscal stimulus and should be included in our baseline comparison.<sup>6</sup>

The reason uncertainty might play a key role in the impact of the stimulus policy itself is due to the importance of durables in the set of VAT-covered goods mentioned above. In the absence of an increase in uncertainty, the intertemporal substitution effect should increase with the durability of the consumption good being purchased. Just think of buying a new TV: it can be expected to last for a number of years and so the lower prices today effectively reduce the price of the consumption of TV services for many years to come.

It is potentially much more worthwhile to bring forward expenditure on durables when the price is low since the services can still be consumed once the price has risen. This is what Barrell and Weale (in this issue) label the arbitrage effect and, as an ‘enhanced’ intertemporal substitution effect, it suggests a large consumer response to a temporary VAT cut, especially given the many durable and semi-durable goods covered by the full VAT rate. The only problem is that an increase in uncertainty can also have a substantive impact on the size of this response, lowering it quite considerably.

The key issue with durability and uncertainty is irreversibility. This was pointed out very clearly by Dixit and Pindyck (1994) for investment goods and has been highlighted further by Bloom, Bond and Van Reenen (2007). Irreversibility is caused by poor second-hand markets, which mean that a consumer is effectively locked in to a consumption flow once the durable is purchased. With uncertainty, the future demand for durable services is unknown and this reduces the value of bringing expenditure forward, effectively enhancing the option value of waiting. So we will need to be cautious about claiming too much from the strong intertemporal substitution

<sup>6</sup>Indeed, in popular models of intertemporal consumer behaviour which assume Constant Relative Risk Aversion (CRRA) preferences, there is no impact of a rise in uncertainty on the intertemporal substitution effect.

effect for durables. As durable purchases often require credit, we also need to gauge the availability of credit and the importance of credit constraints.

The incidence of credit constraints very probably does rise in recessions (Barrell, Davis and Pomerantz, 2006). As argued above, credit constraints not only impact on durable purchases: they can also make the income effect more relevant because opportunities for intertemporal substitution become restricted by a lack of credit. However, the extent to which the income effect will lead to an increase in demand will depend on the incentive to reduce debt. If the (perceived) cost of servicing debt is high, consumers may choose to reduce debt rather than increase their demand for consumption goods.

Taken together, these arguments suggest that the impact of a temporary VAT cut is likely to be more muted in recessions.<sup>7</sup>

## V. The overall impact

The conclusions drawn from the last section suggest that the intertemporal stimulus on consumer demand provided by a temporary VAT cut will be less in a recession than in better economic times when uncertainty is less and there is less concern on the part of consumers over levels of debt. However, this argument is directed mainly at durables. For non-durables, the impact should be substantive. As more than two-thirds of the expenditures covered by the VAT stimulus are non-durables, the conclusion I draw is very similar to that of Crossley, Low and Wakefield in this issue. Expenditure levels are likely to be maintained despite the fall in prices. As a result, the quantity of goods purchased will rise in line with the level of the pass-on of the VAT cut to consumers. Consumer demand will then rise in proportion to the fall in prices.

With a pass-on rate in excess of 75 per cent, the fall in prices may be less than that assumed by Crossley, Low and Wakefield, but not by much less. Rather than a 1.2 per cent overall fall in prices, we might expect something closer to 1 per cent or a little under; that is, a full 1 per cent increase in consumer demand relative to the situation of no stimulus. Of course, demand has fallen substantially as the recession unfolds, but this would have happened anyway.

Increased uncertainty and credit problems among consumers will moderate the impact on durable buying and reduce the impact relative to the impact in a milder downturn.<sup>8</sup> Nonetheless, the VAT cut has the potential to be a very successful short-run stimulus.

This stimulus will, however, be short-lived, lasting only for the duration of the VAT cut. There will also be an offsetting adjustment once the full

<sup>7</sup>An argument made by the IMF in Spilimbergo et al. (2008).

<sup>8</sup>Note that increased uncertainty and debt would very likely reduce the impact of other stimulus policies.

VAT rate is restored. Timing the VAT rise to occur after economic growth returns is likely to be critical. But any uncertainty about the timing of the rise will dampen the intertemporal effect. One can only hope the recession itself, perhaps as a result of the stimulus package, will be relatively short-lived and economic growth will appear well before the end of 2009, when the VAT cut is due to be reversed.

## References

- Attanasio, O. and Wakefield, M. (2008), 'The effects on consumption and saving of taxing asset returns', paper prepared for the Report of a Commission on Reforming the Tax System for the 21<sup>st</sup> Century, chaired by Sir James Mirrlees (<http://www.ifs.org.uk/mirrleesreview/reports/consumption.pdf>).
- and Weber, G. (1994), 'The UK consumption boom of the late 1980s: aggregate implications of microeconomic evidence', *Economic Journal*, vol. 104, pp. 1269–302.
- Baker, P. and Brechling, V. (1992), 'The impact of excise duty changes on retail prices in the UK', *Fiscal Studies*, vol. 13, no. 2, pp. 48–65.
- Barrell, R., Davis, E. P. and Pomerantz, O. (2006), 'Costs of financial instability, household-sector balance sheets and consumption', *Journal of Financial Stability*, vol. 2, pp. 194–216.
- and Weale, M. (2009), 'The economics of a reduction in VAT', *Fiscal Studies*, vol. 30, pp. 17–30 (this issue).
- Besley, T. (1989), 'Commodity taxation and imperfect competition: a note on the effects of entry', *Journal of Public Economics*, vol. 40, pp. 359–67.
- and Rosen, H. (1999), 'Sales taxes and prices: an empirical analysis', *National Tax Journal*, vol. 52, pp. 157–78.
- Bloom, N. (2009), 'The impact of uncertainty shocks', National Bureau of Economic Research (NBER), Working Paper no. 13385.
- , Bond, S. and Van Reenen, J. (2007), 'Uncertainty and investment dynamics', *Review of Economic Studies*, vol. 74, pp. 391–415.
- Blundell, R., Browning, M. and Meghir, C. (1994), 'Consumer demand and the life-cycle allocation of household expenditures', *Review of Economic Studies*, vol. 61, pp. 57–80.
- , Pistaferri, L. and Preston, I. (2008), 'Consumption inequality and partial insurance', *American Economic Review*, vol. 98, pp. 1887–921.
- Browning, M. and Crossley, T. F. (2000), 'Luxuries are easier to postpone: a proof', *Journal of Political Economy*, vol. 108, pp. 1022–6.
- Carare, A. and Danninger, S. (2008), 'Inflation smoothing and the modest effect of VAT in Germany', International Monetary Fund (IMF), Working Paper no. WP/08/175.
- Carbonnier, C. (2005), 'Is tax shifting asymmetric? Evidence from French VAT reforms, 1995–2000', Paris-Jourdan Sciences Économiques (PSE), école normale supérieure, Working Paper no. 2005-34.
- (2007), 'Who pays sales taxes? Evidence from French VAT reforms, 1987–1999', *Journal of Public Economics*, vol. 91, pp. 1219–29.
- Crawford, I., Keen, M. and Smith, S. (2008), 'Value added tax and excises', paper prepared for the Report of a Commission on Reforming the Tax System for the 21<sup>st</sup> Century, chaired by Sir James Mirrlees (<http://www.ifs.org.uk/mirrleesreview/reports/indirect.pdf>).
- Crossley, T. F., Low, H. and Wakefield, M. (2009), 'The economics of a temporary VAT cut', *Fiscal Studies*, vol. 30, pp. 3–16 (this issue).

- Delipalla, S. and Keen, M. (1992), 'The comparison between ad valorem and specific taxation under imperfect competition', *Journal of Public Economics*, vol. 49, pp. 351–67.
- Dixit, A. K. and Pindyck, R. S. (1994), *Investment under Uncertainty*, Princeton, NJ: Princeton University Press.
- Katz, M. and Rosen, H. (1985), 'Tax analysis in an oligopoly model', *Public Finance Quarterly*, vol. 13, pp. 3–19.
- Nakamura, E. and Zerom, D. (2008), 'Accounting for incomplete pass-through', mimeo, Columbia Business School, November.
- Poterba, J. M. (1996), 'Retail price reactions to changes in state and local sales taxes', *National Tax Journal*, vol. 49, pp. 165–76.
- Seade, J. (1980), 'On the effects of entry', *Econometrica*, vol. 48, pp. 479–90.
- Shapiro, M. and Slemrod, J. (2009), 'Did the 2008 tax rebates stimulate spending?', *The NBER Digest*, March (<http://www.nber.org/digest/mar09/w14753.html>).
- Spilimbergo, A., Symansky, S., Blanchard, O. and Cottarelli, C. (2008), 'Fiscal policy for the crisis', IMF Staff Position Note no. SPN/08/01, Washington, DC: International Monetary Fund (<http://www.imf.org/external/pubs/ft/spn/2008/spn0801.pdf>).
- Stern, N. (1987), 'The effects of taxation price control and government contracts in oligopoly and monopolistic competition', *Journal of Public Economics*, vol. 32, pp. 133–58.