

4 – What will be the economic impact of the VAT rise to 20%

In the Emergency Budget in June, the Chancellor announced that the standard rate of VAT would rise from 17.5% to 20% from 4 January 2011. This measure is intended to raise around £13.5 billion per annum by 2014/15, which is almost half of the total net tax rise of £29 billion planned by that year to help to close the fiscal gap.

Some commentators have suggested that the rise in VAT to 20% could have significant negative impacts on the economy. The British Retail Consortium (BRC), for example, predicted in a report in May¹ that it could lead to 163,000 jobs cuts by 2014/15. But how plausible are such estimates?

In this article, we provide our own assessment of the macroeconomic effects of the VAT rise. The discussion is structured as follows:

- Section 4.1 assesses how the VAT rise is likely to affect consumer prices;
- Section 4.2 considers the effect on retail sales volumes and prices based on evidence from the previous temporary VAT cut to 15% in December 2008 and the subsequent rise back to 17.5% in January 2010;
- Section 4.3 uses macroeconomic simulation techniques to assess the potential wider impact of the VAT rise on overall UK output (GDP) and employment; and
- Section 4.4 summarises and draws conclusions from the analysis.

4.1 - Impact on consumer prices

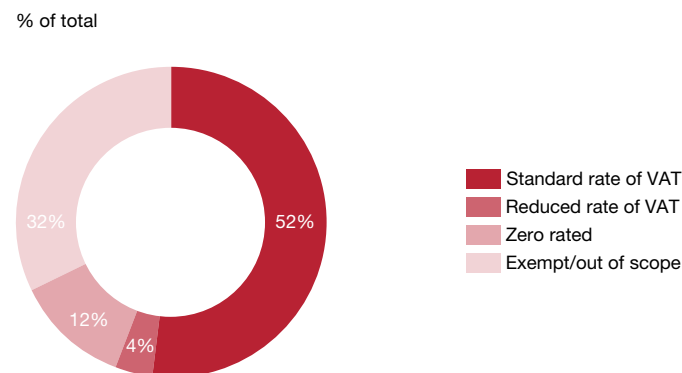
If it is passed on in full to customers, a VAT rise from 17.5% to 20% implies an increase of around 2.1% ($= 2.5/117.5$) in the prices of the goods and services that are subject to standard rate VAT. However, as illustrated in Figure 4.1, only around 52% of household expenditure falls into this category, so the actual impact on consumer prices with full pass-through might be expected to be around 1.1% (i.e. $52\% \times 2.1\%$).

The ONS estimate of the impact of the VAT rise to 20% on the retail price index (RPI) assuming full pass-through is similar at 1.24%. The estimated impact on the consumer price index (CPI) is somewhat higher at 1.47% due primarily to the fact that this measure of inflation excludes most housing costs, which are generally exempt from VAT or zero-rated. Goods and services subject to standard rate VAT therefore have a relatively higher weight in the CPI than the RPI, or in consumer spending more generally (as shown in Figure 4.1).

In practice, however, the impact on measured inflation may be somewhat lower than the ONS estimates suggest for two main reasons.

First, while most companies would be expected to pass a general VAT rise on to their customers in full, this may not apply in the most competitive, price-sensitive sectors. In support of this view, the September 2010

Figure 4.1 – Split of consumer spending by VAT category



Source: HMRC (data for 2008)

edition of the Bank of England Agents' summary of business conditions found that the majority of retail and consumer services contacts intended to pass on the 2011 VAT rise in full in early January, but not all. However, the Agents noted that many businesses stressed the importance of key pricing points (e.g. £2.99, £3.99 etc), with some reporting that they were likely to re-engineer their products (e.g. reduce the quantity/quality provided slightly) in order to preserve existing price points including the higher VAT rate. To the extent that these quality/quantity changes may not be fully picked up in the methodology used to construct the CPI/RPI, the impact on measured inflation may be less than

suggested by ONS calculations that assume full pass-through.

Second, higher prices will reduce consumer demand to some degree with consequent reductions in output and employment; over time, this will tend to put downward pressure on wage and price levels, so offsetting at least part of the initial VAT-related price rise after these effects work their way fully through the economic system, which could take 2-3 years².

Quantifying these two effects precisely is difficult, but our general conclusion would be that the initial impact on the level of consumer prices would be expected to be

¹ See BRC press release of 27 May 2010: <http://www.brc.org.uk/details04.asp?id=1744>.

² Note, however, that similar reductions in inflationary pressures would have followed if the VAT rise was replaced by some other form of tax rise or public spending cut, as discussed further in Section 4.3 below.

slightly more than 1%, but the longer term effect on the price level will be somewhat less than this. This means that the 12-month inflation rate will initially be just over 1% higher than would otherwise be the case, but should end up being similar (or even slightly lower) after the first year.

Since the VAT rate also rose by 2.5 percentage points in January 2010, the increase in January 2011 will prevent what would otherwise have been a marked fall in the 12-month CPI inflation rate in that month as the previous year's VAT rise falls out of the calculation. Assuming no further changes in VAT, however, this marked fall in CPI inflation will now occur in January 2012. At this point, based on our main scenario projection from Section 2.3 above, headline CPI inflation is likely to fall below its 2% target rate (see Figure 4.2). The VAT rise will just have delayed headline inflation falling below target by a year without materially affecting underlying inflationary trends in the economy.

So long as the Monetary Policy Committee (MPC) continues to look through these short-term effects on headline CPI, as it has consistently done in the past, the VAT rise should therefore not prompt any early rise in interest rates. Instead, as with other forms of fiscal tightening that tend to reduce medium-term demand-pull pressures on inflation, the effect may be to reduce the speed with which the

MPC has to raise interest rates over the next few years. These interest rate effects are factored into the macroeconomic model simulation results reported in Section 4.3 below.

4.2 – Impact of previous VAT changes on retail sales volumes and prices

An obvious place to start in exploring the impact of future VAT rises is the 'natural experiment' offered by the temporary cut in VAT from 17.5% to 15% in December 2008 and its rise back to 17.5% from January 2010. Retail sales figures are potentially useful here since they are available on a monthly basis (unlike total consumer spending, which is only available quarterly) and include a split between 'predominantly food stores', which should be relatively unaffected by the VAT changes given the zero rating of food³, and 'predominantly non-food stores', which would be expected to be affected much more⁴. Other things being equal, we would expect that:

- non-food stores would see a marked fall in retail prices in December 2008 and a corresponding rise in sales volumes in that month, relative both to trends in preceding months and to trends in food store sales in that month; and
- the opposite changes would be observed in January 2010 when VAT was restored to 17.5%, perhaps accentuated by a shift of spending on some higher value⁵ non-food items to late 2009 in order to avoid the VAT rise.

Figure 4.2 – CPI main scenario with and without VAT rise to 20%

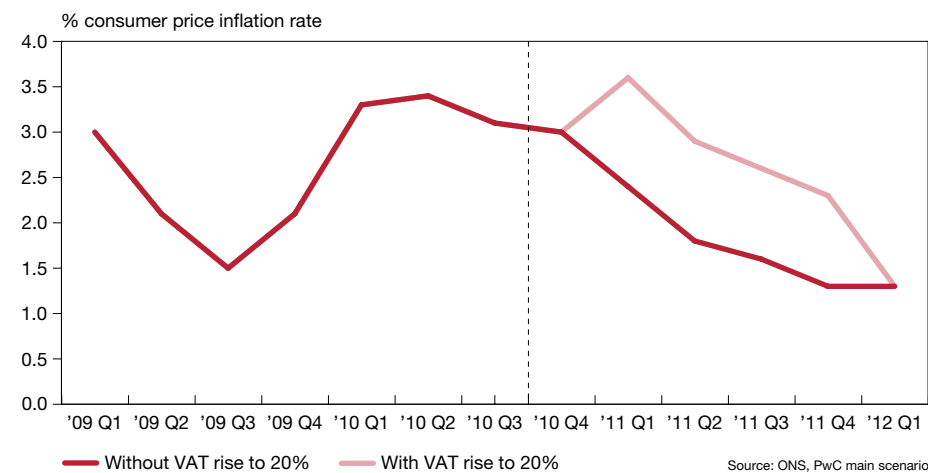
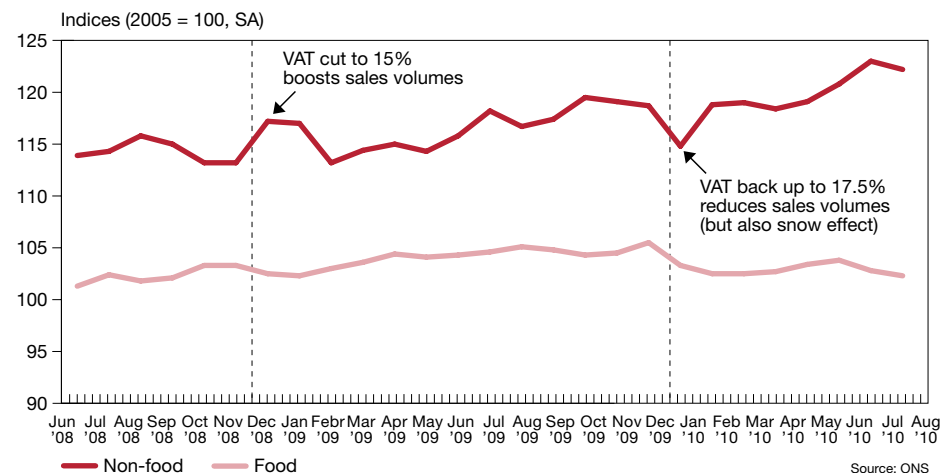


Figure 4.3 – Food and non-food retail sales volumes



3 Of course these predominantly food stores will sell some non-food items that are subject to VAT, but to a much lesser degree than predominantly non-food stores.

4 We can note in passing here that, since lower income people tend to allocate a higher proportion of their total spending to food, this will offset what might otherwise be felt to be the relatively regressive impact of the VAT rise as compared to, say, an income tax rate increase.

5 These might be, for example, large items of furniture rather than basic clothing.

How far do the facts bear out these hypotheses? Figure 4.3 shows the trend in seasonally adjusted retail sales volume indices for predominantly food and predominantly non-food stores since mid-2008, while Figure 4.4 shows corresponding trends in retail sales price inflation (as implied by comparing retail sales volume and value indices).

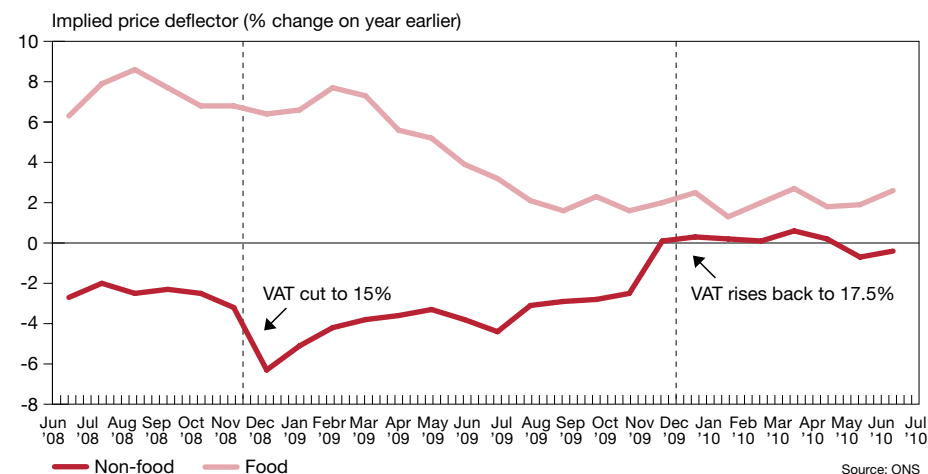
We can see from Figure 4.3 that there was indeed a marked rise in retail sales volumes in December 2008 and, as expected, this was associated with a marked acceleration in the rate of decline in non-food retail sales price inflation relative to previous months as shown in Figure 4.4. No such sharp break was seen in the indices for predominantly food stores in December 2008, which is consistent with the non-food changes being – at least in part – the result of the VAT cut in that month (although some retailers were also discounting heavily that Christmas to offset the effect of the recession, so the VAT cut was not the only factor in play here). Note that this cut was announced in the Pre-Budget Report on 24 November 2008 to take effect almost immediately from 1 December 2008, so there would have been no significant anticipatory reaction to this change in the November 2008 data.

The picture for the rise in VAT back to 17.5% is not so clear. Non-food retail sales volumes did fall sharply in January 2010, but so did food sales volumes and a significant part of this decline would have been due to the

exceptionally heavy snowfall during that month, which makes it harder to isolate the VAT effect. Indeed the fact that non-food sales bounced back in February 2010 suggests that the snow may have had more of an effect than the VAT rise in January, although we can never know this for sure. The retail sales price inflation series in Figure 4.4 shows that the marked rise in non-food retail inflation came in December 2009, when the VAT cut from December 2008 would have fallen out of the 12-month inflation rate calculation, but that there was no further rise in non-food retail sales prices in January 2010 when VAT went up to 17.5%. This is somewhat surprising unless retailers were choosing to phase in the VAT-related price rise over a longer period starting in December 2009 (e.g. to boost margins in the peak pre-Christmas season).

In summary, there is some evidence to back up our hypothesised reactions of retail sales volumes and prices to the VAT changes, but this is clearer in relation to the unanticipated cut in December 2008 than to the anticipated rise in January 2010. However, any such natural experiment in economics is subject to the problem that there are always many other things changing at the same time (e.g. the recession and the snow in this case), so it is always difficult to identify the effect of such a tax change with any precision. The previous VAT change was also only a temporary tax cut whereas what will happen in January 2011 will be, we would assume, a more permanent VAT rise. It is

Figure 4.4 – Retail sales price inflation



therefore also useful to consider the results of macroeconomic model simulations for such a permanent VAT increase, as discussed in the next section in relation to output and employment effects.

4.3 - Impact on output and employment

As noted above, higher prices due to the VAT rise will tend to dampen consumer demand and this can be expected to feed through into lower output (GDP) and employment. But the causal links here are complex and can only be captured adequately through a 'general equilibrium' analysis of the economy as a whole. This requires a simulation exercise using a large macro-econometric model –

in this case, we use the National Institute Global Econometric Model (NiGEM).

Table 4.1 below summarises the results of simulating the effect of a permanent VAT rise from 17.5% to 20% for UK consumer spending, GDP and employment. The MPC is assumed, in line with its past practice, not to react to the initial rise in headline CPI inflation by raising interest rates; instead, the negative impact on aggregate demand causes both short and long-term interest rates to be lower in the medium term.

We can see that the effects on consumer spending and GDP are not that large in macroeconomic terms and tend to fade

away to close to zero in the longer term as the benefits of lower interest rates and a consequent lower exchange rate feed through. This model, like those used by the Treasury and the Bank of England, assumes that long-term trend GDP is driven by supply side factors (technological progress, working age population growth, labour force participation rates and growth in the capital stock) that seem unlikely to be affected materially by a one-off rise in VAT offset by somewhat looser monetary conditions.

The employment reduction from the VAT rise is also relatively small at around 38,000, at least as compared to the estimated potential job losses of 163,000 in the BRC study quoted in the introduction to this article. As with the output effects, net employment effects fall to around zero after five years.

Furthermore, Table 4.1 shows the effects of the VAT change relative to the alternative of allowing government borrowing to remain

higher than in current government plans. If, as would be more realistic in practice given the government's fiscal policy objectives, the VAT rise were replaced by equivalent increases in other taxes or cuts in public spending, then broadly similar negative impacts on growth and employment might be expected, although previous National Institute for Economic and Social Research (NIESR) simulation work⁶ suggests that the VAT rise might have somewhat larger negative output effects in the short term than an income tax rise, but somewhat smaller negative effects than a public spending cut (see Figure 4.5).

Note that all three cases considered in the NIESR analysis relate to a fiscal tightening of around 1% of GDP, which equates to a rise in VAT of around 3.25 percentage points, so the impacts on output are somewhat larger than those shown in Table 4.1 for a 2.5 percentage point VAT rise.

Figure 4.5 – Impact on UK output of 1% of GDP fiscal tightening options

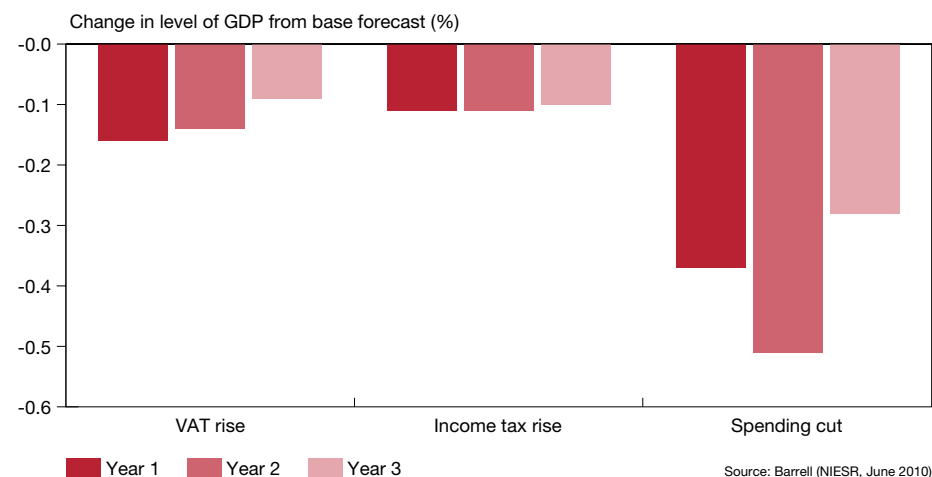


Table 4.1 – Estimated macroeconomic impact of VAT rise to 20%

% change in levels relative to base case without VAT rise	Real consumer spending	Real GDP	Employment (000s)
2011	-0.20	-0.13	-38
2012	-0.17	-0.11	-32
2013	-0.12	-0.06	-17
2014	-0.07	-0.03	-10
2015	-0.02	-0.01	-3

Source: PwC simulation analysis using NIGEM

6 R. Barrell, 'What are the effects on growth of increases in taxes and cuts in spending?', NIESR press release, 21st June 2010.

4.4 – Summary and conclusions

Our analysis suggests that the VAT rise to 20% from 4 January 2011 will:

- increase headline inflation by just over 1 percentage point during 2011 relative to what would otherwise have been the case; however, this should represent only a temporary increase in headline inflation that the MPC can largely ignore in setting official interest rates;

- reduce non-food retail sales volumes, although the evidence on this from other recent VAT changes is not entirely conclusive in terms of the scale of the impact; and
- reduce consumer spending, but probably by only around 0.2% in 2011 according to our simulation analysis; the corresponding impact on GDP would be around 0.13% with a potential loss of around 38,000 jobs in 2011.

These first year effects would tend to fade over time, however, as both short and long-term interest rates should be lower than otherwise if the VAT rise allowed government borrowing to be lower and reduced inflationary demand-pull pressures in the economy. After five years, the net effect of the VAT rise on the level of output and employment would be close to zero according to the model simulation we have carried out.

In practice, the alternative to the VAT rise would probably be either other tax increases or even harsher public spending cuts. Both of these alternatives would be likely to have broadly similar medium-term impacts on the economy to a VAT rise and perhaps rather larger short-term negative impacts in the case of public spending cuts.