



Appendix One

CPA Review: Reconciling the construction output statistics with the performance of the construction products industry

Background

At the recent Council meeting there was a major concern that the official DTI statistics on construction output, which recorded an 8% increase in output during 2002, are inconsistent with the much lower rates of sales growth experienced by many manufacturers and suppliers, particularly on the heavy side of the industry. This paper outlines explanations for the apparent discrepancies and has an input from both the Market Information Committee and the Industry Principals Council.

Sources of Information

Construction Output Statistics

This information relates to the changing value of construction output and is collected on a quarterly basis. It covers both the public and private sectors. There are 3 parts to the survey:

- An estimate of the output from private contractors derived from a sample of around 12,000 firms (from an industry total of some 165,000 firms)
- Information from a 100% sample of public sector Direct Labour Organisations, or their equivalent
- An estimate for 'unrecorded' output from firms below the VAT threshold (or not registering for VAT) based on Labour Force Survey estimates of those claiming they are employed in construction.

The collected information is deflated by the DTI to provide a volume measure of construction output. Full year figures released by DTI on 7 March 2003 reveal an 8% rise in recorded construction output during 2002. No one has seriously questioned the reliability of this data in the past, and whilst it clearly relies on a number of important assumptions, year on year changes will only be undermined if there are changes in the basis on which the assumptions are made between one year and the next.

Information on the Sale of Construction Products

Official statistics about the sale of construction products are very limited and focus entirely on heavyside products. DTI provides quarterly information on the sales volumes of bricks, concrete blocks, ready-mix concrete, and concrete roof tiles, whilst the Quarry Products Association provides similar information for asphalt, crushed rock and sand & gravel. The information for each of these product ranges in 2002 in comparison to the same period a year earlier is set out below.

Product sales (by volume) in 2002 compared with 2001

2002	Bricks	Concrete Blocks	RMC	Asphalt	Crushed Rock	Sand & Gravel	Concrete Roof Tiles
Q1	-3%	2%	0%	13%	6%	9%	1%
Q2	1%	3%	-2%	5%	-6%	-10%	9%
Q3	-1%	6%	-1%	4%	-4%	-5%	-1%
Q4	7%	0%	-6%	-1%	-8%	-8%	n/a
Total	1%	3%	-2%	5%	-3%	-4%	3%

Although the picture is mixed, only asphalt recorded a substantial (5%) growth in sales volumes. Delivery of heavy side quarried materials was particularly weak.

For light side products, there is no product specific information available on either changing sales volumes or value. It would seem from anecdotal evidence, however, that in many parts of the light side sales grew strongly in 2002, driven by regulatory changes, home improvement activity, and fitting out of commercial developments, particularly in the South East.

The CPA's own Construction Products Trade Survey collects information from companies accounting for some 50% (£15bn) of industry turnover. The responses during 2002 for that part of the survey which compares performance in the previous quarter with the same quarter a year earlier are summarised below.

Summary of the results of CPA State of Trade Survey during 2002

Heavy

Volume of sales	Q1 2002	Q2 2002	Q3 2002	Q4 2002	Annual Average
Up by over 5%	37%	41%	31%	29%	35%
Up by not more than 5%	30%	24%	41%	32%	32%
No change	27%	10%	14%	6%	14%
Down by not more than 5%	3%	17%	7%	6%	8%
Down by over 5%	3%	7%	7%	26%	11%
Balance	60%	41%	59%	29%	47%

Light

Volume of sales	Q1 2002	Q2 2002	Q3 2002	Q4 2002	Annual Average
Up by over 5%	44%	44%	86%	27%	50%
Up by not more than 5%	22%	22%	0%	9%	13%
No change	22%	11%	0%	9%	11%
Down by not more than 5%	11%	11%	14%	36%	18%
Down by over 5%	0%	11%	0%	18%	7%
Balance	56%	44%	71%	-18%	38%

Appendix One

Total					
Volume of sales	Q1 2002	Q2 2002	Q3 2002	Q4 2002	Annual Average
Up by over 5%	38%	42%	42%	29%	38%
Up by not more than 5%	28%	24%	33%	26%	28%
No change	26%	11%	11%	7%	14%
Down by not more than 5%	5%	16%	8%	14%	11%
Down by over 5%	3%	8%	6%	24%	10%
Balance	59%	42%	61%	17%	45%

Throughout the whole year there has been a positive balance of firms reporting increased sales volumes compared with the same quarter a year earlier, and on average throughout the year nearly 40% of firms have reported sales volumes over 5% higher than in 2001. Whilst the information will not allow us to estimate precisely what percentage increase has occurred throughout the year, this information clearly suggests that manufacturers and suppliers volumes were higher in 2002 compared with 2001.

In conclusion, whilst it is impossible to derive a definitive figure to suggest the likely increase in the volume of sales of construction products during 2002, taking all the above factors into account, the Market Information Committee considers that overall sales volumes in the construction products industry were **between 3% and 4%** higher than in 2001. This would be consistent with the increase in volume of products sold through builders' merchants as measured by the **Builders' Merchants Federation** survey of its members and which estimates sales to be 3.7% higher than in 2001.

Reconciling the difference between construction output and the sale of construction products

A number of factors could explain why construction output appears to be growing at about twice the rate of the sale of construction products.

DTI statistics overestimate the increase in construction output

Whilst the Construction Confederation is confident that an 8% increase in construction output in 2002 reflects the anecdotal evidence it is getting from its members, discussions with the economists and statisticians at DTI have pointed to a number of reasons why the increase in the level of output may be on the high side. These centre around the way deflators are used to ensure the year on year changes are realistic comparisons.

Construction output statistics are deflated to reflect price increases arising from increases in taxes, changing material prices, increases in labour rates etc. Output figures should therefore record real increases in activity and any price increases from, for example, the aggregates tax, should not feed through as increased output. It is possible, however, that sharp and unexpected changes in prices may not be fully reflected in the deflator. There are two areas where this may have occurred in 2002.

- First is the sharp increase in the cost of site labour. This part of the deflator is based on 'bills to tender' and not what is actually paid. If tender documents underestimate labour costs (as is likely at a time of sharp increases) then the cost of labour over and above what has been allowed for in the deflator would come through as increased construction output. DTI is looking into this further.
- A similar situation may be arising in the housing output statistics. The private new housing output grew by 11.5% in 2002, whilst starts only rose by 1.5% and

completions by 7.7%. The deflator takes into account the cost of labour, materials, other overheads, and profit. If increasing house prices (and this is another areas where there were significant increases in 2002) have not been fully reflected in the profit element of the deflator, then this will feed through into increased output and could explain the apparent discrepancy between the volume and value of output. Changes in the product mix, the cost of new building regulations and the inclusion by housebuilders' of more high value finishings in new homes account for some of the discrepancy between the number of new homes built and the rise in related output. However, even allowing for this, the Association estimates that the rise in house builders' profitability to have added some 0.7% to the overall value of recorded construction output during 2002. Again, DTI has agreed to look further into this.

The trade balance in construction products has deteriorated

During 2002 import of construction products have increased sharply, whilst exports have continued to fall and this would certainly seem to account for some of the difference. The value of imports in the first 9 months of 2002 grew by around 3%, whilst exports fell by 10%, reflecting the continuing difficulties of exporting into Europe (sterling/euro relationship and generally depressed markets). The overall effect of this changing trade balance is that £700m less products were manufactured in the UK than in 2001, equivalent to 2% of UK construction product demand.

The changing characteristics of construction output

Three issues are relevant here:

- **Increasing amount of demolition work within the construction output statistics**

The construction output statistics include demolition work, an activity which

clearly does not lead to the use of new products. With the increasing amount of brownfield development, there is evidence that the construction output statistics include a higher proportion of demolition work. Figures for output from demolition in 2002 are not yet available, but in 2001 the value of demolition work increased from £89 million in 2000 to £249 million.

- **Changing mix of construction workload**

Construction workload is shifting towards public sector activity, within which infrastructure spending is becoming an increasing share of activity. Infrastructure work typically involves a considerable amount of earth movement at the early stages of contracts and this is not particularly product intensive in relation to the value of construction output. In addition, improvement and repair to the rail network, which has again been a growing feature of construction workload, is also perhaps less product intensive than other forms of construction activity.

- **Increase in recycling**

There has undoubtedly been an increase in the amount of recycled products used in construction works, driven by fiscal measures (landfill tax, aggregates tax etc.) and the increasing amount of demolition and brownfield development. On major road schemes, for example, contractors are increasingly using the excavated material as fill whereas a few years ago they would have used low-grade aggregate, a product that has now become too expensive as a direct result of the aggregates tax. This will have an effect on the amount of construction products used in relation to construction output. The QPA estimate that the drop in demand for these low grade/ value materials during 2002 is equivalent to some 3% of primary aggregate sales or 0.3% of total construction products sales.

Conclusion

The broad conclusions of the report are that:

- The sale of construction products in 2002 seems to have increased at about half the rate of construction output, although this disguises wide variations between heavyside manufacturers, which in many product ranges have shown little or no increase, and lightside manufacturers where in a number of sectors there were significant increases in sales.
- The construction output figure may, however, be on the high side, because the deflators used have not adequately picked up sharp increases in the cost of site labour or the price of houses. DTI is looking further into this.
- There is, however, still a discrepancy between the figures and a number of factors are contributing to this -
 - a deteriorating trade balance in construction products
 - an increase in the amount of demolition work
 - a change in the nature of construction workload
 - an increase in the use of recycled products

Whilst it would be impossible to match precisely the difference between the change in construction output and the sale of construction products, the conclusions above seem to go a considerable way to explaining this difference. The table opposite estimates how these various factors have contributed to the divergence between construction output growth and product sales in 2002.

Growth in construction output and product sales in 2002

Construction output growth		8.0%
Factors influencing relationship with product sales		
Widening trade deficit ¹	2.0%	
Aggregates tax ²	0.3%	
Private new housing ³	0.7%	
Other ⁴	c.1.5%	
Total		c.4.5%
UK Construction products sales volumes		3% to 4%

¹**Trade deficit** Weak economic conditions in key overseas markets have hampered UK manufacturers export efforts over the last year and encouraged overseas suppliers to target the UK. The Association estimates that the value of UK exports of construction materials fell by 10% last year, while imports rose 3% to £7.3 billion. The resultant widening in the trade deficit is equivalent to 2% of total construction product sales.

²**Aggregates Tax** Introduction of the Aggregates Tax has depressed the demand for low grade primary aggregates as contractors have used alternative materials and design solutions.

³**Private housing** The official construction statistics record the value of work undertaken by contractors including the value of materials, site labour and profit margins. Sharply rising house prices have boosted private housebuilders' margins over the last year.

⁴**Other** Includes changing workload mix, site labour costs, demolition & site remediation work. Changes in the construction workload mix lifted output growth relative to product sales last year. The increased use of brownfield sites is increasing demolition and site remediation work, which generates little demand for construction products. The sharp rise in site labour costs over the last year does not appear to be fully reflected in the deflators applied to recorded construction output.

Next Steps

There are a number of issues arising from this divergence which the Association is discussing further with DTI. In the meantime we would welcome any comments from members on the issues raised and any points they would like us to explore further.