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Measures of Productivity – The Value Added Concept

There is much focus on performance and productivity, but how can this be measured?

It is recognised by many that the most meaningful measure of productivity uses the concept of value added.

Value added is a term that has been used in managerial accounting for over five decades.

I first became aware of the concept, when as a trainee accountant in the 1960's, I read an article by Ronald Giltrist of Urwick Orr and Partners and he defined value added as "The value of sales less the cost of all bought out items." "It constitutes the fund which a company applies to:

- pay employees
- pay providers of capital
- pay government taxation; and
- maintain and expand assets"

The use of value added as the basis of performance indicators has been under the spotlight in recent times with the publication by the DTI of the Value Added Scoreboard that provides measures of wealth of some 800 UK companies and the top 700 EU companies by value added.

The Scoreboard was first published in 2002 (the 2009 publication is available from the Department for Innovation Universities and Skills) It is recognised that to sustain sound performance Britain needs to continue making a transition to being an open, globally integrated "knowledge economy" in manufacturing and services. Value Added measures the wealth a company creates not just for itself but also for its shareholders and society as a whole.
The scoreboard shows that UK's largest companies are on average much more efficient creators of Value Added than their European peers. Value Added analyses how efficiently companies use their staff and assets to create wealth.

Before I consider the performance indicators (ratios) that use VA as a base I wish to outline further the meaning of value added.

The following is an extract of the Profit and Loss Account of Whitby Engineering Ltd; together with additional information.

Profit and Loss Account
For Year Ended 31 December 2009

	£000's
Turnover	8500
Cost of Sales *	6200
Profit before interest and tax	2300
Finance Cost (interest)	600
Profit before Tax	1700
Taxation	400
Profit after tax	1300
Dividends **	250
Retained profit	1050

* Cost of Sales comprise:	**£000's**
Wages, salaries and other employee benefits	2050
Depreciation	550
Bought out items	3600
	6200

Number of employees 150

** Dividends are not normally shown at the foot of the Profit and Loss Account but is done so here for reference only.

From this information we can re-state the Profit and Loss Account in the form of a statement of value added.

Value Added Statement
Year Ended 31 December 2009

		£000's
Turnover		8500
Less bought out materials and services		3600
Value added		4900
Applied as follows:		
To pay employee wages, salaries and other benefits		2050
To pay providers of capital:		
Interest	600	
Dividends	250	
		850
To pay government corporation tax		400
To maintenance and expansion of assets:		
Depreciation	550	
Retained profit	1050	1600
Value added		4900

The DTI Scoreboard uses a number of valued added ratios two of which are featured below.

- Value added per employee
- Value added per '£' of employee cost

From our figures for Whitby Engineering we find:

Value added per employee:

$$\frac{\text{Value Added}}{\text{Number of Employees}}$$

$$\frac{£4.9m}{150}$$

£32667 per employee

Value added per '£' of employee costs:

$$\frac{\text{Value Added}}{\text{Employee Wages Salaries and other Benefits}}$$

$$\frac{£4.9m}{£2.05m}$$

2.39 (number of times)

Both these performance indicators (ratios) measure employee productivity and could be used in an inter-firm comparison and a comparison to a benchmark for the industry as a whole.

Also a year on year comparison for Whitby would be most useful to establish the trend on this important measure that is an excellent guide to company performance.