Production Model Saari 2004

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The Production Model Saari 2004 is a simple model by help of which it is possible to calculate the results of the real process, income distribution process and production process. The starting point is a profitability calculation using surplus value as a criterion of profitability. The surplus value calculation is the only valid measure for understanding the connection between profitability and productivity or understanding the connection between real process and production process. A valid measurement of total productivity necessitates considering all production inputs, and the surplus value calculation is the only calculation to conform to the requirement.

The process of calculating is best understood by applying the clause of Ceteris paribus, i.e. "all other things being the same," stating that at a time only the impact of one changing factor be introduced to the phenomenon being examined. Therefore, the calculation can be presented as a process advancing step by step. First, the impacts of the income distribution process are calculated, and then, the impacts of the real process on the profitability of the production.

The first step of the calculation is to separate the impacts of the real process and the income distribution process, respectively, from the change in profitability (285.12 – 266.00 = 19.12). This takes place by simply creating one auxiliary column (4) in which a surplus value calculation is compiled using the quantities of Period 1 and the prices of Period 2. In the resulting profitability calculation, Columns 3 and 4 depict the impact of a change in income distribution process on the profitability and in Columns 4 and 7 the impact of a change in real process on the profitability.

*Calculation of the income distribution process.* The key figures of income distribution can now be calculated from the surplus value calculations in Columns 3 and 4. The difference of 39.00 (unfavourable) between the surplus values indicates the impact on profitability in terms of money. Indices depicting the change in income distribution can now be calculated by the formulae presented both for output (1.003) and input (1.018), and as their ratio for the whole business 1.003/1.018=0.985.

It follows that the change in income distribution means a development in which the quality of output or input stays the same while the unit price changes. A change of price does not involve recompensing for the change in quality. In the short term, price changes do not follow a certain trend, yet, in the long term, the trend is transparent. Consumers benefit from lowering product prices and their buying power increases thanks to better compensation for selling their work input to production. Production income distribution is the mechanism by means of which productivity gains of the production are distributed to interested parties, and it can be measured by means of price changes.

*Calculation of the real process.* Columns 4 and 7 depict the change in performance in the real process. Surplus values have been calculated at a fixed price, in this case, at prices of Period 2. Fixed-price calculation is a method in which the quantities of the items of different qualities can be measured and added up. This concept is called the volume which is a measure of absolute value. The time series depicting its change is called the volume index.

The surplus value of the real process is called the real surplus value as distinct from the nominal price surplus value of profitability. All changes in the surplus value of the real process are changes of performance. Productivity is the surplus value of the real process proportionally measured. Now it is possible to calculate productivity (1.084 and 1.100) for Periods 1 and 2 using the formula of productivity output per input, and as their ratio we get the productivity index depicting the change in productivity 1.100/1.084=1.014. As a result, we can calculate the monetary quantity equivalent to the change in productivity, and in this case it is favourable 41.12 units.

