

## Muse Seven

### Productivity: The Paradox

There are repeated demands by Government Ministers for improved Productivity; these are accompanied by the usual invidious comparisons with rates achieved elsewhere.

This request has been made throughout my life: a period during which spectacular results were often recorded; almost always without the expected attendant benefit.

The Steel and Coal Industries of the UK - as well as in other Countries - are but two examples of the achievement of quite spectacular increases negated by non-related causes.

Both are now but rumps of their previous size and yet remain with no guaranteed future.

The stability of any Company and Industry are determined by the following prime factors:

- The size of the Total Market,
- Its Share of the Total Market,
- The availability of Capital,
- The Source of the Capital,
- The Integrity of the Directors,
- The Quality and Integrity of the Executives,
- The Availability and Quality of the Workforce,
- The Evolution of Technology,
- Political Interference.

Regretfully not all these factors are given their due weight when 'Cost and Productivity Exercises' are undertaken: The availability and quality of the workforce is almost always given either, the greatest, or, the least priority.

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Before considering the influence of the other Factors it is necessary to define the meaning of Productivity.

This is not the simple task most believe; in consequence, it continues to result in misinterpretation, misuse, the use of inappropriate indices, and conflict.

**It follows that comparisons of productivity are almost always invidious and the results sometimes counter productive.**

Before continuing it may be as well to consider the case of the Aswan High Dam. Its construction was originally contracted to an American Company, who chose to use state of the art equipment and technology: it suffered a set back when the Company went into Liquidation. The Project was then refinanced and taken on by others.

At the same time an almost identical Dam was constructed in China using men equipped with Wicker Baskets.

Both Dams took the same time to complete.

I draw no conclusions from this; to do so would make me as mistaken as those who misuse, and misinterpret, the role Productivity should play in the overall well being of a Company or Economy.

Productivity in Manufacturing is most often defined as Output per Employee Time Unit e.g. Cars per Man Year, tonnes per man-shift, Gigagoules of Energy per Man Year, Sales in £'s per Month etc.

At face value these are easy to apply and compute; however, this method is often inaccurate as a comparative measure.

**It rarely compares like with like.**

In the Service Industries such Indices are usually inappropriate: the Numbers of policies sold per Man Year in a Life Assurance Office is probably meaningless compared with the Total Policy Value per £1 of Wages and or Salaries.

Attempts have continued to seek better Indices, few stand up to long term scrutiny mainly because almost all activities are subject to acausal effects; these distort comparisons of the same Activity Unit over a period of time, making the comparative data unreliable as a trigger for corrective action and or improvement.

**My personal choice of an indice better suited to General Application is the Added Value per £1 of Wages and or Salaries.**

In Capital Intensive applications suitable adjustment must be made for the Capital Spend. For most applications the formula below is a practical Indice.

$$\frac{\text{Added Value minus Twice the Depreciation.}}{\text{Total Wage and Salary Bill}}$$

This Indice may be variously titled. I shall refer to it as the **AVI**.

In common with all other Indices it require Ground Rules appropriate to the Industry and to Prevailing Practise.

For example when comparing the number of Cars produced per Man Year, it is necessary to compare like with like; it would not be correct to compare a plant producing a single model with one producing several; likewise one plant may include certain categories of labour, another may exclude the same category: nothing less than a total body count from the most senior executive to the most menial labourer is acceptable.

A possible exception would be personnel associated with Research and Development. Other factors are the number of hours worked per Man Year, and also all the subcontract man-hours worked on imputed sub-assemblies. A desire to obtain worthwhile comparisons - rather than a desire motivated by Political and Headline Pressures - will result in Valid Information.

After the above comments were written, an overcapacity of 40% in Motor Manufacturing was reported: mergers would seem inevitable.

**It is certain comparative productivity will not be the factor carrying most weight when mergers are discussed.**

**More recently – as I type no less – the state of the global motor industry, as a result of the 'Credit Crunch' is dire: both Chrysler and General Motors are on the borders of bankruptcy unless they can invite/accept appropriate assistance. This will come at a price and productivity will not be the foremost factor.**

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Of the factors previously listed we should consider which of them should carry the most weight.

The Size of the Market and the Number of Players should - theoretically - allow each to assess the upper limit of their planned output; the appropriate methods of Production; the Location and Nature of their Production; and the Size and Type of Labour Force.

In reality the exercise is sullied by the location and type of Existing Plants; the International Structure of the Companies; the Short Term Policies of the Capital generating Market; and above all, an insistence by Individual Companies to remain combative.

In the absence of mergers the end result is the formulation of overly ambitious, inappropriate plans requiring so much Capital as to generate delay.

Often to offset the delay Short Term Projects are initiated to effect improvement from the Existing Facilities.

During the delay there will be indications of the availability of Improved Technology: Inevitably someone in Authority will decide it must be included: if the project comes to fruition before someone else has debugged the new technology, the project becomes a Prototype, prone to excessive teething problems.

This results in an extended commissioning period that inevitably makes the project out of phase with the Financial Plan; this in turn invites unwelcome attention from the Investing Institutions.

These are all relevant factors in the current dire demise of the whole Motor Industry.

This is where we need to consider the Source of the Capital: Included in the price to be paid will be the short term policies of the money sources, in particular a propensity to switch money from industry to industry, market to market, irrespective of the consequence to the industry, company and the people concerned.

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The current Motor Industry aside; in general terms if the Capital is not Internally sourced the above unwelcome attention - under the guise of monitoring - will give greater priority to the attainment of Financial Forecasts and Returns than to the longer term Purpose of the Project.

The attendant pressure creates Instability with a consequent loss of Essential Staff, and Corner Cutting: *Quality and Safety Standards are among the first to suffer.*

These pressures will still arise with Internally Sourced Capital if provided by a Parent Company based elsewhere - particularly in another Country: Satellite Plants or Companies are frequently subject to more stringent, inflexible, inequitable Control.

Added problems, associated with inappropriate policies also arise In Public Liability Companies. These are likely to be more apparent when some, or all, of the Directors operate under a Performance Related Scheme - usually related to movements of the Share Price.

**As an aside this cannot, under any circumstance, qualify as an Indice of Productivity.**

I have difficulty associating such schemes with Integrity: every Employee has a duty to do their best - it is not possible to do better - thus the existence of such a scheme recognises you are likely to perform below par; such a situation suggests your services should be dispensed with, not rewarded.

However, such Schemes are a fact of life and their downside should be recognised.

By definition Self Interest is encouraged, *thus generating doubt that the Long Term Interests of the Company will be respected.*

The alternative Short Term Policies are particularly inappropriate to a situation of overcapacity requiring the closure of a Plant or Site.

The choice of Site is extremely delicate and should proceed on irrefutable grounds; the short-term benefit to the Directors should be listed last.

If the Closed Plant has a Good Productivity record, the end result is likely to be negative throughout the whole organisation.

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The effects of the day-to-day decisions of Executive Managers are crucial to the performance of any Plant or Organisation.

The performance of the machines and personnel at the plants can be significantly undermined by the negative results of ego politics; or, the inability to exercise authority commensurate with responsibility; incompetence, etc. The availability and competence of Operatives and Support Staff are essential to the optimisation of results.

**The latter is rarely a problem in a well run, efficient, caring, Company.**

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Changing - Improving - Technology is a factor from which almost everyone expects to benefit: Regretfully the Downside Effects are often greater than the Upside Effects.

In the Electronic Industry in general, and the Computer Industry in particular, the differences of Productivity are likely to be of lesser significance than other factors.

Of these the collapse of Financial Return from the production of components, whose Price has been decimated, has resulted in New Production Facilities being Mothballed before it comes on stream.

This has arisen not from mistaken decisions about demand and capacity, but from the speed of Technological Development making 'New' Products out of date before they are introduced to the Market.

*Whatever the solution to this situation may prove to be, it is evident that Productivity in such circumstances is not of major importance.*

New Plants sited for Political Reasons - often associated with the Closure of others - supersedes the performance at the plants. Such actions are generally in accord with Maxim Three and destabilises the situation. Fortunately, given time, this usually corrects itself; provided the state of Natural Balance is not further destabilised.

The typical 'S'-curve can also represent the relationship between Capital Expenditure and Productivity.

The steep part of the curve is the only part where activity is worthwhile: on the flat portion preceding it little return will be forthcoming from the Capital Input; likewise on the flat portion that follows it the Law of Decreasing Return applies.

The curve indicates the Minimum and Maximum Expenditures that should prevail: both less and more will be wasted.

**These Curves are typical Transistor Curves.**

In an integrated circuit each transistor is chosen such that it operates on the steep portion of the curve and thus contributes to the stability and efficiency of the circuit as a whole.

**Multi-National Companies operating in a Global Market may be said to be analogous to an electronic, integrated circuit.**

**In practise they do not operate as such because the long-term stability is sacrificed to political demands, and to the short-term policies of the Money Markets.**

It is the resultant instability that makes Productivity relatively irrelevant.

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The constant demand for increased Productivity, without heed to attainable limit, or, to secondary problems, poses the speculation of the ultimate result: **One Person in Taiwan supplying all the Manufactured Needs of the World.**

Clearly this scenario is nonsensical! But: Where is the rational limit?

To pursue a journey without consideration for its consequence is to invite all Countries to become trapped on adjacent Felinic Curves.

Such a potentially explosive, catastrophic situation supposes that nothing has been learned from the Insanity of the last 100 years.

Glossary:

*Felinic Curve.* The path travelled by the proverbial cat who, running in ever decreasing circles, disappears up its own anus; from which vantage point it bombards all and sundry with the only material to hand.

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