

## Performance Evaluation of Public Enterprise in Pakistan: Experiment in Social Accounting System

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### I. INTRODUCTION

The specific requirements of the performance evaluation system for public enterprises emanate from the peculiar characteristics of those institutions. The concept of public enterprise implicitly assumes the existence of two dimensions — the enterprise dimension and the public dimension. The enterprise dimension involves the setting up of a recognizable organization engaged in the production of goods and services, marketed at a price, and whose transactions are formulated through a system of commercial accounts such as balance sheets and profit-and-loss accounts. The public dimension, on the other hand, involves public ownership, public management, and control, and assumes the existence of public purposes and the fulfilment of public interest [9, p. 39].

Ideally, financial projection as well as the social cost-benefit analysis used in project evaluation as intended targets in the social and commercial area of operation should be the basis for evaluating the performance of an enterprise. Analysis and the information given in the project evaluation report should be used to extend these techniques further down the line to the evaluation of the attainment of these social and commercial objectives as an integral part of the total scheme of the performance evaluation. The advantage of this strategy is that the 'rules of the game' for performance assessment are determined at the time of project evaluation and their application at any subsequent stage should not raise any problems or controversy. The difficulty is introduced by the fact that the actual operation of an enterprise depends not only on the objectives of the government but also on the variety of the instruments of policy which governments possesses and use from time to time [10]. This policy may undergo changes during the implementation of the project and the

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extent to which the government wields these instruments or their mix, e.g. taxes, tariffs, quotas, licences, etc., may be quite different from that adopted at the time of the project approval. Thus, what is needed is a performance evaluation system which takes into account not only the compound nature of public enterprises, as a result of which it has to deal with numerous objectives, but also the specific socio-economic environment within which the enterprise is operating.

Before the specific requirements of public enterprise are looked into, it is necessary to analyse the problems associated with the conventional and existing indicators frequently used for judging the performance of the private as well as public enterprises. The most conventional indicator for judging the performance of an enterprise is, indeed, the standard accounting profit. However, there are seven types of objections which makes standard private profit inappropriate for assessing the real performance of a public enterprise.<sup>1</sup>

1. *Pricing of Inputs and Outputs.* Standard profit is based on cost and benefits frequently measured at the prices fixed by the government. These prices are often different from their value to society. They also frequently have little relationship with the price level relevant to the inputs and outputs of the enterprises.

2. *Conceptual Differences of Benefits and Cost.* The public enterprise manager should be concerned with all surplus generated regardless of distributions, whereas a private shareholder cares only about those accruing to the equity holder. The differences are reflected in the appropriate accounting method for public enterprises. In the case of public enterprises, taxes are a social benefit while in the case of private enterprises they are a cost.

3. *Treatment of Depreciation.* Private documents are not simply a natural recorder of the firm's private profit, but (largely because of tax laws) are also an endogenous factor determining the level of those profits. This makes many of their conventions inappropriate in ascertaining real surplus. Most notable in this regard is the accountant's "depreciation". While he treats it as a current cost, it is a (tax-free) share of retained earnings and thus a part of total generated surplus.

4. *Externalities in Corporation.* The value of non-pecuniary externalities is rightly excluded from private profit but must be included in public profit.

5. *Dynamic Criteria.* Generally we measure the performance of an enterprise with a single period indicator whereas many of its present actions have consequence in future periods. These effects (i.e. maintenance, R & D, etc.) are ignored in the standard profit indicator.

6. *External Decision Constraints.* An enterprise may be adversely performing because the government prevents it from hiring the people it wants, from paying the wages necessary to attract good people, from rewarding good performance, etc., which in turn may result in low profit.

<sup>1</sup>For a detailed critique of standard private profit, see [5] and [6].

7. *Investment Decision Constraints.* The quality of capital stock in hand can also have a significant impact on profitability. The wisdom of original investment decision and the subsequent changes in market conditions frequently explain a large proportion of changes in profit which can not be attributed to management efficiency or inefficiency.

Another approach to assessing the performance of an enterprise is to find out its production efficiency by using consumption co-efficients and input and output ratios. Conventionally, indicators such as capacity utilization, consumption co-efficients and labour productivity are used for these purposes. However, there is a problem in the use of these indicators. In the case of partial indicators, such as labour productivity, an enterprise can get a higher labour productivity by increasing the use of energy, by hiring additional outside resources or by increasing the amount of capital that it is using. In this manner, some benefits are recorded while others are ignored. Therefore, these partial indicators are inadequate since they give wrong signals to managers and create the danger of improving efficiency in one area at the expense of the efficiency in another area.

In order to avoid this mistake, evaluators use multiple indicators involving most or all factors of production to cover all aspects of efficiency. But the problem in this case is that some benefits can be counted several times while all costs may not be measured as many times. The solution appears to lie in the multiple indicators which are appropriately weighted. Since weights are synonymous with prices, and we add up all the benefits and all the costs, then what we are really talking about is an adjusted profit. The concept of profit brings us back to the problem of prices, which is a major problem in the use of standard profit for evaluation purposes. Since profit measures all benefits and all costs once and only once, it is, therefore, unambiguously superior to any partial indicator and to most multiple indicators. Thus what is needed is "not to find an alternative to the conventional indicator of standard profit but a way to measure profit correctly" [3, p. F-7].

## II. PUBLIC PROFITABILITY

For evaluating the real performance of public enterprise efficiency we have to arrive at an adjusted profit which not only takes care of public ownership of the enterprise but also makes alterations in the normal accounting procedure which distort the information concerning the real surplus generated by public enterprise. This adjusted profit is called public profit [4, pp. E-7-8]. The concept of public profit recognises the fact that while a private manager is taking care of only one economic actor (private shareholder), the manager of a public enterprise has to keep in view the interest of all the domestic economic groups. Public profit is derived from a single period variable social benefits less variable social costs; that is, the value

to society of the difference between what the enterprise takes out of the economy (costs) and what it puts back (benefits) in any one period. Public profit, therefore, is:

$$II^O = X - II - R - rK^W$$

where

- $X$  = output at factor cost,  
 $II$  = intermediate inputs at purchaser prices,  
 $R$  = factor rental expenses,  
 $rK^W$  = opportunity cost of working capital, and  
 $II^O$  = Public profit.

### Public Profit (Adjusted Private Profit)

Public profit is different from private profit since the former emphasizes the generation of real surplus while the latter is influenced by the accounting conventions and private ownership concept. In order to appreciate public profit, one must analyse it in relation to standard private profit; that is, one will have to make certain adjustments in standard private profit to arrive at public profit. Starting from private profit (after tax) a number of adjustments<sup>2</sup> are made to arrive at actual surplus generated called public profit in a given period.<sup>3</sup> These adjustments are shown in the box.

#### Public Profit in Relation to Private Profit

- Private Profit (after taxes)
- + Return to Non-Shareholders
  - Direct Taxes
  - Interest Payments
  - Other Distributions (donations etc.)
  - Dividends-in-kind
- Non-Operational Returns (Net)
  - Financial Income and Rent
  - Capital Gains and Transfers
- + Depreciation (and Amortization)
- Opportunity Cost of Working Capital
- Adjustments from Future Periods
- Public Profit (at factor cost)
- Subsidies (less indirect taxes)
- Public Profit (at market cost)

<sup>2</sup>For the basic national accounts methodology, see [11].

<sup>3</sup>For a detailed account of the concepts, see [7].

An exposition of the rationale of these adjustments is given below.

1. *Return to Non-Shareholders.* The most important differences between private and public profits are (i) direct taxes, (ii) interest payments and (iii) transfers (e.g. donations etc.). In the concept of public profit while the recipient of private profit is the private shareholder, other surplus is distributed to the government (direct taxes), financial institutions (interest payments) and others (donations, dues, etc.).

2. *Non-Operational Returns.* Enterprises earn non-operational returns on investments in the form of dividends, interest, rents and capital gains. These returns should be deducted in the case of public profit though they are added in the case of private profit.

3. *Depreciation and Amortization.* Depreciation is different from other costs in that it does not involve a current outflow of cash. The funds charged for depreciation are just like retained earnings as they are available to the enterprise for investment in fixed or financial assets. Conventional profit is measured net of depreciation but public profit is gross profits, for several reasons. Firstly, the private accountant's choice is dictated largely by tax considerations which are of secondary importance from the public point of view. Secondly, the conventional accounting measurement of depreciation differs from that of the economist, who would like to deduct physical deterioration as a function of use. Deterioration as a function of use is a variable cost whereas much of the accountant's depreciation is a fixed cost which is inconsistent with the strict definition of public profit as variable benefits less variable costs. Thirdly, measuring gross public profit for performance evaluation purposes is consistent with the treatment of current returns in project evaluation.

It may be argued that we should nonetheless deduct deterioration as a function of use in arriving at public profit. This is theoretically correct but can be rejected on practical grounds. In the first place, identifying deterioration as a function of use is empirically difficult. In the second place, making the adjustment would make little difference in the evaluation if we are using the *trend* as a basis of performance. If deterioration is a constant fraction ( $\delta$ ) of fixed capital ( $K^F$ ) then calculation of true economic profitability ( $\pi^P/K^F$ ) would involve deducting deterioration ( $\delta K^F$ ) from public profit ( $\pi^P$ ).<sup>4</sup>

An accurate public profit ( $\pi^P/K^F$ ) therefore would differ from our calculation only by a constant fraction. In sum, accounting depreciation should be added to private profit to arrive at public profit. In addition, economic deterioration should be deducted, but we can afford to ignore this complication on practical grounds.

$$^4 \frac{\pi_t^P}{K_t^F} = \frac{\pi_t^P - \delta K_t^F}{K_t^F} = \frac{\pi_t^P - \delta}{K_t^F}$$

4. *Opportunity Cost of Working Capital.* The opportunity cost of working capital is calculated as the stock of working capital times the interest rate which could be earned if the assets were sold and invested. Deducting this cost from private profits is necessary to induce managers to hold the minimum level of working capital consistent with efficiency operation.

5. *Adjustments from Future Periods.* Some costs (or revenues) become known only after the books have been closed for a particular year 't'. The usual private accounting convention is to deduct those in year 't+1' as part of the surplus disposal after profit has been calculated. Accordingly such costs do not reduce (increase) profits in any year. In public profit we make adjustment for this by adding these costs (revenues) in the year of attribution.

6. *Public Profit (at Factor and Market Cost).* Standard private profit after above-mentioned adjustments is developed into public profit which is the surplus generated after deducting the variable costs for variable benefits. Although public profit at market cost is in many ways a superior measure of public profit it is difficult to use because of data collection difficulties. Firms seldom report any indirect taxes or indirect subsidies on their profit and loss statements and never report them all.

#### *Operating Assets*

Operating fixed assets are used as the denominator in the concept of public profitability. These are also different from the conventional accounting way of measuring assets. We do not measure assets at book value, but its replacement cost is estimated as in using the perpetual inventory method.

Following this method, in order to work out operating fixed assets at current ruling market prices, all categories of operating fixed assets are adjusted for inflation and deterioration during the period and added to net flows during the period to work out the overall operating assets.

#### *Public Profitability*

The dividing of public profit by operating fixed assets gives public profitability in percentage terms, which is the surplus generated given the capital stock in hand. This method clearly gives a better assessment of the surplus generated by an enterprise than the one used for computing standard private profitability.

#### **Enterprise vs. Management Performance**

There are a number of factors which constrain an enterprise's performance and are beyond the control of management. The management with the best efforts may not be able to increase the surplus because of these constraints. In order to assess the real performance of management we must take these factors into account. Two such

readily quantifiable exogenous factors are the quality of capital stock inherited by the management and the distortions due to inflationary impact on the prices of inputs and outputs.

These two factors, viz. capital stock and prices of input and output, can be corrected by standard adjustments first by dividing public profit by the quantity of fixed capital and secondly by converting it into constant prices. The resulting indicator, public profitability at constant prices, provides a much better measure of assessing performance of the management of public enterprise.

### **III. PERFORMANCE EVALUATION SYSTEM MATRIX**

Public profitability at current, constant or shadow prices reflects the performance of public enterprise management in a single period. It, however, does not sufficiently cover all the contributions made or the cost incurred by an enterprise for the sake of long-term improvement in the performance of the enterprise or for the benefit of the society as a whole. In order to take these two elements into account the performance evaluation system is expected to take into consideration the dynamic effects and non-commercial functions of an enterprise.

*Dynamic Criteria.* Public profitability is a static single period indicator which ignores the future effects of current operation decision, i.e. maintenance, training, research and development, etc. These effects must be added to the static indicator to provide a true picture of the enterprise's performance.

*Social Adjustment Accounting.* In dealing with operational non-commercial objectives, public enterprises are confronted with co-opting societal and governmental objectives. This issue has been dealt with most seriously in the French Programme System.<sup>5</sup> The system requires quantifying all the social functions and activities which an enterprise shall be carrying out on the instruction of the government. The basic principle is that the enterprise should pursue only commercial objectives unless specifically instructed by the government. In such a case an agreement is reached concerning the incremental costs incurred in meeting the given objectives and the enterprise is compensated by this amount. One difficulty in the French Programme Contract System is that greater emphasis is put on costs rather than on benefits. Ideally, the enterprise should be allowed to earn a social profit on the basis of the difference between benefits and costs. However, most benefits are difficult to measure. A somewhat better treatment of this problem is to adopt the programme contract system based on the negotiated agreement for meeting the net cost of legitimate non-commercial objectives; the only difference is that the compensation is not actually paid. Instead, the expenditure is entered not as a cost

<sup>5</sup>For a detailed account of the French Programme Contract, see [1] and [8].

above the public profit line, but as a transfer below the line, that is, the expenditure is treated as a dividend paid in kind to the government. The quantum of public profit is not affected by the non-commercial activities but some of that profit is distributed in kind rather than as taxes, dividends or retained earnings. For example, if a firm is required by the ministry to build a road in a backward area, its intermediate input and labour costs are entered in the social adjustment account. They are then deducted from the corresponding cost above the line and entered (per contra) as dividend-in-kind below the line.

#### *Enterprise-specific Criterion Value*

Having determined the appropriate criterion or set of criteria appropriate to public enterprise one is confronted with the task of determining the criterion value. While the criterion establishes the scales, the criterion value determines the point on the scales which distinguishes 'bad' from 'average' to 'good' performance. The critical task of an evaluator is to determine the optimal performance scale for each individual unit. The objective of the performance evaluation is to arrive at a target or targets before the beginning of the period so that the enterprise performance can be evaluated at the end of the period against a pre-determined target. Targets need to take into account the specific position of an enterprise and the general economic environment to be effective. A consensus on the targets with public profitability as the primary criterion along with dynamic criteria and appropriately weighted social objectives, if any, provides an enterprise a clear and sharp objective to aim at. Its achievements against these given and pre-determined targets provide a comprehensive, flexible and broad-based evaluation of enterprise performance which is reflected in one composite score.

The application of the evaluation of public enterprise with the primary criterion, viz. public profitability, can be seen in a case study of a cement manufacturing company i.e. Mustehkam Cement Company during the period from 1975-76 to 1982-83.

## IV. A CASE STUDY OF MUSTEHKAM CEMENT COMPANY LIMITED

### **Introduction**

The objective of this case study is to demonstrate the application of the primary criterion of evaluation viz. public profitability, at current and constant prices — as discussed in the preceding sections. The basic reason for selecting this enterprise is to demonstrate the special relevance of this system in a situation where prices are controlled by the government.

### **Public and Private Profit**

Table IA shows that until 1981-82 the Mustehkam Cement Company experienced a rising trend in its standard private profit (except for a dip in 1978-79). The trend shows that the private profit almost doubled during the period from 1977-78 to 1981-82. This trend, however, was arrested in 1982-83. The public profit at current prices shows a similar rising trend. However, the level of public profit was much higher than that of private profit (Table IA). In fact, in the year 1981-82 the difference between the two profits widened substantially.

The difference between the two profits is analysed in Table III. The table indicates the various adjustments made to private profit in order to arrive at the public profit.

#### *Reconciliation of Public and Private Profit*

Table III shows that whereas there were a number of differences in private and public profit (at factor cost), returns to some non-shareholders, i.e. direct taxes, interest payments and depreciation and opportunity cost of working capital, were the major reason for the discrepancy in these two profits.

*Return to Non-Shareholders.* Among the payments to non-shareholders, the payment for direct taxes was important in the initial years. This, however, disappeared in later years when the company was exempted from corporate taxes due to the expansion project. This payment, however, was replaced by interest payment on long-term loans taken for the expansion project. The company has also consistently distributed a small sum in the form of donations, taxes, dues, etc. All these payments have been added back since they are a benefit generated which was distributed to the government and financial institutions etc.

*Non-Operational Income.* Mustehkam Cement has earned a substantial sum in the form of non-operational income which was mostly interest income and income from other secondary business. This income is deducted from public profit since assets of equal value have been exchanged.

*Depreciation.* Mustehkam Company's depreciation charges rose at a slow pace during the initial years but they shot up in the last three years. In fact this became the major source of public profit in later years. This was because of the commencement of the expansion project.

*Opportunity Cost of Working Capital.* The Mustehkam Company's working capital, i.e. inventories and financial working capital, had a rising trend. This is reflected in a similar rising trend in the opportunity cost of working capital which increased rapidly in 1980-81 and 1981-82.

*Adjustments from Future Periods.* The Mustehkam Cement Company has been consistently charging a nominal amount as net expenses attributable to the previous years. Only in 1978-79 net income was attributed to the previous year.

**Public Profit at Market and Factor Cost.** The net result of the above adjustment is public profit (at factor cost) that is higher than standard private profit. The difference is the net effect of subsidies received and interest taxes paid. It has the following features. (i) The enterprise has paid two kinds of indirect taxes. First, Excise Tax to the government which formed a major portion of the market sales price of cement. The other indirect taxes were in the form of development surcharge or price equalization surcharge paid to the cement units producing at a higher cost of production. (ii) The substantial difference between the two public profits indicates the magnitude of resources generated by the cement sector and which is transferred to the government.

**Public Profit at Current and Constant Prices.** Table IA demonstrates public profit at current market prices and constant market prices of 1981-82. It shows a high level of public profit at the current market prices and at an even higher level at public profit at constant prices. Table II compares the composition of the public profit at current and constant prices to indicate the difference due to the price effects on the individual components of public profit. This substantial discrepancy is further explained in Table IV which shows the decomposition of public profit and profitability by indicating the prices and quantity effects.

The table shows the increase or decrease in the value of each public profit component (it is changed in the current prices series at the top of Table II). The second line of each component gives the increase or decrease in the quantity of each public profit component (it is changed in the constant prices at the series at the bottom of Table II). The first line is the difference between the quantity and value giving the implicit effect of price changes.

For illustration purposes let us look at the latest year, 1982-83, when the public profit was reduced compared to previous year by about Rs. 16.885 million. This was due to both price movement and reduction in quantity. Price movement was the major factor whereby public profit was reduced by Rs. 11.967 million. This negative price effect does not mean that prices went down. Rather it means that while all prices rose the prices of input rose higher relative to those of outputs so that on balance the company position was adversely affected by price changes. Similarly, the public profit was reduced by about Rs. 4.917 million due to the reduced quantity produced. In this case it can be clearly seen that the value added by the company was reduced by Rs. 5.577 million due to the adverse price movement of intermediate inputs of Rs. 7.516 million.

In case of labour expenses, although the number of labour increased (equivalent to wage bill of Rs. 0.450 million) the increased wage bill was largely due to higher wages (Rs. 2.969 million). On the other hand, the rise in the cost of working capital was largely due to the magnitude of working capital (level of inventories, financial working capital, etc., with Rs. 6.318 million) and the price effect was relatively less

important (Rs. 1,470 million). Thus the public profit of Mustehkam Cement in 1982-83 decreased largely because of the adverse price movement of the value added, i.e. higher prices of input compared to the prices of output, and also due to a slight reduction in the quantity, increase in wage rate and an increase in the quantity of working capital. In sum, price movements remained one of the two factors adversely affecting the generation of public profit in Mustehkam during the period under review.

### Operating Fixed Assets

Table IA shows Mustehkam assets measured at accountant values and by perpetual inventory method. It shows that operating fixed assets in 1980-81 rapidly increased owing to the commencement of the expansion project. The non-operating assets of expansion project are included in the conventional measurement of assets but we take this into account only when they are committed to operation. In Table V the first part shows the value of operating assets at current ruling prices.

### Profitability

Dividing public profit at current or constant prices by operating fixed assets at respective prices gives the primary criterion namely public profitability, at current or constant prices. Table IC indicates the public profitability of Mustehkam at current market prices which indicates a substantially high level of return on operating assets except for three years, viz. 1978-79 to 1980-81, when the expansion project was just commissioned or was about to be commissioned. If we take these years as abnormal years then the public profitability is clearly much higher than the private profitability. This high public profitability seem to have gone up in the last two years after the expansion project was commissioned. The performance is even more impressive if we look at the public profitability at constant market prices. This price series demonstrate that the performance has been at a much higher level than the public profitability at current prices and private profit after tax. This clearly indicates how the government pricing policy is distorting the real performance picture of this company.

Looking at the latest performance of the unit, i.e. that in 1982-83, there seems to be room for caution since the public profitability in both constant and current prices declined in that year. In order to assess the reason we go back to Table IV for analysing this declining trend in the public profitability. It shows that in 1982-83, profitability declined by about 2.639 percent, out of which 1.699-percent decline is attributable to the adverse price movement, while .939-percent decline is because of the fall in quantity. It is because of this .939-percent decline that the public profitability even at constant prices demonstrates a decline in Table IC.

Another interesting feature in Table IC is that a conventional performance indicator, viz. capacity utilization, shows an increase from 79 percent in 1981-82 to 95.5 percent in 1982-83. This partial indicator is showing an improvement in performance but the public profit at both current and constant prices demonstrates a declining trend during these two years. An improvement in the capacity utilization (operating assets remaining the same) and a decline in the public profit at constant prices clearly shows that the management needs to improve its management of costs which has brought public profit down despite the increase in production.

Table IA

**Mustehkam Cement Company Ltd.**  
**Private and Public Profitability Numerator and Denominator**

	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
<b>Profit at Current Prices</b>						
Private Profit (After Taxes)	7737.00	3173.00	7456.00	15435.00	14277.00	10068.00
Public Profit (at Current Market Prices)	17118.47	1279.75	12433.82	13538.30	95640.92	78755.13
Public Profit (at Constant 1981-82 Prices)	63303.16	72012.47	69857.36	55616.12	95640.92	90722.98
<b>Assets</b>						
Assets	339152	468458	568345	634015	658370	737502
Operating Fixed Assets (Current Market Values)	364930	408867	478496	920294	1047910	1170304

Table IB

*Operating Fixed Assets (at Current Market Prices)*

	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
<b>Operating Capital Goods</b>						
Building, Structure and Civil Works	83578	92791	113932	231717	258380	278597
Machinery & Equipment	255933	288580	329339	628267	713834	796833
Vehicles	16066	16888	23428	34350	39921	47698
Tools etc.	6181	7302	8323	20711	30769	41930
Operating Land	3088	3213	3367	4134	4892	5115
Intangibles	85	93	107	116	123	131
<b>Operating Fixed Assets:</b>	<b>364930</b>	<b>408867</b>	<b>478496</b>	<b>920294</b>	<b>1047919</b>	<b>1170304</b>

Table IC

*Profitability and Capacity Utilization*

Private (after Tax on Total Assets)	2.28	.68	1.31	2.43	2.17	1.37
Public (at Current Market Prices)	4.69	.31	2.59	1.47	9.13	6.75
Public (at Constant 1981-82 Prices)	12.16	13.77	13.06	5.71	9.13	8.34
Capacity Utilization	97	96	97	87	79	95.5

Source: Based on Audited Accounts given in the various Annual Reports of Mustehkam Cement Company Ltd.

Table II

*Composition of Public Profit at Current and Constant Market Prices*

	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
<b>A. Current Market Prices</b>						
Value of Output	98470.00	94958.03	126079.97	129787.99	314023.99	357987.98
Value of Intermediates	63473.90	73137.39	87708.08	89095.81	173991.89	223533.63
Value Added	34996.10	21820.64	38371.09	40692.18	140032.10	134454.35
Return to labour (Wages)	11399.00	11175.00	15991.00	16234.00	29851.00	33271.00
Return to Rented Factors	96.00	252.00	144.00	204.00	154.00	253.00
Opportunity Cost of Working Capital	6382.63	9113.89	9802.27	10715.88	14385.18	22175.22
Public Profit (Quasi Rents)	17118.47	1279.75	12433.82	13538.30	95640.92	78755.13
<b>B. At Constant 1981-82 Market Prices</b>						
Value of Output	204847.09	202858.43	204808.27	185437.90	314024.99	347594.89
Value of Intermediates	109949.60	98581.20	103748.38	98502.83	173991.89	205623.80
Value Added	94897.50	104277.23	101059.23	86935.07	140032.10	141971.10
Return to Labour (Wages)	21004.24	19509.43	19233.82	19268.84	29851.00	30301.46

Continued -

Table II - (Continued)

	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
Return to Rented Factors	145.61	355.48	182.88	227.65	154.00	241.50
Opportunity Cost of Working Capital	10444.49	12399.85	11785.83	11822.46	14386.18	20705.15
Public Profits (Quasi Rents)	63303.16	72012.47	69857.36	55616.12	95640.92	90722.98

Table III  
Reconciliation of Public and Private Profit

	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
<b>Profit After Tax</b>	<b>7737.00</b>	<b>3173.00</b>	<b>7456.00</b>	<b>15435.00</b>	<b>14277.00</b>	<b>10068.00</b>
<b>+ Return to Non-Shareholders</b>						
Direct Taxes	10422.00	2904.00	8217.00	.00	.00	.00
Interest Payments	1233.00	482.00	127.00	311.00	41725.00	40531.00
Other Distributions	106.00	127.00	153.00	190.00	177.00	289.00
<b>- Non-Operational Returns (Net)</b>						
Financial Income & Rent	1544.00	2593.00	717.00	20.00	946.00	3352.00
Capital Gains & Transfers	419.00	117.00	214.00	34.00	256.00	651.00
<b>+ Depreciation and Amortization</b>	<b>6370.00</b>	<b>6002.00</b>	<b>7574.00</b>	<b>9272.00</b>	<b>55903.00</b>	<b>54049.00</b>
<b>- Opportunity Cost of Working Capital</b>	<b>6382.63</b>	<b>9113.82</b>	<b>9802.27</b>	<b>10715.88</b>	<b>14386.18</b>	<b>22175.22</b>
<b>- Adjustment from Future Periods</b>	<b>452.00</b>	<b>-371.00</b>	<b>397.00</b>	<b>1103.00</b>	<b>850.00</b>	<b>.00</b>

Continued -

Table III - (Continued)

	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
<b>Public Profit (at Factor Cost)</b>	17118.47	1279.75	12433.82	13538.30	95640.92	78755.13
- <b>Subsidies (Less Indirect Taxes)</b>	-64452.00	-128205.00	-207276.00	-172362.00	-26776.00	-304748.00
<b>Public Profit (at Market Cost)</b>	81570.47	129484.75	219709.82	185900.30	365416.92	383503.13

Table IV

*Decomposition of Public Profitability and Profit Trend into Price and Quantity Effects  
(at Current Market Prices)*

	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
<b>Overall Change (in Percentage)</b>						
<b>Public Profitability</b>						
Price	-14.949	1.490	2.899	5.080	5.480	-1.699
Quantity	24.330	-10.559	-.589	-5.799	2.090	-.939
Value	9.380	-9.069	2.310	-.719	7.570	-2.639
<b>Change in Profit Components (‘000’ Rs.) Output</b>						
Price	-106377.10	-1523.30	29172.10	23078.38	55649.91	10393.09
Quantity	204847.09	-1988.67	1949.84	-19370.36	125886.09	33570.90
Value	98470.00	-3511.97	31121.94	3708.02	184236.00	43963.99
<b>Intermediate Inputs</b>						
Price	-46475.69	21031.89	9404.31	6632.48	9407.02	17909.83
Quantity	109949.60	-11368.40	5167.18	-5245.55	75489.06	31631.91
Value	63473.90	9663.49	14571.49	1386.93	84896.08	49541.74
<b>Value Added</b>						
Price	-59901.40	-22555.19	19767.79	16445.90	46242.89	-7516.75
Quantity	94897.50	9379.73	-3217.34	-14124.81	53097.03	1938.99
Value	34996.10	-13175.46	16550.45	2321.09	99339.92	-5577.75

Continued -

Table IV – (Continued)

	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
<b>Wages</b>						
Price	-9605.24	1270.81	5091.60	207.98	3034.84	2969.54
Quantity	21004.24	-1494.81	-275.60	35.02	10582.16	450.46
Value	11399.00	-244.00	4816.00	243.00	13617.00	3420.00
<b>Rented Factors</b>						
Price	-49.61	-53.87	64.60	15.23	23.65	11.50
Quantity	145.61	209.87	-172.60	44.77	-73.65	87.50
Value	96.00	156.00	-108.00	60.00	-50.00	99.00
<b>Opportunity Cost of Working Capital</b>						
Price	-4061.86	775.90	1320.41	876.97	1106.58	1470.07
Quantity	10444.49	1955.36	-614.02	36.63	2563.72	6318.97
Value	6382.63	2731.26	688.38	913.60	3670.30	7789.04
<b>Public Profit</b>						
Price	-46184.69	-24548.03	13309.18	15345.72	42077.82	-11967.85
Quantity	63303.16	8709.31	-2155.12	-14241.23	40024.80	-4917.94
Value	17118.47	-15838.72	11154.07	1104.49	82102.62	-16885.79

Table V

*Operating Fixed Assets*  
(at Current Market Prices and Constant Market Prices, 1981-82)

(Rs. '000')

	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
<b>Operating Capital Goods</b>							
Buildings, Structure and Civil Works	70361	83578	92791	113932	232717	258380	278597
Machinery & Equipment	234074	255933	288580	329339	628267	713834	796833
Vehicles	16120	16066	16888	23428	34350	39921	47698
Tools etc.	5689	6181	7302	8323	20711	30769	41930
Operating Land	2857	3088	3213	3367	4134	4892	5115
Intangibles	78	85	93	107	116	123	131
<b>Operating Fixed Assets</b>	<b>329179</b>	<b>364930</b>	<b>408867</b>	<b>478496</b>	<b>920294</b>	<b>1047919</b>	<b>1170304</b>
<b>At Constant Market Prices</b>							
Building, Structure and Civil Works	127846	130314	132664	135363	254848	258380	266728
Machinery & Equipment	353358	354134	355416	356707	654905	713034	724394
Vehicles	23586	22979	23520	29217	36813	39921	45688
Tools etc.	8448	8557	9150	9191	21461	30769	38429
Operating Land	4370	4370	4371	4371	4769	4892	4892
Intangibles	123	123	123	123	123	123	123
<b>Operating Fixed Assets</b>	<b>517721</b>	<b>520478</b>	<b>525243</b>	<b>534972</b>	<b>972919</b>	<b>1047919</b>	<b>1080253</b>

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## Comments on “Performance Evaluation of Public Enterprise in Pakistan: Experiment in Social Accounting System”

In the short time that is available to me for discussing this long paper, the best I can do is to give some specific comments which will be followed by some general remarks about the paper. The paper basically attempts to define public profit. It then computes public profit from the side of the private profit by using the United Nations' standard practice of computing private profit. In this way, private profit is adjusted by certain refinements and is equated with public profit.

In the first approach, public profit, as defined by the author, is simply the value of output minus the cost of inputs; that is, the value added minus  $R$  and  $RK$  where  $R$  is the wages bill and  $RK$  is the opportunity cost of the working capital. The other approach that the author also explains is the 'adjusted private profits' approach (private profit being defined according to the United Nations' standard practice). The private profit is adjusted for two very important items, the first of which is depreciation. Depreciation is added to private profit and then adjustments are made for subsidies and indirect taxes. If there is a subsidy, then that subsidy is taken out of the private profit; and if there are indirect taxes, they are added to the private profit.

The private profit is further adjusted for remunerations to the non-shareholders. This is in addition to adjustments for depreciation, indirect taxes and subsidies to arrive at public profits. In this manner the above-mentioned two approaches of arriving at public profit are made equivalent. How the estimation of profitability made by applying one approach is made equivalent to an estimation through the other approach is not quite clear. That is my first comment on this problem. And the second problem is the inclusion of depreciation as a part of private profit.

Depreciation, as we know, is an investment cost item. It is a cost of consuming capital in the process of production. How depreciation becomes a part of the public profit is not quite clear despite the author's statement that it has been explained in the paper. I have gone through the paper carefully but I fail to understand why depreciation has been included. This is a serious matter because it makes all the difference to the conclusion. I should like to quote a very recent study that

has been carried out under the auspices of the World Bank by Mary Sherly who has used public profitability as a criterion for evaluating the performance of state-owned enterprises. She has provided certain results which show that for the 4-year period from 1978 to 1982 profitability ranged from 1 to 5.7 in the case of Pakistan for different state-owned enterprises as against 0.3 to 2.2 for India. Similarly, I should like to quote the results of the same exercise which has shown the results before and after the adjustment of depreciation for a number of countries in the same study. The results show that in the case of Canada public profitability, before allowing for depreciation, was 1.1 whereas after depreciation it was 0.4. So profitability before allowing for depreciation was about 3 times the profitability net of depreciation. In the case of the Netherlands, again it was 2.3 before depreciation and 0.6 after depreciation which means that the former is almost four times the latter. If one includes depreciation in the case of India, the profitability is 1.7 and if one excludes depreciation, the profitability is 0.4. In the case of Turkey, it is 0.8 with depreciation and -0.1 without depreciation. So, the point that I am trying to make is that one should be very careful in making the adjustments to very basic concepts which are internationally recognized, as this makes a lot of difference to the conclusion one reaches. Although the author has stated that accurate public profit would differ by a constant factor if we include depreciation, this is not so because if we add a constant factor to the numerator and there is a denominator, then it might vary over time.

The formulae suggested in the paper have been applied to the case of the Mustehkam Cement Factory. Table 1 of the paper contains private profit and public profit at constant prices and at current prices. One finds in the table that private profit is Rs. 3.17 million and the public profit at current market prices is Rs. 1.3 million for the year 1978-79. The latter, when converted to constant price estimates, is Rs. 72 million, i.e. 72 times the current price estimates. This is a very large adjustment. The point I am trying to make about this large difference due to price effects is that one should use reliable price indices for adjusting current price estimates to constant price estimates. The degree of arbitrary judgement which must have been used in the application of the price statistics and the price indices must be enormous to inflate one figure from 1 million to 72 million.

If one looks at Table 1 over time, one finds that although the degree of difference is not as large as was for the year 1978-79, still quite a large amount of differences exists depending on what kind of price estimates one takes for the time-series of public profitability. I shall also like to point out that while applying the Western techniques of statistical analysis to our own situation one should be extremely careful. In view of the weak statistical base of our price data and of the enormously different and sometimes not quite reliable types of price series that we use, one should be very careful in making these applications.

As far as my general remarks are concerned, I have only two main points. First, apart from applying formulae and criteria, the author has not talked about the rules of the game which are laid out at the time of the approval of the project. As we know, when a project is approved, there are certain terms and conditions laid down as to the targets to be achieved or objectives to be realized in the course of the implementation of the project. So, while evaluating the performance of the projects, I think the much more important objective should be to look at the progress in terms of the targets or objectives which were laid out at the time of the approval of the project.

Secondly, while evaluating the economic performance of public enterprises, there is much less arbitrary judgement involved than when appraising the project on financial criteria. I can go on to say that in applying shadow pricing to the outputs and the inputs, the arbitrary judgement that will need to be introduced would be of a much less degree than the value judgements which have been used in the "performance evaluation results" that have been brought out in this exercise.

My last remark concerns the purpose of performance evaluation, which has not been made very clear. There is only one example that has been taken, i.e. that of Mustehkam Cement. The Mustehkam Cement Company, to me, is not a highly representative public enterprise. Why take just one industrial enterprise which can be as good a private enterprise as a public enterprise. So the objective of the performance evaluation was not quite clear to my mind.

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