Macroeconomic Impact of Public Sector Enterprises
Some Further Evidence

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An analysis of the macroeconomic impact of public sector enterprises (PSEs) for 1960-61 to 1989-90 shows:
(i) relatively little increase in their overall deficit compared to the sharp deterioration of the gross fiscal deficit and (ii) a steep decline in their budgetary dependence. While the PSEs' internal resources in financing their investment increased distinctly, the same for the private corporate sector declined, both converging to similar levels by the end of the 80s. A statistically significant trend increase in the PSEs' capacity utilisation is also discernible for 1978-79 to 1990-91. These results, strengthening our earlier findings, seem to question the implicit premises of the ongoing reforms of the public enterprise sector in India.

PUBLIC sector enterprises (PSEs) have been getting a bad press these days. They are widely perceived as an important in recent years and for the widespread, and allegedly growing, inefficiencies in the non-farm sectors of the economy. A gradual reduction in the role of the public sector, especially in the sphere of production, is, therefore, widely perceived to be an integral element in the policy reform to restore sustainable—if lower, but consistent with the economy's real resources—economic growth.

In the context of the recent stabilisation efforts and structural adjustment in India, the Statement of Industrial Policy (July 24, 1991) stated: “Public enterprises have shown a very low rate of return on capital invested. This has inhibited their ability to regenerate themselves in terms of new investment as well as in technology. The result is that many of the public enterprises have become a burden rather than being an asset to the Government” (emphasis added).

The 'Programme for Structural Reform' submitted to the International Monetary Fund (IMF) on November 11, 1991 to secure its financial assistance for the ongoing reform process stated:
India's severely constrained budgetary circumstances create both the need and opportunity for rationalising the scope of public sector activity, and for placing greater reliance on the private sector for resource mobilisation and investment. Public enterprises have absorbed large amounts of budgetary support for their expansion or operations, but in many cases they have failed to generate adequate returns on the investment of public money and contributed significantly to the public sector saving gap and fiscal deficit. (Reproduced in Reserve Bank of India Bulletin, April 1992, p 789, emphasis added.)

Such views seem to be shared by many policy advisors as well. In his introduction to a recently published set of essays on the Indian economy, Bimal Jalan (1992) opined that “the public sector has become a big drain on the exchequer” (emphasis added).

Considering the significance of these pronouncements for the policy reforms in India, the underlying premises of the aforementioned views warrant a close empirical scrutiny. A preliminary attempt has been made in Nagaraj (1991) at discerning the long-term trends in the performance of PSEs in general and in their resource mobilisation in the 80s in particular, mainly using National Accounts Statistics and Transactions of Public Sector (CSO 1983) as together they provide a comprehensive and consistent time series since 1960-61, disaggregated by type of institution. The institutional categories used are: administrative departments (ADs), departmental enterprises (DEs) and non-departmental enterprises (NDEs); NDEs are further subdivided into non-departmental financial enterprises (NDFEs) and non-departmental non-financial enterprises (NDNFs). Our study concerned itself with NDNFs as they include all the non-financial PSEs in the economy. Although DEs should be strictly included to fully capture the production activities of the government, we have ignored them as they form a relatively small and declining proportion of the total public sector. Moreover, aggregating them with NDNFs posed some operational difficulties. NDNFs, nevertheless, form a substantially comprehensive category as they include not only the PSEs owned and managed by the central government but also those of other (administrative) levels of the Indian union which are quantitatively significant, such as the state electricity boards and road transport corpora-

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2. The observed improvements in resource generation and profitability appear to hold even after excluding the contributions of NDFEs and the petroleum sector.

Admittedly, our earlier exercise has some limitations. It could not reject the hypothesis that the growing fiscal imbalance could be due to the increasing deficit of the public enterprise sector, or trace its financial burden on the budget. Moreover, the study did not isolate the contributions of (i) increases in administered prices and (ii) improvements, if any, in resource utilisation to the observed upturn in NDNFs' resource mobilisation in the 80s.

Continuing our enquiry, this note attempts to address the following questions, using more or less the same data sources: (1) Has the deficit of the public enterprise sector increased over the years? If yes, does it account solely or predominantly for the growing gross fiscal deficit?
(2) Has the financial burden of the NDNFEs on the budget increased over the years?
(3) Is the internal resource generation of NDNFEs lower than that of the private corporate sector in recent years? Has the trend for the former declined while that of the latter increased?
(4) Is the observed improvement in resource generation in the 80s entirely on account of increases in administered prices?

I

Although concern over the PSEs' alleged poor financial performance has been growing, not many serious efforts seem to have been made to quantify and assess the PSEs' contribution to the deteriorating macroeconomic and fiscal imbalances. The International Monetary Fund's attempt [Short 1984] to grapple with the problem is, to our knowledge, a major effort to fill the analytical and empirical gap. In this study, Short estimated the broad dimensions of the size, role and impact of PSEs for selected years to arrive at a significant conclusion that their growing deficit forms an important reason for the stabilisation problems of a large number of countries. While the generalisation, based on estimates for selected years could be questioned for lack of required empirical rigour, Short's methodology appears useful for a more careful enquiry. Therefore, using some of his measures, this study traces the macroeconomic impact of PSEs in India. Besides providing evidence on the Indian experience, this attempt could also enable assessment of the validity of Short's generalisation with time-series data, albeit limited to one country.

**Overall Deficits of PSEs:** These are defined as "the difference between (1) current plus capital expenditure; and (2) revenue plus receipts of current transfers and of non-governmental capital transfers. Government capital transfers are also conventionally included in receipts in defining the overall deficit" [Short 1984: 144]. Figure 1 shows the trends in (i) the combined gross fiscal deficit of central and state governments in India and (ii) the overall deficit of the public enterprise sector as a proportion of the gross domestic product at current market prices for the period 1960-61 to 1989-90. The figure suggests, ignoring the observation for 1973-74, a secular deterioration in the fiscal deficit, with some fluctuation from (-4.3) per cent in 1969-70 to over (-10) per cent in the latter half of the 80s. Although the overall deficit of PSEs has also deteriorated from (-1.4) per cent in 1972-73 to (-3.7) per cent in 1986-87, the trend in it is significantly less sharp than that of the fiscal deficit, as reflected in the sharply widening gap between the two curves. Moreover, a distinct reduction in the PSEs' overall deficit is discernible since 1987-88, taking its level back to that during the early 70s. The visibly divergent trends in the two series would seem to indicate that the growing fiscal deficit is perhaps not attributable to the overall deficit of the public enterprise sector.

Admittedly, the foregoing finding does not take into account revenue from the oil account. To the extent it represents a macroeconomic measure of taxation, PSEs' deficits are understated. However, as shown in our earlier exercise [Nagaraj 1991], profitability of PSEs, even excluding the oil sector, showed a distinct improvement in the 80s. Hence, there is a reasonable basis to argue that the overall deficit of the public enterprise sector is not a reason for the observed deterioration of the fiscal deficit of the economy. This seems to be consistent with our earlier finding [Nagaraj 1991] that the deteriorating fiscal deficit is mainly on account of ADs' declining saving which has turned negative since the mid-80s, rather than on account of the alleged decline in surplus generation of the enterprise sector.

**Budgetary Burden of PSEs:** Another indicator to assess PSEs' macroeconomic impact is their 'budgetary burden', as defined by Short to be the government's contribution of equity capital and loans, net of dividend and interest payment. As it is not possible to net out PSEs' dividend payment and repayment of loans due to inadequate disaggregation, our estimates overstate their 'burden' on the budget to that extent. However, the tax-free bonds floated by some PSEs since 1986-87 have increased the burden to the extent of the tax revenue foregone. But since the tax revenue foregone cannot be estimated we have provided a variant of the budgetary burden in which the tax-free bonds are equated with government loans, although, such an adjustment further overstates the budgetary burden.

Figure 2 [(i) and (ii)] traces PSEs' budgetary burden measured as equity capital, loans and net capital transfers to NDNFEs as a proportion of (i) GDP at current market prices and (ii) gross expenditure of NDNFEs, for the period 1960-61 to 1989-90. Budgetary burden as a proportion of GDP increased from 1.4 per cent in 1972-73 to 3.5 per cent in 1977-78 and fluctuated around that level for about a decade. However, a sharp fall in it is discernible since 1986-87 after reaching 3.7 per cent, bringing it back to the level attained in the early 70s. The budgetary burden as a proportion of the gross expenditure of NDNFEs has steadily declined from about 34 per cent in 1961-62 to less than 7 per cent in 1989-90. The inclusion of tax-free bonds as loans from the government in both the measures of budgetary burden, although it exaggerates the PSEs' budgetary dependence, does not affect the above trend materially. The estimates would have been further lower if PSEs' dividend payments and repayments of loans were taken into account. The evidence suggests, contrary to the widely held opinion, a sharp decline in budgetary support for the PSEs' expenditure and hence their burden on the government. Even as a proportion of GDP, a sharp fall in the burden in the latter half of the 80s is undeniable.

**Self-Financing Ratio:** We have shown earlier [Nagaraj 1991] that this ratio—defined as gross saving of NDNFEs as a
proportion of their gross capital formation at current prices—has improved distinctly in the 80s, thus reducing NDNFEs’ dependence on the government for financing their growth. Figure 3 compares self-financing ratios for NDNFEs and private corporate sector9 for the period 1960-61 to 1988-89. While the ratio for the public enterprise sector shows generally an upward trend, especially in the 80s, almost the opposite seems discernible for the private corporate sector, with the two ratios converging to more or less similar levels of around 40 per cent towards the end of the decade.10 This finding seems to question the basis for the commitment given to the IMF for placing greater reliance on the private corporate sector for mobilising resources for industrial growth, as evident from the official memorandum quoted earlier.11

Trends in Capacity Utilisation in PSEs: Highlighting the significant improvement in surplus generation in the 80s, our earlier study [Nagaraj 1991] admitted its inability, due to the limitations of the data, to ascertain if any part of it was attributable to improvement in resource use. As is widely known, capital or total factor productivity measurements have numerous conceptual, methodological and empirical problems [Griliches 1987]. As a measure of operational performance, we have computed a weighted average index of capacity utilisation of 14 central public sector enterprises, accounting for about 55 per cent of this subset of PSEs’ capital employed and value added in 1990-91. Two variants of the index are computed by taking as weights their shares in (i) capital employed and (ii) in value added. The results suggest a statistically significant trend growth rate of over 1 per cent per annum in capacity utilisation over the period 1979-80 and 1990-91 (Figures 4.1 and 4.2).12 Hence the hypothesis that the observed improvement in resource generation in the 80s is entirely on account of increases in administered prices can be rejected. Better operational performance has also contributed to the increase in resource generation.

II

The foregoing evidence seem to be significant in many respects. Highlighting the merits of time series analysis, our findings question Short’s generalisation, based on a cross-country comparison for selected years, of deteriorating PSEs’ deficits as a principal cause of the stabilisation problems in a number of developing countries.

The main findings of this study, in terms of the questions posed at the beginning, can be summarised as follows: Although the overall deficit of PSEs has
increased marginally over two decades, the increase seems insignificant compared to the sharp deterioration in the gross fiscal deficit. The widening gap between the two suggests that the deterioration in gross fiscal deficit is not on account for the overall deficit of the enterprise sector. The budgetary burden of the PSEs measured as a proportion of (a) GDP at current market prices shows a definite decline since the mid-80s, and (b) PSEs' current and capital expenditure shows a secular decline from about 34 per cent in 1961-62 to 7 per cent in 1989-90. While the share of internal resource generation in financing investment in PSEs has increased in the 80s, the same for the private corporate sector has declined, both converging to around 40 per cent by the end of the 80s. A statistically significant improvement in capacity utilisation, during 1978-79 and 1990-91, is discernible which would partly account for the observed improvement in resource mobilisation of PSEs, besides the increases in administered prices.

These results seem seriously to question the underlying premises of the current policy reforms with their overwhelming emphasis on diluting public ownership. Moreover, such a stance cannot be justified on analytical considerations either, since a priori economic theory does not postulate a positive association between nature of ownership and performance.

Notes

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1 For the definitions of these categories see CSO (1989) and Nagaraj (1990).
2 In this study terms PSEs, NDNFEs, public enterprise sector and publicly-owned enterprises are used synonymously.
3 To quote Short (1984: 180-81): "It is clear that the overall deficits of public enterprises are extremely large in many countries. As a result, public enterprises make sizeable demands on governments, bank credit and foreign borrowing. The precise effects of these demands will vary from country to country depending on economic circumstances. However, their large size strongly suggests that, in many developing countries, public enterprises have been a major cause of stabilisation problems and, as a result, have contributed significantly to inflation and balance of payments difficulties... As a consequence, measures to reduce the overall deficits of public enterprises may often be particularly appropriate for countries facing stabilisation problems."
4 This measure is arrived at, using the NAS, in the following manner: Overall deficit = (total revenue – total expenditure)/GDPmp at current prices. Total revenue is gross output-(net current transfers + net property income + all loans excluding those from government + net capital transfer); and total expenditure is intermediate consumption + compensation to employees + (indirect taxes-subsidies) + direct taxes + gross investment + net acquisition of financial assets.
5 Gross fiscal deficit is defined as excess of total government expenditure over revenue receipts and grants as a proportion of GDP at current market prices. As a comparatively comprehensive measure we have used consolidated accounts of the centre and the states and union territories rather than that of merely the central government, as is widely done. For justification, see Blejer and Cheasty (1991).
6 The documentation of the overall deficit of PSEs should not be construed as its justification, even if it has not increased significantly over the long period. Such a justification, if any, should be based on the impact of the deficit on the economy's efficiency of resource use and social well-being.
7 However, as Short admits, this is incomplete since it ignores the tax revenue collected from PSEs on the one hand and subsidised credit provided by government financial institutions and purchase preference given to PSEs. As these are difficult to quantify, Short restricts his estimate to the measurable aspects of the budgetary burden.
8 Gross expenditure is defined as sum of intermediate consumption, compensation to employees and gross investments of NDNFEs.
9 The internal resources of private corporate sector are defined as retained earnings plus depreciation.
10 This result, based on a long time series analysis, questions the World Bank's (1988)
11 Perhaps the declining self-financing ratio in the private corporate sector is related to the increasing share of dividends as a proportion of profit before tax, which has gone up from 19.4 per cent in 1980-81 to 27.5 per cent in 1987-88 [ RBI 1990]. This observation is tentative, subject to closer scrutiny.

12 The estimated trend equations are as follows:

\[
\begin{align*}
\log Y_1 &= 1.89 + 0.007t, \quad R^2 = 0.41, \quad N = 13 \\
(0.0025) & \quad t = 2.77 \\
\log Y_2 &= 1.88 + 0.006t, \quad R^2 = 0.34, \quad N = 13 \\
(0.0026) & \quad t = 2.38
\end{align*}
\]

where \( Y_1 \) is the weighted average capacity utilisation of 14 central government PSEs accounting for 55 per cent of capital employed; and \( Y_2 \) is the same with weights being value added. The estimated coefficients of \( t \) in both the equations are statistically significant at 95 per cent confidence level.

13 A growing analytical literature questions the widely posited positive relationship between ownership and performance. See Vickers and Yarrow (1991) and Estrin and Perotin (1991). Arguing against premature obituarists of market socialism, Bardhan and Roemer (1992: 101-2) say: “Our claim is that competitive markets are necessary to achieve an efficient and vigorous economy, but that full-scale private ownership is not necessary for the successful operation of competition and markets. Contrary to popular impression, this claim has not yet been disproved by either history or economic theory.” Even in management literature one does not find any analytical support for the alleged superior efficiency of private ownership. Reviewing II studies on privatisation, Goodman and Loveman (1991: 38) conclude: “Ownership of a good or service is far less important than the dynamics of the market or institutions that produce it... Accountability and consonance with the public’s interest should be the guiding lights. They will be found where competition and organisational mechanism ensure that managers do what, we, the owners, want them to do.”

References

- Government of India.