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*Satyaki Roy & Santosh Kumar Das**

[Abstract: *This paper aims to revisit the performance of public sector in India particularly in the context of market oriented reforms pursued in the past few decades. It is found that the share of public sector in GDP, if we compare pre and post reform periods, on an average didn't show a drastic decline. In fact the number of central public sector enterprises (CPSEs) and particularly the number of profit making CPSEs increased sharply in post 2000s. The performance of public sector by usual indicators improved initially because of change in institutional arrangements in terms of enhanced transparency, greater autonomy and so on, being manifested in the rise in both net profit and profitability during the same period. However, performance on the same count suffers a decline since 2012, as the paper argues, primarily because of decline in public investment in plant and machinery as well as in technology and due to relative underpricing of public sector output. The paper also underlines the fact that the contestation between efficiency and equity is very much embedded in the idea of public sector. These enterprises are supposed to fulfill certain goals both in the input and output side which cannot be adequately captured by the one dimensional metrics of efficiency used otherwise to measure performances of profit maximizing firms.*

Keywords: *public sector, efficiency, investment, profitability, equity.*

1. Introduction

Immediately after India's Independence the formation of nationhood was accompanied by challenges in several fronts. Besides political challenges of partition driven mammoth dislocation of population, defining the boundaries of the nation and incorporating territories within the nascent statehood, the challenge on the economic front was to carve out an autonomous trajectory of economic development independent from the division of labour imposed by the colonial rule. India happened to be third in ranking only after United Kingdom and China in 1860 in terms of manufacturing output but drastically lost its share in global manufacturing value added during the century that followed (Bairoch, 1982, Nayyar, 2013). As a colony she was destined to serve the supplies for the

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Industrial Revolution in Britain and all its existing industrial activities were being destroyed by the colonial power to provide markets for the goods produced in British factories (Bagchi, 1975). The imminent challenge was to build basic and heavy industries, create infrastructure, prepare workforce capable of handling modern industries. Indian private capital was risk averse to invest in capital intensive basic industries and also was aware about the low domestic demand of a thin market. Hence they opted for renewing private capital under state tutelage and whole heartedly supported cooperation between private and public capital. As architects of the Bombay Plan 1944 prior to Independence, India's industrialists advocated state-private capital alliance as the preferred path of economic development. The 'Statement of Government's Industrial Policy in 1945 and post-Independence Industrial Development and Regulation Act of 1951 defined the critical role of public sector in India. Subsequently Industrial Policy Regulation of 1956 defined the premise and boundaries of activities that would come under public control. India adopted the path of mixed economy in which the state would have critical control over key resources and production capacities while private sectors would be largely confined to consumer goods segments. Import substituting industrialization with limited engagement with global market and speedy expansion of industrial capacity, workforce and alleviation of poverty defined the key agenda of the era of indicative planning. In spite of the fact that industrial output almost quadrupled during the period 1951 to 1975 and there has been decisive decline in the share of agriculture in GDP together with industrial production growing by 7.7% per annum during the period 1951 to 1965, industrial stagnation set in by mid-sixties (Nayyar, 1978). Apart from the immediate causes of war and drought industrial investment and growth lost its steam due to constraint in demand particularly because of the exhaustion of space created by import substitution and prevailing low domestic demand in rural India (Patnaik, 1972, 1986; Mitra, 1977, Bardhan, 1984). This was coupled with rent-seeking and misallocation of resources as big monopolies eschewed rents taking advantage of protected markets and export pessimism (Patibandla, 2020). The low growth of domestic private investment was addressed in the eighties by partial liberalization which could increase industrial growth but eventually gave rise to balance of payment crisis.

This was the backdrop of adopting liberalization policies in India which was subsequently accompanied by policies towards deregulation. Reforms since 1991 included significant reduction in industrial licensing, contraction of areas reserved for public sector, disinvestment of equity of selected public sector enterprises, enhancing limits of foreign equity participation in domestic industrial enterprises, promoting FDI, rationalization of taxes in the form of reducing customs and excise duties, corporate tax and personal income taxes, and introduction of value added tax. The underlying philosophy of these policies was largely being ensuring efficient allocation of resources through the institution of markets and gradually reducing state intervention in various spheres. In this backdrop the role of public sector was supposed to decline as monopolies and was seen to be replaced by competition. Instead of soft budget constraint which public sector used to enjoy earlier

are being forced to market discipline by integrating finances to capital markets through disinvestment. In fact, the Central Public Sector Enterprises are now being categorized as 'strategic' and 'non-strategic'. (a) Arms, ammunition, defense equipment, defense-aircraft, warships; (b) Atomic Energy (except in the areas related to the operation of nuclear power and applications of radiation and radio-isotopes to agriculture, medicine and non-strategic industries); and (c) Railway transport are only considered to be strategic sectors (Chibber and Gupta, 2017). Hence the CPSEs in all other sectors are considered to be non-strategic and the reservation for public sector shrank to the minimum almost abolished except for few hazardous and environmentally sensitive industries.

In this new context this paper aims to revisit the presence and role of public sector in the Indian economy. It also draws some international experiences on privatization of public utilities and enterprises and then critically reviews the performance of public sector in India. The paper shows that public sector performance in India alike many other countries depends on the institutional structure in which it is embedded. The decline in the share of public sector in India's GDP is policy driven but the performance of public sector also improved with change in institutional arrangements but its decline in performance is dependent on public investment in plant and machinery as well as in technology and the autonomy to decide prices of public sector output. The paper also underlines the fact that the contestation between efficiency and equity is very much embedded in the idea of public sector. These enterprises are supposed to fulfill certain goals both in the input and output side which cannot be adequately measured by one dimensional metrics of efficiency used otherwise to measure performances of profit maximizing firms.

2. Role of Public Sector

The public sector or State Owned Enterprises (SOEs) as it is generally known across countries played important role in various stages of economic growth in advanced as well as in developing countries. In the nineteenth century SOEs were heavily involved in building transport infrastructure, communication facilities and energy generation plants. In the twentieth century the role of state owned enterprises increased in Europe particularly during the inter-war years and later on during the WWII and thereafter which continued until 1970s (Bognetti, 2020). There were different aspects of facilitating public sector such as creating large scale champions of industries capable of reducing dependence on foreign companies, protect infant industries which were contributing to creation of capabilities and also emerged as important vehicle to maintain stability in output and employment. These SOEs contributed to high growth of many Western economies and helped building critical infrastructure for future growth. In both developed and developing economies state ownership helped in addressing issues of market failure by catering public goods and infrastructure, it contributed to countercyclical investment and employment in periods of downturn. Particularly in developing economies public sector provided access to critical services and utilities to those who hardly had capacities to

purchase such essential services. Similar to what had been the case in India public investment played critical role in sectors that require huge start-up costs and involve long turnover time. Most of the private enterprises shied out of operating in these sectors and the public sector stepped into these less lucrative segments. In most of the developing countries public sector played an important role in creating the middle class endowed with fair wage and salaries and also entitled to certain rights which defined norms of employment creating compulsions on private enterprises to follow similar work relations (D'Costa, 2005). During the Keynesian welfare regime mostly articulated through a social compact the workers were factored in both as producers of goods and services as well as consumers of the same and hence the institutional arrangement was designed to strike a social democratic balance between production and consumption at the macro level.

Since 1970s there was a drastic change in the policy milieu which brought narrowly defined economic efficiency at the centre stage. State owned enterprises according to these criteria are seen to be underperforming and rent-seeking and misusing of public enterprises as political goods became the critical point of departure towards privatizing and disinvesting public sector. Soft-budget constraint, monopoly position in certain sectors allowing enterprises to lag behind in terms of technology innovation and agency problems were identified as the major weaknesses of public sector enterprises. Despite the fact that these features were identified with public sector enterprises and offered rationale for privatization across the world in the decades of 1980s and 1990s what perhaps lost sight of the fact that in situations of natural monopolies it is better to rely on public sector so as to reduce huge wastes of resources and soft-budget constraint and agency issues are equally prevalent in large corporate companies also (Jensen and Meckling, 1976; Kornai et al, 2003). It is also important to retain public control on resources and sectors of critical importance and need to play the role of provider of essential services to the poor particularly in developing countries who could not participate in markets. It is important to note that in terms of empirical evidence studies are mostly inconclusive about the performance of public sector in different country context. Szarzec et al. (2021) uses a dataset of 30 European countries for the period 2007-16 using indicators of more than 1.3 lakh non-financial companies arrived at a conclusion that public sectors performance largely depends on the level of institutional quality of the particular country. In other words, there is no empirical evidence to argue that public sectors are intrinsically good or bad in terms of performance but they perform well when conditioned by a developed institutional structure. In fact the outcomes of privatization also depend on a wider and complex interaction among ownership, market structure, regulatory and political variables (Vickers and Yarrow, 1991)

During the period 1979 to the end of 1999 across 130 countries in the world the number of medium and large state owned enterprises either divested or privatized ownership is as large as 75 thousand. There was a huge spurt of privatization during this period mostly concentrated in OECD countries. In the developing countries it happened in the later phase although in post 2000 number of privatized firms drastically declined while the proceeds from privatization almost trebled (Nellis, 2012). The reason being a moderation in the

perception on benefits of privatizing SOEs and on the other hand proceeds were higher because of high valued enterprises being privatized in China, Brazil and the Middle East. The major sectors where different degrees of disinvestment or outright privatization took place were energy, infrastructure, manufacturing and services and mining and extractive industries. The experiences of the first phase of privatization mostly concentrated in advanced economies invoke a nuanced assessment of benefits of privatization. In some cases, particularly in utilities it has been suggested that although efficiency increased but didn't show very significant improvement with respect to the cost borne. Generally, when the benefits of privatization are being assessed it is not being done on similar cost conditions, meaning profits of privatized firms may increase because of monopoly position awarded or because of subsidies provided by the government in terms of energy or input costs which may not be existing in the public ownership phase. It is also necessary to assess the welfare impact of the changes in ownership rather than restricting to metrics of efficiency alone. In the process of privatizing public sector there are different stakeholders involved: the government, new private owner, consumers and workers. Privatizing may increase revenue for the government and the new owner might be gaining higher returns out of this process but the same process may reduce employment in existing enterprises and the price of the goods and services may be increased once the private owner takes it over. Therefore, comparisons of benefits would be much more comprehensive if the cost conditions and pricing of goods and services are similar, otherwise private benefits may come with social costs which are not factored in while assessing performance changes. It is also important to pose counterfactuals. In other words, how performance of state owned enterprises change with enhanced investments in innovation or technology or by allowing cost conditions similar to post-privatisation scenario may give a nuanced assessment of the gains from privatization. In the context of public sectors some efficiency criteria applicable for private sectors may not be suitable as social goals embedded in public sector operations might be different from the usual objective of profit maximization.

In case of India public sector reforms was part of the larger goal of establishing market levers in allocating resources and introducing market linked incentives in conditioning performances. The reforms emphasized delicensing allowing private players' entry into sectors exclusively reserved for public ownership together with disinvestment of government shares and listing PSUs in stock exchanges (Khanna 2012). The new regulations and listing in stock exchanges also require necessary disclosure and governance regulations, appointment of independent directors and audit and allowing governments to withhold or withdraw budgetary support to public enterprises depending on their performance. Classifying public sector enterprises in terms of organization and scale and with a view to introduce commercial and financial autonomy, CPSEs are being categorized as Maharatnas, Navaratnas and Miniratnas. The Maharatnas will have powers to undertake equity investment to establish financial joint ventures and wholly owned subsidiaries in India and abroad; undertake mergers and acquisitions in India and abroad, subject to ceiling of 15% of the net worth of the concerned PSU in one project limited to an

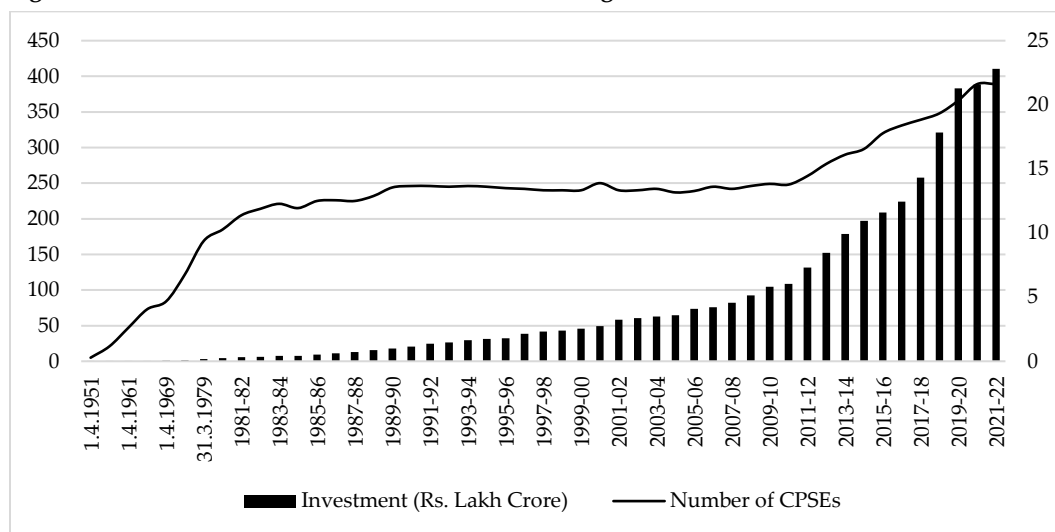
absolute ceiling of 5 thousand crore rupees (INR 100 crore for Navaratna PSUs). The overall ceiling on such equity investments and mergers and acquisitions in all projects put together will not exceed 30% of the net worth of PSUs. It was generally held that profit making PSUs will not be privatized and all efforts are to be made to revive and restructure sick PSUs. Only those public enterprises which are chronically loss making would be sold off or closed after paying dues and adequate compensation to the workers. It was also stated that proceeds of privatization will be used for designated social sector schemes.

The government of India proposes to monetize publicly owned brownfield capital assets as part of the National Infrastructure Plan (NIP) involving 111 lakh crores stretched over a period of five years. About 20 plus asset classes including roads, railways, power generation, natural gas pipelines, telecom, product pipeline, mines, aviation, ports and stadium that are currently under public control will be handed over to private corporates for a finite period as license or lease. The National Asset Monetisation Pipeline (NAMP) has been announced which sets a target of mobilizing roughly 6 lakh crores by implicitly handing over five categories of core assets namely roads, railway, power, gas pipeline and telecom. It is claimed that this is not outright sale but transferring of control to private players for a finite time against an upfront rental income that the private player would pay after retaining an amount on the basis of assumed profit rate and return to investment. This is likely to have impact on pricing of services erstwhile provided as public goods.

3. Public Sector in India

At the beginning of the First Five Year plan (1951-56), there were only 5 Central Public Sector Enterprises operating in few sectors like Railways, Ports, Telegraphs, Ordnance factories etc. These sectors were of strategic importance owing to the nature of public service provided and high investment requirements. Since the first five-year plan, the presence of PSEs in terms of numbers and operation in different sectors have increased manifold. The number of CPSEs increased from 5 in 1951 to nearly 250 in 1990 (Figure 1). Thereafter, for about two decades, the number of CPSEs remained more or less stagnant around 250, though the volume of investment and their operational activities increased significantly. Between 2012 and 2020, there was significant increase in the number of CPSEs and the volume of investment. The number of CPSEs increased from 260 in 2012 to 389 in 2022. Similarly, the volume of financial investment too rose from 7.3 lakh crore to nearly 23 lakh core during the same time period.

In terms of sectoral operation of CPSEs, while the number of CPSE in the agriculture and agro based industries declined from 10 in 1980 to 3 in 2020, the number of CPSEs has increased considerably in services such as transport & logistics services, construction and technology consultancy services and financial services (Table 1). The number of CPSEs in mining and exploration industries has remained almost stagnant. On the other hand, there has been decline in the number of CPSEs in manufacturing sector, especially in fertiliser, transport vehicle and equipment, and textiles.

Figure 1: Number of CPSEs and investment in CPSEs during 1951-2022

Source: Author's calculation from Public Enterprises Survey, various years

Table 1: Sectoral Distribution of Operational CPSEs

Sectors	1980	1990	2011	2020
Agriculture and Agro based Industries	10	4	5	3
Mining and Exploration of Coal	5	8	10	8
Mining and Exploration of Crude Oil		8	3	5
Mining and Exploration of Other Minerals and Metals	12	12	12	11
Manufacturing, Processing and Generation of Steel	3	8	5	4
Manufacturing, Processing and Generation of Petroleum	11	14	8	6
Fertilisers	15	8	7	7
Chemicals and Pharmaceuticals	.	19	11	20
Heavy, Medium & light Engineering	31	38	32	36
Transport Vehicle and Equipment	9	13	8	1
Industrial and Consumer Goods	11	18	14	13
Textile	10	14	4	5
Power Generation		4	10	14
Services - Power Transmission		4	3	13
Trading and Marketing	19	20	20	20
Transport and Logistic Services	1	12	12	23
Contract & Construction, And Tech. Consultancy Services	7	12	30	46
Hotel & Tourists Services	2	8	9	6
Financial Services	3	7	17	21
Telecommunication and Information Technology	9	2	4	8
TOTAL Operational PSEs	158	233	224	270

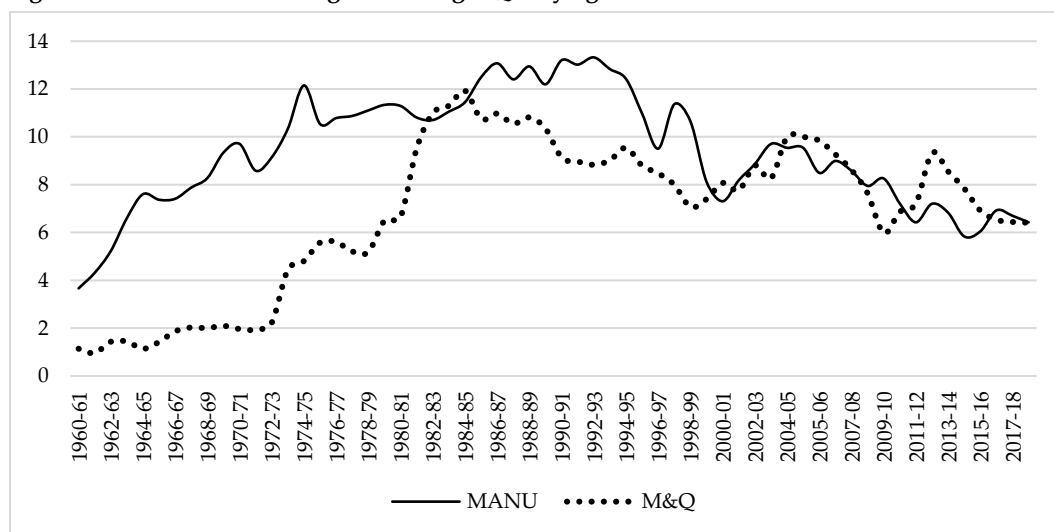
Source: Same as Figure 1

The relative importance of different sectors within public sector value added has changed in the past decades. In fact, the share of mining and quarrying suffers a decline since early 1980s and its share shows a sharp fall from the high point of 11.9% in 1984-85 to 6.4% in 2019-20. The share of manufacturing rose from 3.6% in 1960-61 to 13.3% in 1992-93 and then it shows a decline in the past three decades of reform bringing it down to 6.4% in 2019-20 (Figure 2). It is interesting to see that during the reform period within the public sector the relative importance of manufacturing and mining declined while that of services increased.

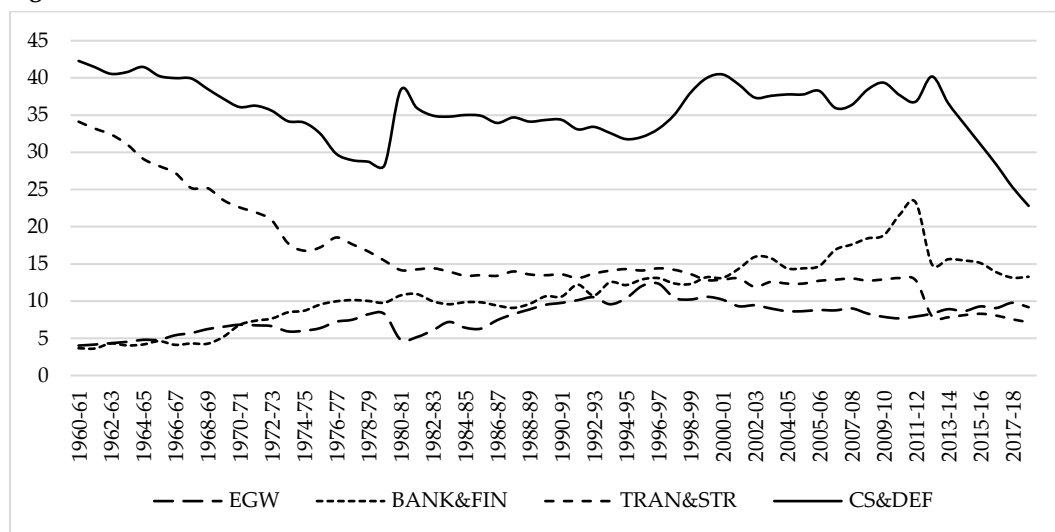
Figure 3 shows that the share of different service activities within the public sector value added changed over time. The share of community services and defence was 35.5% for the entire period 1960-61 to 2013-14. Although the share falls from 42.3% in 1960-61 to 28.3% in 1979-80 and then increases and remained thereafter until it suffers a steep decline from 40% in 2012-13 to 22.8% in 2018-19.

The share of transport and storage services falls sharply from 34.1% 1960-61 to 14.2% in 1980-81 and then remains stable. The share of electricity gas water increased consistently until 1996-97 and then shows a marginal decline. The share of banking and financial activities show a secular rise in the share of public sector value added which increased from 3.6% in 1960-61 to 15.6% in 2013-14 and then suffers a decline. Hence in the recent period the two most important constituents of public sector value added are community services and defence and banking and finance.

Figure 2: Share of Manufacturing and Mining & Quarrying in Public Sector Value Added

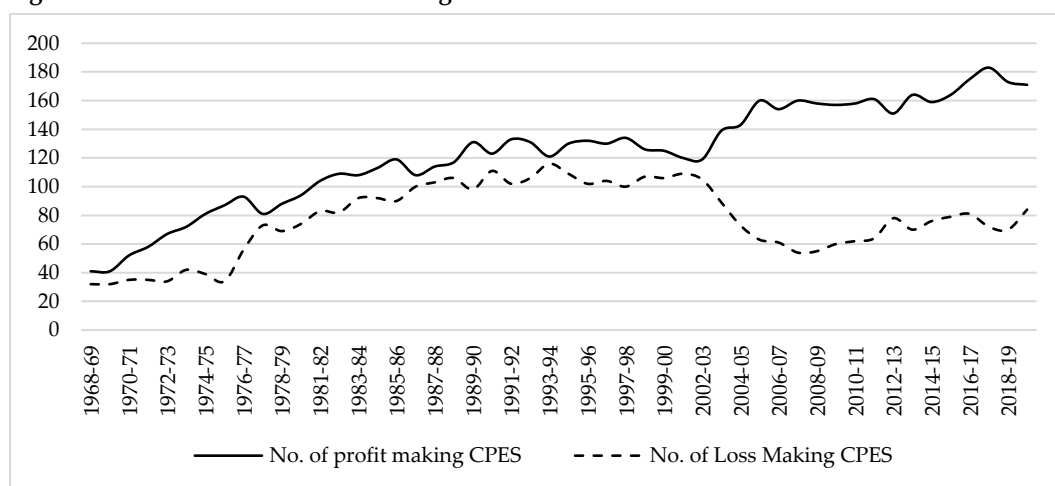


Source: Author's calculation from National Accounts Statistics, various years

Figure 3: Share of Services in Public Sector Value Added

Source: Same as Figure 2

It is interesting to note that the number of profit making CPSEs has increased from 40 in 1970 to 180 in 2017-18. Between 2003 and 2018, number of profit making CPSEs increased considerably, from 120 to 180 (Figure 4). Also the number of loss making CPSEs fell from 110 in 1990 to 60 in 2010. However, in recent years the number of loss making CPSEs has increased to 84 as on March 2020. Sector wise distribution of loss making CPSEs loss making CPSEs are more in Chemicals and Pharmaceuticals, Heavy & medium Engineering, Trading & Marketing, Transport & logistics Services, Contract Construction and tech Consultancy Services and Hotel Services (Table 2)).

Figure 4: Number of Profit and Loss Making PSUs

Source: Same as Figure 1

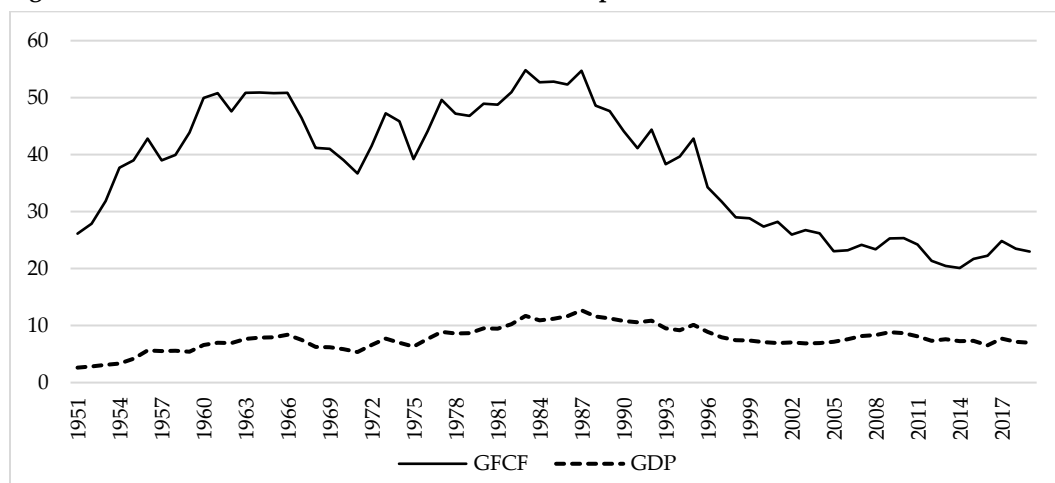
Table 2: Sectoral Distribution of Profit and Loss making CPSEs

<i>Cognate group</i>	<i>Profit making CPSEs</i>	<i>Loss making CPSEs</i>
Agro Based Industries	1	1
Coal	6	2
Crude Oil	4	1
Other Minerals & Metals	9	2
Steel	3	1
Petroleum (Refinery & Marketing)	5	2
Fertilisers	6	1
Chemicals & Pharmaceuticals	6	10
Heavy & Medium Engineering	18	8
Transportation Vehicle & Equipment	1	0
Industrial and Consumer Goods	7	4
Textiles	0	5
Power Generation	12	0
Power Transmission	15	1
Trading & Marketing	10	8
Transport and Logistic Services	10	14
Contract Construction and Tech. Consultancy Services	35	9
Hotel and Tourist Services	1	5
Financial Services	21	1
Telecommunication & IT	6	2
Total	176	77

Source: Same as Figure 1

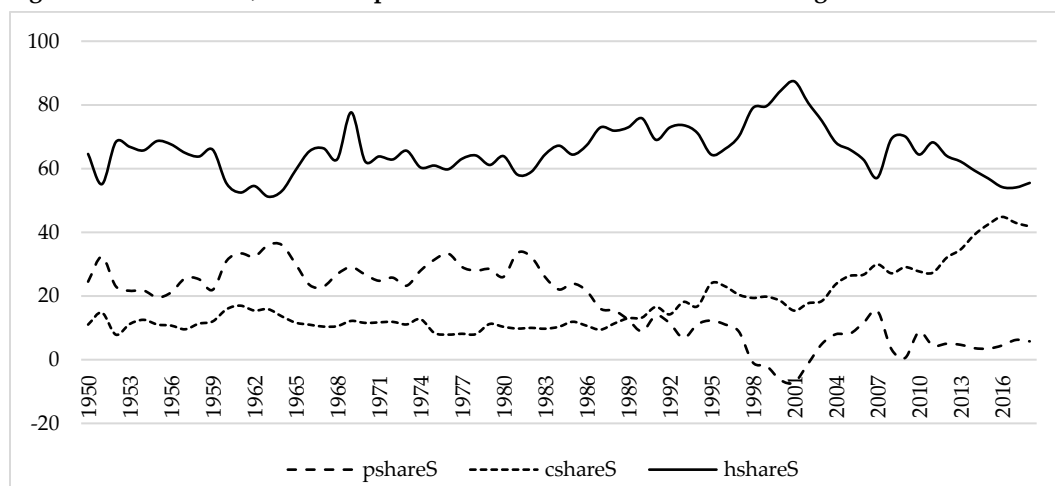
Figure 5 also shows that the number of profit making PSUs was throughout higher than the number of loss making PSUs and since 2002-03 there has been steep rise in the number of profit making PSUs together with steep fall in the number of loss making PSUs.

The share of public sector in GDP for the pre-liberalisation period 1951 to 1991 was 7.6 per cent and was pretty low at 4.2% in the fifties the average during the three decades of 1960-90 was 8.6% (Figure 5). The average for the post liberalisation period 1990-2019 comes out to be 7.98%. In fact, it increased from 2.6% in 1951 and reached its peak of 12.7% in 1987 and then declined. The share of public sector in GDP in 2019 is 7%. But the share of public sector in gross fixed capital formation increased from 26% in 1951 to 54.7% in 1987 and then shows a steep decline reaching the low point of 20% in 2014 and the share turns out to be 23% in 2019. Hence it is important to note that the public sector contributed significantly in investment demand in India in pre liberalisation period and its share in investment declined sharply during the reform era. As Nagaraj (2015) indicated that steep fall in investment in public sector is not because of their financial health but a consistent decline in investment by the government in order to abide by the hard budget constraint imposed by the Fiscal Responsibility and Budget Management obligations.

Figure 5: Share of Public Sector in GDP and Gross Fixed Capital Formation

Source: Same as Figure 2

The largest contributor in India's gross savings has been the household sector throughout the post-Independence period with an average share of 65.5% for the entire period (Figure 6). The share of private corporate sector in gross savings during the pre-liberalisation period that is 1950-90 was 11.4% which increased to 26.4% in the post liberalization period. The share of public sector in gross savings turns out to be on an average 26% in the pre-liberalisation period which fell sharply to an average of 5.6% during the period 1991-2018. The figures on shares in gross savings suggest almost a mirror image of public and household sector although the decline in public sector savings is not actually compensated by the rise of household savings but in addition to that average share of private corporate sector in gross savings increased quite sharply in the post liberalization period.

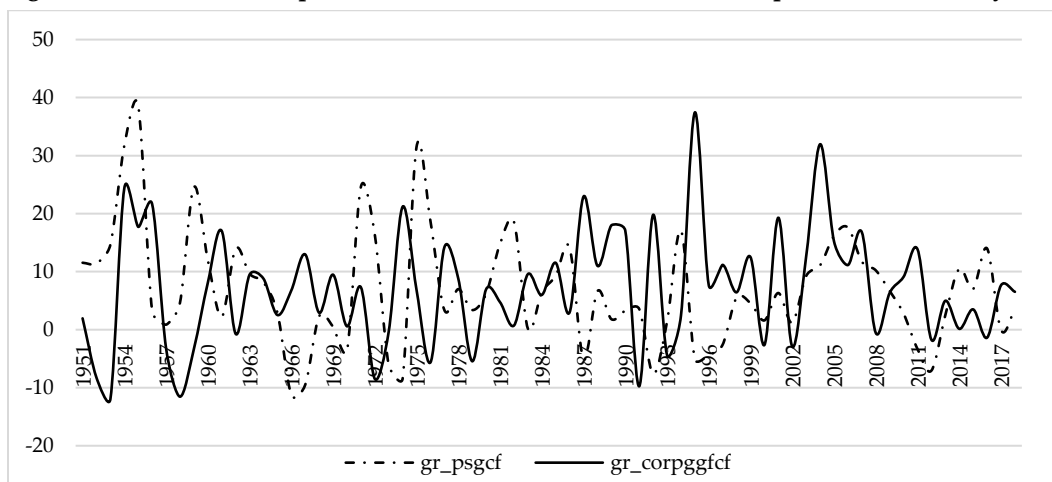
Figure 6: Share of Public, Private Corporate and Household Sector in Gross Savings

Source: Same as Figure 2

4. Investment, Employment and Financial Performance

One of the major reasons of the decline of the Public Sector in India is the fall in investment in the post liberalisation period. During the decade immediately after Independence i.e., 1950s the average growth of gross capital formation was 15.7% which for the private corporate sector was as low as 3.05%. The growth of investment suffers a decline during the sixties until mid-seventies when the average growth of public sector investment came down to as low as 3%. This was also the period when industrial stagnation set in although the growth of investment in private corporate sector during the same one and half decade was about 6.5%. During the period 1976 to 1990 the growth of investment in the public sector enterprises and in the private corporate sector was more or less same 8.7% and 8.1%. In the post liberalisation period that is the three decades spanning 1991-2018 the average growth of investment in the public sector came down to 4.8% while that in the private corporate sector it came on average 8.3% (Figure 7)

Figure 7: Growth of Gross Capital Formation of Public Sector and Private Corporate Sector over the years

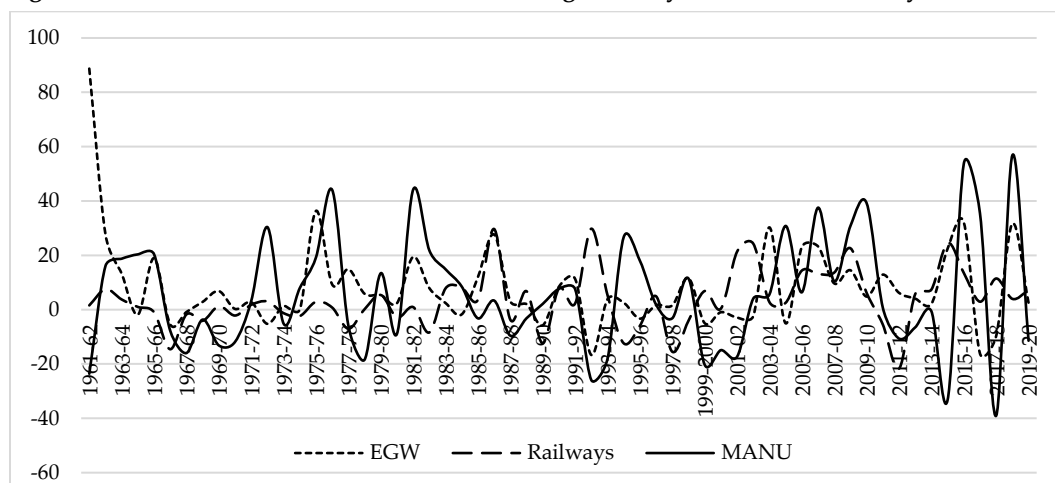


Source: Same as Figure 2

Figure 8 shows the growth of gross capital formation in three important segments of public sector: utilities or electricity, gas and water services, railways and manufacturing sector. The growth of investment in the pre-liberalisation period considering 1960/61 to 1990/91 in the utilities has declined from an average growth of 10% to 6.5% in the post liberalisation period (1990/91- 2018/19). During the same reference period public sector investment in railways has increased from one per cent in the first period to 6.3% average in the second period. While in the case of manufacturing the growth of gross fixed capital increased from 5.3% in the three decades of pre-liberalisation period to an average of 6% in the post liberalisation period. In the recent decade that is for the period 2011/12-2018/19 the average share of public non-financial sector in total gross fixed capital formation is 11% while the share of private non-financial corporate sector turns out to be 36.6% and the highest share is accounted for household sector of 39.4%. This indicates the low share of investment in

public sector in recent period but at the decline of the share in investment is not been fully compensated by the private non-financial corporate sector.

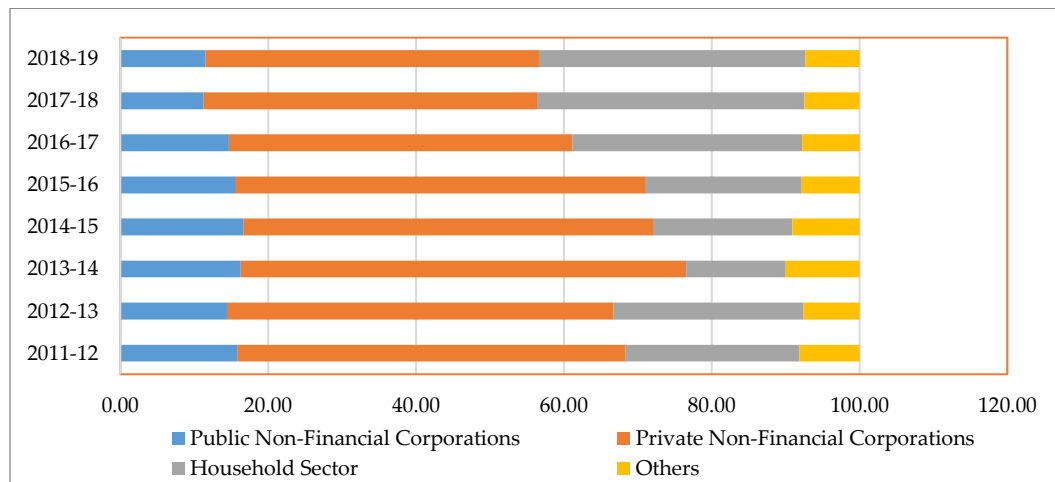
Figure 8: Growth of GCF in Public Sector Manufacturing Electricity Gas Water and Railways



Source: Same as Figure 2

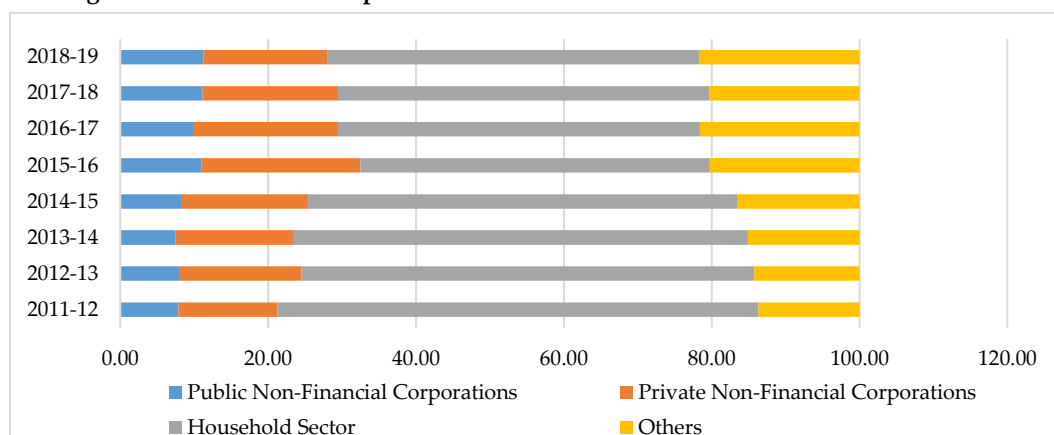
Figure 9, 10 and 11 show the share of public non-financial corporations, private non-financial corporations, household sector and others in investment in machinery and equipment, dwellings and buildings and intellectual property products respectively. It is evident from the following tables that the share of public sector non-financial corporations in investments in machinery and equipment and intellectual property products have declined sharply and the share of private non-financial corporations have increased during the current decade.

Figure 9: Share of Public and Private Non-Financial Sectors and others in total GFCF in Machinery and Equipment at 2011-12 prices



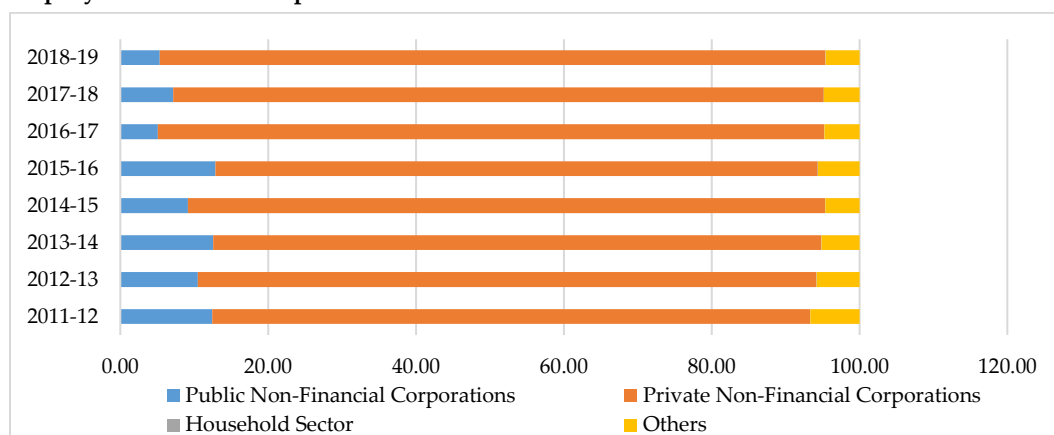
Source: Same as Figure 2

Figure 10: Share of Public and Private Non-Financial Sectors and others in total GFCF in Dwellings, Buildings and Structures at 2011-12 prices



Source: Same as Figure 2

Figure 11: Share of Public and Private Non-Financial Sectors and others in total GFCF in Intellectual Property Products at 2011-12 prices



Source: Same as Figure 2

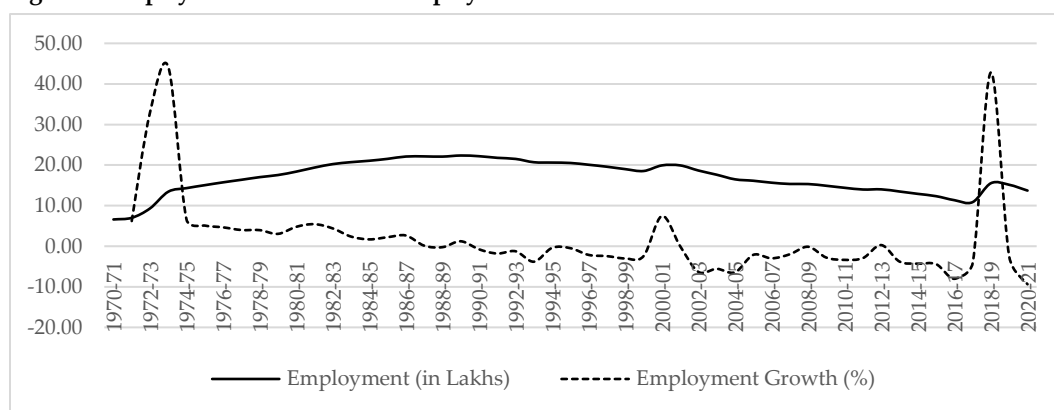
It is interesting to note that out of total investment in machinery and equipment during the current decade (2011/12-2018/19) the share of private non-financial corporations accounts to more than half that is 51.6% while the share of public non-financial corporations has recorded an average of 14.5%. In the case of investment in intellectual property products the share of private non-financial corporations is about 85.3% and that of public non-financial corporations amounting only to 9.4%.

Only in the case of investment in dwellings and buildings the share of public non-financial corporations has increased in the recent period. Although the average share of the public non-financial sector for the current decade has been 9.4% which is 17.4% for the private non-financial corporations and the highest share 55.3% is accounted by the household sector.

The CPSEs have been an important source of employment in India, though in recent decades the number persons employed in CPSEs has declined. The employment in CPSEs increased considerably between 1970 and 1990, from 6.6 lakhs to 22.2 lakhs (Figure 12). During 1990s, the decline was gradual. However, during subsequent decades, there was significant dip in the employment figures, from nearly 20 lakhs in 2000 to 14.4 lakhs in 2010. The employment figures further dipped to 10.9 lakhs in 2018. The declining employment in CPSEs is also reflected in the employment growth. The growth of employment in CPSEs shows a decline since the beginning of mid-1970s although growth rate was positive. Since 1990s, during the last three decades, the employment growth shows a faster decline reaching negative rates since 2012-13.

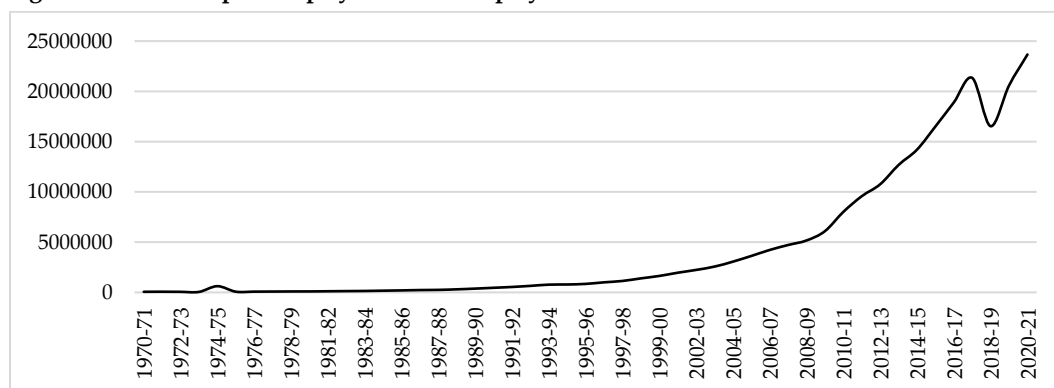
Figure 13 shows the ratio of capital employed to total employment in CPSEs for the long period of 1970-71 to 2020-21. The ratio actually shows a sharp rise in the post liberalisation period. With a pretext of low investment growth in the public sector particularly during the reforms, the ratio of capital to labour or capital intensity shows a sharp rise during the post 1991 period and this is primarily because of the steep fall in employment during this period.

Figure 12: Employment and Growth of Employment in CPSEs



Source: Same as Figure 1

Figure 13: Ratio of Capital Employed to Total Employment in CPSEs

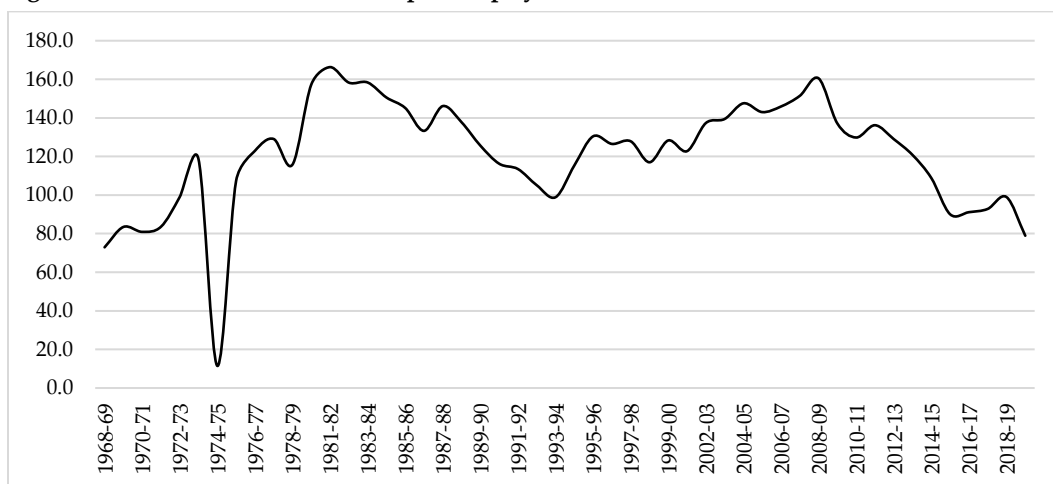


Source: Same as Figure 1

5. Financial Performance

One of the gross measures of return to capital is the gross turnover to capital employed actually increased during the period 1993-94 to 2008-09 and then suffered a decline. The turnover ratio that explains how efficiently capital has been employed suggests that in recent years, output or turnover per unit of capital has declined considerably. The turn over per unit of capital employed declined significantly from 1.6 in 2008-09 to 0.8 in 2019-20.

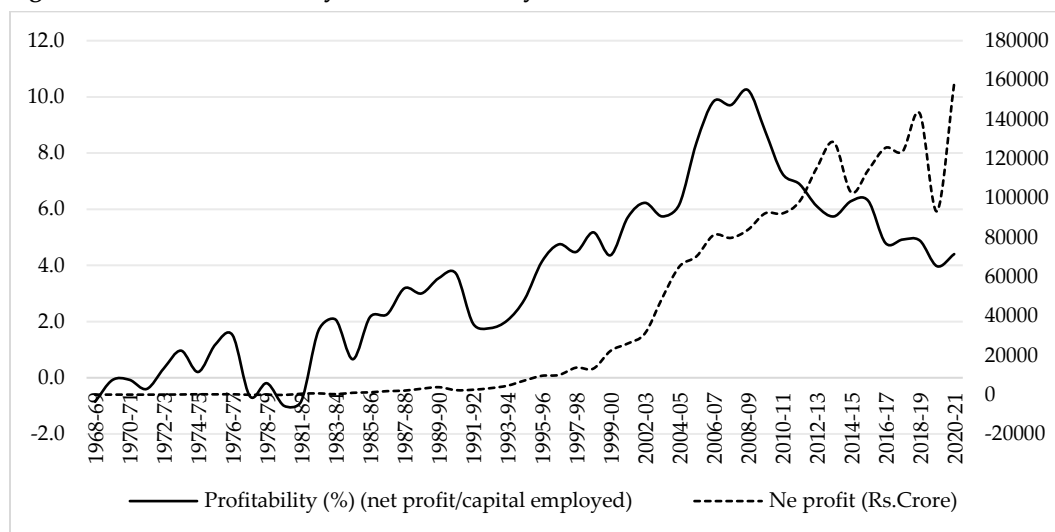
Figure 14: Ratio of Gross Turnover to Capital Employed



Source: Same as Figure 1

The performance of the CPSEs in terms of profit and profitability has improved considerably during post 2000s period, though profitability had dipped during the decade of 2010s (Figure 14). During 18895 and 2009, the profitability of CPSEs increased from 2.8% to 12.2%. During the subsequent years, their profitability declined to 4% in 2019-20 and 4.4% in 2020-21. On the other hand, net profit data shows significant improvement during 2000s and 2010s. Net profit of CPSEs which stood at Rs.13235 crore in 1998-98, increased to Rs.158339crore in 2020-21 (Figure 15).

The decline in profitability is large due to the deteriorating performance of the CPSEs in the telecommunication and information technology and steel sector (Table 3). The telecommunication and information technology sector that recorded net profit of Rs.15277 crore in 2005-06, registered a loss of Rs.9300crore in 2021-22. In terms of profit share, the CPSEs in the crude oil and refinery sector accounts to be the single largest source of profit, though its share has declined in recent decades. The other sectors with significant profit share include coal, other minerals and metals, power generation and transmission, and financial services.

Figure 15: Profit and Profitability of CPSEs over the years

Source: Same as Figure 1

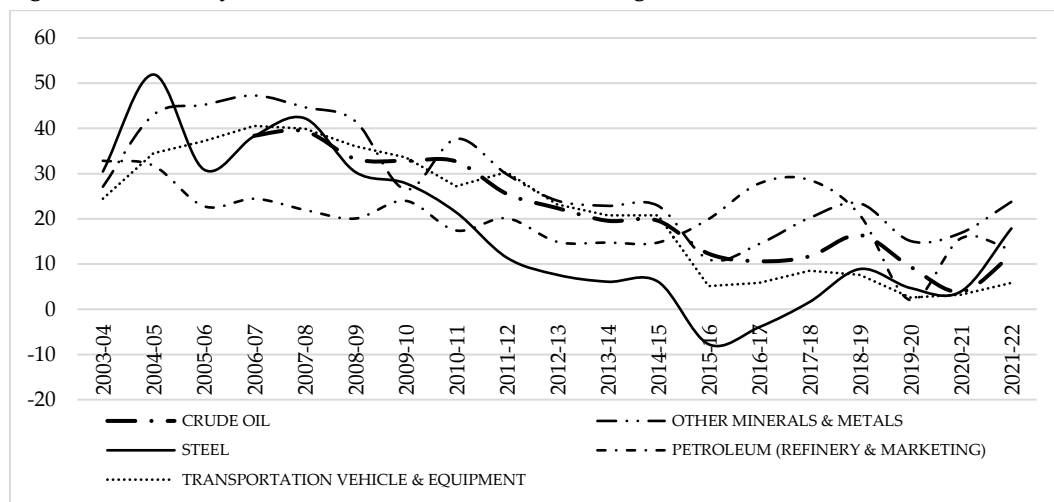
Table 3: Net Profit Share (%): Cogent Group Wise

Groups	1981-90	1975-90	1991-2000	2001-2010	2011-2020
Agro Based Industries	0.1	0.7	0.0	0.0	0.0
Coal	-4.5	60.3	8.5	8.4	20.2
Other Minerals & Metals	-4.3	0.6	8.5	5.0	20.1
Steel	-4.1	-8.3	-7.2	5.3	0.9
Fertilizers	-3.7	-2.7	-10.7	-3.9	1.6
Chemicals & Pharmaceuticals	7.8	23.0	0.8	-0.8	-0.2
Heavy & Medium Engineering	7.1	16.0	-2.5	0.9	4.5
Transportation Vehicle & Equipment	-0.6	2.1	-1.5	1.9	1.8
Industrial And Consumer Goods	-5.6	-1.6	-8.0	-1.1	0.3
Textiles	-9.9	-2.7	-10.3	-1.3	8.3
Power Generation	9.8	7.0	26.6	17.0	18.1
Power Transmission	0.0	0.0	0.0	1.3	5.1
Trading & Marketing	2.2	-8.9	3.0	0.5	0.3
Transport And Logistic Services	-2.7	-3.1	1.0	1.4	1.5
Contract & Construction And Tech.	1.0	0.5	0.4	0.9	2.1
Consultancy Services					
Hotel And Tourist Services	0.0	-0.9	0.1	0.0	0.1
Financial Services	1.5	-2.7	8.9	5.1	10.1
Telecommunication & Information Technology	3.9	2.8	12.8	12.1	-6.5
Crude Oil & Petroleum	93.9	6.8	69.3	47.9	36.2
Total	100	100	100	100	100

Source: Same as Figure 1

In the recent period the decline in profitability of the public sector as a whole is driven by sectors such as steel petroleum refinery and marketing, crude oil, transportation vehicle and equipment, other minerals and metals. During the period 2003/04 to 2021/22 there has been a sharp fall in profitability in these sectors (Figure 16)

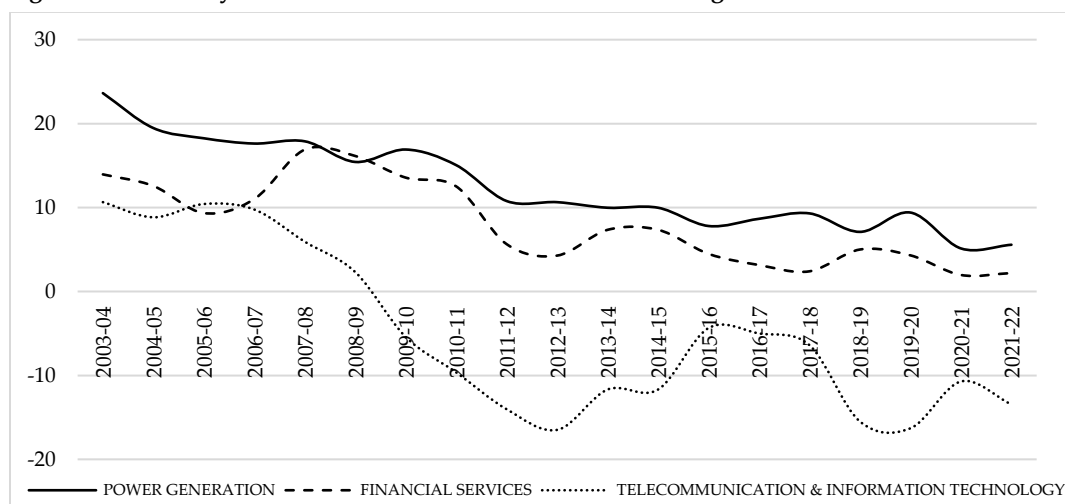
Figure 16: Profitability (PBIT/CE) in Select Public Sectors during 2003-04 to 2021-22



Source: Same as Figure 1

The fall in profitability has been very drastic in the case of services such as telecommunication and information technology in which since 2009-10 profitability continued to be negative. In power generation and financial services also there have been steep decline in profitability during this period (Figure 17).

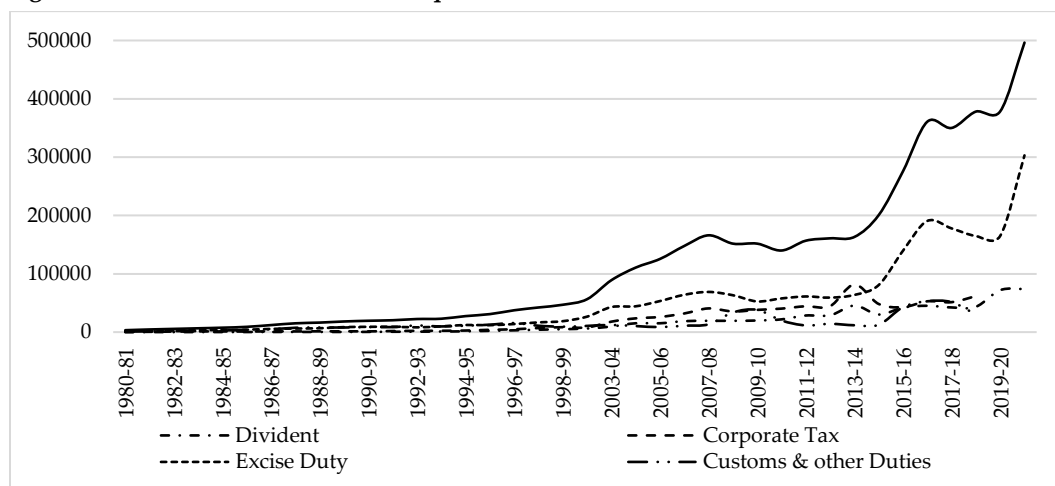
Figure 17: Profitability (PBIT/CE) in Select Public Sector Services during 2003-04 to 2021-22



Source: Same as Figure 1

It is however noteworthy that the contribution of CPSEs to the central exchequer has increased manifold in the past five decades from INR 997 crore in 1975 to nearly INR 5lakh crore in 2021 (Figure 18). Contribution to exchequer increased rapidly post 2000s, mainly driven by excise duty and corporate income tax. The excise duty is found to be the single largest constituent of CPSE's contribution, followed by corporate tax. The share of dividends which stood at 2% in 1975 increased to 11% in 2000, 13% in 2013 and further to 19% in 2020. On the other side, the share of customs and other duties have witnessed drastic fall, from more than 50% in 1993 to nearly 7% in 2019.

Figure 18: Contribution of CPSEs to Exchequer (in INR Crore)



Source: Same as Figure 1

It is also important to note that the public sector could attain higher profitability during the post-reform period despite the fact that the share of compensation to employees in value added was much higher compared to the private sector in almost all the sectors. In manufacturing the share of compensation to employees in value added in public sector in 2019-20 turns out to be 57.72% while in the private corporate sector for the same year corresponding share is recorded only 23.11% (Table 4). The low share of compensation to employees in the private corporate sector perhaps explains high share on an average of operating surplus as shown in the Figure 19.

The trends in operating surplus also shows that in both public and private sectors there is a declining trend in the last decade. It would be erroneous perhaps to ascertain the same efficiency criterion to public and private sectors. Historically public sector played a very important role in the evolving of the middle class in many developing countries including India and that is primarily because of the higher wages and entitlement provided in public sector compared to private sector. This not only contributed to higher consumption demand in the economy but also could set a reference of 'fair wage' on the basis of which workers in other sectors could claim higher wages. In other words, public sector exists as a counter weight to contain the free fall of wages in the private sector. For a private owner efficiency is judged by the profit maximising

point upon the production possibility frontier and higher the profit the more efficient it would be. This reduces performance to one-dimension because for the private individual or to a corporate owner performance should ultimately lead to higher profit. If the enterprise is publicly owned and if higher wages and entitlements for the employees reduces profit to an extent, it is not a conflicting trade-off similar to private enterprises. Higher wages to workers and owned by the public at large are returns to public in different ways. It is a choice of distribution of returns between the employees of the sector and the people at large who own the public sector and that is important in maintaining the legitimacy of the 'public' cause. Therefore, the parameters of performance cannot be same for public and private sectors. It is important although to have regulations in place that ensure increased transparency and autonomy.

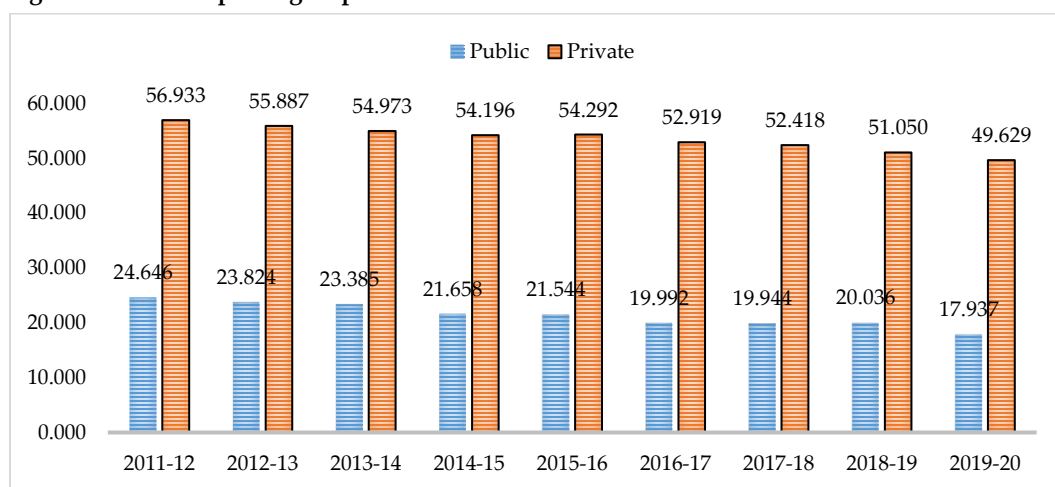
Table 4: Share of Compensation to Employees in Value Added by Select Sectors in Public and Private Sectors

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
<i>Public Sector</i>									
MANU	47.14	52.26	52.61	59.83	56.36	50.09	49.22	47.99	57.72
M&Q	27.35	28.79	27.90	28.41	29.64	33.30	35.64	30.52	31.16
EGW&U	43.12	41.36	47.86	50.62	46.05	46.60	43.67	47.50	45.39
RLWS	70.12	67.86	70.20	68.07	66.47	79.81	79.60	78.92	78.96
<i>Private Corp Sector</i>									
MANU	20.27	21.05	21.05	22.20	21.08	21.25	21.03	22.32	23.11
M&Q	5.89	6.85	6.77	6.81	6.82	6.11	9.53	10.10	9.80
EGW&U	13.48	9.53	8.57	8.44	7.88	8.21	7.97	8.76	8.89
RLWS		33.98	12.75	10.47	23.39	11.57	25.25	15.41	12.86

Source: Same as Figure 2;

Notes: MANU: Manufacturing, M&Q: Mining and Quarrying, EGW&U: Electricity gas Water and Utilities, RLWS: Railways

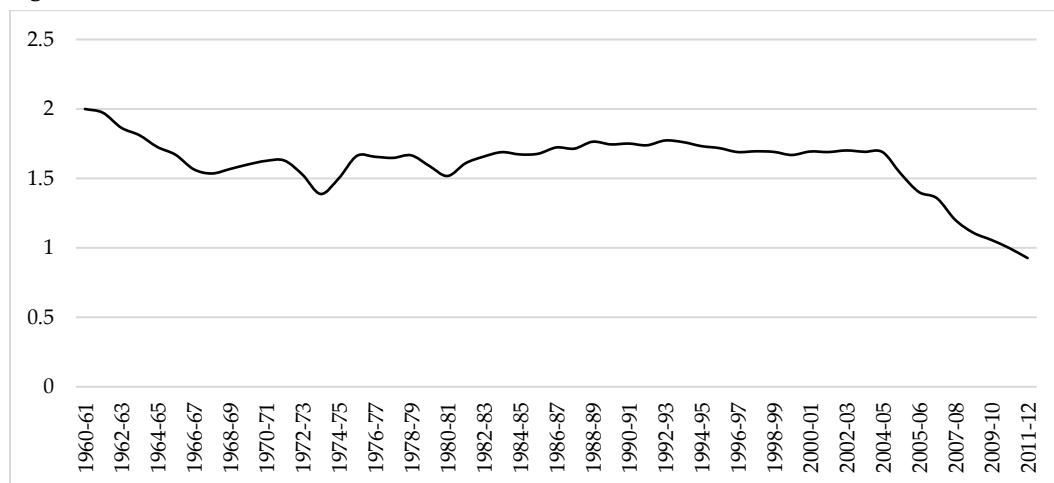
Figure 19: Share of Operating Surplus in Public and Private Sectors



Source: Same as Figure 2

Finally, we calculate the ratio of GDP deflator for the whole economy and that of the public sector for the period 1960-61 to 2011-12. This was the method used by Nagaraj (2015) to see the movements of prices in public sector vis-à-vis the rest of the economy till 2001. Khanna (2015) has shown how public sector output was under-priced in different sectors. Through splicing we draw up a continuous series at constant 2011-12 prices and calculate the deflator for the entire reference period on the basis of current and constant 2011-12 prices. It could be done until 2011-12 because separate series at constant prices for public sector is available till then.

Figure 20: Ratio of Public Sector GDP Deflator to GDP Deflator



Source: Same as Figure 2

The ratio of the deflator tells us the movement of the prices of goods and services produced in the public sector with respect to general price level for the economy. It is interesting to note that the ratio shows a declining trend from 1961-75 and then it marginally increased and remained more or less stable till 2004-05. Thereafter there has been a sharp fall which indicates that public sector products were under-priced compared to the general price level of the economy. It is understandable that prices of goods and services produced in the public sector are controlled sometimes with the purpose of making them accessible to the poor and the underprivileged and sometimes due to other political interests, but pricing in the private sector never has to take these factors into consideration. Providing electricity to poor households or to the farmer or making education or health service accessible to all may compel governments in keeping the prices of these services low and this is perfectly justified as a social welfare goal but at the same time performance of public sector enterprises cannot be evaluated on the basis of the same profitability criterion suitable for the private sector.

6. Concluding Remarks

Public sector in India played a significant role in capital formation and developing infrastructure both physical and human during the post-Independence phase of nation

building when private capital actually didn't have the capacity and interest as well to make huge investments in projects of lower return and involving longer turnover time. The growth of investment in the public sector largely contributed to building industrial capacity particularly heavy industry, logistics and transport infrastructure. But the growth of capital investment in the public sector which was largely driven by channelizing consumption expenditure reached a limit as rising income inequality particularly in rural India created a barrier both for consumption goods as well in transferring surplus to industrial investment. This was one of the major reasons of industrial stagnation in India since mid-sixties that continued for a decade.

In the post-reform period with the increasing dependence on markets as the critical mode of allocating resources importance of public sector suffered a decline. Competition was encouraged through allowing private investments in sectors erstwhile reserved for the public sector and exposure to financial markets was considered as a disciplining device in defining investment priorities of investment. It is evident from the emerging trends that some of these devices could increase performance of the public sector in the post-reform period primarily because of the increased competition and efficient use of resources by usual parameters. The decline in the public sector growth in the later part was primarily because of declining growth of investment in the public sector manifested by its declining share in machinery and intellectual property products. Despite the fact that reforms could increase the financial performance of many public sectors and the number of profit making public enterprises have increased significantly, privatisation of public enterprises these days seems to be driven by the need to transferring public assets to private property in a market led regime rather than being determined by performances.

In spite of the fact that institutional monitoring and transparency increases performance of many CPSEs in the recent past it is also important to devise alternative criteria in evaluating performances of enterprises which are supposed to meet certain social welfare goals and do not have the autonomy of deciding prices similar to private enterprises. More so public sector historically contributed to the growth of middle class by ensuring a living wage to all employees. The share of wages in value added is much higher in public sector compared to similar segments of private sector in almost all sectors. If it is a public property there can be an optimal distribution of gains between different segments of the 'public' i.e, workers of the enterprises and the consumers of the products, but public sector sets a standard of gainful employment which should be emulated elsewhere rather than allowing free fall of wages. The most important fact is that competition enhances efficiency but it should not be at the cost of access particularly for countries such as India and more importantly there are natural monopolies where encouraging multiple providers is mostly impossible or involves massive waste of resources. In these cases, public monopolies are better than private monopolies as the returns are publicly owned and the economic goal of making profits would be somehow retrained by the goal of offering access to all for these services.

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