



## Pre and post disinvestment analysis: A case of national thermal power corporation (NTPC)

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### Abstract

Disinvestment is a process whereby the government withdraws a portion of the equity in the public sector enterprises. Disinvestment has supposed to be strategy in the hands of government to improve the functioning and profitability of public sector enterprises and also raise funds to mitigate its fiscal deficits. In this study disinvestment of the government shareholding has been taken as an event and pre disinvestment mean value of financial parameters for financial years (1997-98 to 2002-03) is compared with post disinvestment mean value of financial years (2004-05 to 2010-11).our result shows that disinvestment improves the profitability and liquidity position of NTPC while it has affected the efficiency position negatively.

**Keywords:** disinvestment, enterprises, government, national thermal power corporation (NTPC)

### Introduction

India, for almost four decades was pursuing a path of development in which public sector was expected to be the engine of growth. But by mid-eighties their short comings and weaknesses started manifesting in the form of low capacity utilization, low efficiency, lack of motivation, over-manning, huge time and cost overrun, inability to innovate and take quick decision, large scale political and bureaucratic interference in decision making *etc.* But instead of trying to remove these defects and to increase the rate of growth of national economy, gradually the concept of self-reliant growth was given a quiet burial. The Government started to deregulate the imports by reducing or withdrawing import duty in phases. This resulted in dwindling of precious foreign exchange reserve to abysmally low level. (Rastogi, 2013) <sup>[21]</sup>.

This was mainly due to large imbalances in internal and external account, making economy highly venerable. There was worsening of fiscal deficit from 1985-86 due to steady increase in govt. Expenditure, particularly non- plan expenditure. Fiscal deficit rose to 8.4 % of GDP in 1990-91 and the consequent rise of oil prices further worsened the situation. Erosion of confidence of govt.'s ability to manage, led to drying up of the market for external commercial loans. The net outflow of NRI deposits also significantly added to balance of payment crisis. (Gola, 2011).

The foreign debt repayment crisis compelled Government of India to raise loan from IMF against physical deposit of RBI gold reserve, on conditions harmful to the interest of the country. Thus, this resulted in genesis of the Industrial policy of 1991 which included the process of delicensing. For except 18 industries, Industrial licensing was withdrawn. The market was opened up to domestic private capital and foreign capital was provided free entry up to 51% equity in high technology areas. The aim of economic liberalization was to enlarge competition and allowing new firms to enter the market. Thus the emphasis shifted from PSEs to liberalization of economy. Also, the gradual disinvestment of PSUs was offshoot of

unprecedented macro economic crisis during 1990 – 1991.

Disinvestment is a process whereby the Government withdraws a portion or the total of its equity in Public Sector Enterprises (PSEs). Disenchantment with the public sector started in the 1970s. It was observed in many countries that the performance of Public Sector Enterprises (PSEs) was far below expectation. The major motives of disinvesting Government equity holdings in PEs can be stated as (Jagdish Prakash Rao, 1996.) follows: to raise revenue collections for bringing down the fiscal deficit as commitment Made to the IMF, to ensure greater accountability and improved efficiency, to mobilize efficient resources for Government requirements, to provide an opportunity to the general public to participate in the equity to PEs, to encourage and motivate employee ownership and to reduce bureaucratic control and to provide more autonomy to the management of PEs. The main features of Government's present policy towards the public sector are to restructure and revive potential viable PSEs, close down PSEs which cannot be revived, bring down Government equity in all non-strategic PSEs to 26% or lower, if necessary, fully protect the interests of workers. In order to expedite the process of disinvestment, the Government established a new full-fledged Ministry of Disinvestment.

Disinvestment era, at the peak during NDA Government came to halt with the installation of UPA Government at the centre. Under the pressure of the left parties, the new Government closed Ministry of Disinvestment and converted it into a Department under the Ministry of Finance. Common minimum programmes of the UPA Government made it clear that no profit making PSUs would be privatized, Navaratana PSUs would be kept in the public sector, proposal of privatization of loss making PSUs will go through consultation with the workers, no privatization if it created a monopoly or restrictive competition (Narta and Singh 2011) <sup>[20]</sup>.

*Disinvestment is a process in which the public undertaking reduces its portion in equity by disposing its shareholding.*

*“Disinvestment” as per SEBI (substantial acquisition of shares) guidelines, means the sale by the central government/state government, of its shares or voting rights and/or control, in PSUs. The disinvestment reduces government participation in the company.*

### Review of literature

Estrin *et al.*, (2009) <sup>[7]</sup> evaluated the effects of privatization from the experiences of post-communist (transition) economies. They distinguish the impact of privatization on efficiency, profitability, revenues and on other indicators. The effect of privatization is mostly positive in Central Europe, but quantitatively smaller than that to foreign owners and greater in the later than earlier transition period. In the Commonwealth of Independent States, privatization to foreign owners yields a positive or significant effect while privatization to domestic owners generates a negative or insignificant effect.

Nagaraj (2005) <sup>[18]</sup> opines that disinvestment is unlikely to affect economic performance since the state continues to be the dominant shareholder, whose conduct is unlikely to be influenced by share prices movements (or return on equity). Privatization can be expected to influence economic outcome provided the firm operates in a competitive environment; if not, it would be difficult to attribute changes in performance solely or mainly to the change in ownership.

Asian Development Bank, ADB, (2001) <sup>[2]</sup> describes that privatization is a process for change of ownership and control. It indicates that for successful privatization, it is essential to define the roles and powers of participants and ensure that legal, regulatory and enforcement mechanisms precede divestment. A cautious approach is dominant and tends to undermine the effectiveness of privatization.

Singh and paliwal (2010) <sup>[24]</sup> examine the impact of disinvestment on the financial and operating performance of competitive and monopoly units of public sector enterprises that operating performance of competitive firms based on sales has shown decline in profitability but monopoly firms shows an improvement in their profitability during the post disinvestment and they suggested that disinvestment programme should be so executed so as to encourage autonomy in management with accountability, broad based ownership and improved the competition.

Gupta, Jain and Yadav (2010) <sup>[10-11]</sup> compares the financial performance of profit-making and loss-incurring central public sector enterprises (CPSEs) in India over a period of sixteen years (1991-92 to 2006-07) in terms of profitability, efficiency, leverage, liquidity and productivity and find that profitability ratios of profit making CPSEs over the phases; but loss incurring CPSEs have ceased their losses. Inventory holding period has shown improvement in both type of CPSEs. Whereas, majority of loss-incurring PSEs have continued to beset with low assets turnover ratios, dissatisfactory liquidity position, usage of high debt and deterioration (decrease) in net-income efficiency (NIE) over the years; they seem to be in worrisome zone, needing urgent attention (on the part of management of such enterprises) and effective governmental policies.

Rastogi and Shukla (2013) <sup>[21]</sup> examine the trends, targets, achievements, utilization and impact of disinvestment on

Indian economy and they state that Disinvestment has not yielded desired results in majority of dimensions; it may be virtually due to variety of problems faced by PSEs even after Disinvestment, such as inefficient, high cost and non-competitive industrial structure, operational inefficiency due to high governmental interference, environment restrictions (delegation of operational and functional autonomy to the managers through performance contracts), less proportion of Disinvestment and capital market discipline.

Narta and Singh (2011) <sup>[20]</sup> examine the impact of disinvestment on the financial and operating performance of selected units of telecommunication sector. The management of the telecommunication sector failed in controlling its various expenditures during the post-disinvestment period and its liquidity position has not been found satisfactory. The decline in the return on total assets and return on net capital employed again indicates their inefficiency in the efficient utilization of its resources. During the post-disinvestment period, the use of shareholders' funds has been increasing as compared to debts. On the other hand, liquidity position of these units has not been found satisfactory. However, the improvement in the utilization of its inventory, working capital and fixed assets is good for its overall growth and development. Public sector should be continued in areas where their involvement is highly appropriate which will provide a greater degree of autonomy. They recommend that disinvestment programmes should be executed so as to encourage autonomy in management with accountability, broad based ownership and improved competition.

Gupta *et al.*, (2011) <sup>[10-11]</sup> evaluate that disinvestment has not yielded desired results in majority of dimensions; it may be virtually due to variety of problems faced by PSEs even after disinvestment, such as inefficient, high cost and non-competitive industrial structure, operational inefficiency due to high governmental interference, environment restrictions (delegation of operational and functional autonomy to the managers through performance contracts), less proportion of disinvestment and capital market discipline. They recommended that the government henceforth should aim for strategic disinvestment; as small and modest sizes of disinvestment are not likely to be fruitful. they suggested for complete privatization with both ownership and control of the enterprise being passed on to private participants

Verma (2009) <sup>[25]</sup> examine that progress of disinvestment programme is at a very slow pace. The Government has failed to maintain transparency in the various stages of disinvestment process which has decreased its reliability. He found that Lack of co-operation and co-ordination between disinvestment ministry and other concerned ministries has also greatly affected the disinvestment programme He recommend that the Government should try to come out with a time bound programme to conduct the process with transparency in all the activities need to reach.

Naib (2004) <sup>[19]</sup> have discussed the important role played by PSEs in the economic and social development of Indian economy; this has been stated that PSEs serve best public interest by fulfilling all the desired financial and economic obligations as per the government's plans and perspectives, since, an increase in financial profitability is neither a necessary nor a sufficient condition for the enhancement of

society's well-being; they have opined to devise a policy which simultaneously fulfill both the social and commercial needs. They have also diagnosed the reasons for the poor performance of PSEs in India, such as, intrinsically inefficient managers, price fixation, controlled output prices while input prices continue to increase, setting up non-commercial objectives, poor monitoring, different output mix, over-employment, corruption, lack of autonomy, multiple objectives, principle-agent problem, non-competitive industrial structure, high cost etc.

### Research Methodology

The methodology of research is based upon case study method. In this approach performance of NTPC Ltd. before disinvestment is compared with its performance after disinvestment, attributing any observed change to the disinvestment. For the purpose of the present study pre-disinvestment mean value of various financial parameters for financial years (2004-05 to 2008-09) is compared with their post disinvestment mean value for financial years (2011-12 to 2015-16)

### Background of NTPC LTD.

NTPC Ltd., formerly known as National Thermal Power Corporation Limited, is an Indian Public Sector Undertaking, engaged in the business of generation of electricity and allied activities. It is a company incorporated under the Companies Act 1956 and a "Government Company" within the meaning of the act. The headquarters of the company is situated at New Delhi. NTPC's core business is generation and sale of electricity to state-owned power distribution companies and State Electricity Boards in India. The company also undertakes consultancy and turnkey project contracts that involve engineering, project management, construction management and operation and management of power plants.

The company has also ventured into oil and gas exploration and coal mining activities. It is the largest power company in India with an electric power generating capacity of 51,410 MW. Although the company has approx. 16% of the total national capacity it contributes to over 25% of total power generation due to its focus on operating its power plants at higher efficiency levels (approx. 80.2% against the national PLF rate of 64.5%). NTPC currently produces 25 billion units of electricity per month.

It was founded by Government of India in 1975, which now holds 64.74% of its equity shares on 30.06.2016 (after divestment of its stake in 2004, 2010, 2013, 2014, 2016, & 2017)

In May 2010, NTPC was conferred Maharatna status by the Union Government of India. It is ranked 300th in the Forbes Global 2000 for 2016.

### 1975 to 1994

The company was founded on 7 November 1975 as "National Thermal Power Corporation Private Limited". It started work on its first thermal power project in 1976 at Shakti nagar (named National Thermal Power Corporation Private Limited Singrauli) in Uttar Pradesh <sup>[10]</sup>. In the same year, its name was changed to "National Thermal Power Corporation Limited". In 1983, NTPC began commercial operations (of selling

power) and earned profits of INR 4.5 crores in FY 1982-83. By the end of 1985, it had achieved power generation capacity of 2000 MW.

In 1986, it completed synchronisation of its first 500 MW unit at Singrauli. In 1988, it commissioned two 500 MW units, one each in Rihand and Ramagundam. In 1989, it started a consultancy division. In 1992, it acquired Feroze Gandhi Unchahar Thermal Power Station (with from Uttar Pradesh Rajya Vidyut Utpadan Nigam of Uttar Pradesh. By the end of 1994, its installed capacity crossed 15,000 MW.

### 1995 to 2004

In 1995, it took over the Talchar Thermal Power Station from Orissa State Electricity Board <sup>[10]</sup>. In the year 1997, Government of India conferred it with "Navratna" status. In the same year it achieved a milestone of generation of 100 billion units of electricity in a year. In 1998, it commissioned its first naphtha-based plant at Kayamkulam with a capacity of 350 MW. In 1999, its plant in Dadri, which had the highest plant load factor (PLF) in India of 96%, was certified with ISO-14001. During 2000, it commenced construction of its first hydro-electric power project, with 800 MW capacity, in Himachal Pradesh.

In 2002, it incorporated 3 subsidiary companies: "NTPC Electric Supply Company Limited" for forward integration by entering into the business of distribution and trading of power; "NTPC Vidyut Vyapar Nigam Limited" for meeting the expected rise in energy trading; "NTPC Hydro Limited" to carry out the business of implementing and operating small and medium hydro-power projects. In the same year its installed capacity crossed 20,000 MW.

### Listing

NTPC got listed on BSE and NSE on 5 November 2004. Against the issue price of INR 62 per share, it closed the first day of listing with INR 75.55 per share. On the day of listing, it become the third largest company in India in terms of market capitalisation.

### 2005 to present

In October 2005, the company's name was changed from "National Thermal Power Corporation Limited" to "NTPC Limited". The primary reason for this change was the company's foray into hydro and nuclear based power generation along with backward integration by coal mining. In 2006, it entered into an agreement with Government of Sri Lanka to set up two units of 250 MW each in Trincomalee in Sri Lanka. During 2008 and 2011, NTPC entered into Joint Ventures with BHEL, Bharat Forge, NHPC, Coal India, SAIL, NMDC and NPCIL to expand its business of power generation <sup>[10, 11]</sup>. By the end of 2010, its installed capacity crossed 31,000 MW.

The company in 2009 joined forces with other state enterprises Rashtriya Ispat Nigam, Steel Authority of India, Coal India, National Minerals Development Corporation and National Thermal Power Corporation to invest in coal mining operations through a joint venture vehicle named International Coal Ventures Private Limited (ICVL). In July 2014 ICVL acquired a 65 percent stake in the Benga coal mine in Mozambique from the Rio Tint Group.

**Result Analysis**

Financial results of NTPC (National thermal power corporations) are presented in four terms of profitability, efficiency, cost and employment ratios from table 1 to table 8 are as follows:

**i) In terms of profitability**

Financial implications of NTPC in terms profitability analyzed by the 5 ratios these are OPM(operating profit margin), NPM (net profit margin), ROTA (return on total assets), ROCE (return on capital employed), RONW (return on net worth)

**Table 1:** Summary of Statistics of Profitability Ratios

		Mean	N	Standard Error Mean
1. OPM	Pre period	28.5800	5	1.24891
	Post period	18.8240	5	2.10725
2. NPM	Pre period	23.3800	5	1.48315
	Post period	15.7480	5	.98331
3. ROTA	Pre period	8.5080	5	.13969
	Post period	6.0960	5	.53566
4. ROCE	Pre period	13.2240	5	.31902
	Post period	14.4820	5	.38506
5. RONW	Pre period	15.0200	5	.36681
	Post period	17.9640	5	.56177

It is noticed from the above table that the performance based on profitability ratios has shown decline in operating profit margin (OPM), net profit margin (NPM) and return on total asset (ROTA) ratios between the pre and post disinvestment

period. As far as standard deviation and standard error are concerned it has been found that there is a decline only in case of net profit margin (NPM) ratio during post disinvestment period.

**Table 2:** Paired Sample t Test of Profitability Ratios

	Differences Mean	Difference Standard Deviation	Differences Standard Error Mean	T Value	Degree of freedom	Significant Value (one tail)
1. OPM	9.75600	4.23996	1.89617	5.145	4	.003*
2. NPM	7.63200	2.96458	1.32580	5.757	4	.002*
3. ROTA	2.41200	1.03003	.46065	5.236	4	.003*
4. ROCE	-1.25800	1.37785	.61619	-2.042	4	.055
5. RONW	-2.94400	1.62309	.72587	-4.056	4	.007*

\*-significant at 2.5 % level

The examination of profitability ratios performance of NTPC from the above table it shows that there is significant decline in the operating profit margin (OPM), net profit margin (NPM) and return on total assets (ROTA) ratios between the pre and post disinvestment period. But on the other hand there is significant increase only in case of return on net worth ratio (RONW) in the post disinvestment period. It is due to the inefficient management of their operating expenses, total assets and capital of the public sector unit. In order to

complete satisfaction of shareholders and investors, company resources must be utilized efficiently.

**ii) In terms of efficiency**

Financial implications of in terms of efficiency of NTPC are analyzed by the 4 ratios TATR (total asset turnover ratio), FATR (fixed asset turnover ratio), CATR (current asset turnover ratio), ITR (inventory turnover ratio).

**Table 3:** Summary of Statistics of Efficiency Ratios

		Mean	Standard Deviation	Standard Error Mean
1. TATR	Pre period	.3660	.03847	.01720
	Post period	.3860	.03782	.01691
2. FATR	Pre period	.7200	.04528	.02025
	Post period	.5860	.09990	.04468
3. CATR	Pre period	1.5440	.15323	.06853
	Post period	1.8480	.32980	.14749
4. ITR	Pre period	12.5560	.96080	.42968
	Post period	13.3060	3.35030	1.49830

The examination of efficiency of assets from the above table that NTPC public sector unit, has shown an upward movement in the means scores of total assets turnover ratio (TATR), current assets turnover ratio (CATR) and inventory turnover

ratio (ITR) during the cost disinvestment period. As far as standard deviation and standard error are concerned it has been found that total assets turnover ratio (TATR) shown a downward movement during post disinvestment period.

**Table 4:** Paired Sample t Test of Efficiency Ratios

	Differences Mean	Difference Standard Deviation	Differences Standard Error Mean	T Value	Degree of freedom	Significant Value ( one tail)
1. TATR	-.02000	.07517	.03362	-.595	4	.292
2. FATR	.13400	.14206	.06353	2.109	4	.051
3. CATR	-.30400	.41368	.18500	-1.643	4	.088
4. ITR	-.75000	4.09729	1.83236	-.409	4	.351

\*-significant at 2.5 % level

The examination of efficiency ratios performance of NTPC from the above table it reveals that there is no significant difference in all the above mentioned ratios. It means that the changes of ratios between pre and post period is not significant in any case. It shows that company failed in the efficient management of fixed assets and current assets between the pre and post disinvestment period. But in order to

overall improvement in the efficiency of assets, company may have to manage their fixed assets as well as current assets.

**iii) In terms of cost**

Financial implications of NTPC in terms of cost have been analyzed by 2 ratios these are OCR (operating cost ratio), and NOCR (non-operating cost ratio).

**Table 5:** Summary of Statistics of Cost Ratios

		Mean	Standard Deviation	Standard Error Mean
1. OCR	Pre period	86.8100	8.48143	3.79301
	Post period	86.5740	2.36557	1.05792
2. NOCR	Pre period	13.1900	8.48143	3.79301
	Post period	13.4260	2.36557	1.05792

As far as the cost ratios are considered from the above table it has found that there is a decline in the mean score of operating cost ratio (OCR) but there is an improvement in the mean values of non-operating cost ratio (NOCR). It shows that

public sector unit failed in controlling their non-operating expenses efficiently. As far as Standard deviation and Standard error are concerned both ratios have shown a downward movement during post disinvestment period.

**Table 6:** Paired Sample t Test of Cost Ratios

	Differences Mean	Difference Standard Deviation	Differences Standard Error Mean	T Value	Degree of freedom	Significant Value ( one tail)
1. OCR	.23600	9.47718	4.23832	.056	4	.479
2. NOCR	-.23600	9.47718	4.23832	-.056	4	.479

The examination of cost ratios of NTPC from the above table it reveals that there is no significant difference in operating cost ratio (OCR) and non-operating cost ratio (NOCR) between the pre and post disinvestment period. The failure in the controlling of its expenditure may be possible due to inefficient financial control, heavy interest burden, weak marketing strategy, excess manpower, low capacity utilization

and high input cost.

**iv) In terms of employment**

Financial implications of disinvested public sector units (PSE's) of NTPC in terms of employment have been analyzed by 2 ratios these ratios are NSPE ( net sales per employee), and NPPE ( net profit per employee).

**Table 7:** Summary of Statistics of Employment Ratios

		Mean	Standard Deviation	Standard Error Mean
1. NSPE	Pre period	121.96	263.42528	117.80737
	Post period	295.70	316.58916	141.58298
2. NPPE	Pre period	26.973	16.50293	8.25147
	Post period	45.979	59.35067	29.67533

The examination of employment ratios of NTPC it reveals that there is a upward movement in the mean score of all employment ratios after the disinvestment period. NTPC have

shown an upward movement in case of standard deviation and standard error for every employment ratios as compared to post disinvestment period.

**Table 8:** Paired Sample t Test of Employment Ratios

	Differences Mean	Difference Standard Deviation	Differences Standard Error Mean	T Value	Degree of freedom	Significant Value ( one tail)
1. NSPE	-1.73738E3	111.24764	49.75146	-34.921	4	.000*
2. NPPE	-1.90060E2	53.24372	26.62186	-7.139	4	.003*

\*-significant at 2.5 % level

Study of employment ratios from the above table it reveals that there is significant increase in the net sales per employee (NSPE) and net profit per employee (NPPE) ratio during pre disinvestment period. It shows that due to heavy competition in the market, the company may have started spending more and more on the training and development of the employees as a result they are contributing more in the profitability in the post disinvestment period.

### Conclusion

NTPC Ltd. Performed well in post disinvestment period as compared to pre disinvestment period on two parameters of profitability and employment. The disinvestment process of the government has met with considerable success, but a lot still to be done to improve the efficiency parameters. Disinvestment programmes should be executed so as to encourage autonomy in management with accountability, broad based ownership and improved condition.

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