Proceedings of GLOGIFT 17
December 11-13, 2017
Delhi School of Management, Delhi Technological University, Delhi
pp. 308-327

Financial Performance of Disinvested Public Sector Enterprises in India

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Abstract

The objective of the paper is to assess the impact of disinvestment on the financial performance of disinvested central public sector enterprises (PSEs) during the time span of more than two decades. The paper also aims at analyzing the role of degree of disinvestment on the performance/improvement of the sample disinvested PSEs. The findings suggest that disinvestment brings no major improvement in the parameters of profitability, assets turnover and capacity utilization even after eight years of disinvestment; improvement has been noted in respect of productivity of capital and liquidity only. The improved performance in respect of liquidity, leverage, inventory holding period (IHP) and productivity has been noted due to higher degree of disinvestment in disinvested PSEs.

Keywords: Disinvestment, financial performance, efficiency, privatization.

Introduction

The emergence of financial reforms was realized in 1990's when Indian economy was continuously facing high burden of financial debt (nationally and internationally) since 1980's. The increased revenue expenditure of the government on the items such as interest payments, wages and salaries of the government employees and subsidies, left the government with hardly any surplus for capital expenditure on social and physical infrastructure. However, the government was interested in spending on basic education, primary health and family welfare as well as on infrastructure, but large amount of resources were blocked in several non-strategic sectors such as hotels, trading companies, consultancy companies, textile companies, chemical and pharmaceuticals companies, consumer goods companies etc. (Gupta at. el. 2011).

Due to unbounded and cumulative financial burden, the Indian economy was almost on the verge of financial disaster. Therefore, disinvestment was conceived as an important measure to salvage such a grim situation; it was expected that the disinvestment process would also act as a catalyst to improve the financial performance/ business performance and management practices of these PSEs. Evidently, it was conceived to have larger implications rather than just selling the government equity at the best price. It was expected to contribute towards the growth of Indian economy by promoting competition; it, in turn, promotes the market friendly economy than the command economy which leads to cost reduction, improved quality and operational efficiency. Likewise, disinvestment was also expected to attract global capital as well as domestic capital. Above all, disinvestment of government equity in PSEs has many social, economic and political implications (Ray and Maharana, 2002).

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The objective of the paper is to assess the financial performance of the disinvested central public sector enterprises (PSEs). For better exposition, the paper has been divided into six sections including the present one. Section two enumerates brief review of literature. Section three describes the research methodology to be followed and sources of the data. The impact of disinvestment has been examined under section four. Section five measures the impact of degree of disinvestment on the financial performance of disinvested PSEs. Lastly, the concluding observations, recommendations and implication of the study have been enumerated in section six.

Literature Review

The select literature relating to various important aspects of privatization and disinvestment, narrating global experiences (with focus on Indian perspective) has been presented in this section.

First one is concerned with the purpose/objective pertaining to disinvestment policies (at cross-country and Indian levels); Kay and Thompson (1986) had examined the rationale of privatization in U.K. and the sale of government industrial assets. They observed that the denationalization of public industry served multiplicity of objectives such as improving the economic performance of the industries concerned, resolving the persistent problems of management and control (i.e., the relations between government and nationalized industries), ensuring better discipline among the power of public sector trades unions and promoting popular capitalism through wider share ownership. Basu (1994) has conducted a study on the privatization of developing country's agenda which includes restructuring, reform, commercialization, management-cum-technology contracts and leasing; the primary objective of government's privatization policy has been to revive potentially viable loss-incurring enterprises and to safeguard the interest of the workers and to create opportunities for further job creation by catalyzing the dynamism of the private enterprises. Efforts are made to establish a system of good corporate governance practices in these core enterprises with intend to enhance transparency and accountability in their operations and stimulate their performance.

Kaur and Singh (2005) and Singh (2004) state that disinvestment in India leads to cost reduction, improves quality and operational efficiency in order to push up the growth rate of the economy which, in turn, provides jobs and employment opportunities; disinvestments also help to attract global and domestic capital. The authors state that PSEs provide facilities for certain sections of society by selling the products at lower prices than the cost incurred. This was triggered by organizational efforts towards non-economic activities which led to economic inefficiency and failure. Naib (2004) states that disinvestment of equity has been the key determinant of the Indian public sector reforms. The common perception amongst various countries that have engaged in substantial programme of divestiture is not only to raise resources for the governments and to reduce fiscal deficit but also to release resources for public investment in essential areas like primary education and basic health. It is accordingly argued that such programs ultimately are desirable to create jobs and add for mass welfare in the long-run. Roli and Zhan (2011) suggest that management culture may not necessarily have the same effect or hold similar values in the subsidiaries of Indian multinational companies located in developed countries because of the many cultural and institutional differences.

Second aspect deals with the studies specifying conditions, factors and features of disinvestment policies. Gupta et. al. (2000) and Kay and Thompson (1986) state that fiscal constraints seem to be the main motivating factor in choosing partial privatization and this is consistent with the empirical findings. It is also possible, however, to interpret revenue maximization as a political objective. The treasury is primarily interested in the revenue which can be obtained from privatization. The ability to generate revenue enables a government to soften the employment

impact of the transition process; it raises the government's ability to pay state-workers and so on. These factors are arguably very important in gaining support for the transition process. Disinvestment Manual (2007) contains no standard recipe for disinvestment in PSEs at the national level or at the state level. It suggests that country would do well to learn from the successful experiences of the West; it would have to be careful with the pitfalls which were responsible for setback to some of the economies in the East; while experience of other countries is available to India by way of guidance; it would have to evolve its own techniques, best suited to its level of development. The historic, cultural and institutional context influences the way in which and the pace at which privatization is implemented. Where market economy is not fully developed, ways would have to be found to safeguard the interests of consumers and investors, which would ensure a fuller play to the wealth creating role of the entrepreneurs.

Hamid and Chao (2006) use a simple model to identify the conditions for assessing the privatization effect on environment. They have shown that privatization can have a negative effect on the environment. Rossitza (2009) states the strategic interdependence between market reforms and foreign direct investment (FDI) in transition economies in the 1990s. He contends that FDI contributes to economic restructuring through acquisitions in host countries with rapid market reforms and slow reform motivates firms to minimize exposure to operational uncertainties through new plant investments; FDI plays a mediating role in economic reform. Arnold et. al. (2008) suggest that conventional explanations for the post-1991 growth of India's manufacturing sector have focused on goods, trade liberalization and industrial de-licensing. However, the pace of policy reform has varied across sectors and it is determined primarily by political considerations (Hoekman et. al., 2007).

Third enumerates the techniques or methods used by several research proponents to assess the performance of the enterprises; Jain (1989) and Keswani and Shackleton (2006) use incremental analysis for performance assessment; Jain (1989) suggests that industrial projects located in backward areas (as a part of its deliberate policy to achieve the objective of balanced regional development) was the probable reason of low profitability and depressed rates of return of Industrial Finance Corporation of India (a public sector development bank); it has faced the challenge between developmental functions and economic functions in achieving profitability. Keswani and Shackleton (2006) emphasize that the option to disinvest is as important as the option to invest in enhancing project value.

Bradbury (1999), Abelson (2003) and Sueyosh (1998) have adopted case studies approach to assess the performance of disinvested PSEs; Bradbury (1999) uses prime performance measures, namely, return on equity (ROE) and return on assets (ROA) to compare the financial performance of Government Computing Services (GCS) as it moves from a government department to privatization. The results show that the financial performance of GCS improves. The Growth in revenue is also measured. Similar measures are employed in major studies that utilize accounting ratios to examine economic performance (Rumelt, 1974; Boardman and Vining, 1989; Karpoff and Rice, 1989). Abelson (2003) reports nine cases that cover a variety of Australian jurisdictions, industry and disinvestment methods. Out of the nine case studies, the author derives three main lessons. First, long-term financial returns have played very little part in the decision to privatize. Second, considerable transformation had taken place in many of the organizations in the preparation for the sale, including assistance for the government; he observed that this transformation and assistance were largely responsible for the success of the organizations post-sale. Third, there is a consistent pattern of winners and losers from the privatization. The winners were the financial institutions, the new shareholders and private consultants; the main losers were the workers in the pre-sale organizations and future taxpayers.

Sueyoshi (1998) examines the economic assertion by comparing Nippon Telegraph and Telephone (NTT), a Japanese government company's performance before and after its privatization and presents the management problems occurring within the partial privatization. He noted that NTT's partial privatization had an impact on its productivity enhancement, primarily due to a natural reduction in personnel. It had failed to achieve any significant improvement in cost management even after its privatization.

Further, Yip et.al. (2009) have used frontier analysis technique to identify the relative performance and examine the issues of determining long-term (sustained) superior financial performance. The approach provides managers and analysts a powerful logical heuristic that can help them in making quicker and better decisions; given the failure of past performance to signal how firms would be able to weather a pervasive global crisis. Miguel (2008) has used panel data econometric model to assess the quality of service of electric distribution utilities in Latin America and its effect on the sustainability of privatization. He opines that the quality of service could be a hidden cost of privatization because the policies of regulation have neglected the quality-of-service issue. Kumar (1992) categorizes state owned enterprises (SOEs) on the basis of their being high or low with reference to market structure, efficiency and social obligations. He suggests divestiture of enterprises which are low in efficiency and have social obligations. Further, he desires that SOE set up as a statutory corporation under an Act of Parliament or as government department needs to be transformed into a stock corporation subject to ordinary company laws so that shares can be offered to the private sector.

The fourth dimension is explicitly confined to the studies related to the pre and post disinvestment based analysis of PSEs; Hammer et.al (1989) examine the management dimension before the state owned enterprises (SOE) are being privatized. They suggest that privatization strategy is closely linked with the overall business strategy. The privatization strategy must provide a clear step by step process for achieving the state's goals, new direction for the company, implementing vision and identifying and attracting a suitable group of investors. The privatization strategy has to be closely linked with the overall business strategy in order to exploit the long-term profit enhancement opportunities.

Megginson et.al., (1994) compare the pre and post-privatization financial and operating performance of the period three-years-after with that of the three-years-before privatization of 61 companies from 18 countries (6 developing and 12 industrialized) and 32 different industries that experience full or partial privatization during the 1961 to 1989. Under these companies, government sold off its equity but no capital flowed to the firm itself. Therefore, any improvement in performance after divestment must be traced to changes in incentives, regulation and ownership structure rather than to cash injections into the firm from a new capital issue. They document significant increase in profitability, output per employee, capital spending and total employment after privatization. Martin and Parker (1995) examined whether 11 British firms privatized from 1981 to 1988 had improved their profitability (measured as return on invested capital) and efficiency (annual growth in value added per employee-hour) after being divested. They found mixed results. Gupta **(**2005) observes that partial privatization has a positive impact on profitability, productivity and investment. The study is based on 339 manufacturing and service sector firms owned by the central (247) and state governments (92) of India for the year 1990–2002. Firms experience a significant increase in profitability, labor productivity, R&D investment and intensity, asset size and employment after partial privatization (without layoffs).

Comparative analysis based on disinvested and non-disinvested PSEs at cross-country level has been dealt under fifth dimension; Bishop and Kay (1989) compare performance of privatized UK companies with those that stayed in the public sector. They find no strong evidence to

indicate that privatized firms perform better. They have measured profitability, in terms of return on capital employed (ROCE) and return on sales (ROS) and found both ROCE and ROS were generally higher among the privatized companies than among the public sector ones, but this had been true even before the companies had been privatized. Thus, it appears that the more profitable firms were sold early, leaving the less profitable ones in the public sector. Lorch (1991) compares the performance of 24 privatized textile mills in Bangladesh with 35 other mills that the government did not privatize by using unconventional measures of performance. He focuses on four functional areas: procurement, production, sales and support function. 'Efficiency' was defined as 'cost-advantage'. He concludes that the Bangladesh textile industry does not offer a very strong endorsement of privatization as far as its efficiency implications are concerned.

Boubakri and Cosset (1998) examine the change in the financial and operating performance of 79 companies from 21 developing countries that experience full or partial privatization during the period from 1980 to 1992 (by using adjusted as well as unadjusted accounting performance measures). Both unadjusted and market-adjusted results show significant increases in profitability, operating efficiency, capital investment spending, output, employment level and dividends. They also find decline in leverage following privatization but this change is significant only for unadjusted leverage ratios. It is generally less significant when they adjust the performance ratios for market effects; further, they examine how privatization in the developing countries affects the financial and operating performance of their public enterprises. Ramamurti (1997) examines the restructuring and privatization of Ferrocarilla Argentinos, the Argentine national freight and passenger railway system. He observes the incredible 370 per cent improvement in labour productivity and an equally striking 78.7 per cent decline in employment (from 92,000 to 18,682 workers). He stressed that performance improvement could not have been achieved without privatization.

The sixth dimension deals with causes/reasons of failure of disinvestment; Kaur and Singh (2005) state that the PSEs operated under the heavy weight of non-commercial obligations of the state and untrammeled discretionary power with the government that erodes their autonomy. They caution that disinvestment does not mean that there is a move to withdraw investment; rather, it is the canalization of the investment in a more productive and efficient way so that it can prove itself as an acceleration of growth. Naib (2004) has revealed that the vast investments have failed to produce the surpluses and the return on capital employed is quite low. This raises the issue whether the present ills of the SOEs can be corrected by change in their ownership. Gouri (1997) observes that privatization in India is low and is limited to disinvestment of PSEs for raising non-inflationary resources. At the same time, there is a gradual withdrawal of budgetary support from PSEs resulting in a gradual dilution of equity as enterprises tap the capital market. Simultaneously, economic liberalization policies have emphasized a level-playing field for the public sector. In terms of economic management, and more so, public sector management, there is lack of a comprehensive policy on privatization that can result in unexpected outcomes which may not be all that expedient. Vadlamannati (2007) finds very feeble and weak relation in view of the very small sized and slow paced disinvestment and privatization program. Further, Arnold et.al. (2008) have identified the sectors in which privatization and competition would mean restructuring and large scale lay-offs; slower to benefit from the reforms than those in which incumbents could remain profitable and employment would not decline even where foreign and local private competitors entered the market.

Notwithstanding the above notable works/studies on the subject, there has been no single study which examines in-depth the impact of disinvestment on all major parameters of financial performance (profitability, liquidity, solvency, efficiency, productivity etc.) of PSEs in India for

the time span of more than two decades. The present paper is a modest attempt to fill this gap.

Research Methodology

The sample to the study consists of 38 non-financial disinvested central PSEs in India where less than 50 per cent of the disinvestment has been undertaken up to the year 2001-02. The sample is representative in nature, represents all the industrial groups that have gone for the disinvestment as per Public Enterprises Survey. The performance of the enterprises has been compared five years before and after eight years after the disinvestment for the time span of 23 years (1986-87 to 2009-10) on rolling basis; the purpose is to ascertain whether there has been any significant change in the financial performance during the long tenure of eight years in the post-disinvestment period due to disinvestment or not. The period of the study is restricted to the year 2010 due to the change in reporting standard of financial statements from the year 2011-12 as per Revised Schedule VI of Company Act 1956[4]; this, in turn, has brought change in many figures/constituents of balance sheet and income statement Therefore, we were constrained to have the present study restricted to 23 years (where financial reporting requirements remain virtually same over a period of time of the study).

There are three major reasons for choosing cut-off year 2001-02. First, during initial years small amount of disinvestment has taken place and afterwards due to several reforms and policies, the amount of disinvestment has witnessed a decisive increase in the succeeding years in certain PSEs; in operational terms, the cumulative amount of disinvestment (till the cut off year) has turned out to be reliable. The second relates to the change of disinvestment policy and commencement of strategic disinvestment; major proportion of strategic disinvestment had started from the year 2001-02 onwards, wherein, more than 50 per cent of disinvestment had been undertaken. The third equally important reason is that the last year used for the purpose of the analysis in the study is 2009-10; to assess the performance of disinvestment, the pre-five-years and post-eight years time-lag requirement gets fulfilled at 2001-02; the purpose of selecting post-disinvestment 8 years time period is to elaborately examine the impact of disinvestment on the financial performance of these PSEs in long run. For statistical tests, the first phase (five years prior to disinvestment) and the second phase (eight years subsequent to disinvestment) are considered as two independent samples.

Relevant secondary data has been collected from the various volumes of Public Enterprises Survey. Financial performance has been measured on the aggregate and dis-aggregate basis. In each analysis, we have relied primarily on 19 financial ratios pertaining to profitability, operating efficiency, leverage, liquidity and productivity. It is worth stating that the primary objective of disinvestment has been to enhance operational efficiency leading to better/higher profitability. Therefore, profitability and efficiency ratios are relatively of higher significance than liquidity and solvency ratios. This would constitute the focus while interpreting the results of post-disinvestment *vis-à-vis* pre-disinvestment period.

Profitability has been assessed on the basis of rate of return on investment and sales. The return on investment has been computed in three ways, *viz.*, return on total assets (ROTA), return on capital employed (ROCE) and return on net worth (RONW). The first two rates of

4. Ministry of Corporate Affairs (Government of India) Notification no. F.No.2/6/2008-C.L-V dated 30-3-2011, revised the existing Schedule VI to the Companies Act, 1956 and made it applicable to all companies for preparation of the Financial Statements from the financial year commencing on or after April 1, 2011. Financial statements are to be prepared for the year 2011-12 (1st April 2011 to 31st March 2012) onwards as per revised/changed schedule.

return highlight how efficiently financial resources are deployed by the PSEs and RONW indicates the return provided to the equity-owners (primarily government in the context of PSEs).

It is important to note that the ROCE and RONW have not been computed in the case of PSEs having negative net worth and negative capital employed. The reason is that the ratio provides ridiculous results when the denominator is negative. However, the numerator can be negative as it indicates that the PSE has suffered a loss (at the computed negative rate) on capital employed/net worth. Therefore, positive net-worth and positive capital employed with negative net-profit and negative EBIT have been included in the study; they signify that net-worth or capital employed is positive with the company but has earned negative profits or losses.

Secondly, return on the basis of sales has been computed on the basis of operating profit margin (OPM) and net profit margin (NPM). The OPM represents the operating profit before any compensation paid to the debt-holders. The ratio provides a clear view of profit margin (undistorted by financing pattern and tax calculation) referred to as earnings before interest and tax (EBIT) relating to sales. The NPM determines the relationship of reported net-profit after taxes to sales; it indicates the management's ability to carry on the business profitably and expresses the overall cost/price effectiveness (Helfert, 2003). Thus, the methodology outlined above is appropriate for evaluating profitability.

Similarly, efficiency or effectiveness in utilization of resources has been determined on the basis of three dimensions. The first one is concerned with the efficiency with which assets are used in business enterprises by its management. Turnover is the primary mode for measuring the extent of efficient use of assets by relating them to net sales; they are total assets turnover ratio (TATR), fixed assets turnover ratio (FATR) and current assets turnover ratio (CATR). Low turnover is indicative of under-utilization of available resources and presence of idle capacity. TATR indicates the efficiency with which firm uses its assets to generate sales. Generally, higher the firm's TATR, the more efficiently the assets are being used (Gitman, 2009). TATR, FATR and CATR are computed dividing average net sales by average total assets in use, average fixed assets (excluding depreciation) and average current assets respectively.

The second dimension of efficiency is based on examining the change in holding period (in number of days) of various types of inventories and collection period of debtors which are the sub-constituents of current assets. The objective of inventory management is to minimize the investment in the inventory and to meet the demand of products by efficient production and sales operation with a view to reduce carrying cost and stock-out cost. Inventory consists of raw materials, spare parts and other stores as raw-material inventory holding period (RMIHP), work-in-progress inventory holding period (WIPIHP) and finished-goods inventory holding period (FGIHP). RMIHP is the ratio of raw materials consumed during the year and average raw materials at the beginning and end of the year; WIPIHP has been computed on the basis of cost of production (represents all costs incurred on production/operation including depreciation but excludes excise duty) and average work-in-progress in the beginning and end of the year; it is to preclude the impact of changes in the excise rates from the analysis. Similarly, FGIHP is based on the relationship between cost of goods sold (numerator), i.e., cost of production plus opening stock of finished goods minus closing stock of finished goods, and average finished goods (denominator). Debtor collection period (DCP) presents the relationship between gross sales (numerator) and average debtors in the beginning as well as in the end of the year (denominator).

The third variant of efficiency measurement explores the change in the capacity utilization of fixed assets over a period of time. To draw more candid picture pertaining to utilization of fixed assets as well as to measure the change in capacity utilization (CU) of fixed assets over a

period of time, the fixed assets have been grouped into four categories on the basis of their usage, i.e., CU of fixed assets below 50 per cent, between 50 to 75 per cent, between 75 to 100 per cent and above 100 per cent.

Capital structure practices assume vital significance in corporate financial management as they influence both return and risk of equity owners of corporate enterprises. This part provides an insight into their capital structure practices and liquidity position. Total debt to total equity (TD/TE) has been used to determine the capital structure practices; it is the relationship between borrowed funds and shareholders' funds/net-worth; shareholders funds are equal to equity capital + preference-capital + reserves and surpluses -accumulated deficit - deferred expenditures not written-off. Total debt is inclusive of long and short-term debt; short-term advances are ostensibly short-term but are generally renewed year after year and hence serve the long-term needs of the firm.

Further, the position of liquidity has been measured in terms of current ratio (CR) and acid test ratio (ATR). The PSEs should maintain adequate liquidity in terms of satisfactory CR and ATR which depends on their access to sources of funds and ease with which these funds can be tapped in times of need. In general, sizeable numbers of PSEs in India have arrangements for short-term credit needs, say, in the form of bank borrowings/overdraft and cash-credit limit from banks which enables them to operate on the lower margin of working capital. This is reflected in relatively lower current ratio (CR) as well as acid test ratio (ATR). It is important to mention that conventionally a CR of 2:1 and an ATR of 1:1 are considered satisfactory.

For the successful operation and productivity of PSEs, Government has initiated voluntary retirement scheme (VRS) in PSEs during 1988 and 2002 (a new scheme for VRS) to shed the excess manpower and to improve the age-mix and skill-mix. Simultaneously, in order to improve the quality of the manpower, several training programs are organized which update their knowledge and skills. Thus, another equally important aspect assessed relates to the productivity of capital per employee which has been determined in terms of level of employment, sales efficiency (SE) and net income efficiency (NIE) ratios.

Further, the computation of select financial ratios in each sample PSE has been determined on the basis of last year of disinvestment by considering last year in that organization as zero year; then, the ratios of all the individual enterprises have been aggregated to process further to determine various positional values (on rolling basis).

To study the trend and its implications, the descriptive statistics and positional values, i.e., mean, median and quartiles have been computed for each PSE. In addition, to overcome the variations of the sample data mean of mean, median of median and quartile of quartile have also been computed of each enterprise in each phase. To do away with the influence of extreme values, they have been excluded from the data; the details of excluded values have been mentioned at the footnote of the tables.

To determine the change over a period of time and across the phases on the same set of companies paired t-test has been carried out; analysis of variance (ANOVA) has also been applied on more than two sets of companies to determine the change within a group (or same set of companies) and with the other group of companies. The significance levels of 1 per cent and 5 per cent have been considered for reporting the results. The entire set of data has been analyzed by using Statistical Package for Social Sciences (SPSS).

Survey findings are predominantly based on 15 responses received form disinvested PSEs. All the analysis of the questionnaire survey is presented for the sample responding companies. This point should be borne in mind while interpreting the results.

Disinvested Central Pses

This section aims at assessing and comparing the financial performance of disinvested PSEs (before and after) on rolling basis. In brief, the section tests the following hypothesis:

H1: Disinvestment has improved the financial performance of PSEs.

Contrary to the expectations, the sample disinvested enterprises has shown dismal performance; a marginal decline in the mean values of all the five profitability ratios (i.e., RONW, ROCE, ROTA, NPM and OPM) has been observed during the post-disinvestment period *vis-α-vis* pre-disinvestment period (Table 1 and Figure 1); this decrease is insignificant statistically. Likewise, decline in TATR, FATR and CATR has also been noted in the same period (Figure 2). However, disinvested PSEs are able to decrease the man-power employed (pronounced in VRS) which is statistically significant as per paired t test. Virtually due to that, a notable increase has been noted in the productivity ratios (sales efficiency and Net income efficiency, NIE) during the second phase compared to the first phase which is significant statistically. Increase in leverage (TD/TA) and liquidity ratios are also worth noting, getting the benefit of cheaper source of finance and better liquidity position.

Table-1: Mean Values of Key Financial Ratios of PSEs Opted for Disinvestment, 1986-87 to 2009-10

Variables	No of firms Before (After) #	Mean 5 yrs before and 8 yrs after of disinvestments		Significance level	Median 5 yrs before and 8 yrs after of disinvestments		Q1: 5 yrs before and 8 yrs after of disinvestments		Q3: 5 yrs before and 8 yrs after of disinvestments	
		Before	After		Before	After	Before	After	Before	After
Profitability Ratios (in percentage)										
RONW	38(38)	13.58	10.89	0.08	11.74	10.05	5.27	2.39	20.34	21.91
ROCE	38(37)	14.04	11.26	0.12	12.65	9.80	6.33	-0.96	19.25	23.78
ROTA	38(37)	11.83	10.19	0.16	10.86	8.71	7.17	3.26	16.03	17.53
OPM	38(38)	15.49	12.37	0.09	12.62	9.36	6.14	2.76	21.32	22.20
NPM	38(37)	8.27	6.97	0.26	4.79	5.05	2.17	0.35	15.82	15.15
Efficiency Ratios (in times)										
TATR	37(37)	1.08	0.99	0.18	0.81	0.70	0.48	0.52	1.48	1.01
FATR	35(35)	3.33	3.31	0.95	2.46	2.19	1.19	1.01	5.20	6.25
CATR	37(37)	1.94	1.72	0.08	1.46	1.36	0.79	0.83	2.68	2.34
• DCP@	37(38)	62.13	70.37	0.18	43.56	45.13	14.68	13.99	95.05	128.67
• RMIHP@	30(31)	147.56	130.49	0.08	102.53	110.28	66.12	40.97	246.03	190.03
• WIPIHP@	27(27)	23.71	21.14	0.23	9.54	5.68	1.13	1.35	49.26	50.01
• FGIHP@	31(31)	28.51	24.13	0.03*	18.83	20.30	20.30	11.59	11.29	15.40
Leverage (in times)										
TD/TE	38(37)	0.99	1.02	0.68	0.74	0.57	0.28	0.14	1.70	2.04
Liquidity (in times)										
CR	38(37)	1.67	1.84	0.19	1.45	1.72	0.95	1.09	2.36	2.57
ATR	38(38)	0.90	0.99	0.32	0.86	0.86	0.35	0.40	1.48	1.60
Productivity/Output										
Sales Eff.!	38(38)	36.97	86.77	0.05*	7.59	16.81	3.79	7.60	43.57	159.28
NIE !	38(38)	2.26	5.36	0.00**	0.82	1.31	0.18	-0.01	1.89	5.56
Employment	38(38)	18191	15870	0.01**	7754	6773	2558	2332	19063	19757

Notes: 1. PSEs having negative net-worth have been excluded and RONW has been based on net profit.

2. OPM and NPM stand for operating profit margin and net-profit margin on sales respectively.

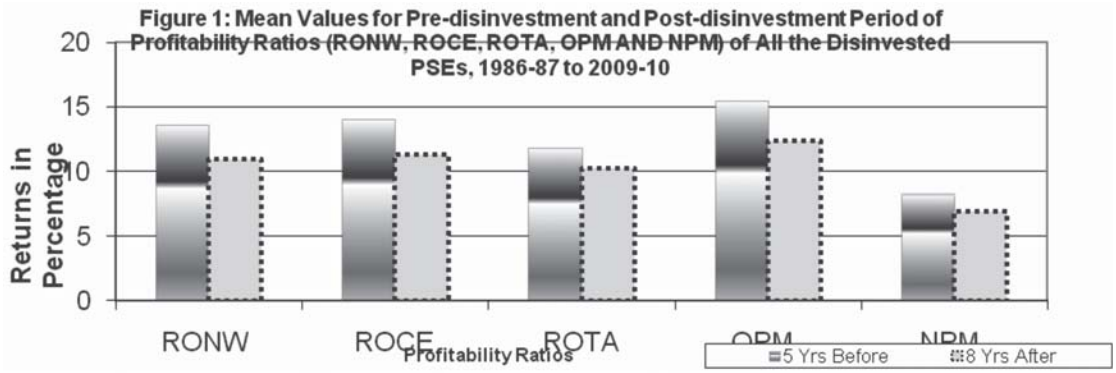
3. ROTA is based on earnings before interest and taxes (EBIT).

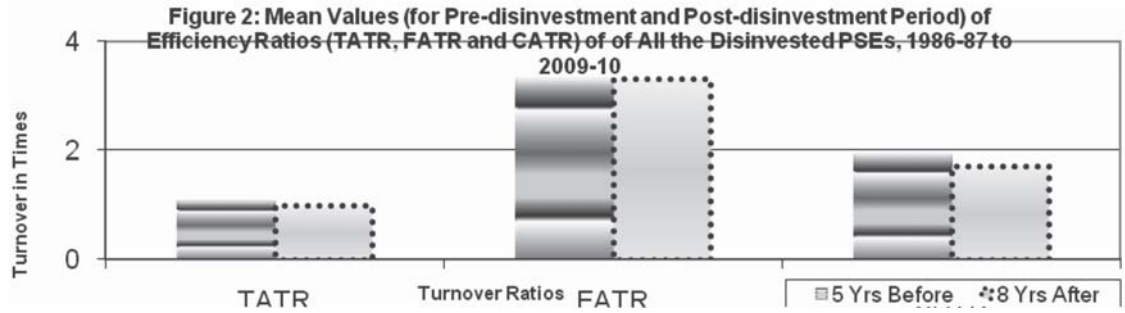
4. ROCE is based on operating profit which excludes non-operating incomes (or other incomes) from EBIT.

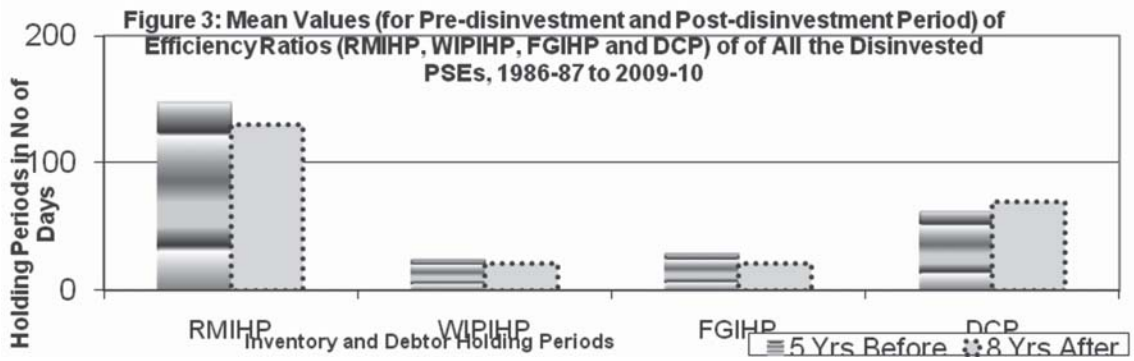
5. ** and * mark to the significant level at 1% and 5% respectively.

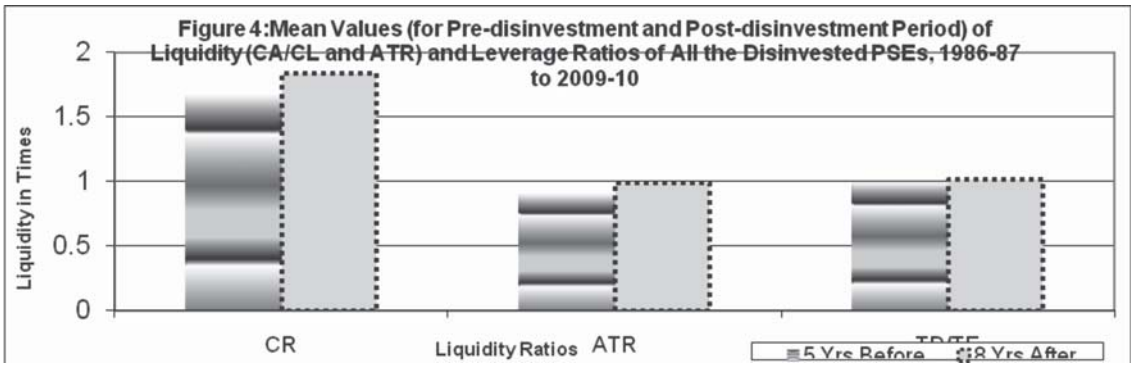
6. # Firms in bracket refers to number of firms after disinvestments and @ refer to the ratios to be calculated in number of days.
7. ! represents to be calculated in percentage.
8. CR- current ratio, ATR- acid test, ratio, TD/TA-total debt/total assets, TD/TE- total debt/total equity, TATR-total assets turnover ratio, FATR- fixed assets turnover ratio, CATR-current assets turnover ratio, DCP- debtors Collection period, RMIHP- raw materials inventory holding period, WIPIHP- work-in progress inventory holding period, FGIHP-finished goods inventory holding period, ROTA- return on total assets, ROCE-return on capital employed, RONW- return on net worth, OPM- operating profit margin, NPM- net profit margin, NIE- Net Income Efficiency and Sales Eff.- sales efficiency.
9. CR consisting value 6 and above, ATR- 4 and above, TD/TA- 1 and above, TD/TE-6 and above, RMIHP-0, 366 days and above, DCP- 0, 270 days and above, TATR- 5 and above, CATR-6 and above, FATR 12 and above, RONW- plus/minus 60 per cent, ROCE- plus/minus 50 per cent, ROTA- plus/minus 35 per cent, OPM- plus/minus 50 per cent and NPM- plus/minus 40 per cent are eliminated.

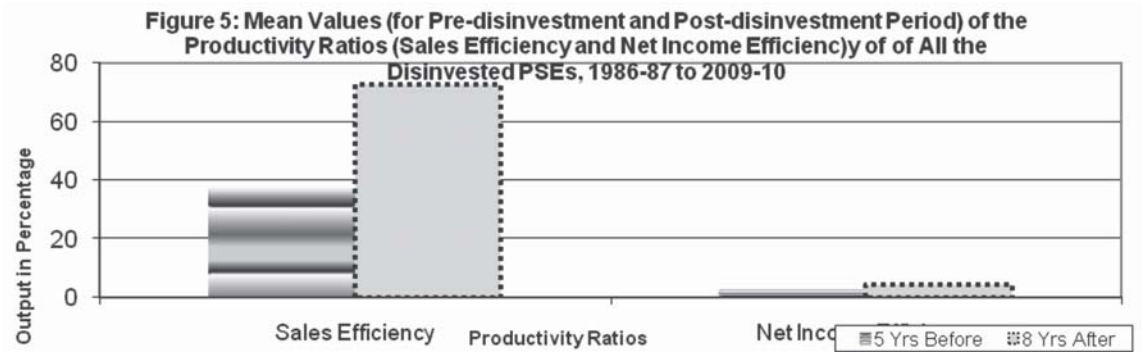
These points hold true for other Tables mentioned in this section and in other sections.











Further, there is a solace that RMIHP (a variant of inventory efficiency), WIPIHP, and FGIHP have also shown a marginal decline (statistically significant in the case of FGIHP) in holding days of inventory after disinvestment. The median and lower quartile values have also almost replicated to the mean results. It is hypothesized that disinvestment would pave way for better capacity utilization. However, the actual findings are not in conformity with this normal expectation. For instance, capacity utilization of more than four-fifth (23 out of 29) of the PSEs have shown a declining trend (though not statistically significant) after disinvestment (Table 2).

Table 2: Mean Values of Capacity Utilization Ratio of the Public Sector Enterprises (PSEs) Opted for Disinvestment, 1986-87 to 2009-10

(Figures are in percentage)

Capacity Utilization Ratio	No of firms Before (After)# 1	Mean Five years Before disinvestment 2	Mean Five years After disinvestment 3	Change in Mean 3-2	Paired t test for difference of Mean 4	degree of freedom (df) 5	Firms showing better performance (%) 6	Significance level 7
Below 50 %	2(2)	82.7	46.0	-36.7	36.70	1	0	0.48
More than 50 and less than 75%	8(8)	83.6	78.1	-5.5	5.50	7	63	0.47
More than 75 and less than 100%	13(13)	83.8	84.8	1.0	-0.98	12	70	0.78
More than 100%	6(6)	95.4	100.9	5.5	-5.50	5	83	0.42

Firms in bracket refer to number of firms after disinvestment

Findings are equally revealing in nature for the profitability and efficiency point of view during the period of the study. In fact, the number of such firms showing deterioration in ROR is half or more in the second phase compared to the first phase. Likewise, there is a decrease in all major efficiency ratios (save Inventory holding period, IHP); in fact, large number of firm's are displaying deteriorating performance *vis-à-vis* the number of firms showing improvement during the same tenure (Table 3). Therefore, the findings do not support the hypothesis of improvement in financial performance of disinvested PSEs after disinvestment *vis-à-vis* before disinvestment (in sizeable number of cases).

Table 3: Disinvested PSEs showing Improvement or Deterioration in Performance (Measured in terms of Profitability and Efficiency), 1986-87 to 2009-10

Variables	No of firms Before (After)#	Firms showingImprovement in Performance (in %)	Firms showing Deterioration in Performance (in %)
Profitability			
ROTA	38(38)	37	63
ROCE	38(38)	35	65
RONW	38(38)	35	65
OPM	38(38)	45	55
NPM	38(37)	55	45
Efficiency			
TATR	37(37)	57	43
FATR	35(35)	51	49
CATR	37(37)	38	62
DCP	38(38)	44	66
RMIHP	30(35)	62	38
WIPIHP	27(27)	63	37
FGIHP	31(31)	72	28

Firms in bracket refer to number of firms after disinvestment.

These findings are in conformity with other notable studies on the subject. For instance, Bishop and Kay (1989*)* have found no strong evidence that indicate the privatized firms did better. Likewise, Abelson (2003) derived out of his nine case studies that long-term financial returns played very little part in the decision to privatize; there is a consistent pattern of winners and losers from the privatization; the winners were the financial institutions, the new shareholders and private consultants and the main losers were the workers in the presale organizations and future taxpayers. Gupta et. al. (2011) have stated that recession (landed in September 2008) has not much impacted to their performance of these enterprises.

On the Basis of Degree of Disinvestment

Dewatripont and Roland (1992*)* and Zsuzsanna, Kose and Abraham (1996) have examined the dynamics of privatization and provide an explanation for the different patterns of evolution of private ownership; they are able to distinguish characteristics of privatization in stages (experimentation) from those of partial privatization. Proponents of gradual privatization (Roland, 1994; Katz and Owen, 1995) claim that gradual privatization can make the transition process smoother and less painful and at the same time, increases the chance for strong economic progress by taking advantage of the 'learning by doing' effect. Naib (2004) states that divestiture will result in shifting the objectives of owners and type of incentive systems for management.

The disinvestment in stages raises certain quarries, such as, whether higher disinvestment produces higher profitability or not? To what extent, operational efficiency is related to the percentage of disinvestment? i.e., to what extent greater disinvestment generates higher liquidity, profitability and effective utilization of existing resources? Therefore, the objective of this section is to assess the impact of gradual disinvestment (or degree of disinvestment) on performance of the central PSEs.

H3: It is hypothesized that the higher quantum of disinvestment would yield better operating and financial performance.

The impact of disinvestment has been measured by dividing degree of disinvestment into six segments, i.e., out of total share capital the percentage of disinvestment a) up to 5 per cent, b) between 5 to 10 per cent, c) between 10 to 20 per cent, d) between 20 to 30 per cent, e) between 30 to 40 per cent and f) between 40 to 50 per cent; the corresponding number of disinvested PSEs are 9, 8, 7, 4, 6 and 4 respectively. For each segment, mean values have been computed (on before-after basis) for all the ratios. ANOVA test has also been applied to determine the relations among them.

Disinvestment up to 5 per cent

The decrease is substantial in all the parameters of profitability and marginal in almost all efficiency ratios during the post-eight years of disinvestment *vis-à-vis* five years before (pre-disinvestment phase, as per Table 4). Leverage (TD/TE) ratio has also shown a marginal increase. However, capacity utilization of these enterprises has revealed the positive results, nearly 90 per cent of these enterprises have enhanced their capacity utilization; it, in turn, would have moderately and positively impacted to the inventory holding period of these enterprises. In sum, no improvement due to disinvestment has been observed except in RMIHP, FGIHP, leverage, sales efficiency and NIE after disinvestment.

Disinvestment in the range of 5 to 10 per cent

On the contrary, disinvested PSEs in the range of 5 to 10 per cent (as per Table 4) have shown unfavorable performance in all the parameters of profitability and efficiency; the decrease in profitability, assets turnover and capacity utilization has been observed in the post disinvestment phase *vis-à-vis* pre-disinvestment phase; it would have adversely impacted the holding period of inventory and DCP, as an increase has been observed in holding periods of raw material and DCP after disinvestment. The only positive notable features have been in respect of increase in productivity (in terms of sales efficiency and NIE) and liquidity during the similar time frame.

Moreover, there has been no improvement in these enterprises due to higher disinvestment. The findings in the sub-section indicate that minor increase in the percentage of disinvestment (of 5 to 10 per cent) does not yield better performance of disinvested PSEs.

Table 4: Mean Values of Key Financial Ratios of the PSEs on the basis of Extent of Disinvestment below 5 per cent, between 5 to 10 per cent and between 10 to 20 per cent, 1986-87 to 2009-10

Ratios	Disinvestment below 5%			between 5 to 10 %			between 10 to 20 %		
	No of firms Before (After)#	Mean 5 yrs before and 8 yrs after of disinvestments		No of firms Before (After)#	Mean 5 yrs before and 8 yrs after of disinvestments		No of firms Before (After)#	Mean 5 yrs before and 8 yrs after of disinvestments	
		Before	After		Before	After		Before	After
Profitability Ratios (in percentage)									
RONW	9(9)	11.75	6.99	8(7)	11.18	7.58	7(7)	12.73	12.62
ROCE	9(9)	10.61	6.94	8(7)	11.19	5.89	7(7)	10.50	13.42
ROTA	9(9)	11.35	8.16	8(8)	10.40	6.27	7(7)	9.61	12.34
OPM	9(9)	14.78	10.96	8(8)	14.26	7.24	7(7)	16.93	17.89
NPM	9(9)	8.62	5.29	8(7)	6.96	6.48	7(7)	9.89	9.60
Efficiency Ratios (in times)									
TATR	9(9)	1.06	1.00	8(8)	1.15	0.92	7(7)	0.96	0.91
FATR	8(8)	2.94	2.82	8(8)	3.74	3.45	7(7)	3.11	2.72
CATR	9(9)	1.70	1.60	8(8)	1.86	1.34	7(7)	1.92	2.05
• DCP (in days)	8(9)	56.49	70.67	8(8)	83.32	105.10	7(7)	41.88	35.49
• RMIHP (in days)	7(9)	209.65	148.85	6(5)	84.59	138.13	5(6)	153.28	159.84
• WIPIHP (in days)	6(6)	21.58	22.29	7(7)	25.52	19.93	3(3)	2.02	2.72
• FGIHP (in days)	7(7)	26.54	23.30	7(7)	36.87	25.21	5(5)	31.75	31.36
Capacity Utilization (in percentage)									
Below 50 %	1(1)	72.8	70.2	1(1)	92.6	21.8	0		
Between 50 to 75%	1(1)	74.6	85.0	3(3)	86.6	80.3	1(1)	105.4	79.6
Between 75 to 100%	3(3)	93.9	103.5	2(2)	92.5	88.5	2(2)	70.6	79.4
More than 100%	1(1)	74.0	93.4	0			2(2)	97.1	107.6
Leverage (in times)									
TD/TE	9(9)	0.71	0.97	8(7)	1.16	1.11	7(7)	1.04	1.28
Liquidity (in times)									
CR	9(9)	2.06	2.12	8(7)	1.78	1.92	7(7)	1.46	1.67
ATR	9(9)	1.12	1.16	8(8)	0.94	1.05	7(7)	0.97	0.90
Productivity/Output									
Sales Eff. (in %)	9(9)	18.05	31.61	8(8)	28.93	47.71	7(7)	43.62	124.59
NIE (in percentage)	9(9)	1.00	1.18	8(8)	0.83	1.27	7(7)	2.37	9.87
No of Employees	9(9)	7059.1	6037.24	8(8)	10866.2	9121.09	7(7)	23258.54	21113.77

Disinvestment in the range of 5 to 10 per cent

On the contrary, disinvested PSEs in the range of 5 to 10 per cent (as per Table 4) have shown unfavorable performance in all the parameters of profitability and efficiency; the decrease in profitability, assets turnover and capacity utilization has been observed in the post disinvestment phase *vis-à-vis* pre-disinvestment phase; it would have adversely impacted the holding period of inventory and DCP, as an increase has been observed in holding periods of raw material and DCP after disinvestment. The only positive notable features have been in respect of increase in productivity (in terms of sales efficiency and NIE) and liquidity during the similar time frame.

Moreover, there has been no improvement in these enterprises due to higher disinvestment. The findings in the sub-section indicate that minor increase in the percentage of disinvestment (of 5 to 10 per cent) does not yield better performance of disinvested PSEs.

Disinvestment in the range of 10 to 20 per cent

It has been analyzed that higher disinvestment (10 to 20 per cent) has brought improvement in the financial performance of PSEs. As an increase in the profitability ratios, the primary measure of financial performance has been determined (except RONW and NPM) which is more than 5 per cent (in OPM), above 25 per cent in ROCE and ROTA during second phase compared to the first phase of disinvestment. Further, sizable increase in liquidity (CR), capacity utilization

(80% of the firms) and productivity (SE and NIE due to decrease in employment) ratios has also been observed during the same phase. However, the performance has deteriorated only in the case of efficiency measures as decrease the assets turnover and increase in inventory holding period have also been noticed.

Disinvestment from 20 to 30 per cent

The findings are contrary to the normal expectation of the better performance (in respect of profitability) with higher degree of disinvestment. Mean profitability and capacity utilization have reported a decline (Table 5). As far as assets turnover, liquidity and productivity ratios are concerned, improvement has been noted in all of them; inventory holding period (raw materials, work-in-process and finished goods) has also shown a moderate decrease.

Capacity utilization suggests that 3 out of 4 disinvested sample enterprises have decreased their capacity utilization during the second phase *vis-à-vis* first phase. It may be recalled that better performance has been observed for PSEs having disinvestment (between the ranges of 10-20 per cent). The findings in this sub-section do not reinforce the contention that disinvestment improves profitability. However, operational efficiency, liquidity and productivity position have registered a marginal improvement.

Table 5: Mean Values of Key Financial Ratios of the Public Sector Enterprises on the basis of Extent of Disinvestment between 20 to 30 per cent, 30 to 40 per cent and 40 to 50 per cent, 1986-87 to 2009-10

Ratios	Between 20 to 30%			between 30 to 40 %			between 40 to 50 %		
	No of firms Before (After)#	Mean 5 yrs before and 8 yrs after of disinvestments		No of firms Before (After)#	Mean 5 yrs before and 8 yrs after of disinvestments		No of firms Before (After)#	Mean 5 yrs before and 8 yrs after of disinvestments	
		Before	After		Before	After		Before	After
Profitability Ratios (in percentage)									
RONW	4(4)	10.98	7.65	6(6)	19.43	20.09	4(4)	17.82	11.91
ROCE	4(4)	15.09	8.47	6(6)	22.61	22.06	4(4)	19.72	14.57
ROTA	4(4)	10.03	8.67	6(6)	16.88	16.04	4(4)	13.87	11.55
OPM	4(4)	16.10	10.68	6(6)	13.76	13.75	4(4)	18.99	15.74
NPM	4(4)	7.53	3.12	6(6)	7.10	8.32	4(4)	9.79	8.80
Efficiency Ratios (in times)									
TATR	4(4)	0.63	0.82	5(5)	1.46	1.24	4(4)	1.18	1.13
FATR	4(4)	2.45	3.92	5(5)	4.48	4.84	4(4)	3.22	2.56
CATR	4(4)	1.23	1.35	6(5)	2.63	2.24	4(4)	2.56	1.88
• DCP (in days)	4(4)	95.62	102.63	6(6)	66.34	61.53	4(4)	26.69	42.25
• RMIHP (in days)	4(4)	205.75	185.63	5(6)	118.12	84.16	3(3)	90.57	74.15
• WIPIHP (in days)	4(4)	45.88	35.18	4(4)	27.60	30.91	3(3)	10.68	8.30
• FGIHP (in days)	4(4)	37.71	30.99	5(5)	12.36	12.89	3(3)	22.86	21.10
Capacity Utilization (in percentage)									
Below 50 %	0			0			0		
Between 50 to 75%	1(1)	67.8	69.8	1(1)	79.0	64.5	1(1)	82.2	84.8
Between 75 to 100%	1(1)	79.6	53.8	3(3)	74.8	74.0	2(2)	89.0	90.4
More than 100%	2(2)	96.2	85.9	1(1)	111.8	125.0	0		
Leverage (in times)									
TD/TE	4(4)	1.01	1.09	6(6)	0.84	0.71	4(4)	1.34	0.89
Liquidity (in times)									
CR	4(4)	1.85	1.95	6(6)	1.34	1.66	4(4)	1.22	1.51
ATR	4(4)	0.81	0.88	6(6)	0.84	1.11	4(4)	0.41	0.63
Productivity/Output									
Sales Eff. (in %)	4(4)	43.62	124.59	6(6)	96.79	221.53	4(4)	23.18	88.54
NIE (in %)	4(4)	0.62	0.75	6(6)	7.88	16.87	4(4)	0.94	2.37
No of Employees	4(4)	16242.4	16812.09	6(6)	17427.7	12852.81	4(4)	52115.80	45896.50

Disinvestment in the range of 30 to 40 per cent

Table 5 indicates mixed results; marginal decrease in operational efficiency has been observed virtually in majority of the parameters of assets turnover ratios; capacity utilization of the resources has also decreased in four-fifth of the sample PSEs. Though, figures related to the leverage, liquidity, RMIHP, DCP and productivity (sales efficiency and NIE) ratios have shown better results after disinvestment; similarly, marginal increase in two profitability ratios (RONW and NPM) has also been recorded.

Disinvestment from 40 to 51 percent

A significant increase in productivity and marginal increase in liquidity ratios and capacity utilization has been seen in the post-disinvestment phase *vis-à-vis* pre-disinvestment phase; in the same way, decrease in the inventory holding period (in respect of all types of inventories) has been observed during the same time frame. Though, assets utilization and profitability has disclosed a declining trend in all types of ratios. Though, the mean capacity utilization of the sample PSEs are operating at their capacity below 100 per cent.

As far as financial performance relating to the six groups are concerned, mixed results have been observed among all the six groups related to the degree of disinvestment and various parameters of financial performance. For instance, there has been a marginal improvement in few parameters of profitability in few of the cases. The position of liquidity, leverage and efficiency ratios have shown an improvement due to higher amount of disinvestment in majority of the cases. Other parameters, such as, assets turnover (current as well as fixed, save 20 to 30 per cent disinvestment) have pronounced declining trend and DCP have reflected increasing trend.

The findings in this part contradict to the perception that higher disinvestment brings out higher efficiency or effectiveness in utilization of resources, which, in turn, raises profitability at all the levels. Further, to examine the relationship and impact of degree of disinvestment among the six groups, one way analysis of variance (ANOVA) test has been conducted (Table 6); it has identified the significant difference in almost all the parameters of profitability (except OPM and NPM), efficiency (i.e., assets turnover, IHP and DCP) and liquidity ratios. The findings, to a marked extent, corroborate the hypothesis that better performance is associated with higher degree of disinvestment.

CONCLUDING OBSERVATIONS, RECOMMENDATIONS AND IMPLICATIONS

Concluding Observations

The findings indicate that disinvestment brings no major improvement in the parameters related to the profitability, assets turnover and capacity utilization even after eight years of disinvestment. Though, improvement has been noted in respect of productivity of capital and liquidity only. In fact, findings are not in conformity with normal expectations that disinvested PSEs perform better, probably high government involvement and lesser autonomy could be one of the factors of low performance. The others may be, low profit margin, competitive environment, administrative prices control and decline in usage of debt have been listed as the probable reasons for decrease in profitability of disinvested PSEs (Gupta et. al (2011); under partial disinvestment, control continues to remain with government and hampers faster decision-making which lead to an adverse impact on the performance of PSEs.

However, extent of disinvestment has shown mixed results in the parameters of profitability across the six groups. No uniform pattern has been observed. The position of liquidity, leverage, inventory holding period (IHP) and productivity have shown improvement to a large extent due

Table 6: ANOVA Results of the Disinvested PSEs on the basis of Degree of Disinvestment, 1986-87 to 2009-10

Parameters		Sum of Squares	df	Mean Square	F	Sig.
RONW	Between Groups	175.97	5	35.19	5.15	0.04*
	Within Groups	41.04	6	6.84		
ROCE	Between Groups	287.13	5	57.43	5.71	0.03*
	Within Groups	60.37	6	10.06		
ROTA	Between Groups	87.38	5	17.48	4.92	0.04*
	Within Groups	108.70	11			
OPM	Between Groups	69.66	5	13.93	1.60	0.29
	Within Groups	52.37	6	8.73		
NPM	Between Groups	27.70	5	5.54	1.99	0.21
	Within Groups	16.66	6	2.78		
TATR	Between Groups	0.44	5	0.09	7.22	0.02*
	Within Groups	0.07	6	0.01		
FATR	Between Groups	4.85	5	0.97	3.91	0.06
	Within Groups	1.49	6	0.25		
CATR	Between Groups	1.82	5	0.36	4.73	0.04*
	Within Groups	0.46	6	0.08		
RMIHP	Between Groups	21043.05	5	4208.61	6.01	0.02*
	Within Groups	4200.76	6	700.13		
WIPIHP	Between Groups	1865.91	5	373.18	27.41	0.00**
	Within Groups	81.68	6	13.61		
FGIHP	Between Groups	644.33	5	128.87	7.92	0.01**
	Within Groups	97.57	6	16.26		
DCP	Between Groups	7285.55	5	1457.11	16.97	0.00**
	Within Groups	515.33	6	85.89		
TD/TE	Between Groups	0.27	5	0.05	1.83	0.24
	Within Groups	0.18	6	0.03		
CR	Between Groups	0.73	5	0.15	7.52	0.01**
	Within Groups	0.12	6	0.02		
ATR	Between Groups	0.44	5	0.09	7.32	0.02*
	Within Groups	0.07	6	0.01		
Sales Efficiency	Between Groups	28524.12	5	5704.82	2.53	0.14
	Within Groups	13521.43	6	2253.57		
NIE	Between Groups	216.24	5	43.25	3.72	0.07
	Within Groups	69.68	6	11.61		

to higher disinvestment. ANOVA test has also corroborated positive relation between the quantum of disinvestment with higher financial performance.

In sum, it is worth stating that partial disinvestment has not derived the results which was expected from them; it may be virtually due to number 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 disinvestment (for filling fiscal deficit gaps) and capital market discipline. Sueyoshi (1998) enumerates that the performance and corporate behavior of a firm cannot be determined only by its ownership but also by many external factors including type of corporate environment (regulations and deregulations) and types of client (government or private firms); public firm facing serious competitors may behave as private firm and a privatize firm under government regulation may still function like public firm. Koen (1998) has suggested that privatization alone

is not the answer of good governance; managerial skills, the existence of performance incentives, transparency and a sound legal system are also required. Abelson (2003) stated that long-term financial returns played very little part in the decision to privatize. Das (1999) expresses that contrary to expectation, profitability, liquidity and assets turnover dropped instead of improving.

Recommendations of the Study

It is recommended that the government henceforth should aim for strategic disinvestment; as small and modest sizes of disinvestment are not likely to be fruitful. The government's intervention in the operational functioning and managerial decision-making should be a matter of last resort; disinvested public enterprise needs major structural changes including replacement of leadership, existence of performance incentives, transparency and education to managers in order to successfully shift to competitive firm.

The government should adopt a selective policy in the case of closing the loss-incurring PSEs. It is understandable that for social reasons, the government normally finds difficult to close the sick/loss-incurring PSEs. The government may sell such PSEs to private sector. For the purpose, it may invite tenders from the private sector. Obviously, in some cases, it may be very difficult to sell them at positive price. Since, the condition would be to run them in future; it may sell them with minimum negative tender price as followed in Germany (Gupta, 2005).

Implications of the Study

The research should be of value to the academicians, government, policy makers, management of the public sector enterprises and international development agencies. The study suggests strategic disinvestment since small amount of disinvestment or partial disinvestment do not yield desired results in majority of the cases.

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