PN-ABY-632
90671

# Exit for Existence: Restructuring Labor in Indian Public Sector Industries

presented by

*Gautam Gupta*
Jadavpur University, Calcutta

written by

*Gautam Gupta*
and
*Manash Ranjan Gupta*
Jadavpur University, Calcutta

Paper presented at the One Day Colloquium on Policy Analysis:

***Public Sector Restructuring and Labor Reform: Progress and Prospects***

New Delhi, July 2, 1996

**Do not reproduce, quote, or cite without written approval from the author(s).**

Co-Organizers:
National Council for Applied Economic Research (New Delhi)
The Center for Institutional Reform and the Informal Sector

The content of this paper is the sole responsibility of the author(s) and does not represent the views or opinions of NCAER, New Delhi, or the IRIS Center, University of Maryland.

# EXIT FOR EXISTENCE:
# RESTRUCTURING LABOR IN INDIAN PUBLIC SECTOR INDUSTRIES

Gautam Gupta
Manash Ranjan Gupta

This publication was made possible through the support provided by the U.S. Agency for International Development under Cooperative Agreement No. DHR-0015-A-00-0031-00 to the Center on Institutional Reform and the Informal Sector (IRIS) and administered by the Office of Economic and Institutional Reform, Center for Economic Growth, Bureau for Global Programs, Field Support and Research.

## I. INTRODUCTION

The motivation for this paper begins with the economic reform program initiated in India since 1991. As is well known, certain shifts in economic policy were discernable in the Indian scenario since 1984, but it was only in mid-1991 that the process of reform was taken up in right earnest. It is also not a coincidence that these changes formed part of a similar process in many developing countries and the erstwhile socialist economies.

The essence of the policy shift in India can be summarized as a move away from a government-dominated planning-oriented command-control economy towards a market oriented structure which relies mostly upon economic incentives for attainment of social and economic objectives and is more responsive to global needs and changes.

It is important to note that a monumental institution inherited from the previous regime is the mammoth Indian Public Sector. In most industrialized economies the government's role is mainly limited to the functions of governance, policy making and regulation. Some presence of the government exists mostly in areas characterized by market failures, such as health and education, and in some services that are public oriented in nature or have low profitability.

The public sector in India goes far beyond these areas in scope and breadth. The planning-oriented approach adopted since independence prompted the Government of India to set up economic activity in virtually every sphere of the national economy. Today, the government is involved in the mining and manufacture of basic minerals and metals such as coal and steel, production of intermediaries such as power and fertilizer, distribution of food grains, manufacture of capital goods and equipment, production of services such as transportation and tourism and commercial banking services in the financial sector.

The institutional arrangement was to set up quasi-autonomous Public Sector Undertakings (PSUs) under full government ownership reporting to the relevant ministries. Most of these PSUs are either legal monopolies or enjoy a large market share owing to size and government patronage.

It is also true that the PSUs have seldom, if ever, acted or been allowed to act in a manner consistent with the conventional goal of profit maximization. This is because, in many cases, such as coal, steel, oil and fertilizer, the prices of the product have been fixed through the administrative mechanism by the government. They have also often been required to pursue non-economic objectives such as financing poverty alleviation programs, as in the case of nationalized commercial banks. Almost always, the government has dictated a policy of choosing a technology that is more labor intensive than available globally, as in the case of the National Textile Corporation. In all cases, the government has insisted that PSUs pursue, to some extent, a policy of employment generation, which has made the government and all its subsidiaries together, the largest single employer in the country. This implied that at the time the reform process was initiated, most of the PSUs had a payroll strength far in excess of what is required by profit maximizing conditions. Again, the problem is most acute in the National Textile Corporation, the Central power undertakings such as the National Thermal Power Corporation, the public sector banks such as the State Bank of India and the Indian Railways (the last two are not PSUs in the strict sense of the term).

It is not surprising, therefore, that some PSUs have begun to exhibit some degree of financial sickness. Negative profits are common features on balance sheets of such PSUs and in some cases the entire net worth of the company has been wiped out.

An important and integral part of the reform program is that these PSUs are now required to pursue a goal of profit maximization. This is sought to be implemented in two ways:

i) In the case of some PSUs the managers have been instructed to restructure internal organization and management of the firm such that the PSU is able to earn optimal profits. This has been backed by the government's policy decision that subsidies for losses of the PSUs will no longer be financed out of the Union Budget; in these cases the government has decided to retain the PSU under public ownership, with some stock dilution, or

ii) In some other cases the government has decided to sell-off the PSU to a private entrepreneur who will naturally pursue a goal of profit maximization in these units. The Hindustan Fertilizer Corporation is the most recent example of this.

In either case, the PSUs are now compelled to restructure the payroll strength of their respective production units with a view to reducing employment. It can be stated with some confidence that if a PSU merely pursues a policy of stopping new recruitment and depends upon 'natural losses' (i.e. resignation, retirement or death) for reducing employment (this was done in the Indian Railways in the 1980s) this will translate into a rate of adjustment too slow to be acceptable. **Thus, it is inevitable that the PSU must resort to the direct retrenchment of labor.** This may be accompanied by suitable up gradation of technology.[1]

**Yet, it should be noted at this point, that India must carry out her reform process from a historically given starting point.** In this case, this happens to be that the PSUs are characterized by large levels of employment, with workers organized in fairly strong trade unions with a good striking power and the workers enjoy an institutionally determined wage rate and assurance of continued employment (i.e. free from the threat of lay-offs). This structure is further guaranteed by various acts and statutes and precedence set by judgements in legal suits.

**In this context, sudden and swift institutional changes may not be possible. These may either be thwarted by the legal process or be too confrontational with labor.** The recent strike by telecommunications workers is an example of such confrontation. In general, the political exigencies of a democratically elected government has prompted the central government to veer away from such confrontations. **The government has, instead, tried to develop the so-called consensus approach.** What that means is that mechanisms have to be devised to make these aspects of the reform process acceptable to the workers. In the present context, the government has decided to continue to maintain the institutionally determined wage rate.

---

[1] In our earlier work, Gupta and Gupta (1995) which was of a theoretical nature, we investigated the relationship between labor lay-offs with severance pay and up gradation of technology for a PSU seeking to maximize profits. The model was set up in an optimal control framework and solved for the minimum time of adjustment.

Furthermore, the government has not resorted to direct lay-offs in its own PSUs nor politically supported the management of the newly privatized PSUs in retrenching labor.

Instead, lay-off of labor is sought to be achieved by offering the workers a suitable severance pay package so that the retrenchment is voluntarily accepted. Thus, many PSUs are now in the process of offering what is locally termed a Voluntary Retirement Scheme (VRS). A special fund, the National Renewal Fund, has been set up by the government to finance the PSUs in their effort to offer VRS to the workers. There are also a policy statements regarding the retraining of workers who accept the VRS package.

It is important to note that, in most PSUs, the VRS that is being offered is a standard package, the value of which is based upon the lower of the two sums calculated on the basis of the number of years of service put-in and the number of years of service remaining for a worker. Commercial banks in the public sector are also in the process of offering such schemes. It is interesting to note that this scheme has, as yet, failed to generate sufficient enthusiasm and the momentum of acceptance is low. This is further borne out by the fact that the off-take from the National Renewal Fund is below the budgeted amount.

**It is reasonable to believe that the present lack of success of the VRS is due to some fault in its design, that may not make it incentive-compatible to most workers.** One problem is that the scheme offers a standard package, where workers differ widely in skill and opportunity cost, is likely to evoke widely differing responses. It would be pertinent to ask what factors contribute to the acceptance of a VRS offer by a worker, how managers wish to restructure their organizations with reduced employment and what the workers who accept VRS hope to achieve with their time and money.

## II. SEVERANCE PAY: A REVIEW OF THE THEORETICAL LITERATURE

Post-Keynesian literature is quite rich in analyzing involuntary unemployment arising out of lay-offs. One of the earlier micro-foundations in this area (Azaradias 1975) provides an analysis of implicit and explicit firm-labor contracts with state dependent employment levels. The state is determined by positive or negative productivity shocks. The paper model led income-uncertainty in an expected utility framework and demonstrated the startling result that wages would, in fact, be constant across states. This was followed by other state-dependent wage-uncertainty models analyzing unemployment insurance (Feldstein 1976) and wage indexation (Jo Anna Grey 1976). While this strand of the literature on lay-offs has grown over time, none of these models take severance pay into account. Unemployment insurance has been related to some form of compensation (pay) in a later work (Fortin and Lanoie 1992) but such compensation arose due to work place accidents rather than direct retrenchment and the unemployment of the worker is injury-related.

Recently, analysis of severance pay packages have been attempted (Knoeber 1986) where such compensation is contingent upon retrenchment. But, in this model, the offer is made to senior managers of the firm who may lose their jobs following a take-over and the motivation of the firm in offering severance pay is to protect itself from tender offer acquisition bids by increasing the cost of acquisition. A similar model (Saha 1994) models a situation where severance pay is

agreed upon in a firm labor union contract, and hence becomes part of the wage package to be used by the firm in bidding up the wage bill of a potential competitor, so that severance pay acts as an instrument of entry deterrence. It should be noted that in these papers the motivation of the firm in offering severance pay is not the conversion of retrenchment to voluntary unemployment.

Finally, mention must be made of a series of papers (Brown and Wolfsetter 1984, 1985, Chari 1985, Cooper 1983, Green and Kahn 1983) which analyze wage contracts with severance pay clauses. The emphasis in these papers are on temporary lay-offs, asymmetry of information and bargaining power. In a recent work on layoffs with payoffs, Booth (1995) designs a Nash bargaining game between the employer and the worker to settle the quantum of wage and severance pay simultaneously. Unlike in our, present study the firms in this model begin from a situation of optimal employment.

It is important to mention one crucial difference between all models discussed above and the situation obtaining in India in the context of the economic reform program. In all these models wage and severance pay is offered under a single contract by the firm to the worker or the workers' union. Bargaining takes place on the entire contract. There is a process of offer and acceptance (rejection) on the entire contract. Rejection of any part of the contract implies rejection of employment under that contract. This is different from the situation obtaining in the PSUs in India. Here, the workers are already employed under a wage contract. The wage rate and employment is guaranteed. The severance pay is introduced later, as a separate contract. Rejection of severance pay, therefore, does not imply rejection of employment. This fact must be introduced in the theoretical part of the study in order to properly describe the current situation in India. This fact was explicitly accommodated in our earlier theoretical work (Gupta and Gupta 1995).

## III. PSUs: PERFORMANCE AND PROFITABILITY

This section presents a summary picture of the 237 PSUs that are owned and managed by the government of India. The following table is based on aggregate information for the PSU sector. Table 3.1 is presented to describe a summary picture and is self explanatory.

It is generally held that the private sector is more efficient than the public sector as the former has to obey the logic of the market. The following table is compiled for purposes of comparison. The statistics presented, for a particular year, generally bears out the relative efficiency of the private sector, with some interesting sidelights. Table 3.2, however, should be read with the caveat that, historically in India, public sector units have been set up in areas considered unprofitable by the private sector.

## IV. OVEREMPLOYMENT AND SICKNESS IN PSUs

This brings us to the most important conventional wisdom which says that overemployment is the determining factor behind the low profitability (or sickness) of the Indian Public Sector. To test this notion, we have resorted to relative measures as absolute measures are unreliable. Further, one must bear in mind that low profitability of a unit may be caused by other factors

such as backward technology or a slump in the market. For this purpose, some important industry groups have been identified within the public sector. Within each industry, the ratio of profits before tax to total income was taken as a measure of profitability and the ratio of wages to sales revenue was taken as a measure of over-employment. Correlation and rank correlation coefficients were calculated for each industry group for five years. The results are presented in Table 4.1.

A strong negative correlation bears out the hypothesis that over-employment is in fact responsible for low profitability. The results indicate that the hypothesis is borne out for those industry groups that are otherwise known to have poor performance or are sick, but is not borne out for industries that are known to be performing well. This, in turn, implies that overemployment is, in fact, largely responsible for the low profitability of central PSUs in India.

The government has been the largest single employer in India for its entire period of independent history. Aside from ministries and departments of the central and state governments, the central Public Sector Undertakings have generated employment in a very large measure. As of March 1994, the 245 central PSUs employed a total of 2.154 million persons of which 85 thousand were casual workers on daily wage. They earned an average salary of Rs 72,151.00 per year. Looking at the trend of employment over time it will be seen that starting with 1.703 million in 1978-79, employment grew continually till it reached a peak of 2.236 million in 198990. Thereafter, it began to decline, initially at a very slow rate. The rate of decline was in the region of one to two percent per year. It was only in 1993-94 that employment fell to 2.069 million which represented a decrease of 3.86 percent over the employment of the previous year. These figures exclude daily rated workers.

## V. ANALYSIS OF SICKNESS IN CENTRAL PSUs

We are often not so much concerned with non-optimal profits in the public sector as we are with sickness. While the government act requires that a company must show negative profits for two consecutive years and have negative net worth in order to be defined sick, we felt that this definition was too restrictive and tends to exclude many companies tending towards sickness.

The issue of industrial sickness assumed importance in the mid-eighties when it was observed that there were a large number of public limited companies that were suffering chronic losses and were unable to recover their position. Curiously, some of these companies did not shut down, as would be expected, but continued to operate under troubled conditions. There was increasing national concern about the fate of the workers in these firms as well as the future of the outstanding loans owed by these companies to term lending institutions. The central government was under pressure to intervene and help these companies survive.

It was in this background that the government passed a law in 1985 to specially address this problem. The initial idea was to create a framework of institutions within which industrial sickness would be detected and a review of each individual situation would be possible. The review would dictate whether there was any possibility of recovery or turn-around for a sick company through structural reorganization and fresh investment or not. The philosophy of this view was that reorganization should be induced in those cases where the possibility of recovery

was bright; all other companies should be liquidated at the earliest to minimize further losses and releases scarce resources locked up in unprofitable enterprises.

The Board of Industrial Finance and Reconstruction (BIFR) was created at the national level as the apex institution to oversee the implementation of the law. The law was initially designed for the private sector and the public sector was brought under the institutional framework later.

The design of proper institutions to address industrial sickness was, from the beginning, dogged by problems of definition. There was a need for an appropriate definition of a sick company. This definition needed to be strict enough to include companies with chronic losses but not so strict as to include companies in temporary difficulty. Subsequent record shows that four alternative definitions were offered. Following is an account of how a sick company has been defined in various situations.

i) **The Sick Industrial Companies (Special Provisions) Act 1985** defined a sick industrial concern as one that has been in existence for not less than seven years, has negative net worth and has suffered cash losses[2] for the last two consecutive years. This definition was meant to exclude new industries suffering initial losses. This definition was found to be unsatisfactory on the grounds that it was too lenient and managed to capture sickness very late.

ii) **The Committee for Industrial Restructuring (Goswami Committee) 1993** felt that designing an early-warning system was most important and hence the criterion for sickness should be such that companies in temporary difficulty would also be required to face review. They rejected the use of net worth or profits and defined a sick company as one that had defaulted on a loan to a term lending institution for a period of 180 days or more. This definition was not accepted by the government on the grounds that such a strict definition would imply that an excessively large number of cases would have to be reviewed regularly.

iii) **The Sick Industrial Companies (Special Provisions) Amendment Act 1993** was passed to replace the original act. It defined a sick company as one that has been in existence for not less than five years and showed a negative net worth at the end of the current financial year. This definition did not include any use of cash losses or loan default. This definition is currently being used in all BIFR and legal proceedings.

iv) Since 1993, public sector companies have been brought under BIFR review. This required that the Ministry of Industry, Government of India, conduct its own monitoring of PSUs tending towards sickness. For this purpose, the ministry has created its own definition of a company that they use to initiate departmental monitoring. By this criterion a company is sick if accumulated losses exceed one-quarter of the initial paid up capital of the PSU. The ministry has a list of 62 central PSUs who fit this criterion.

---

[2] Net worth is defined as the sum of total paid up capital and free reserves; cash losses means losses computed without providing for depreciation.

Alternatively, we feel that the historical record of the company on both counts of profits and net worth should serve to identify sickness. This would help to identify different groups of PSUs in various degrees of difficulty. This may help to devise differing strategies for the recovery or winding-up of the relevant companies.

Table 5.1 presents information based upon the last five years. The companies in the extreme north-west box are absolutely healthy and those in the extreme south-east box are absolutely sick. The closer a company is to the south east end, the nearer it is to sickness.

It should be noted that once a PSU registers negative profits (in the absence of immediate turnaround schemes) it tends to proceed towards sickness. This is because its cash losses are usually made up by a non-plan loan from the government carrying an 18 percent rate of interest. Since the company is seldom able to pay-off the loan, the principal and interest tends to accumulate and wipe out the net worth.

It would be interesting to relate the company specific features that signify sickness or health with the propensity of the employees to opt for termination of employment with compensation. This information for a selected group of PSUs is presented in the appendix (Table A1).

The Sick Industrial companies Act (1985) that guides the operation of sick enterprises previously excluded PSUs. This act was amended in 1991 in a way that makes it mandatory for the management of a PSU to refer that company to the Board of Industrial Finance a Reconstruction (BIFR) as soon as sickness is detected. Upon referral, the usual BIFR process is set in motion. Up to March 1994, 47 central PSUs have been referred to the BIFR.

## VI. SEVERANCE PAY AND THE NATIONAL RENEWAL FUND

Large scale employment generation by public enterprises has led to a situation where some of the enterprises are saddled with over-employment and excess manpower, resulting in low labor productivity. In many cases, this excessive burden of the wage bill has contributed in some measure toward driving some enterprises to sickness. Many committees of inquiry investigating industrial sickness and restructuring, most notably the Arjun Sengupta Committee (1985) and the Goswami Committee (1993) suggested that employment in PSUs would have to be reduced. But, an up-front policy of retrenchment was considered to be too confrontational to the labor unions and infeasible in a democratic set up. Hence, the government decided upon a compensation package as severance pay against retrenchment. A voluntary retirement scheme (VRS) was decided upon and initiated to the PSU management through Ministry of Industry office memorandum #2(36)/86 dated 5th October 1986. The salient features of the VRS package were as follows:

i) Any employee of a PSU who has completed 10 years of service <u>or</u> 40 years of age could apply to retire under the scheme.

ii) The management of the PSU would have the discretion to grant the application or otherwise.

iii) The employee would receive one-and-one-half months pay for every year of completed service or the total pay that he would have earned had he continued to work up to normal retirement (58 years), whichever is less.

iv) The employee would also receive all normal accrued retirement benefits owing to him at that time.

v) The employee would also receive one or three months pay in lieu of severance notice and train fare for self and family to any destination within the country.

At that time this scheme was funded by non-plan loans from the central government to the PSU and carried the bank rate of interest. Clearly this state of things could not continue, since the PSUs who opted to offer this package, in most cases, were loss-making and sick. Being cash-strapped they were unable to fund the scheme from their own resources. So, they usually took the non-plan loan offered by the central government, but for the same reasons, were unable to repay it.

The New Industrial Policy announced by the government on 24th July, 1991 recognized this problem. It was clear that without external assistance in the form of grants, this exercise of employment reduction would not be feasible. Consequently, the government decided to establish a fund, called the National Renewal Fund (NRF). This was announced by the Finance Minister while presenting the budget for 1991-92 to parliament (paragraph 52). It was stated that,

> " ... the main objective of the fund would be that the cost of technical change and modernization of the productive apparatus does not devolve on the workers. The fund will provide a social safety net which will protect the workers from the adverse consequences of technological transformation" (ibid).

A subsequent government document[3] set out the following three scenarios:

i) Public and private sector firms who are not in any immediate need for restructuring, but feel that they may do so in the future may contribute to the NRF now and draw from it later as the need arises.

ii) Public and private sector firms who are intrinsically viable, but require immediate technological up gradation, may take loan from NRF to fund labor retrenchment.

---

[3] This document termed Concept Paper on National Renewal Fund was produced by the finance ministry for circulation within government. The document laid out an elaborate program for operation of the NRF. Most of these proposals never seems to have been followed up.

iii) Public and private sector firms who are sick and have received orders from the BIFR[4] for revival or closure may receive grants (which do not need to be refunded) to fund labor retrenchment.

It appears that of the above three items only the third has been covered by the NRF at present, and that too, mainly for the Public Sector. Details of budgetary provision, actual transfer of funds to the NRF and its utilization is shown in Table 5.2. The detailed table for number of workers who have actually taken voluntary retirement under the scheme for each Public Sector Unit, over time, is presented in the appendix (Table A2).

The initial intention of the government was to establish an empowered authority under the Ministry of Industry to oversee the functioning of the NRF. However, over time, the management of the PSUs tend to mainly inform their respective controlling ministries (and not the Ministry of Industry) of their intention to offer voluntary retirement. Accordingly the respective ministries draw the relevant funds from the NRF and the control of the empowered authority over the process is, at present, nominal.

Some relevant information should be recorded here:

i) It may be mentioned that all disputes between workers and management of firms, whether public or private, are guided by the Industrial Disputes Act. The Act has no provisions for labor retrenchment by a public sector firm. This makes voluntary retirement with compensation the only viable means of reducing employment by PSUs.

ii) The Sick Industrial Companies (special provisions) Act 1985 has been amended in 1991 in a way that now makes it mandatory for a PSU to refer itself to BIFR as soon as it is sick. Upon such referral, the BIFR makes a prima facie finding as to revival or winding up. If the judgement is for winding-up, as of that day, any offer of voluntary retirement before the employees of the concerned PSU is automatically withdrawn.

iii) Another objective of the NRF is to provide funds for retraining and redeployment of workers affected by down-sizing. Accordingly, Rs 500 million has been earmarked in 1994-95 for counselling and execution of training and redeployment programs. Five Employee Assistance Centers have been opened at Ahmedabad, Bombay, Calcutta, Indore, and Kanpur to pilot these programs. By all accounts, these centers are yet to reach any serious degree of effectiveness.

---

[4] The Board of Industrial Finance and Reconstruction is the quasi judicial apex body set up under the Sick Industrial Companies Act to receive cases of industrial sickness and deliberate on the appropriate course of action for them. Most important, the BIFR finds, prima facie, if the firm has any chance of revival or not. In the first case the BIFR arbitrates over restructuring packages and entertains offers from promoters. In the latter case the BIFR orders a closure. Referral of sick companies are mandatory and BIFR orders are binding.

## VII. DETERMINANTS OF THE VOLUNTARY RETIREMENT SCHEME

This section attempts to explain (partially) why workers in PSUs choose to opt for voluntary retirement. It was felt that each employee of a PSU keenly observes the performance and health of the company she works for. Processing of basic financial information is possible where workers are relatively literate and unions are strong. She then reacts to firm-specific characteristics. If the PSU is making losses and tending towards sickness, she may feel that, given the government's current policy the possibilities of her continuing in service up to the time of her normal retirement, is rather low. This would be a reason to opt for voluntary retirement. The firm specific characteristics are captured through recent average profits (losses) and recent average net worth, since it is felt that workers respond to averages rather than the performance of a particular year. An overall tendency towards sickness may also be important, and is represented through a dummy. Finally, there is the possibility of a herding instinct in these matters, where a worker opts for VRS because others do. This bandwagon effect is also captured through a dummy. The data on 55 selected sick PSUs where the incidence of VRS is high is obtained from the Ministry of Industry, Government of India (In Dec 1995). Hence, the following four independent variables were defined:

Dependent Variable: Y = ratio of VRS takers to total employment. (VRS takers in 1992-95, total employment in 1992)

Independent Variables:

X1 = Avg. Profit Before Tax (PBT) up to March 1992 (for last 4 years)
X2 = Avg. Net Worth up to March 1992 (for last 4 years)
X3 = Dummy for time trend of sickness,
= 1, if towards more sickness
= 0, otherwise.
X4 = Time trend of VRS taken (Bandwagon effect)
= 1, if increasing
= 0, otherwise.

Within the models A1, A2, A3, A4 and A5, all four independent variables or a subset of them are used for linear regression. This generates five versions of the equation for estimation within the model. Ordinary Least Squares is used. All results, irrespective of their significance, are reported in Table 7.1.

The results suggest a possibility that the size of the enterprise as well as the absolute size of the labor force may influence the estimates, especially in the case of net worth (X2). So it was decided, as an alternative, to redefine the independent variables after scaling them appropriately. Using these scaled independent variables, the a further set of regressions were run. The estimates of these regressions are reported in Table 7.2.

It can be seen that in the models 1,3,5 and 6 coefficients of X1 and X2 are insignificant. However, when X2 or D2 are dropped, in models 2 and 4 respectively, the coefficient of X1 becomes significant. This leads us to believe that there is a problem of multicollinearity between X1, X2 and D2. This belief is further strengthened by the fact that $R^2$ is very low in

all cases. The presence of multicollinearity is not surprising in view of the fact that it is the annual profit (loss) that mainly contributes to the increase (decrease) of Net Worth of the firm. Further, the movement of these two indicators generate the definition of sickness or health of the firm. Thus the problem of multicollinearity is structurally built into the investigative model.

Nevertheless, another exercise is performed below to check for the incidence of multicollinearity in the above model. This is done by regressing the three independent variables X2, D1 and D2 on the independent variable X1, which is treated as the dependent variable as shown in Table 7.3.

The results presented in Table 7.3 confirm the occurrence of multicollinearity. between X1, X2 and D2. The coefficients of X2 and D2 are significant in all cases. Also the R2 in these regressions are generally higher than those in Table 7.2 (the original model). Further, when D2 is dropped (Row 2 in the table) $R^2$ is considerably reduced implying that X2 is highly correlated to D2.

Next we tried out different variations of the models presented in Table 7.2 in an effort to obtain a better fit. We discovered that the goodness of fit ($R^2$) differed considerably when different parts of the same data set was used for the same model. Accordingly, we divided the data set into five subsets, roughly corresponding to different industry groups and ran the same model for estimation. The results are presented in Table 7.4.

We find that for the first regression that $R^2$ is very high and the coefficient of X1 is significant. For the second and third regressions $R^2$ is still high and the coefficient of X1 is still significant. In the fourth and fifth regressions $R^2$ is very low and the coefficient of X1 is also insignificant.

This leads us to a very interesting conclusion. It is clear that the model performs quite well when run on the basis of the first 30 observations but badly when run on observations 30-55. This means the first regression supports our hypothesis that sickness in firms induce large scale voluntary retirement but the second regression does not. This can only mean that in the second class of firms (observations 30 -55) incidence of VRS is high even when average profit or net worth is not low. This could possibly happen only if workers in these industries are able to acquire some special skills in the line of their work so that their alternative opportunity price rises. This induces voluntary retirement even when the condition of the firm does not indicate sickness or imminent closure.

## VIII. POLICY ISSUES: A SUMMING UP

This study investigates the nature of sickness of Central Public Sector Undertakings (PSUs), the institutional arrangements for detection of sickness and determination of viability, the severity of overemployment as a contributing cause and the role of Voluntary Retirement Scheme (VRS) in alleviating the problem.

### How Sick are the Indian PSUs

Contrary to popular belief the entire Central PSU sector is not sick. The sector, as a whole, (245 firms) continue to report a modest profit (a profit rate of about 2.5% of sales). Of the total number of firms in the sector about 125 are healthy, about 86 are sick and the rest lie in-between. Of the sick ones, we have identified a list of 62 firms which are chronically sick and whose problems need to be addressed immediately.

It is generally believed that the private sector is more profitable than the PSU sector. This is partly true. The profitability of the entire private corporate sector (1291 firms) is higher than than the entire PSU sector. But if the PSU sector is subdivided into two parts, healthy and sick, then the relative profitability of the healthy PSU sub-sector is higher than the entire corporate private sector.

Apart from profitability, the present investigators believe that there are enough reasons to justify the continued existence of the Central PSU sector. Many of these firms are in the core industrial sector, where low initial profits and lumpy investments inhibit private investments, some are in defence related production and yet some others in infrastructure creation activities. However, these firms should be made more competitive, market friendly and free of ministerial control.

Two policy conclusions follow immediately:

1. No policy for total privatization or abolition of central PSUs should be followed. Healthy PSUs should be made competitive, market-friendly and free of ministerial control. This process, already initiated, should be speeded-up.

2. The problem of sick central PSUS should be addressed immediately. For this purpose, the list of firms provided in the appendix may serve as a starting point. There should be a firm-by-firm analysis of viability options. Those firms (and there are some) that show a reasonable chance of survival should be put under a turn-around package. Others should be closed down immediately. Laws should be amended and BIFR given mandatory executive powers to facilitate closure.

**Overemployment and PSUs**

Almost all PSUs, sick or healthy, employ workers up to a point where their wage exceeds their marginal productivity. In this sense, the entire sector suffers from the problem of over employment. Some PSUs in the Petroleum and Steel sectors are notable. Another problem is the high incidence of indirect labor, i.e. workers engaged in support peripheral activities compared to the number of workers engaged directly in production. In this sense, most PSUs will need to continue a policy of employment reduction. It will make the profitable PSUs healthier in the long run and improve the possibility of turnaround, if any, for the sick firms.

The workers in central PSUs are all members of one or the other of the centrally organised, large trade unions. These unions are extremely organised and have high striking power. Their leaders are articulate and well versed in trade union tactics. Some of these leaders are

members of Parliament and ministers in the present government. It is extremely unlikely that this or any other democratically elected Indian government will seek to confront any of the major trade unions. This leads to the following policy conclusions:

1. An active policy of reduction of employment in most central PSU will need to be pursued for some time to come.

2. It is utterly infeasible for the government to resort to any direct lay-off of labor without compensation, whether the firm is closed down or not. In this sense, the government will continue to need a retrenchment policy that will, in some sense, be acceptable to the trade unions and its members. It is in this last context that VRS continues to have a role to play.

**Effectiveness of VRS**

This study provides a list of 52 selected sick PSUs where a total of 55,760 workers have left under VRS since the beginning of the scheme, with an average compensation of Rs. 1,40,000. While this list is not exhaustive, we believe it represents the bulk of the phenomenon. While this is a significant reduction (considering the novelty of the scheme) it must fall short of any realistic target that must be met for serious restructuring to take place in the PSU sector.

The success of the scheme crucially depends on the willingness and eagerness of the workers in the central PSUs to opt for the package. Econometric studies have shown that there is a correlation between the sickness of the firm (measured both in terms of profitability and net worth) and the propensity of the workers in that firm to leave under VRS. Workers worked, more or less, in the right direction. But the same econometric exercises have shown that the relationship is not a strong one, implying that there are other firm-specific factors that strongly influence the workers, willingness to accept VRS. While some of these will be addressed below, at this point we can offer two policy considerations:

1. There is continued need for a VRS where the compensation package is based upon a formula involving the last pay of the worker and the number of years of service put in.

2. It was wrong of the government to declare one VRS package formula for all workers in the central PSUs, more so since the package was based upon perceptions in 1988 and never revised. This uniform package failed to evoke the enthusiasm of the workers' beyond a point. It also failed to accommodate differences in industry performance, individual workers' skills and the differences in alternative employment opportunities. It would have been more appropriate to design separate, more targeted packages for each group of firms in a particular industry, with built-in differentials for skilled and unskilled workers and for young and old workers.

## IX. CONCLUSION

This paper investigates the major causes of low profitability and industrial sickness in 237 Public Sector Undertakings owned and managed by the government of India. It is found that

overemployment (over and above the level justified by the current level of technology and outputs has been a major contributing factor behind sickness in these forms. The paper arranges the central PSUs by degree of sickness. This exercise leads to the identification of 43 companies that are extremely sick as well as others that lie in some proximity to the very sick firms. The paper describes the severance pay scheme currently in use by the central government to obtain labor retrenchment. It looks at the institutional structure underlying the method of identifying sick industries and the implementation of the lay-off scheme.

Finally, this paper empirically estimates the impact of firm-performance on the tendency of workers towards opting for the lay-off scheme being offered to them. It is found that a continual history of bad performance can explain the tendency of workers to accept voluntary retirement only in a subset of PSUs. In others, workers opt for VRS even when firms do not have a history of bad performance. This leads the paper to conclude that where workers acquire specific on-job skills this scheme encourages quitting even in the absence of sickness of the PSU.

## REFERENCES


Azaradias, C. [1975] "Implicit Contracts and Underemployment Equilibria", Journal of Political Economy 83(6) . 1183- 1202.

Brown, M & E. Wolf setter [1984] "Underemployment and Normal Leisure", Economics Letters, 15. 157-163.

--- [1985] "Under and Overemployment in Optimal Layoff Contracts", Zeitschrift fur Nationalokonomie, 45. 101 -144.

Booth, Alison L. [1995] "Layoffs with Payoffs: A Bargaining Model of Union Wage and Severance Pay Determination", Economica, 62. 551-564.

Chari, V.V. [1983] "Involuntary Unemployment and Implicit Contracts", Quarterly Journal of Economics, Supp 85. 107-122.

Cooper, R. [1983] "A Note on Overemployment/Underemployment in Labor Contracts under Asymmetric Information", Economics Letters, 12. 81-87.

Feldstein, M. [1976] "Temporary Layoffs in the Theory of Unemployment",Journal of Political Economy, 84. 937-957.

Fortin, B. & P. Lanoie [1992] "Substitution between Unemployment Insurance and Workers' Compensation" Journal of Public Economics, 49(3). 287-312.

Gray, J. [1976] "Wage Indexation: A Macroeconomic Approach", Journal of Monetary Economics, 221-235.

Green, J and C.M. Kahn [1983] "Wage Employment Contracts", Quarterly Journal of Economics, Supp 85. 173-185.

Knoeber, C.R. [1986] "Golden Parachutes, Shark Repellents and Hostile Tender Offers", American Economic Review, 76(1). 155-167.

Public Enterprise Survey [1994] Department of Public Enterprises, Ministry of Industry, Government of India

Saha, B. [1994] "Severance Pay, Wage Effects and Entry Deterrence", Mimeo, Indira Gandhi Institute of Development Research, Bombay, India.