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A Study of the Jute Industry in Bangladesh

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PRIVATIZATION AND EMPLOYMENT:
A STUDY OF THE JUTE INDUSTRY IN BANGLADESH

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Abstract

This paper analyzes the effect of privatization upon employment in the Bangladeshi jute textile industry. Privatization was partial and the selection of mills which were privatized was not based on current economic performance. This provides us with a panel data set which permits reliable estimates of the effects of ownership on employment and output. Privatization has reduced employment of all categories of permanent workers significantly, but the extent of employment reduction has been substantially greater among clerical workers and managers as compared to manual workers. This implies that public sector excess employment benefited white-collar workers, who were both better off and better educated, and suggests that public sector behavior was clientelist rather than welfarist.

JEL Classification Nos: L32 (Public Enterprises), L33 (Privatization).

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1. INTRODUCTION

This paper uses firm level data from jute mills in Bangladesh in order to analyze the effects of privatization upon employment and output. The privatization programme was unique in that it provides an almost controlled experiment on the economic effects of a change in ownership. Thirty-one of the sixty-two mills in the sector were privatized, with the rest remaining in the state sector, allowing us to use the latter as a control in order to separate the time-varying industry wide effects. Secondly, the selection of mills which were privatized was exogenous, since it was not based on current financial performance. The mills which had belonged to Bangladeshi nationals at the time of nationalization were returned to their former owners, while the mills which had belonged to West Pakistanis remained in the state sector. For this reason we believe that the data allows us to isolate the effects of ownership per se on output and employment. The advantages of this data set compare favourably with other studies comparing private and public sectors.

Our findings are that privatization has reduced employment significantly, while the reduction in output is not statistically significant. The break-down of employment reduction by category of employee is particularly interesting. The reduction in employment was primarily directed towards clerical and managerial employees (i.e. the category of white-collar workers), and to a lesser extent towards permanent manual workers. The proportionate employment reduction was substantially larger (by a factor of five) among white collar employees as compared to permanent manual workers. In contrast, the employment of casual manual workers actually increased in the privatized mills, leaving the overall employment of manual workers virtually unchanged. Our results shed light on public sector behavior

and objectives, since they suggest that public sector employment of white-collar workers was particularly excessive. We explore briefly the political economy of this form of clientelism in Bangladesh.

The remainder of this paper is organized as follows. Section 2 provides the background to the privatization programme. Section 3 sets out a simple model of the effects of privatization. Section 4 reports the empirical results, and section 5 concludes.

2. BACKGROUND

Until the recent changes in Eastern Europe, few countries had carried out as dramatic and far reaching a privatization programme as Bangladesh. In 1982 the military regime of General Ershad announced its New Industrial Policy, under which more than 650 industrial and commercial enterprises were transferred from public to private ownership by 1986, many of them within months of the policy's inception. By 1986 only around 160 units were left in the public sector and its share in industrial sector assets fell from around 85% to roughly 40%. Privatization had its greatest impact on Bangladesh's premier industry and export earner, jute textiles. 33 out of 62 jute textile mills, accounting for 38 per cent of capacity, were earmarked for privatization in 1982 and 31 of these mills were actually privatized. This programme is often dubbed "re-privatization" since it partially reversed the nationalization which followed Bangladesh's independence from Pakistan in 1971. With independence, the Pakistani entrepreneurs abandoned their immovable assets, making the Bangladeshi state the defacto owner of 544 industrial enterprises. Three months later, the state announced the formal nationalization of these abandoned enterprises, as well as the nationalization of all jute and cotton textile mills owned by Bangladeshis. The government also

nationalized almost the entire banking sector (except for three foreign owned banks), insurance, the import trade, the raw jute export trade and most of inland water transport. As a result of these measures over 90 per cent of industrial fixed assets passed into public ownership.

The performance of these public enterprises in Bangladesh has been far from satisfactory (see Rehman Sobhan and Muzaffer Ahmed (1980) and Akthar Mahmood (1989)). Public enterprises suffered sustained losses and were a major burden on the exchequer. The jute industry incurred substantial losses in the period 1972-3 to 1984-5 and was in the red in ten out of thirteen years. Mahmood (1989) uses employment norms before nationalization to estimate that at the beginning of the 1980s, 15 percent of the labour force in the industry was "excess".

Although some minor privatization occurred in the 1970s (see Sobhan and Ahmad Ahsan (1984)), the major denationalization took place following the New Industrial Policy of 1982. By the end of June 1984, 31 jute mills which accounted for 38 per cent of capacity in the sector, and 26 textile mills accounting for 44 per cent of spinning and 53 per cent of weaving capacity were returned to their former Bengali owners. By 1986, over 650 enterprises had been privatized, bringing down the share of the public sector in industrial fixed assets to around 40 per cent by the end of 1985 as compared to 85 per cent in 1982. The privatization programme of the Ershad government is, in proportionate terms, one of the largest in the world.

3. DATA DESCRIPTION

We have data on the employment at the mill level for the years 1983 and 1988, in three categories - manual workers, clerical

employees, and managers. Manual workers are in turn disaggregated into registered permanent workers and casual workers, the latter being commonly known as bodli workers in Bangladesh. The data is summarized in Table 1. The data was collected in 1988 from records kept by the Bangladesh Jute Mills Corporation, which oversees the public sector mills, and from the records kept by the Bangladesh Jute Mills Association, the private sector employers' organization. These records are compiled from reports submitted by individual members, which are based upon employment registers, and are tabulated roughly every six months. The second author conducted a number of informal interviews with managers in both public and private sectors, who confirm that the reported figures are accurate, with mills having no incentive to systematically misreport employment figures. The figures we use were compared with returns submitted six months earlier and six months later, to check for any discrepancies. Privatization was initiated in 1982, and at that time, the government enforced a one-year ban on layoffs, so that the employment figures for 1983 (which are the first available figures) show the situation at the time of privatization. Table 1 shows that public sector mills were somewhat larger than the privatized mills; however, a large part of this difference is due to the giant Adamjee mill which accounted for over 20% of public sector employment.

While private mills have had freedom to adjust their workforce after 1983, this freedom has not extended to setting wage rates. The government has been enforcing minimum wage rates for both private and public sectors. Basic official hourly rates of pay for various categories of workers are identical in all mills, and there is no evidence that the private sector exceeds the statutory requirement. In fact, a major complaint of private sector mills is that the government

sets excessively high wage rates, which the public sector mills are able to cover since the government underwrites their losses. Although wage rates are identical across firms, they do differ across categories of workers. One differential worth noting is that between permanent and casual manual workers, who essentially perform the same type of work. While initial daily wages of permanent and casual workers are identical, the daily wage of a permanent worker goes up by one Taka for each year of service, while casual workers earn no increments. Permanent workers are also entitled to some additional allowances. Consequently, the wage differential between a casual worker and a permanent worker who has been employed for fifteen years may be as much as fifty percent. Casual workers can be employed and laid off relatively easily, whereas permanent workers have greater job security. Permanent workers are also better organized. This is partly a reflection of Bangladesh's labour legislation and industrial relations structure. There is a multiplicity of competing unions at the workplace and these unions have an incentive to compete more intensively for the support of permanent workers since Bangladeshi labour law grants a union recognition only if it has the support of at least one-third of the permanent workers in the workplace.

The output data was similarly collected from mill-level monthly production figures for three major product groups - hessian, sacking and carpet-backing cloth. These monthly figures were used to get annual output figures for the years 1982 and 1985. We also constructed an index of aggregate output, using base year prices.

While our data has the advantage of being a panel data set, we note that it is quite limited, since we have information only on employment and output, and that too at different points of time. Since wages have been constrained to be equal in all mills, we are unable to

see how privatization may have affected wages. This may now change, and should provide further evidence from a unique natural experiment.

4 THE ECONOMETRIC MODEL

The main effect of privatization is to change the objective function of the firm. Private mills are usually owned by a single owner, and the owner is usually closely associated with the management of the mill. Principal - agent problems between owners and managers are consequently relatively unimportant, and it is plausible that private mills are concerned mainly about profits. In any case, private mills are likely to be more concerned with profits than publicly owned mills, and less concerned about employment as an objective.

The objective function of a publicly owned firm is more complex, and merits some discussion. We assume that public mills are concerned about employment as well as profits, although this concern for employment could arise due a number of distinct reasons. The standard explanation for the public sector's concern for employment is a "welfarist" one - the public sector seeks to maximize social welfare. With widespread prevalence of unemployment in Bangladesh, the shadow price of labour is less than the wage rate, so that a welfare maximizing public sector firm should push employment beyond the point where marginal cost equals marginal revenue. For the same reason, output would also be greater in the public firm.

Excessive public sector employment could also arise for a second, less laudable reason. The public sector may be used by politicians in order to dole out jobs in response to political pressure. This phenomenon, which we call "clientelism", is discussed more fully in Khan (1993). The difference between "welfarist" and

"clientelist" public sector behaviour is likely to be in the pattern of excess employment. Welfarist criteria would dictate employment creation among manual workers, since the cost of an additional job is lower, and since the alternative opportunities of manual workers are also more limited. On the other hand, clientelism is more likely to generate greater employment creation for white collar sections, since the educated and articulate middle class has a greater role in political mobilization in Bangladesh. Within the set of manual workers, clientelism should generate more employment for the better organized permanent workers even though the cost of job creation is greater for this subset.

The third explanation is sociological and complementary to the clientelist explanation which is primarily political. This emphasizes the motivations of public sector managers in the determination of the pattern of excess employment. While the overall socio-political milieu may favour the creation of additional public sector jobs, the exact pattern of job creation and allocation is to some extent the prerogative of public sector managers. These managers are mainly middle class, and are more likely to create jobs for those to whom they are tied by kinship or social bonds. While clientelism stresses the political motivations of the politicians who are in the nature of the "principals" in the running of the public sector, the sociological explanation stresses the social psychology of the managers, who can be seen as "agents" of the politicians, or the state. Obviously, the two explanations may re-inforce each other.

The model we propose for employment, E_{it} , is as follows (the model for output will be similar):

$$(1) \ln(E_{it}) = \alpha_i + \delta_t + \gamma w_{it} + (\beta + \theta_i) O_{it} + \epsilon_{it}$$

where α_i is the firm specific effect, δ_t is the period effect, w_{it} is

the real wage, and ξ_{it} is a white noise error term. O_{it} is the ownership dummy, taking a value of one when the firm is publicly owned. The parameter of interest is β , the mean effect of public ownership on employment. However, pressures to increase employment may vary across public sector firms and this is captured by a firm specific coefficient θ_i , which has an expected value of zero. Since the wage rate is uniform across firms in any time period (as we have discussed in the data description section), τw_{it} can simply be absorbed in the period effect, δ_t . First differencing (1), we obtain:

$$(2) \Delta \ln(E_{it}) = \Delta \delta_t + (\beta + \theta_i) \Delta O_{it} + \Delta \xi_{it}$$

(2) is the equation we estimate. If the selection of firms which are privatized is exogenous, as is the case in our sample, ΔO_{it} is uncorrelated with θ_i and with the error term $\Delta \xi_{it}$, and an OLS regression of the percentage change in employment upon a privatization dummy will give us unbiased estimates of β . This is an important advantage of our data set, since usually, the selection of privatized mill will be based on economic criteria - the government may, for example, find it easier to sell mills which have a smaller excess employment.

The advantage of our data is that of panel data, which allows us to separate out the firm specific and period effects. Further, the selection of privatized firms was based on the nationality of their owners over a decade earlier, and can hence be taken to be exogenous. While panel data are increasingly being used in many contexts, this is, to our knowledge, the first time that panel data has been used to analyze the effects of ownership upon economic performance. This has been possible since the Bangladeshi privatization programme has been an ideal natural experiment. Privatization has been both partial, and the selection of mills has not been dictated by any economic

criterion.

We may contrast the advantages of our data set with existing empirical evidence on the relationship between ownership and economic performance - Thomas Borchert et. al. (1982), Robert Millward and David Parker (1983) and Anthony Boardman and Aidan Vining (1989) provide useful surveys. The main evidence is either cross-sectional - i.e. comparing private and public firms at the same point of time as in Boardman and Vining (1989) - or studies of privatization or nationalization of the "before-after" variety. Cross sectional studies cannot satisfactorily control for firm specific fixed effects, while the "before-after" studies cannot control for period effects.

4. EMPIRICAL RESULTS

Our results are reported in Table 2. The effect of privatization is given in the row labelled PRIVATIZATION EFFECT, and the standard errors relate to this coefficient. Privatization has had a negative effect on aggregate output but this effect is not statistically significant. Analysis of output data at the product-group level shows a (statistically significant) change in output composition between privatized and public sector mills. Privatized mills shifted towards sacking production and away from hessian as compared to public sector mills. This is in line with the calculations in Mahmood (1989), showing that relative profitability is higher in sacking as compared to hessian.

The results on employment are more reliable since the end-point 1988 allowed sufficient time (over five years) for the effects of privatization to be felt. Table 2 shows that privatization had a large negative effect on white collar employment, clerical as well as managerial, and a smaller but still significant negative effect on the

employment of permanent manual workers. This is offset by a significant increase in the employment of casual manual workers, so that the overall effect on employment of manual workers is not significantly different from zero. Since the regressions for managers and clerical staff were almost identical, table 2 also reports the regression with the pooled data, under the category white-collar workers. The most striking feature is the neat ranking of the privatization effect: from a minus 32 per cent for white-collar categories to minus 7 per cent for the permanent manual worker category, to a 24 per cent positive effect for the casual manual workers. It is also significant that the employment reducing effect of privatization on the clerical and managerial categories has been five times as great as the effect on the permanent manual worker category, even though it is in the latter that substitution possibilities (by casualization) were easily available.

What are the reasons for the differential reduction in employment across the manual and white collar categories? The most plausible explanation is that excess employment in the public sector, was more substantial at the level of white collar employees than among manual production workers. This interpretation is supported by our results, which show that private mills did not reduce the overall level of manual employment. The reduction in employment of permanent manual workers was offset by increased employment of casual workers. An alternative explanation is that manual workers in privatized firms were in a better position to resist employment reduction than their white-collar counterparts. This explanation is unsatisfactory for two reasons. First, privatized firms increased their levels of employment of casual manual workers, indicating that the total level of manual employment was not excessive. Second, white-collar workers are

unionized and are as much a part of the political fronts of the major political parties as manual workers. Their louder political voice often more than compensates for their smaller numbers. Finally, we should note that although our analysis suggests that there was no significant excess employment in the manual worker category, this is contingent upon the work-norm in force. It may be the case that private mills have adopted a strategy of first eliminating excess employment without seeking to change the work norm. Interviews with mill owners in 1991 suggest that they would, in the current phase, like to intensify the work-norm for manual workers, thereby reducing employment and reducing labour costs.

We therefore interpret our results as indicating that excess employment in the public sector was substantially greater in the white-collar category. Excess public sector employment could arise for two possible reasons. The first reason could be dubbed welfarist - given unemployment and a divergence between the wage and the shadow price of labour, a benevolent government could push employment levels beyond those consistent with profitability. In this case one would expect excess employment to be greater in the low wage category of manual workers, since the cost of an additional job is lower. Our results are clearly inconsistent with the idea that public sector employment creation was welfarist. A second explanation is the one we call "clientelist" - politicians seek to increase support by doling out jobs and patronage to those who are politically better organized. This however, raises an important question: why does a clientelist political economy favour the creation of white collar jobs above manual jobs? A full answer to this question needs to take into account the nature of political mobilization in a clientelist system, and is discussed in more detail in a forthcoming book (Khan, 1993). It seems

that a clientelist system is essentially characterized by instability and a hierarchical political bargaining where higher levels, and ultimately the government, attempt to buy political support by making payoffs to intermediaries who in turn secure support for those in a position to distribute the rents of the system. The lower middle class and educated white-collar sections seem to have been more effective in this intermediary role and they seem to have benefited most from political instability, the relatively greater employment creation for white-collar workers being consistent with this general picture. This tendency of a clientelist system may have been reinforced by sociological reasons. Public sector managers may seek to accommodate those who are linked to them via bonds of kinship or social affinity. These come from the middle classes, and hence the tendency to create more jobs among clerical and managerial employees. We would stress however, that this tendency is able to generate excess employment of such magnitudes (32 per cent for white collar workers) only because the preferences of the agents (i.e. public sector managers) regarding job creation are consistent with the demands of the principals (clientelist politicians).

Our results show that the experiment of privatization has exposed aspects of Bangladesh's clientelist political economy, and reduced the space within the pressures towards excess employment have operated. The evidence shows that the private sector has a greater ability to insulate itself from the clientelist political process which afflicts the public sector. This is because the private sector owners did not have to purchase support from organized constituencies in quite the same way as higher level decision makers in the public sector. This relative insulation allowed the private sector to attack the problem of excess employment of white collar workers, and to reduce labour

ty costs by substituting for permanent manual workers by casual labour. However, we have not shown or attempted to show that privatization has succeeded in resolving the other constraints generated by a clientelist political economy. Indeed, other evidence shows that privatization has failed to improve productivity (see Sobhan (1991a), and that privatized mills have continued to use public financial institutions to finance their losses (see the articles collected in Sobhan (1991b)). Khan (1993) argues that the failure of privatization to produce dramatic results in the performance of these enterprises results from the continuation of an essentially clientelist political economy.

5. CONCLUSION

This paper has used a unique data set which allows us to infer the effects of privatization on employment and output in a particular, significant privatization programme. Our findings are that privatization had a large and significant negative effect on the employment of white collar workers, and prompted the substitution of permanent manual workers by casual labour, leaving the overall level of manual worker employment unchanged. We interpret these results as indicative of public sector behavior, and as evidence of a clientelist political economy in Bangladesh.

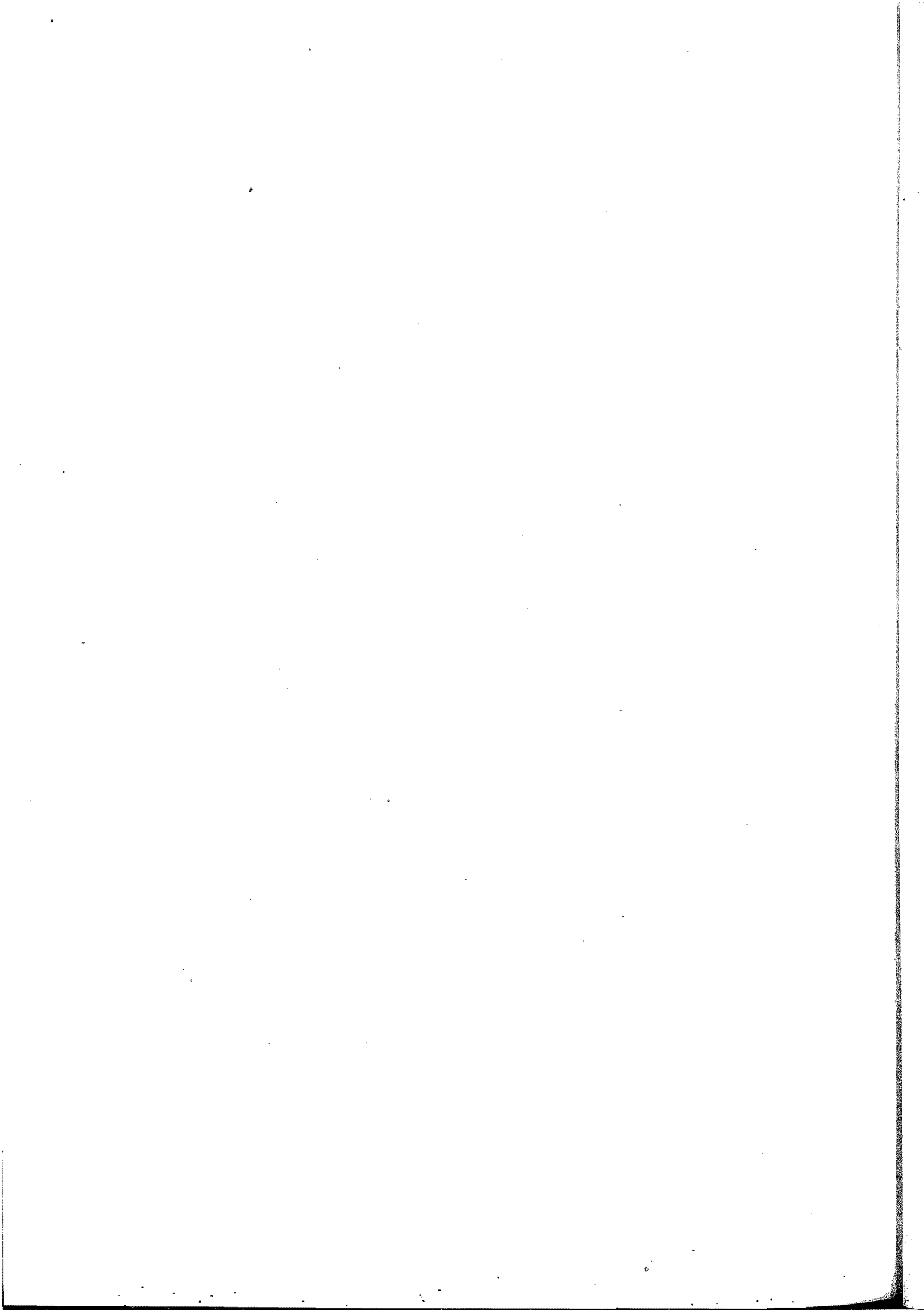


TABLE 1 AVERAGE EMPLOYMENT BY SECTOR

	All mills		State mills		Private mills	
	1983	1988	1983	1988	1983	1988
Managerial	97	108	122	149	72	66
Clerical	328	332	406	450	251	213
White-Collar	425	439	528	600	323	279
Permanent Manual	2480	2475	3242	3325	1719	1025
Casual Manual	1071	998	1395	1230	747	765
	62 mills		31 mills		31 mills	

Note: The public sector averages are significantly influenced by the giant Adamjee mill which alone accounts for over 20% of public sector employment.

TABLE 2 PERCENTAGE CHANGE IN EMPLOYMENT AND OUTPUT

EMPLOYMENT BY CATEGORY

	OUTPUT						
	Managerial	Clerical	White Collar	Permanent Manual	Casual Manual	Total Manual	
All mills	6	11	3	7	3	0.5	-2.4
State mills	12	27	20	23	0.9	-11.5	-2.5
Private mills	2	-5	-13	-9	-7.9	12.5	-2.3
PRIVATIZATION EFFECT	-10	-32	-33	-32	-7	24	0.2
Standard error	10	6.1*	6.8*	9.0*	2.5*	10.9*	3.6
Sample size	62	62	62	124	62	62	62
Heteroskedasticity	0.1	0.32	0.01	0.2	0.01	0.5	0.04

Notes: The results for white-collar workers are obtained by pooling the managerial and clerical data, hence the sample size is doubled.

Total manual = casual manual + permanent manual

Output change: 1984/5 over 1981/2. Employment change : 1988 over 1983

PRIVATIZATION EFFECT is the change in the dependent variable (employment or output) attributable to privatization, and the standard error relates to this coefficient.

* indicates significance at the 5% level.

Heteroskedasticity is the chi-squared test (one degree of freedom), critical value 3.8 at 5% level.

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¹ This policy of the government effectively setting private sector wage rates is currently under review, but this does not affect earlier years.

² We are grateful to Akthar Mahmood for allowing us to use this data.

³ Alternatively, privatized firms could have greater excess employment if the government used privatization essentially as a way of reducing employment.

⁴ Details of these results available from the authors on request.

⁵ If the government's social welfare function is concave in individual utilities and hence puts a greater weight on the welfare of the poor, this would be an additional reason for expanding employment among manual workers, since their alternative opportunities are likely to be worse.

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