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Labour market institutions in India: Their
impact on growth and employment

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Executive Summary

The lack of flexibility in the labour market in emerging economies is often cited as the reason for poor performance of the labour market in terms of employment generation and productivity growth. The success of labour institutions in these markets and in India has been measured by the effect they have had on generating jobs rather than whether they have enabled the use of more flexible forms of work organization that are supportive of lean production systems. Job security regulations are often seen as a source of rigidity and resulting in rents for organized labour. This paper argues that these regulations often emerged as a response to the threat of unemployment and income insecurity and were intended as a form of social insurance rather than being the result of rent seeking. It demonstrates that markets if left to themselves will not be able to device contracts that provide an efficient level of employment security. In a temporal world if workers tradeoff working with shirking, employers can similarly tradeoff honouring a contract with termination of the service of employees. In labour markets both firms and workers are susceptible to opportunism and verifying breach of contract is difficult. A meaningful way to get workers to invest in a job and employers to honour contracts is to legislate employment protection. The difficult task, of course, in reality is to ensure that employment protection does not become protectionist.

Foreword

Labour institutions and regulations evoke passionate debate in India and opinions remain highly polarised. In the face of increasing global competition, labour regulations are often looked upon as burdensome. On the other hand, increasing economic integration and technological change is already affecting the Indian labour market in various ways, including through increasing informalisation of employment.

Implementation of labour legislation is a state responsibility. However, enforcement and not legislation alone is essential in determining the extent to which firms are deterred by labour legislation. In this scenario, there is indeed a need to consider the impact of labour regulations on employment in an objective manner.

This paper by Errol D'Souza examines the impact of labour regulations on employment and output growth. He reviews the evidence from past research on the subject in India, and draws lessons on the relationships between institutions, regulations and employment. He also critiques the view that the poor employment growth in developing countries, especially during the current period of high economic growth, is mainly due to rigid labour markets. While the debate has mainly dwelt on numerical flexibility, the author also raises the issue of functional flexibility as well as other factors such as working time.

The author seeks to highlight the importance of labour market institutions in contributing towards the allocative function of the labour market.

This paper is part of a series of studies that have been launched by the ILO, Delhi office, coordinated by Sukti Dasgupta, Employment an Labour Market Policy Specialist, to analyse and understand the current employment challenges in India.

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1.   Introduction

The issue of flexibility in the labour market has attracted a lot of attention in policy debates in India. The lack of flexibility in the labour market is often cited as the reason for poor performance of the labour market in terms of employment generation and productivity growth. A popular view is that increased integration of the economy and technological change require structural change in the organization of production in firms and the lack of flexibility in the labour market does not permit accommodation of this change. It is often pointed out that many labour market institutions, such as wage settlements, which are binding on whole sectors and dismissal regulations are relevant to only a small part of the workforce in what is called the formal sector, which is not expanding at a sufficiently rapid pace. This has led to recommendations that these institutions be altered in order that the allocative function of the labour market is improved. Yet the link between the claimed hindrances to the allocative function of the labour market and the slow growth of the formal industrial sector has only been attempted to be demonstrated in a few select articles that are either empirical or theoretical in their approach. This paper reviews this literature and draws lessons about the impact of regulations in formal labour markets on employment and output growth.

The literature has focused exclusively on numerical flexibility - adjustment of the numbers employed in response to fluctuating product market demand - and even though functional flexibility - the ability of a firm to reallocate employees among a wide range of tasks and initiate changes in work practices and reorganization of job boundaries - is an important issue (Section 9A of the Industrial Disputes Act, 1947), the focus has been more on the effect of labour regulation on output and employment. This is mainly because the path of development envisaged reliance on the manufacturing sector to draw surplus labour out of agriculture into more productive employment. The success of labour institutions is thus measured more by the effect they have had on generating jobs than whether they have enabled the use of more flexible forms of work organization that are supportive of lean production systems.

2.   The legislation's effect on employment

The important piece of legislation that has attracted much attention is the Industrial Disputes Act (IDA), 1947, which applies to establishments employing 50 or more workers in the organized sector. The IDA was amended under pressure from the trade unions in 1976 and 1982. The 1976 amendment requires that if a firm employs 300 or more workers, then the workers cannot be laid off or retrenched without the permission of the government. The 1982 amendment of the IDA made this provision of government permission applicable to all firms employing 100 or more workers. This provision is known as Chapter V-B of the IDA, and stipulates prior permission from government for layoffs, retrenchment, or closure. There is an exception for retrenchment resulting from power shortages or natural disaster but the penalty for retrenchment or closure without permission includes a fine and a prison sentence for the employer. Realizing that the amendments lend themselves to a natural experiment, Fallon and Lucas (1991, 1993) argue that if new job security regulations impose higher costs on changing the level of employment, then the change in employment levels should prove even slower following enactment of the new laws. Secondly, apart from the cost of adjusting the labour force, the new regulations can increase the effective cost of employing a given level of employees and result in diminished employment by the firm. Fallon and Lucas use industry data from the Annual Survey of Industries for the period 1959-81, and find no change in the speed of employment adjustment, but a drop in labour demand after 1976, which is

significant at 5 per cent in 11 of 35 industries. Their estimates reveal a negative effect on labour demand of job security regulation in 25 out of 35 sectors, using a 25 per cent level of significance. They conclude that employment would have been 17.5 per cent higher in India in the organized sector if there had been no job security provision. This conclusion is not warranted as first the negative estimate on labour demand is significant at only a very high level of significance in a majority of the sectors and second they average the coefficients across all sectors (including the sectors with insignificant coefficients) to obtain an estimate of a 17.5 percent drop in labour demand. Clearly they are drawing the conclusion about the negative impact on job of labour regulation that their estimates do not portray.

In a more systematic and exhaustive study, Dutta Roy (2004) reinvestigates the impact of job security legislation on employment. Following the extensive analysis of dynamic models of labour demand discussed extensively in Nickell (1986), observed employment is taken to be the outcome of the optimization procedure adopted by firms, and suitably aggregated. The firm is taken to have a net revenue function R (N_t, D_t, K_t), where N_t is employment, K_t is the predetermined capital shock, and D_t represents demand shift variables. Inclusion of demand shift variables allows for the possibility of imperfectly competitive product markets and for output price to deviate from marginal cost over the cycle. The firm then chooses employment, N_t, to maximize the real discounted profit stream

$$\Pi = \sum_{t=1}^{\alpha} \rho^t \left\{ R(N_t, D_t, \overline{K}_t) - w_t N_t - c_t w_t \left[N_t - N_{t-1}(1-q_t) \right]^2 \right\}$$

where w_t is the real wage rate, ρ is the real discount factor, c_t is the costs of adjustment relative to wages, and q_t is the exogenously determined quit rate. The solution to this problem is

$$N_t = \lambda N_{t-1} + (1-\lambda)(1-\alpha\lambda) \sum_{i=0}^{\alpha} (\alpha\lambda)^i N^*_{t+i}$$

Here α is the reciprocal of (1+ real interest rate) and N^*_{t+i} is the optimal level of employment expected to prevail in the period, t+i. λ depends on the adjustment cost c_t, the quit rate q_t, and the discount factor, α. The above equation represents the optimal plan the firm would follow for N, taking the current value of c_t and q_t as given for the future. The firm does not use any particular method for forecasting c_t and q_t and, if they change in the beginning of a period, a new optimal plan is formed embodying a different value of λ. Given a constant long run real rate of interest, we could write

$$\lambda_t = \lambda \ (c_t \ , \ q_t) \qquad\qquad \lambda_1 > 0, \ \lambda_2 < 0$$

The effect of a rise in adjustment cost is to raise λ and to slow employment adjustment ($\lambda_1 > 0$), and a high quit rate hastens employment adjustment ($\lambda_2 < 0$). A high value of λ thus entails slow adjustment. Dutta Roy modifies the above employment equations to derive estimates for it for 16 industry groups of the Indian manufacturing sector over the period, 1960-94. These 16 industry groups accounted for more than 77 per cent and 84 per cent, respectively, of total employment and value added of the registered manufacturing sector. Dutta Roy first demonstrates the existence of significant rigidities in employment adjustment in the Indian labour market. For 10 industries, the response of workers to a disequilibrium in the industry's own market in the preceding period is insignificant. These industries include chemicals and chemical products, structural clay products, miscellaneous food products, sugar, paper and paper products, non-electrical machinery, electrical machinery, railroad equipment, and motor vehicles. Barring cement and non-ferrous basic metals, where about 90 per cent of the disequilibrium arising in any period is corrected in the subsequent period, the average for the four other industries - iron and

steel, rubber and rubber products, textile products, and tobacco - is less than 40 per cent. The results reveal that across all industries, it takes an average of five-six years for most of the adjustments to be completed. This evidence of rigidities in adjustments is also found by Bhalotra (1998), who shows that it takes time to adjust employment. In her study, it was estimated that it takes almost six years for 90 per cent of the adjustment in employment to its optimal level to be completed in Indian factories. This rigidity in employment also calls into question Fallon and Lucas' conclusion about the fall in employment which coincided with the time of the IDA amendment in 1976. It also supports the argument proffered by Nagaraj (1994) that the 1970s were a period of labour hoarding. We return to this issue later.

Dutta Roy then investigates whether the rigidities in employment are due to the inherent characteristics of the industries or whether job security regulations have exacerbated the rigidities. She investigates whether the pre- and post-1976 and pre- and post-1984 periods, when the IDA amendments came into effect, result in an enhancement of flexibility and a change in the adjustment coefficients after the implementation of the new job security regulations. Prior to the amendments in job security regulations, ten industries were characterized by rigidities in adjustment. Seven of these did not reveal any change due to the changes in job security regulations - textile products, miscellaneous food products, tobacco, non-electrical machinery, railroad equipment, motor vehicles, and paper and paper products. The net impact of the job security regulation amendments of 1976 and 1982 is ambiguous in the case of two industries, petroleum refinery products and sugar, and it is favourable in the structural clay industry. In contrast, six industries showed flexibility in employment in the pre-job security regulation amendment period. The amendments did not have any impact on employment practices in three industries - iron and steel, chemical and chemical products, and rubber and rubber products. In two industries - non-ferrous basic metals and electrical machinery - the job security regulation amendments favourably impacted on employment flexibility, whereas in the sole case of the cement industry, flexibility was impaired as a result of the labour market regulations. The results indicate that a major proportion of industries reveal rigidities attributable to industry specific characteristics and the imposition of job security regulations is not the primary cause of the observed rigidities in employment adjustment in the registered manufacturing sector.

3.   Intermediation of other factors

The question that arises, however, is whether job security regulations were responsible for the high rate of growth of wages, which, in turn, adversely impacted employment. This possibility needs to be considered given that there was a mismatch between output growth in the 1980s and employment growth. Indeed the World Bank (1989) and Ahluwalia (1991) explain the employment decline as the result of a high rate of growth of wages. The World Bank study (1989) calculated a 5.7 per cent decline in employment on account of wage growth in the 1980s. However, this estimate overlooks the fact that employers can match staffing to workload fluctuations through two routes:

- By adjusting the numbers employed; and
- By adjusting the number and timing of hours worked.

The former is akin to flexibility on the extensive margin - the flexibility of numbers derived from the ability to adjust the headcount. Here, additional workers can be returned to the external labour market when work levels fall and their services are no longer required. Flexibility on the intensive margin by contrast can be achieved without changes in employment levels through changes in the timing of working hours (work-time flexibility), or through changes in the range of tasks employees perform

(functional flexibility). Looking at the period, 1979-87, Bhalotra (1998) found that actual hours grew at a trend rate of 1.64 per cent per annum and this was significantly different from zero in 14 of the 18 industries in the sample. The increase in time worked from 1979 to 1987 was equivalent to a shift from five days a week to six days a week. Thus, a sixth of official working time was being lost in 1979 and this was recovered over the course of the 1980s. The significant increase in days worked per worker implies that rapid rise in earnings (wage rates per day multiplied by days worked) translates into a lower growth in wage rate. Apart from hours of work, Bhalotra argues that the Bank omits other variables that affect employment, such as productivity and cyclical demand effects. These omissions are serious especially as the period was marked by growth in productivity (Ahluwalia, 1991). The specification implies that employment may be written as a function of output (Y), real wages (w), productivity (A), hours worked (H), and cyclical demand effects (D), or

$N=f(Y,w,A,H,D)$

Estimating this equation, Bhalotra (1998) found that the trend wage growth of 4.2 per cent per annum during the 1979-87 period implied a decline in employment of 1.18 per cent per annum, which is substantially smaller than the 5.7 per cent per annum decline featured in the World Bank report. The growth in work intensity (H) has a strong negative effect on employment, and total factor productivity (A) also exercises a powerful drag on employment. Bhalotra also finds that capital accumulation exerts a strong positive effect on employment - the effect of capital accumulation on employment growth is that it more than offsets the adverse impact on employment due to growth in work intensity and efficiency associated with technical progress. If we ignore cyclical fluctuations and concentrate on trends, then, if no capital accumulation had taken place, the employment decline in the period can be attributed thus: 26 per cent due to the increase in wage rates, 15 per cent due to work intensification, and 59 per cent due to technical progress that is labour augmenting and makes labour more efficient, resulting in decreased requirement of labour per unit of capital. Capital accumulation effects on employment are so strong that they dampen most of these negative effects on employment - employment that would have declined by about 7.13 per cent per annum without capital accumulation ended up declining by just about 0.3 per cent per annum over the period.

The growth in wages would be associated *ceteris paribus* with employment decline and so we concentrate on the increase in productivity (efficiency) and the increase in work intensity. What affects work intensity and productivity? Nagaraj (1990) argues that infrastructure investment increased in this period and this could be responsible for recuperation of time losses on account of power shortages and material shortfalls. Trade liberalization also resulted in improved access to technology, spare parts, and inputs. Ahluwalia (1991) argues that the reforms encouraged technological upgradation and modernization and this spurred productivity growth and efficiency in registered manufacturing. Bhalotra (1998) also argues that the reforms generated uncertainty about their future course and, given costly employment adjustment, employers favoured additional hours over additional workers. Moreover, as the growth in hours constituted recuperation of lost time rather than overtime, increasing hours was a cost effective way of responding to the competition unleashed by the reforms.

The scenario in the 1990s bears this out. We find a recovery in employment in organized manufacturing up to 1996. After that, till 2001, around 1.3 million employees lost their jobs, and employment in 2001 (at 5.7 million workers) was roughly the same as it was in the beginning of the 1990s (Nagaraj, 2004). Apart from beverages and tobacco, textile products, and chemicals and other manufacturing,

all industry groups witnessed a decline in employment during 1996-2001. The real wages per worker were stagnant in the 1990s and the growth in output was associated with a rise in productivity per worker. So the decline in work intensity in the early 1990s reversed by 1997 and the growth in work intensity and productivity in the latter half of the 1990's contributed to the decline in employment. In the 1980s, capital accumulation offset the growth in work intensity and productivity. After 1996, however, the investment boom that had occurred in the first half of the 1990s, accompanied by a buoyant stock market, petered out as the financial markets went into a decline. The decline in capital formation in the latter half of the 1990s was the single most important factor behind the decline in employment growth during that period. Gross domestic capital formation, which was 26.9 per cent of the GDP in 1995-96, had declined to 22.6 per cent by 2001-02. This fits with the estimates of Bhalotra, who had shown the offsetting impact that capital accumulation had on work intensity and efficiency for employment generation.

4.   Implementation effects at decentralized levels

That job security regulations are passed at the Central level, but state governments have the right to amend them under the Indian Constitution implies that state government amendments to labour regulations could have an important impact on explaining their manufacturing performance. Besley and Burgess (2004) follow up this lead and read the text of each state amendment to the Industrial Disputes Act, 1947, and classify each as pro-worker, pro-employer, or neutral. Each pro-employer amendment (e.g., prohibiting strikes to maintain industrial peace) is coded as a minus one, each neutral amendment as a zero, and each pro-worker amendment (e.g., time-frame for workers to receive payments on being laid off being reduced) is coded as a plus one. After obtaining the direction of amendments in a given year in this fashion, they then cumulate the scores over time to give a quantitative picture of how the regulatory environment evolved over time. They use this as their measure of labour regulation. They then develop an econometric analysis of whether labour regulation can account for the cross-state pattern of manufacturing performance between 1958 and 1992. They find that states with more pro-worker legislation have lower levels of employment in registered manufacturing.

The four pro-worker states that Besley and Burgess identify on the basis of the index they develop are Gujarat, Maharashtra, Orissa, and West Bengal. Maharashtra and Gujarat are two of India's most industrialized states and are perceived as good locations for setting up manufacturing plants. It needs to be explained why these two states are considered priority states for industrial establishments if they are pro-labour. Conversely, Kerala, which cannot claim a comparable industrial relations climate, is identified as pro-employer and hardly affects manufacturing activity. Second, a survey on investment climate faced by manufacturing firms (Dollar, Iarossi and Mengistae, 2002) indicated that whilst in all states, firms indicated that there was over-manning and that they would like to reduce employment, the least over-manning was reported in Maharashtra and Gujarat. Third, there is a need to make a distinction between legislation and enforcement in the context of a developing society. The Dollar, Iarossi and Mengistae study (2002) found that small and medium enterprises received twice as many factory inspections a year in states such as Kerala (classified as pro-employer by Besley and Burgess) than in states such as Maharashtra and Gujarat (classified as pro-employee). Fourth, states such as Andhra Pradesh, Rajasthan, and Tamil Nadu, which had been classified as pro-employer, have had declining secondary sector employment elasticities in the recent reforms period (1994-2000) compared to the 1984-94 period, whereas pro-employee states such as Maharashtra, Gujarat, and Orissa have witnessed an acceleration in secondary employment during this period (their employment elasticities have increased)

(See Table 12 of Bhattacharya and Sakthivel, 2003). The classification of states as being pro-labour or pro-employer as done by Besley and Burgess is thus at variance with the way these states should have performed or been considered as manufacturing destinations by firms.

The econometric analysis of Besley and Burgess also throws up questionable results. They did panel regressions for 16 states over the period 1958 to 1992. The dependent variable is the log of registered manufacturing output per capita or the log of total employees, and this is regressed on their measure of labour regulation, other exogenous variables such as development expenditure per capita, installed electricity capacity per capita, etc., a state fixed effect (to capture state specific factors) and a year fixed effect (to capture common shocks such as Central government amendments to the IDA). Though they cluster their standard errors by state to deal with serial correlation concerns, the high values of R^2 they get of over 0.92 indicate the problem might persist. In a panel regression, it is well known that systematic unobserved temporal effects can be quite important, and to take care of this, the regression is estimated with a time trend on the right hand side. The estimates with and without this time trend are reported in Table 1.

Table 1 : Estimated effect of various factors on log registered manufacturing output per capita

Technique	OLS	OLS with state time trends
Independent variables		
Labour regulation (t - 1)	-0.014* (2.67)	0.0002 (0.01)
Log development expenditure per capita	0.184 (1.55)	0.241** (2.28)
Log installed electricity capacity per capita	0.082 (1.51)	0.023 (0.69)
Log state population	0.310 (0.26)	-1.419 (0.61)
Congress majority	-0.0009 (0.09)	0.020** (2.08)
Hard Left majority	-0.050* (2.97)	-0.007 (0.77)
Janata majority	0.008 (0.34)	-0.020 (0.60)
Regional majority	0.006 (0.70)	0.026 (1.11)
Adjusted R^2	0.94	0.95
Observations	491	491

Source: Besley and Burgess (2004)
NB: Figures in brackets are t-statistics
** denotes significant at 1 per cent and ** denotes significant at 5 per cent*

It turns out that once the time trend is introduced, labour regulation is no longer a significant variable in explaining manufacturing output and employment. Instead now development expenditure which is state spending on social and economic services (health, education, infrastructure, and administration) is the driving variable that explains output growth amongst states. In Indian states, public expenditure is known to crowd in private capital formation (Athukorala and Sen, 2002) and as we saw earlier, it is capital accumulation that has the biggest impact on employment growth in India (Bhalotra, 1998). Besley and Burgess, however, conclude: "The fact that our results are not robust to state-specific time trends does raise the question of whether the effects that we are picking up are those due to labour regulations per se or the consequences of a poor climate of labour relations - union power and labour/ management hostility - which affect the trend rate of growth within a state. This goes to interpretation of the finding" (Besley and Burgess, 2004, p. 125). Yet, they conclude that the "analysis suggests that labour market institutions in India have had an important impact on manufacturing development". The estimation techniques used by Besley and Burgess are also questionable. They estimate by OLS, which is likely to lead to unsatisfactory estimates. In practice, actual employment deviates from its desired level due to the adjustment costs associated with training, hiring, and firing. Besley and Burgess recognize this: "Labour regulation will typically create adjustment costs in hiring and firing labour…" (ibid. p. 101). In that case, employment and output will depend on its lagged values. We have already seen that it takes almost six years for adjustments in employment to be completed (Bhalotra, 1998). As a result, employment and its lagged values will be functions of the state fixed effects making OLS estimates biased and inconsistent. In addition, unobserved state characteristics may well be correlated with one or more of the other regressors. One of the ways to proceed then is to first difference the regression equation to get rid of the correlation between the state fixed effect and lagged values of employment (or output) and other right-hand-side variables and then to use an instrument for the lagged, differenced employment (or output) term as it would be correlated with the transformed error term in the regression. The generalized method of moments estimator proposed by Arellano and Bond (1991) uses such a procedure to provide consistent and efficient estimates and such a procedure is warranted, rather than the OLS used by Besley and Burgess.

5.   Composition of contracts in the formal sector

It is well known that factories in India employ both regular and casual workers because the adjustment costs for the former is larger than for the latter. Thus, in addition to varying work intensity, firms take care of cyclical fluctuations by varying the composition of the workforce between permanent and non-permanent employment. In India, Ramaswamy (2003) reports that in the formal sector, the share of contract workers rose from 12 per cent before the reforms to more than 16 per cent by the end of the 1990s. Despite job security regulations, firms are able to vary employment by varying the composition of the contracts (permanent versus non-permanent) offered to the workforce. This means that employment flexibility is quite pronounced, even if it is claimed that the regulatory environment is quite stringent. Deshpande, Sharma, Karan and Sarkar (2004) conducted a study of employment practices in a sample of 1,307 factories belonging to nine industries and ten states in 1998. They found that between 1991 and 1998, small establishments employing 10-19 and 20-49 workers increased their employment fastest at approximately 6 per cent per annum. However, the restrictions on firing (as apply to larger firms) could not have been a factor impacting on the employment decisions because firms employing between 200 and 499 workers increased employment at only a slightly lower rate of 5.28

per cent. Again, some employers - 13 per cent of the respondents - did not change their employment over the period, 1991-98, 27 per cent reported fewer employees, and 60 per cent, increased employment. That the same regulatory set-up allowed some to decrease and others to increase employment implies again that regulation is not important to hiring and firing decisions. Deshpande, Sharma, Karan and Sarkar also found that the share of permanent workers declined over the years of liberalization and that the larger the firm, the higher is the share of non-permanent temporary and casual workers (Table 4.1 in Deshpande et al., 2004). One would have expected the industrial relations climate and type of political incumbent to have an effect on the propensity to employ non-permanent workers. Deshpande et al. find that Kerala and Bengal can be clubbed with Maharashtra in having lower growth in non-permanent employment, which implies that it is not just the existence of unions, but the effectiveness of administration that is the binding factor. Despite its high unionization, Kerala, for instance, has witnessed a growth in employment in the secondary sector in the latter half of the 1990s that is higher than the all-India average (Bhattacharya and Sakthivel, 2003).

Besley and Burgess, by concentrating on labour regulation, implicitly assume that enforcement is costless and complete. Legal rules comprising regulation do not specify the least cost method of ensuring adherence to legal standards. Typically, enforcement rarely takes a penal form and legal actions are invoked selectively. Mostly, the enforcement system is one of compliance with direct negotiations and bargaining between enforcement official and violator, which results in discretionary flexible enforcement that takes into account the offender's difficulties in complying with the law. As regulatory politics scholars emphasize (Hutter, 1989), there is a distinction between a deterrence model of enforcement, where firms that violate administrative laws are sought to be punished, and a bargaining model, where enforcement is more discretionary and seeks to persuade regulated firms to improve their performance. That establishments were able to vary their employment and that the share of permanent workers declined over the 1990s indicates that there is a variability in enforcement that is important in determining employment. Moreover, as Harriss-White (2003, p.18) puts it: "In practically every 'organized' firm, including state-run corporations, unorganized labour is selectively incorporated into the labour process." The proportion of unorganized labour in the corporate sector has been estimated at 40-85 per cent (Bhowmik, 1998). In a survey of registered firms in the garment industry in Ahmedabad, it was found that 50 per cent of the workers did not have written contracts and about 10 per cent did not receive any benefits (Jhabvala and Kanbur, 2004). It is because enforcement is discretionary that this is possible.

In order to employ unorganized labour in a registered firm, some cost to circumvent enforcement has to be incurred.* If there was no circumvention cost, the firm could employ at the competitive wage in the informal sector, w_I. Without loss of generality, let the marginal circumvention cost per unit of labour be linear in the employment of such labour, i.e., cL_I. Then, the marginal cost of employing labour on informal contracts is $w_I + cL_I$. Higher levels of enforcement will result in a larger value of c. If all labour were to be employed on these contracts, then the interaction of the marginal cost of informal contract labour curve $w_I A$ and the marginal revenue productivity or demand curve BC would determine the extent of informal employment at point E (Figure I). However, workers on formal contracts are able to bargain for a higher wage, w_F, than the informal wage, say, due to unionization or by resorting to influences on establishments through the apparatus of the state, which intervenes in the labour market

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* See Dasgupta and Marjit (2004) for a formal model on these lines.

to strengthen the position of workers due to its past historic association with organized labour in the Independence movement and its goals of establishing a socialist and equitable society. We would expect formal wages to be increasing in prices, as workers seek to protect real wages, and in circumvention costs, as higher circumvention costs imply that workers on formal contracts can leverage the better climate of enforcement to bargain for higher wages. The firm accordingly employs *OM* workers on informal contracts and *MN* on formal contracts.
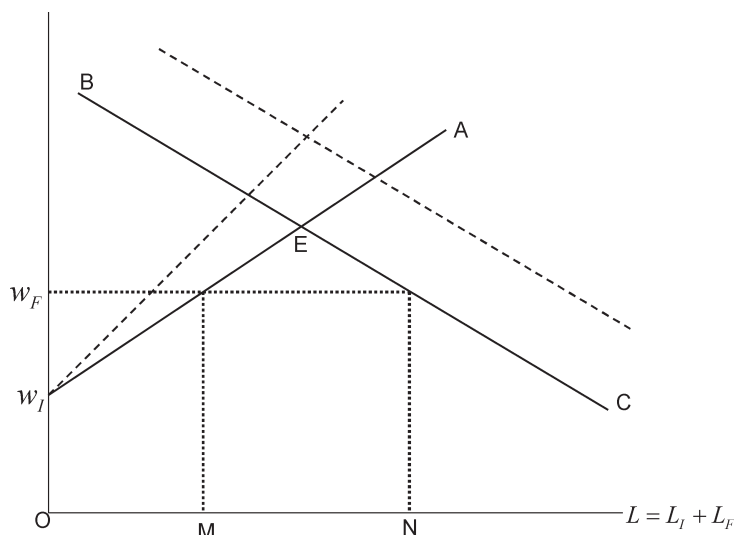

Figure 1 : Formal and Informal Contracts in Registered Firms

The figure above indicates that if enforcement increases, the curve $w_I A$ will rotate counter-clockwise - the dashed line beginning at w_I. Total employment would decline, but informal employment could even increase if the formal wage increased sufficiently in response to the increase in enforcement so as to cause a substitution of formal contract workers with informal contract workers by the firm. The point of interest here is that differences in enforcement result in differences in employment.

We could also interpret the parameter c as more stringent regulation that is pro-labour in the spirit of Besley and Burgess and conclude that less employment is associated with pro-labour regulation. However, that is an argument that does not pose the counterfactuals appropriately enough. If there is a rise in capital accumulation, the demand for labour curve shifts to the right and employment increases. The empirical data points to employment growth being associated with capital formation (Bhalotra, 1998) and as demonstrated by Ramaswamy (2002), it was the liberalization of capacity licensing and entry regulation that led to high rates of capital formation and employment, especially in import-competing industries such as consumer durables. Employment may not have grown in India in pre-liberalization period because capacity constraints imposed by a system of industrial licensing did not allow the demand for labour curve *BC* to shift out to the position of the dashed line on its right. In India, lending by banks and development financial institution was also often by virtue of the fact that the establishment had been issued a licence by the government. In such a situation, employment growth was more a function of imposed capacity constraints than labour regulation.

The conventional view is that job security regulations and unions are the main cause of rigidity and unemployment. The restriction on firing is in this view akin to generating rents equal to the welfare

difference between an employed and an unemployed worker. These restrictions increase workers' bargaining power by making it more difficult for employers to resist wage demands by refusing to employ the workers any longer. Firing costs are a device to protect the rents of incumbent employees. However, the historical line of causation is the reverse - job security regulations, which are blamed for rigidities in the labour market, were often instituted as a response to the threat of unemployment and income insecurity. The arrival of organized labour on the Mumbai scene, for instance, goes back to 1917, when there was a wave of large-scale strikes in textiles and other industries in response to the erosion of income due to wartime inflation. The inter-war period saw many strikes where workers joined campaigns, but drifted away once the strikes were over. The colonial state, however, intervened on the part of labour and passed the Trade Disputes Conciliation Act of 1934 and appointed labour officers to mediate in disputes. As that was a period of economic depression with unfavourable conditions for bargaining, state involvement in labour relations was welcomed by workers as more beneficial to them than the returns possible through unions. Trade unions, in turn, embraced the state (Sherlock, 2001) and this was not driven by rent seeking as much as a search for social insurance. As stated by Datta-Chadhuri (2000), "The modalities of labour use in the organized sector in India are dictated primarily by the state, not by the market or by the results of collective bargaining… The state plays a dominant role through labour laws, labour judiciary and administrative officers to administer social justice keeping in view the power position and susceptibilities of workers… to eventually lead to a just industrial society." Given that human capital is the most important asset for most individuals, in India, the demand for insurance against labour income risk translated into a demand for job security, which was accommodated by the state in a situation where insurance markets for such needs do not exist. "The paramount concern of Indian workers, and thus of their trade unions, relates to the question of job security" (Datta-Chaudhuri, 2000) and this risk aversion towards unemployment and income insecurity lies behind institutions like Chapter V-B of the IDA. The foundation of the idea is social insurance and not rent seeking. Today, job security may create efficiency losses, but it should not be forgotten that it also creates insurance benefits that are probably substantial (and unmeasurable) and may even offset the efficiency losses. Of course, it may be objected that if labour market risk is so all-encompassing, why then can't we leave it to firms and employees to take care of it themselves through insurance contracts and wage bargains? We turn to this next.

6.   State intervention and markets

Basu (2002) argues that legislation against retrenchment or dismissal of labour as in the IDA, 1947, can backfire because of failure to distinguish between what is good ex ante and what is good ex post. A law that makes retrenchment difficult is of course good for workers who are already employed. However, firms will be more wary of employing workers, making labour a less valuable input and decreasing the demand for labour. As a result, wages will fall and workers who benefit from more secure jobs will lose out by having lower wages. Thus, workers may be worse off as a result of legislation meant to make them better off. A formal statement of this argument has been given by Basu, Fields and Debgupta (2001). Basu recommends on this basis that contracts between firms and employees should not be exogenously fixed by law (such as the restrictions on firing), but that there should be free contract between workers and firms which, depending on preferences (including risk aversion), would see some contracts with low wages and long tenure for employees and some contracts with high wages and firing rights with employers. This argument that free contract leads to efficiency is an outcome of the

traditional, perfectly competitive story in which workers and firms implicitly bargain for the efficient level of employment security. This is a very unsatisfactory way of carrying out the analysis because in a competitive model, when wages adjust, the unemployment rate remains unchanged or zero.

A satisfactory model for the analysis of employment protection must be able to demonstrate not only that wages are endogenous, but also that equilibrium unemployment is possible because labour markets, like credit markets, do not clear. Such an explanation is provided by efficiency wage models. In one variant of these models, workers are paid in excess of their marginal contribution and reservation wages in order to reduce shirking and to increase labour productivity at the risk of involuntary unemployment (Shapiro and Stiglitz, 1984). In another version, which is the deferred payment incentive version, the wage is initially less than the worker's marginal product and then increases as tenure in employment increases in order to induce effort over time. In both variants, the threat of termination and loss of the efficiency wage deter the employee from shirking. However, efficiency wage models also do not consider the possibility that when efficiency wages exceed worker's marginal contributions, firms have an incentive to terminate worker's tenure before the wages are paid. The response to this moral hazard is to introduce employment protection. Hence, labour protection laws may be necessary to deter employer opportunism.

The problem is best addressed in a simple two-period framework. At time t_0 the firm and the worker agree to a contract to be executed in period t_1. The contract states that the firm will pay the worker ($w > 0$) if the worker expends effort ($e > 0$), but the worker will be terminated from service without compensation ($w = 0$) if the worker is caught shirking ($e = 0$). The worker's disutility of effort is e. The effort provided by the worker is not easily observable by the employer or verifiable by a third party such as a court. The output generated due to the effort expended by the worker, however, is observable and verifiable.

At time t_1 the worker has the option of either working or shirking. If effort is expended, the firm's gross benefit is y, and if the worker shirks, then expected output is py, where ($1 - p$) is the probability of detecting a shirking worker. The firm also has two options before it: to fulfil the contract or to behave opportunistically and terminate the worker's tenure. If the firm is opportunistic and terminates the contract, then it captures the full rents generated from the employee's efforts. If the firm honours the contract, it pays the worker for his effort or fires a shirking worker detected with probability ($1 - p$). Hence, the worker can be dismissed for two reasons, employer opportunism or verifiable shirking. The expected payoffs of the firm are in the lower left-hand corner of each cell in Table 2 and that of the worker in the upper right-hand corner of each cell.

Table 2 : Efficiency wages when firms and workers are opportunistic

		Worker	
		Work	Shirk
Firm	Honour contract	$w - e$ $y - w$	pw $p(y - w)$
	Terminate	$- e$ y	0 py

Table 2 depicts the opportunism faced by both firms and workers. The worker has an incentive to shirk if the wage is too low, monitoring is imperfect, and the firm has an incentive to exploit the worker. When both firm and worker anticipate the other will behave opportunistically, the worker will shirk and the firm will fire the worker and neither will benefit from engaging in the contract. Employer reputation effects may result in the efficient contractual outcome, where workers supply effort and firms honour the contract and compensate the workers. But to expect all firms to have reputational capital is unwarranted and so, employment protection legislation can play the role of restraining opportunistic behaviour by firms and workers. Of course, it must be kept in mind that labour protection laws can reduce the effectiveness of efficiency wages and reduce worker productivity if it is a blunt instrument. An employment protection legislation whilst alleviating the worker's fear that his services may be opportunistically terminated must at the same time allow the firm to terminate the worker if he is caught shirking. If there is verifiable evidence of shirking, then the legislation should be such as to induce the expectation in the worker that his services will be terminated.

Of course, there is the second variant of efficiency wages, where workers are given deferred payments in order to elicit a performance bond in the form of effort over time (Lazear, 1981). Here, even if the worker is fired with verifiable evidence, he loses compensation due to him in the future. Also, the fact that compensation is deferred gives an incentive to employers to terminate services before the full term is served. To safeguard against this type of opportunism, contractual safeguards in the form of a penalty on the firm in case of premature firing is called for. This function is typically performed by severance packages, which specify a fraction of the worker's contractually established wage benefits to be paid to him if the firm chooses to terminate his services. In the product market, where firms may behave opportunistically with respect to quality, warranties are used to signal quality attributes. Similarly, in labour markets, where firms and workers may behave opportunistically *third party* enforcement of employment protection legislation is called for. This legislation should not be written in stone, but accommodates firing in case shirking by the worker is established and severance payments in case firms wish to terminate the services of the worker, regardless of shirking.

Employment protection involves a whole range of measures apart from severance payments. These are designed to limit the employer's ability to dismiss workers without delay or cost. The idea is to protect both workers and employers from opportunistic behaviour - tying their hands to make both better off by deterring them from 'short-termism'. Some forms of employment protection need not entail immediate financial gains to either party. Administrative procedures such as writing to the employee concerned, giving reasons for his dismissal, specifying lengths of time that the employer has to wait for a response, and notices of termination where the length of notice varies by tenure and includes a cooling off period during which the notice may be issued but not become effective, etc., are employment protection measures that do not entail a direct transfer from the employer to the worker. These are often wise to include in employment protection legislation so as to delay dismissals and induce employers to negotiate over terminations and not behave opportunistically. One could argue that this increases job tenures and gives power to established workers with adverse effects on job creation. However, given opportunism, the only way that workers and firms will invest in a job is if there are speed breakers to opportunism. The unintended consequence that this may reduce turnover is an indirect cost of the gains to protection. Employment protection is usually thought of as creating redistribution towards labour, especially established workers, and is held responsible for creating rent seeking and efficiency losses. However, such policies also create immense insurance benefits by deterring opportunism. The

challenge is to ensure that the efficiency losses are contained, whilst the insurance gains are furthered. Employment protection should not be so rigid that it prevents change and preserves the status quo. It should not be so blunt that it is unable to distinguish between termination for shirking and opportunistic termination. Serious employment protection is counter-productive when it is protectionist to vested interests and does not promote economic progress. Datta-Chaudhuri (2000) appropriately quotes Justice Mehta, a former chief justice of a high court, when he states that the view taken by many judgements "that to favour labour is the only goal of the statute (the IDA) is counter-productive in as such as it ultimately harms the cause of labour itself".

7.   Conclusion

Indian governments have intervened in organized labour markets to strengthen the position of workers vis-à-vis employers. The government has been central to the implementation of labour laws with contractual rights being regulated by it and not in civil courts or labour tribunals. Job security regulations have been central to government interventions in the labour market. Their impact on employment and output growth in the registered manufacturing sector is important because a measure of success in development is the extent to which the manufacturing sector is able to draw surplus labour out of agriculture. Amendments to the legislation in the form of the Industrial Disputes Act, 1947, have provided opportunities to study the impact of job security legislation on employment and output. The empirical evidence suggests that job security legislation in India has not deterred employment growth. Rigidities in employment adjustment - it takes about five to six years for employment adjustment to be completed - are due more to the inherent characteristics of the industries than job security regulation.

Employers in India in the 1980s, which has been termed a period of jobless growth, matched staffing to workload fluctuations by adjusting the timing of the hours worked (work time flexibility). The increase in time worked from 1979 to 1987 was equivalent to a shift from a five day to a six day week. At the same time, productivity increased due to infrastructure investment and trade liberalization increased the efficiency of labour whilst reducing its requirement per unit of capital. Capital accumulation, however, has been the driving force that has offset the negative effects of growth in work intensity and productivity. Empirical work in the 1990s confirms this. Also, apart from work intensity, firms have managed to be flexible by changing the composition of contracts via changes in the share of permanent to non-permanent temporary and casual workers.

Implementation of labour legislation is a state subject and states can amend Central legislation. However, identifying state amendments as being pro-labour or pro-employer is a task that can result in paradoxes. In one study, Maharashtra and Gujarat have been labelled pro-worker states, while another study reports that these states are the least over-manned in the country. These states are also perceived as good locations for setting up manufacturing units. Also, it is not just legislation, but enforcement, too, that is crucial to the extent to which firms are deterred by labour legislation. More stringent labour legislation and/or better enforcement can both deter employment generation. However, at the same time as labour legislation was being tightened, regulations on entry and capacity made the licensing system and capacity constraints the main constraint on expansion of firms in the registered manufacturing sector. Delicensing along with capital accumulation affected employment growth more than labour legislation.

Job security regulations are often seen as a source of rigidity and resulting in rents for organized labour. However, these regulations often emerged as a response to the threat of unemployment and income insecurity and are more a social insurance than rent seeking. Moreover, markets, if left to themselves, will not be able to devise contracts that provide an efficient level of employment security. In a temporal world, if workers trade off working with shirking, employers can similarly trade off honouring a contract with termination the services of employees. Opportunistic behaviour is often difficult to observe or to verify. In product markets, opportunism can be nipped through signals such as the offer of warranties. In labour markets, both firms and workers are susceptible to opportunism and verifying a breach of contract is difficult. A meaningful way to get workers to invest in a job and employers to honour contracts is to legislate employment protection. The difficult task, of course, in reality is to ensure that employment protection does not become protectionist and an enemy of economic progress.
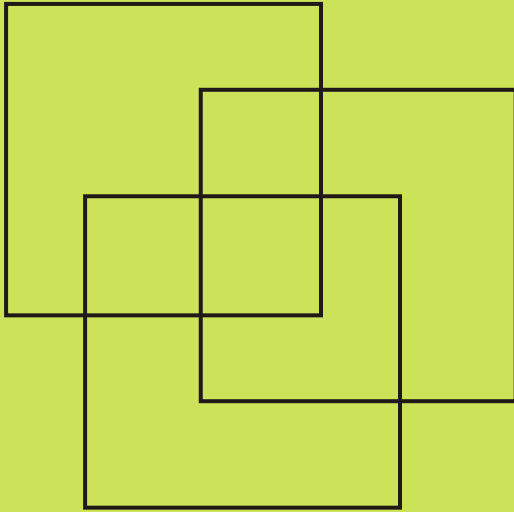
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