Institutions, Networks and Industrialisation:

Field level evidence of fragmentation and flexibility from India

Dibyendu Maiti*

Discussion Paper Series

Number twenty-six

September 2009

IPPG Discussion Papers

available at

www.ippg.org.uk

IPPG Programme Office, IDPM, School of Environment & Development
University of Manchester, Arthur Lewis Building, 2.023, Oxford Road
Manchester M13 9PL; Telephone 0161 306 6438; ippg@manchester.ac.uk
www.ippg.org.uk

* Institute of Economic Growth, University of Delhi Enclave, North Campus, Delhi – 110007, India. Email: dibyendu@iegindia.org.

The paper was presented at the International Conference on the 'Informal Sector in South Asia: Organisational Dynamics, Institutional Determinants, Interlinkages and Development' held at the Institute of Economic Growth, Delhi, during 27-28th July, 2009. The author is grateful to the Research Programme Consortium on Institutions for Pro-Poor Growth (DFID-UK) and the Centre for Studies in Social Sciences, Calcutta, for the funding that made this research possible. The views expressed in this paper are entirely those of the author and in no way represent either the official policy of DFID or the policy of any other part of the government. We are grateful to Sugata Marjit, Kunal Sen, Adrian Leftwich and Sue Martin for giving insightful thoughts. I am indebted to Ruth Hill and Soren Aspinal for editorial assistance. We are also thankful to Poulomi Dasgupta for substantial research assistance and two field investigators, Salil Kr. Dutta and Abhijit Halder, for extensive fieldwork. The usual disclaimers apply.

Paper prepared for the DFID-funded Research Programme, Institutions and Pro-Poor Growth (IPPG). The authors are grateful to DFID for the funding that made this research possible. The views expressed in this paper are entirely those of the author and in no way represent either the official policy of DFID or the policy of any other part of the UK Government.
Material published by the IPPG may be reproduced free of charge in any format or medium provided it is reproduced faithfully, not used in a misleading context and properly attributed to the author(s). Copyright exists in all other original material published by members of the Programme and may belong to the author or to the University of Manchester depending on the circumstances of publication.
Enquiries should be sent to the editor at the above address.

CONTENTS

		PAGE
Abstract		4
1	Introduction	5
2	Theoretical Motivation	7
3	Database and Field Survey	8
3.1	Survey Design	8
3.2	Profiles of the Sample Industries	10
3.3	Industrial profile of Sample States	12
4	Production process, Institutions and Networks	13
4.1	Upstream	17
4.2	Downstream	19
5	Labour Contracts	19
6	Determinants and Fragmentation and Flexibility	20
6.1	Econometric Model	20
6.2	Results and Discussion	22
7	Issues of Industrialisation and pro-poor growth	25
8	Concluding remarks	29
References		34

ABSTRACT

The contemporary empirical literature suggests that production processes are fragmented and are being delegated to outsiders. The present study is based on a field survey and attempts to observe the organisational dynamics of production processes and labour relations in the organised sector in two states, Gujarat and West Bengal, where a large part of production activity is engaged in the vertical chain. The paper observes that, while being delegated, production activities are mediated through non-market channels like social, political and other peer group networks. This is also true in the case of labour hiring. Labourers are of three types: directly hired permanent workers, directly hired contract workers and workers supplied by contractors. The share of contract labour is as high as 70-75%, and contract workers are hired by persons who have strong connections with trade unions, political leaders and bureaucrats. Such networks help the firm in reducing asymmetries and ensuring market efficiency but do not necessarily protect the interests of upstream agents. More specifically, the existing rules of contract labour and minimum wage are routinely violated. In bypassing the existing rules, these transactions are quite often detected by the regulatory framework, but bribery effectively circumvents any problems. The process is faster in politically less active states than in politically active states, where such extra-legal transactions often appear before a public forum and consume considerable time and money to resolve. Therefore, the existing form of intermediation, led by favoured political and other peer groups, is a major obstacle to pro-poor growth in India and strong political action is required to tackle it.

Key words: Network, informal intermediation, fragmentation, flexibility, industrialisation

JEL codes: **D02, D23, D85, J31, J41**

1 INTRODUCTION

During the last two decades, the developing world, including India, has followed the path of economic reform, initiating sea changes in industrial reforms in order to foster economic growth. The way production is organised within and between firms in the formal and informal sectors has been affected by these reform polices. The questions are (i) what forms and functions are taken by the institutions, which are influenced by the social, cultural and political factors of the regions, to shape formal and informal contracts in the manufacturing sector? (ii) What implication does this have for the industrialisation process, labour relations and pro-poor growth?

India has consistently maintained a seven to nine percent growth rate during this period and has quite often exceeded this on the industrial front. It is argued that the process of economic liberalisation that was initiated in the early 1990s has played an instrumental role in this regard. It is clear that some Indian states took advantage of economic liberalisation to a greater extent and showed a higher rate of growth than others. High rates of growth in recent years have encouraged economists and policy analysts to attempt to understand the underlying process of this rapid industrialisation and to explore whether such growth has contributed to a reduction in poverty across states. But which reform factors contributed and to what extent is not clear in the existing literature. It is argued that the forms and functioning of institutions, influenced by social, political and cultural factors at the state level in a large federal democratic country such as India, must have led to differential regional development. Therefore, we conducted the field survey in two states that are different in many respects, West Bengal and Gujarat, in order to discover the anatomy of the industrialisation process. These differences are highlighted in the 2005 World Bank Survey report, which suggests that Gujarat exhibits the best investment climate for industrialisation while West Bengal belongs to the worst climate category. In fact, the states are distinctly different in terms of their political and cultural environments. We took three common industries and one state-specific industry from each for micro survey. These are cement, iron and steel, and cotton textiles and jute in West Bengal and man-made fabric in Gujarat.

In both states, we observed that the rise in competitiveness as well as the prevalence of a large unorganised sector has led to a tendency for firms to squeeze in-house production and that largely non-market informal institutions (e.g., social group, political and other peer groups) are involved in transactions, based on mutual trust and long-term relations. Such institutions reduce transaction costs and also ensure marketing networks. In these transactions, there is a strong influence of political and trade union contracts in Bengal, whereas ethnic relations and an invisible peer group of middlemen

play the same role in Gujarat. Both of these agents have the incentive of earning agency fees. In bypassing the existing rules, these transactions are quite often detected by the regulatory authority, but bribery effectively negates any problems. In a highly politically influenced state like West Bengal, such extra-legal transactions often appear before a public forum because of the direct or indirect involvement of political agents and consume much time and money to resolve.

In Gujarat, it is evident that owners of these fragmented units are ethnically related in order to reduce transaction costs, and at the same time, strategic fragmentation is being undertaken to overcome legal costs and to earn institutional benefits for small-scale units. Institutional credits are drawn largely from a cooperative society led by industrial associations.

The extent of integration is higher in cases of industries that receive marketing assurance from the government. For example, jute is one of the traditional industries in West Bengal, and firms within the industry benefit from the 'mandatory packaging order', 1987. This means that it is mandatory for some packaging industries to use jute products, and a percentage of the remaining jute is directly purchased by the government. This helps firms to survive, but at the same time, it restricts them to traditional goods production and discourages innovation.

The Annual Survey of Industries, the official record of industrial statistics for the formal sector, reports that the share of contract labour in organised manufacturing varies from 15% to 26% across states. However, we observed that it is 70 to 75% in the sample states. Barely one percent of workers are recruited through a formal procedure. In Gujarat, most of them are recruited and controlled by relatively experienced workers of the firm. In West Bengal, they are recruited by trade unions through their peer group linkages with a nexus of political persons and bureaucrats. In both cases, the intermediaries charge fees to both parties, and this equilibrium is mostly stable because both parties have interests. For West Bengal, workers join trade unions in order to increase the probability of retaining their jobs for an extended period and to protect their own interests. In Gujarat, the story is the same, but the actors are different. Here, labour contractors play the same role as the trade unions in West Bengal, with the exception that they do not have political affiliations. They receive a specified amount per worker that they supply to a firm. The incentive that workers have is just one: the availability of a job. It emerged from the survey that a large proportion of the workforce in Gujarat is composed of migrant workers from the states of West Bengal, Orissa and Bihar. A general question that may arise is if the labour contractors do not have political affiliation, what gives them bargaining power? The answer lies in Gujarat's huge scope

for alternative employment. Withdrawal of workers from a firm poses more of a danger to the firm than to the contractor because getting another job contract for the firm is not that difficult. Here emerges another crucial difference between the two states. For workers in West Bengal, losing a job is more problematic as the scope for alternative employment is almost negligible.

2 THEORETICAL MOTIVATION

While traditional theory favours in-house production through vertical integration in order to reap economies of scale, eliminate transaction costs, agency problems and double marginalisation problems, a growing body of empirical evidence suggests that there is instead increasing fragmentation of the production process, subcontracting and stage delegation to the upstream agents both formally and informally.

There is an ongoing debate on the distribution between in-house production and delegation. Broadly, three approaches are predominant in the existing literature to locate the cut-off point between these two forms of production, viz., the technological approach, transaction cost approaches and property right approaches, and these approaches are to some extent complementary. In contrast to the literature, recent ongoing studies highlight the fragmentation and delegation of the production process and set out two possible reasons behind this. First, technological developments and globalisation are transforming the internal organisation of the firm. New technologies, especially information technology, are creating a shift from traditional integrated firms towards more complex organisations and outsourcing (Breshanan, 1999; Acemoglu *et al.* 2005). Moreover, the greater competitive pressures created by both globalisation and the advancement of information technology favour smaller firms and more flexible organisations that are conducive to innovation (Feenstra, 1998; Feenstra and Hanson, 1999). Second, aggressive trade unions and a high turnover cost push firms more towards delegation and subcontracting on flexible contracts [Bertola, 1997; Blanchard, 2003; Basely and Burgess, 2004]. According to the 1951 Industrial Disputes Act, it is illegal for a firm with more than 100 employees to lay off workers without the authorisation of the state government. Such regulation encourages the use of casual labour and subcontracting because industry faces high firing costs for permanent employees in labour-friendly states, and it inevitably leads to the hiring of workers on temporary contracts [Basley and Burgess, 2004]. As a result, these labour-friendly states, having aggressive labour market institutions, are lagging behind others.

Apart from the reasons for regional variations, there are a number of explanations for the differential between firms within regions. For example, Banerjee and Dulfo [2000] observe the presence of a good supply network and reputation in older firms and, as a

result, are in a better position than young and emerging firms. Theoretically, Mookherjee and Tsumangari (2004) argue that "in a one-principal two-agent model with adverse selection and collusion among agents, [it can be seen] that delegating to one agent the right to subcontract with the other agent always earns lower profit for the principal compared with centralised contracting. Delegation to an intermediary is also not in the principal's interest if the agents supply substitutes. It can be beneficial if the agents produce complements and the intermediary is well informed." However, Maiti [2007] shows the increasing tying up of small producers to these older and reputed firms in order to take advantage of their supply network. Furthermore, Maiti and Marjit [2008] explain that under more trade exposure in a post-reform period, an export competing firm shifts its efforts towards marketing activities from producing activities, whereby a part of production activities are delegated to tied producers. Interestingly, Andrabi, Ghatak and Khwaja [2006] study tractor subcontracting in Pakistan, where buyers favour independent input suppliers over tied suppliers. However, how the form of intermediate institutions is shaped, given the local political and social factors, is still under-researched.

We argue that the extent of informal contracts and the form of intermediation depend on the regional strength of an in-house labour market institution, governance and enforcement of contract labour laws, and the political environment. Under more competition, some of these non-economic factors shape the form of the intermediation. The intermediation may be of help to the firm but may distort the interest of suppliers and labour.

3 DATABASE AND FIELD SURVEY

The study explores both secondary and primary information. A number of features of industrialisation and formal firms were collected from the Annual Survey of Industries (ASI) and CMIE databases. Reports of the National Sample Survey (NSS), Government of India, on the informal sector were also considered to see the pace of informalisation.

3.1 SURVEY DESIGN

Since the secondary database does not provide information on contractual forms and other related issues, a detailed primary survey was conducted. As this study's objective is profoundly linked to the economic, political and social factors behind contracts, the two sample states were purposively selected because of their differences in socio-political environments and strength of labour market institutions. West Bengal's labour legislation and strong trade unions places it in the pro-worker category. In contrast, trade unions and labour legislation are comparatively weak in Gujarat. Interestingly,

contemporary evidence and research findings from many scholars and agencies, including the World Bank, suggest that Gujarat has fared best in terms of recent industrial performance and investment climate and is growing faster than other states in the post-reform period.

Within the states, first-hand information on firms was collected from the CMIE database, although it is not exhaustive. One state-specific and three common industries were selected for detailed study. The common industries chosen were cement, iron and steel and cotton textiles, and the state-specific industries were jute from West Bengal and man-made fibre from Gujarat.

Based on the CMIE information and with the assistance of the states' chambers of commerce, a list was prepared of each industry by location. Ten to fifteen samples for each were selected randomly from two or three clusters. In total, fifty firms in each state were selected for detailed survey. Therefore, the total sample units numbered 100 (Table 1). For each firm, we met with management, trade union leaders, suppliers and two workers (one permanent labour and one contract labour). During 2008-09, we gathered information via a structured questionnaire on formal and informal institutional networks for input and output transactions, the terms and conditions of those contracts, the forms of intermediary agencies, the role of trade unions for in-house and outside production, ethnic relation in contracts and other formal and informal norms. We first met management staff of the firm and other stakeholders later for verification. First, a pilot survey was undertaken to gauge the reaction of the respondents and also to identify the location and forms of production units, and we then rescheduled the questionnaires. A final survey was then conducted for detailed enquiry.

TABLE 1: Number of units surveyed

Units Surveyed	*West Bengal*	*Gujarat*	*Total*
Common			
Cotton	10	12	22
Cement	12	14	26
Iron & Steel	13	8	21
State-specific			
Jute	15	0	15
Man Made Fibre	0	16	16
Total	**50**	**50**	**100**

3.2 PROFILES OF THE SAMPLE INDUSTRIES

Cement

After China, India is the second largest producer of cement in the world. In April 2009 alone, cement companies added nearly eight million tonnes (MT) capacity, bringing the total installed capacity to 219 MT and achieving an output of 16.65 million tonnes during April 2009. Leading manufacturers include the UltraTech/Grasim combine, Dalmia Cements, India Cements, and Holcim. It is predicted that capacity will increase by 40-45 MT in this coming fiscal year, which represents a 21 per cent increase over the 2008-09 capacity of 212 MT. With the government's commitment to a variety of infrastructure projects, improved housing facilities and road networks, a considerable increase in cement consumption is expected in the coming years. In recent years, cement output has maintained a 10 per cent growth rate. According to *www.ibef.org*, total despatches grew to 170 MT during 2007–08 from 155 MT in 2006–07. In March 2009, cement despatches were 18.12 MT as compared with 16.42 MT in March 2008, indicating a growth of 10.35 per cent. In March 2009, cement production was 18.10 MT, a growth of 10.43 per cent over the 16.39 MT produced in March 2008.

The industry has undertaken technological upgrading so that 93 per cent of the present-day industry is based on environment-friendly dry process technology. Only 7 per cent of the industry's capacity is based on older wet and semi-dry process technologies. Furthermore, there are opportunities to employ waste heat recovery in cement plants and thereby reduce emission levels.

Steel

India has become the fifth largest producer of steel in the world following a new development stage that took place in 2005–06. The iron and steel industry now produces about 53 million tonnes (MT) of steel per year, and Indian production accounts for just over 7 per cent of the world's total output. India consumes about 1.5 MT of stainless steel a year with kitchenware accounting for around 70 per cent of this total. However, its use in railway coaches, wagons, airports, hotels and retail stores is growing considerably. Steel consumption in the January-March quarter of 2008-09 grew at 3.8 per cent as compared with the same period in the previous year due to the growing demand for its use in railway coaches, wagons, and for export. Approximately 50 per cent of India's annual iron ore production of more than 200 MT is exported. As per the latest data compiled by a group of top Indian mining firms, iron ore exports increased by 17 per cent, from 10.8 MT in February 2009 to 12.6 MT in February 2009, as a result of

a moderate resurgence in demand from Chinese steel producers. During April-December 2008, India's exports totalled 64.4 MT.

Cotton Textiles

Cotton, as one of the chief Indian crops, plays a vital role in the economy. It provides substantial employment and makes an important contribution to export earnings. According to *indianbusiness.nic.in*, "[a]s of December 31, 2007, there were 1,744 cotton/man-made fibre textile mills (non-SSI) in the country with a capacity of 34.87 million spindles, 457,000 rotors, and 56,000 looms. In addition, there were another 1,219 small-scale spinning units with 4.00 million spindles and about 157,866 rotors." Cotton consumption has increased significantly over the last few years, rising from 111.09 lakh bales in 1991-92 (mill and non-mill) to 235 lakh bales in 2006-07 (Oct-Sept), which is the highest ever recorded. Exports of cotton yarn, fabric and ready-made garments increased by Rs. 17464.92 Crs to Rs. 18717.70 Crs from 2005-06 to 2006-07 (a rise of 7.17%).

Man-made fibre and yarn industry

The industry comprises fibre and filament yarn manufacturing units of both cellulosic and non-cellulosic origin. The industry is capital intensive and is mainly concentrated in the State of Gujarat and some parts of Maharashtra. The production of man-made filament yarn increased by 9.5% during April-December 2007 as compared with the corresponding period in the previous year. Recent years have also seen a boost in the exports of man-made filament yarn and fabric, which increased by 13% from Rs. 8667.94 Crs to Rs. 9794.79 Crs between 2005-06 and 2006-07.

Jute industry

The jute textiles industry is one of the most important industries in the eastern region, particularly in West Bengal, and it contributes nearly Rs. 1200 crores annually to export earnings. The jute industry is highly labour intensive, supporting nearly four million farming families, providing direct employment to about 260,000 industrial workers and a livelihood to another 140,000 people in the tertiary sector and allied activities. According to *fibre2fashion.com*, India has seventy-seven composite jute mills, sixty of which are located in West Bengal, three each in Bihar and Uttar Pradesh, seven in Andhra Pradesh and one each in Assam, Orissa, Tripura and Chhattisgarh. Present capacity utilisation of the industry stands at approximately 75 per cent. During 2006-07 (April-March), total production of jute goods stood at 1356.30 thousand MT compared to 1582.2 thousand MT in the corresponding period of 2005-06. The value of exports of jute goods rose from

Rs 77567.47 Crs in 2005-06 to Rs 1752.07 Crs in 2006-07, which is an increase of 9.26%.

3.3 INDUSTRIAL PROFILE OF THE SAMPLE STATES

The states chosen for Survey were Gujarat and West Bengal, which are very different to one another in every sense. We shall highlight these differences with the help of some key indicators.

Labour Institutions – West Bengal is widely known for its rigid labour policies and the strong presence of labour unions. This is in complete contrast to Gujarat, where labour unions have almost ceased to exist. The labour institutions have been captured by two key variables:

- **Lockout-strike ratio** – A higher ratio indicates a higher likelihood of labour unions affecting the production process adversely. In other words, the effect of unions seems to be greater in a state if the lock out rate is higher for a given strike rate. We will show this as an average of figures from 2003-04, 2004-05 and 2005-06 as these are the latest data available.
- **Basely Burgess Index** – This is a unique method devised by Basely Burgess 2004) for studying the direction of state industrial policies. A positive score indicates pro-labour, a negative score indicates pro-employer and 0 indicates neutral. All state amendments to the Industrial Dispute Act 1951 have been coded accordingly to obtain the net orientation of the state governments. This index has been updated to the present following the Basely Burgess Methodology.
- **Political Competition** – This has been taken from Marjit and Maiti (2006) for studying the political competitiveness in a state.
- **Investment Climate Indicator** – This has been taken from an investment climate assessment prepared by the World Bank Group in collaboration with the Confederation of Indian Industries. It indicates if a particular state/country is conducive to industrial expansion.
- **Share of Manufacturing in Net State Domestic product** – This indicates the contribution of the manufacturing sector in the Net State Domestic product. We will also show the contribution of the registered and unregistered manufacturing sectors in this. These are the figures for 2005-06.

Table 2: A number of characteristics of sample states

State	Labour Institutions		Political Stability	Investment Climate	Share of Manufacturing Sector in NSDP (%)		
	Lockout-strike Ratio	Basely Burgess Index			Registered	Unregistered	Total
West Bengal	8.829	1	0	Poor	5.66	5.70	11.36
Gujarat	0.219	4	0.4	Best	19.1	6.7	25.8

Source: various secondary sources

As the indicators show, West Bengal's share of the manufacturing sector in NSDP is very low in comparison to that of Gujarat, and the unregistered sector is almost the same as the registered sector. This could be a result of stringent labour laws or a bad investment climate or lesser overall efficiency. This is in turn restated by the high lockout-strike ratio, pointing towards less industrial efficiency, the high Basely Burgess Index, showing pro-labour orientation, and a bad investment climate, shown by the World Bank indicator.

4 PRODUCTION PROCESS, INSTITUTIONS AND NETWORKS

In the sample industries, firms vary widely in terms of the number of production stages undertaken within the firm, the raw materials used by the firm and the form of its intermediation (see Table 3). For example, the cement industry uses limestone, clay, sand, gypsum and fly ash/slag for the production of Portland and Pozzolana cement, which involves five major production stages. The production stages for the iron and steel industry are quite complicated, and mixing iron ore with manganese and silica in different proportions and ways can produce a variety of products. In the jute industry, the appropriate types of raw jute are selected and used for the production of largely traditional packaging products, such as hessian, sacks, jute bags, etc. In the sample cotton industries, raw cotton is used for the production of yarn, hosiery goods and denim fabric. Naphtha is required for the production of man-made fabrics like yarn, fabric, printed sari, etc.

Table 3: Description of input, outputs and production stages of sample industries

Industry	**Inputs Used**	**Outputs Produced# (stages)**	**Name of Stages (raw materials used)$**
Cement	• Limestone • Clay • Sand • Gypsum • Fly ash/slag	• Portland cement , fly ash (5) • Pozzolana, slag (5)	COMMON TO BOTH KINDS • Crusher (limestone quarry) • Proportioning and blending(limestone, sand, clay) • Grinding • Kiln

			Ball Mill (Mixture from above stages, gypsum, fly ash/ slag)*
Iron and Steel	• Iron Ore • Manganese • Silica	• Rods (MS and SS, 3) • Plates (MS and SS, 3) • Ferro manganese (2) • Wagons (11) • Safes, etc (8) Pumps, etc (6)	See footnote***
Jute	• Raw Jute • Jute Bran Oil/Rice Bran Oil	• Jute Yarn (6) • Hessian Cloth (11) • Hessian Sacks (13) • Sacks (13) • Jute Bags (13)	• Selection (Raw Jute) • Softening • Piling and pile breaking • Carding • Drawing • Spinning to obtain **yarn** • Winding • Weaving • Damping • Calendering to obtain hessian cloth and **sacking cloth** Finishing to obtain **hessian bales/bags/sacks**
Cotton	• Raw Cotton	• Yarn (7) • Grey (7) • Hosiery Cloth (9) • Hosiery goods (10) • Denim fabric (9)	• Ginning (raw cotton) to obtain bales • Blowing • Carding • Combing • Drawing • Roving • Spinning to obtain **yarn** • Weaving to obtain **grey or** Knitting to obtain **hosiery Cloth** • Sewing, etc if readymade garments or sarees or other products(not in our sample) are produced
Man-made fibre	• Naphtha (used by very few) • Polymer chips	• Yarn (4) • Texturised yarn (5) • Fabric (8) • Printed Sari (9)	• Processing (Naphtha) to obtain polymer chips • Melting • Drawing • Spinning to obtain **yarn** • Texturising to obtain **texturised yarn** • Sizing • Warping • Weaving to obtain **grey/woven fabric.** Processing/Printing to obtain **printed sari**

Note: # Figures in parentheses represent the number of stages. It is not possible to describe every stage for every product as each product has different stages of production. For example, rolling mills that produce MS plates and wires carry out the following stages: 1. iron ore extraction (we do not count this as it is carried out by only few companies in India, and they were not included in the sample), 2. melting, 3. rolling mill – with different specifications for different products. The firms that manufacture products requiring many stages of production generally start with ingots and billets, which just involves one stage, moulding, post-extraction. Some of the firms who manufacture wagons, etc. use scrap iron from other factories as their input.

$ In the number of stages column, the words in bold indicate the intermediate products that are also sold by some of the firms

* Most firms in West Bengal carry out only this stage

*** The iron and steel industry is characterised by a huge degree of horizontal integration

Source: Field Survey

Where jute production differs from all other industries is that it seems to be the only industry whose entire number of plants have been surveyed and are shown to be entirely vertically integrated. In contrast, the man-made fibre industry in Gujarat exhibits complete disintegration. All the units except one are disintegrated.

From the Study, it emerged that iron and steel is the industry with the maximum amount of product diversity, and cement is the industry with minimum product diversity.

The cotton and jute sectors are the two sectors where products from more than one stage of production are sold. For example, firms in Gujarat sell both yarn and fabric. In West Bengal, there are firms selling both hosiery cloth and hosiery goods. The same pattern is present in the jute industry. Some of the firms sell both jute sacking and jute cloth.

As stated clearly in the objective, the paper aims to study the pattern of delegation among firms in the post-reform era, and we therefore need to construct a proper index of fragmentation. By this, we essentially refer to the degree of *vertical integration* and the level of horizontal integration of the firm. The level of vertical integration simply refers to the number of stages of production carried out by a firm while producing a specific product. Horizontal integration has more to do with the number of products manufactured and can be explained as follows. When a firm makes a particular product, modification of one of the stages can lead to production of another product. For example, for producing **A,** a firm carries out 5 stages, but if the firm incurs some cost, it could also produce **B** from the intermediate product that emerges out of stage 4. So, where it was producing only **A,** it is now producing both **A** and **B**. This generally does not involve additional investment (on a large scale) and might prove to be quite profitable if the additional cost is not very high, and there is demand for that other product.

The degree of overall integration of the firm has been captured as the average of the degree of vertical integration and horizontal integration. The degree of vertical integration has been captured as the ratio of the number of stages of operation carried out by the firm to the maximum number of stages that a firm can possibly undertake to produce the same product. The denominator in this measure is the number of stages of production between the main raw material and the finished product. There are generally differences in the stages that are carried out by a firm. For example, a firm that is one of the market leaders will have more sophisticated machinery compared with a firm that caters to a very small portion of the market. This kind of heterogeneity emerged in our sampling, so we charted the main stages that a firm was able to carry out and did not delve into the intricacies of the technology used by the firms. In order to capture horizontal integration, the best approach would have been to look at all the kinds of

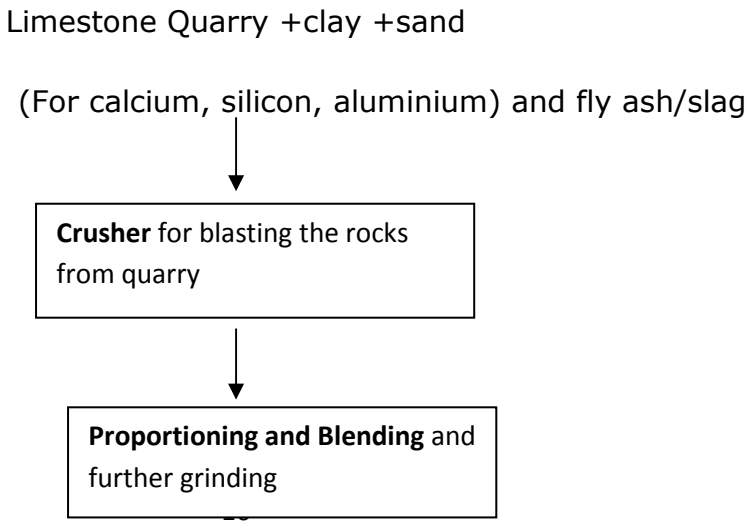
products that can be produced by a firm using a certain technology. However, this was not very feasible. In addition, a firm might not produce a specific product even when it is able to do so because there is insufficient demand for the product. So in our sample, we dealt with the number of products manufactured by similar firms. Clearly, if a firm is manufacturing a particular product but another like it is not, then this gap cannot be attributed to demand differences. So, the degree of horizontal integration has been captured as the ratio of the number of products manufactured by the firm to the number of products that the firm can produce, given there is sufficient demand. The description of the computational procedure for determining the score will make things clear.

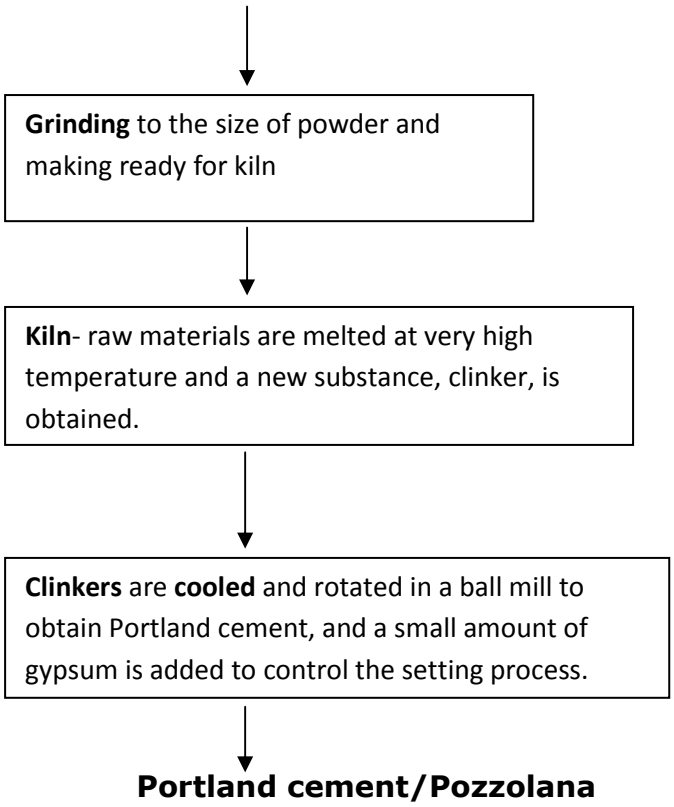
Let us consider the example of the cement industry. The raw material that is used is mainly limestone. So, we will trace out the production timeline of limestone to cement.

We determined that the maximum number of stages that can be carried out is five. But for various reasons, some of the firms just carry out the last stage, that is, they buy clinker and crush it along with gypsum to obtain cement. Therefore, the vertical integration (v) score for firms carrying out all the five stages is 5/5 = 1 and for those starting with clinker is 1/5 = 0.2.

As the last line in the flowchart below states, cement can be of two varieties - Portland and Pozzolana. The variety is determined by whether fly ash or slag is added. If fly ash is added then the kind produced is Portland. In Gujarat, all firms produce only Portland cement. This is due to the unavailability of slag. But in West Bengal, we found one firm producing Portland and all others producing Pozzolana. So, whereas all the firms in Gujarat get a horizontal integration (h) score of 1/1 = 1, firms in West Bengal get a score of ½ = 0.5 because while the firms can produce both Pozzolana and Portland, they produce only Pozzolana. If any firm produced both kinds, they would receive the score of 2/2 = 1. Thus, the overall integration score is i = (v+h)/2.

Figure: Flowchart of the production process of Cement





4.1 UPSTREAM

Let us first discuss the features of upstream contracts. In total, it is observed that market transactions in the form of auction, spot market or tender account for more than 10% of enterprises in Gujarat and 24% in West Bengal. In other words, 75 to 90% of input contracts take place through non-market channels. This is applicable for both primary and secondary inputs. Recommendation by management counts for the largest share, ranging from 67% to 91% (see Table 5). It is also interesting to note that personal and hierarchical relations are important factors for the receipt of input from suppliers. This accounts for 90% of principal input in Gujarat and 30% in West Bengal. Whereas political leaders and trade unions play a very significant role in West Bengal, this position is occupied by middlemen in Gujarat.

Most firms in Gujarat reported more than one principal buying option for limestone and clay, and some firms reported having to use middlemen for informal transactions. This shows a pattern of third party involvement, that is, someone other than the input supplier and the final goods producer plays a role in the transaction. The suppliers are chosen on the basis of the managing authority's recommendation and are commonly friends or relatives of the management authority. This issue requires further and closer investigation. However, as stated earlier, these inputs are not used in West Bengal.

Clinker, which replaces limestone and clay in all the West Bengal units and four of the Gujarat units, is either purchased directly from producers or bought from subsidiary units. The plant owners who purchase the clinker from direct producers generally share a personal relationship with them.

The market for coal and gypsum is the same in Gujarat and West Bengal. They are bought from national traders who are selected on the basis of recommendation and are acquaintances of the managing authority. Lastly, we come to the inputs that act as the determinant of the kind of cement. As we have noted, plants in West Bengal mostly use slag, and those in Gujarat entirely use fly ash. Slag is generally bought from local vendors/retailers or directly from the producers of slag (slag is a by-product of steel plants) who are again chosen on the basis of the managing authority's recommendation; it follows without saying that the suppliers have some personal relationship with the managing authority. Only one plant uses fly ash in West Bengal. Here, the market for fly ash again has the flavour of 'third party' involvement. The personal relationship that gives rise to recommendations being the mode of input screening prevails even here.

It is clear that one of the integral features of the cement industry is that the transactions in the upstream market are characterised by a huge degree of informality. But when the firms were quizzed about the number of problems that they faced with input suppliers, their almost unanimous answer was 'none', and those who occasionally faced problems pursued out-of-court settlements. The following tables enumerate these characteristics for both states.

Table 4: Choice of input suppliers (%)

	Gujarat		West Bengal	
Choice of supplier	Primary Input	Other Input	Primary Input	Other Input
1. Market transactions	10	7	24	24
2. Recommended by management	88	91	67	67
3. Others	2	2	08	08

Source: Field Survey

Table 5: Factors influencing recommendation by the management (%)

	Gujarat		West Bengal	
Reasons for recommendation by management	Primary Input	Other Input	Primary Input	Other Input
1. Personal association and hereditary relation	91	49	30	3
2. Political Influence	0	0	36	93
3. Influence of middlemen (not political)	9	51	33	3

Source: Field Survey

4.2 DOWNSTREAM

We also investigated the form of marketing institutions adopted by the sample firms. Market forms of transaction, such as auction, tender and spot market sales, account for only 14.3% in Gujarat and 25.5% in West Bengal. Therefore, final goods transactions are predominantly conducted via non-market means. Among these non-market forms, personal reference plays a substantial role in the establishment of networks and is as high as 65.3% in Gujarat and 41.8% in West Bengal. Direct orders from customers account for approximately 14% of transactions in both states. Marketing support by the government is somewhat higher in West Bengal than in Gujarat. This is largely because of the prevalence of the 'mandatory packaging order' for jute firms in West Bengal (see Table 7).

Table 6: Forms of principle marketing channels of final goods

Principle marketing channels	Gujarat	West Bengal
Market transactions	14.3	25.5
Reference	65.3	41.8
Orders from customers/producers	14.3	14.5
Orders from government	4.1	14.5
Others	2.0	3.6

Source: Field Survey

5 LABOUR CONTRACTS

It is observed that three kinds of workers are hired by the organised and registered firms: directly hired permanent labours, directly hired contractual labours and contract labours supplied by the contractors. Among these, the share of permanent workers directly hired by firms is only 29.9% in Gujarat and 24.2% in West Bengal. Therefore, 70 to 75% of the workforce is hired on a contractual basis, either directly by the firm or through contractors. Since the Contract Labour Regulation Act also allows the use of a contractor in order to hire these workers, firms can come to rely on them. As a result, the share of contract labour supplied by contractors is 53.6% in Gujarat and 15.1% in West Bengal. In contrast, the share of contract workers directly employed by the firm is 16.4% in Gujarat and 60.7% in West Bengal.

Table 7: Workers by type in the sample industries

Type of Workers	Gujarat		*West Bengal*	
	Number of workers	*Share of total workers*	*Number of workers*	*Share of total workers*
Permanent	11235	29.9	18282	24.2
Contract workers hired by the firm	6156	16.4	45826	60.7
Contract workers supplied by contractors	20116	53.6	11438	15.1

Source: Field Survey

6 DETERMINANTS OF FRAGMENTATION AND FLEXIBILITY

We observed the variation in the stages of production carried out within and outside the firm and the use of contract labour in all these stages. Then we estimated what are the determinants of fragmentation and whether fragmentation pushes up the hiring of flexible and casual workers. For this purpose, we first regressed a few institutions and other control variables on the degree of fragmentation in the first stage, and then the estimated value of this index was regressed on the degree of casualisation at the second stage.

6.1 ECONOMETRIC MODEL

The form and functioning of institutions, given the social, cultural and political factors, determines the size of the production organisation and firm. According to Coase (1937) and Williamson (1985), market transaction entails costs of discovering, negotiating and enforcing price, and firms want to internalise it through long-term contracts within the firm. On the other hand, in-house production also incurs a 'governance cost' for production by a team (Alchian and Demestz, 1972), and in a competitive environment, a wish to avoid these costs leads to fragmentation of the unit. Here, we will identify those variables that have direct and indirect impact on these two costs in order to determine the size of the firm.

1) **Trust:** The first feature that emerges from the study of the upstream market is that it relies heavily on trust. Therefore, it is very important to incorporate this in our regression. Trust generally results in two parties entering into long-term contracts with each other. Therefore, a variable that might capture this aspect is the ratio of the length of transaction with the supplier of principle input to the number of years since the firm registered. A value closer to 1 indicates a high degree of trust.

2) **Market transaction:** We distinguish all transaction into two categories – market and non-market transaction. Market transaction includes auction, tender calls and spot market sales, while all other forms come under non-market transaction. We have tried to represent it by looking at the mode of transaction in both the upstream and the downstream markets. If transaction occurs via the market, that is, through auction, tender calls or through the spot market, it gets the score of 1 (both for transaction with suppliers or marketing agents). We compute the scores separately for both input suppliers and marketing agents and then add them and divide by 2. The maximum value that this variable can have is 1, indicating that the particular firm carries out all its main transactions in both the input market and the production stages through market transactions.
3) **Government marketing support:** Government support for marketing could be one of the crucial factors in determining the efficiency of firms. For the jute industry, a practice like that of the 'mandatory packaging order' exists to provide marketing assurance to firms. This is likely to affect the firm's organisation.
4) **Corruption:** We questioned the firms' owners about the level of corruption that they face in carrying out their business. The level of corruption is reported by the firm on a scale of 0 to 5, where a higher value represents a higher level of corruption.
5) **Political influence:** One of the major differences between the two states is the nature of the middleman involvement. In Gujarat, the middlemen are generally people with criminal connections, but in West Bengal, they are mostly political leaders. In order to capture this aspect, we will employ a state dummy, which will take the value 1 for West Bengal and 0 for Gujarat.
6) **Enforcement of labour laws:** A higher level of governance will make firms reduce their operational size. We have captured this via the sum of the number of inspector visits for various purposes. Although doubts remain about the purpose of the visits, we will assume that their purpose is to inspect a firm's compliance with labour laws. Therefore, we expect a negative relation between the number of inspector visits and the degree of integration.
7) **Trade union membership:** One of the states surveyed has a strong trade union presence, and in the other, this particular institution plays a minimal role. We therefore tried to ascertain if this factor has any role to play in determining the size of firms. For this, we took the trade union density. The density is the number of workers registered to trade unions to the total workers in a firm.
8) **Export share:** Firms were asked to report the percentage of products that they exported abroad.

9) **Size of capital:** This variable captures the total value of installed plant and machinery. It is measured in two ways: capital labour ratio and relative share of capital (normalised).
10) **Location Index:** This is the sum of the distance of the plant from the nearest highway weighted by the quality of roads (accorded by the firm), the nearest railways weighted by the quality of railways (again accorded by the firm), distance from the nearest post office, distance from the nearest port, and distance from the nearest town.

6.2 RESULTS AND DISCUSSION

We ran simple OLS robust regression to identify the significant variables. We observed that a firm engaged in a long-term contract is likely to be fragmented because it wishes to establish trust with the contracting party. To reduce transaction costs, the two contracting parties may opt for long-term contracts based on mutual trust, and, therefore, non-market transactions might support fragmentation. Alternatively, fragmentation is also propelled by the positive relationship between market transaction and the degree of integration. In other words, the fragmented units rely more on non-market transaction based on their long-term relationship and trust to overcome transaction costs. A government support practice, like that of the 'mandatory packaging order' that exists for the jute industry, removes all the incentive for firms to pursue integration because it protects their competitiveness. Enforcement of labour laws has a positive impact on the size of in-house production. The trade union density and the proximity of markets, measured by the location index, do not explain the integration of the firm significantly. It is clear that political pressure and corruption have a negative impact on the firm. One can argue that in a heavily politicised or corrupt environment, it is expected that these two factors increase at a rate commensurate with the size of the firm, and, hence, in an attempt to eliminate these negativities, fragmentation increases. The export share and size of capital are in effect control variables for the effect of competition and technical characteristics on firm size.

Now, we wish to address the effect of fragmentation on casualisation. The share of casual labourers among total workers has been computed as the fraction of casual workers in the total workforce. Hence, the total number of casual workers is the sum of contract workers hired directly by the firm and contract workers hired by the labour contractor. It is expected that a fragmented firm will opt for flexible employment. Although there appears to be a negative relationship between fragmentation and casualisation, it is not statistically significant.

Table 9a: Determinants of fragmentation of the labour process (1st stage OLS)

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Trust	-0.011*** (-4.05)		-0.011*** (-4.14)		-0.009*** (-3.44)	-0.0102*** (-2.76)		
Market transaction		0.11* (1.79)		0.127** (2.01)			0.101* (1.67)	0.123** (1.98)
Government marketing support	0.002*** (5.61)	0.002*** (5.54)	0.002*** (5.38)	0.002*** (5.25)	0.0027*** (6.38)	0.0024*** (6.55)	0.002*** (6.49)	0.003*** (6.19)
Trade union membership			0.0311 (0.94)	0.045 (1.42)	0.029 (0.93)	0.03501 (1.10)	0.045 (1.33)	0.043 (1.32)
Export share	0.002*** (4.47)	0.001*** (3.33)	0.0022*** (4.30)	0.0017** (3.02)	0.0018*** (3.89)	0.00203*** (3.38)	0.00157** (2.12)	0.0013*** (2.37)
Enforcement of contract laws	0.001*** (3.02)	0.001*** (3.42)	0.0012*** (3.09)	0.0012*** (3.60)				
Political influence					-0.0427*** (-2.83)			-0.041*** (-2.84)
Corruption						-0.0454*	-0.042**	

						** (-3.96)	* (-3.72)	
Capital labour ratio	-0.009** (-2.20)	-0.011*** (-3.10)	-0.011** (-2.11)	-0.0142*** (2.91)				
Capital stock					0.166*** (2.92)	0.144* (1.78)	0.1572* (1.88)	0.172*** (2.96)
Location index	-0.132 (-1.40)	-0.145* (-1.62)	-0.131 (-1.39)	-0.145* (-1.63)	-0.127 (-1.55)	-0.089 (-1.16)	-0.1037 (-1.45)	-0.138* (-1.80)
Constant	0.78*** (23.60)	0.699*** (13.19)	0.7735*** (21.98)	0.678*** (12.77)	0.7934*** (21.65)	0.806*** (21.64)	0.728*** (13.14)	0.702*** (12.88)
Observations	95	95	95	95	99	99	99	99
R^2	0.2383	0.2591	0.2428	0.2686	0.2917	0.3355	0.3495	0.3166
Model	Robust	Robust	Robust	robust	Robust	robust	Robust	Robust

Figures in parenthesis represent t-statistics.

*, ** and *** represent significance at the 10%, 5% and 1% level respectively.

Table 9b: Regression of fragmentation on casualisation (2nd stage)

Fitted values from model	-0.139 (-0.53)	-0.082 (-0.32)	-0.256 (-0.98)	-0.231 (-0.93)	-0.4397** (-1.99)	-0.3384* (-1.63)	-0.3068 (-1.50)	-0.3836* (-1.80)
Number of observations	94	94	94	94	98	98	98	98
R^2	0.0030	0.0011	0.0103	0.0093	0.0395	0.0269	0.0230	0.0325
Model	Robust	Robust	Robust	robust	Robust	robust	Robust	Robust

Figures in parenthesis represent t-statistics.

*, ** and *** represent significance at the 10%, 5% and 1% level respectively.

7 ISSUES OF INDUSTRIALISATION AND PRO-POOR GROWTH

The above analysis reveals that because of the competition coupled with political pressure and corruption, the firm tends to fragment their production. Since outside transactions entail costs, intermediate agents come into play for transactions where non-market transaction-based mutual trust is visible in order to cut down the transaction cost and the cost of the information gap. Even within firms, there is a tendency to hire more contract labourers. In both states, labourers are supplied by the contractor, and since contract labour laws license only a small number of contractors and grant them freedom to operate, firms rely more on them for recruitment and governance of labour. In effect, intermediation is captured by the politically influenced group in the politically active state and the fee-seeking group in the less politically active state.

The term 'contract labour' is applied to labour that is employed through a contractor and does not necessarily have a direct employment relationship with the end employer. Rather, it is the contractors and contract labourers who have a contractual relationship. By contrast, migrant labourers are those who are forced to migrate from rural to urban areas or from agriculture to industry in expectation of higher wages. In principle, these two types of labour are different, but since the migrant labourers are often employed on

contract, they were treated as contracted labour for the purposes of this study. The government passed the Contract Labour (Regulation and Abolition) Act in 1970 in order to protect contract labourers in the manufacturing sector. Contract workers are those hired through contractors and are outside the purview of the IDA. Under section 10 of this Act, the state can prohibit the use of contract labourers in any production activities in a factory. The relevant authority takes into account the nature of the work and comparative practice when deciding whether to prohibit the use of contract labour. Central and state governments have issued periodic notifications prohibiting the use of contract labourers in specific processes and activities. They can be employed in non-core activities like cleaning and maintenance, packing, welding, painting and warehouse activities.

Moreover, the Act seeks to promote the health and welfare of contract labourers. Canteens, rest rooms, drinking water, toilets, washing facilities and first aid facilities have to be provided for them. The contractor should pay wages to the workers on time. The rights of contract workers are covered in the **Minimum Wages Act**, **Employee Provident Fund Act** and **Employees' State Insurance Act**. Employers cannot claim that a bonus or gratuity constitute 'wages' under the Act as it does not consider a bonus or a gratuity to be a part of wages. So, although the use of contract labour involves flexibility, the law also provides some benefits and rights to those workers. As per this regulation, industrial officers should make regular visits to the plants/manufacturing units in the organised sector to enforce the law, but this enforcement mechanism is not clear.

Central authorities are reported to receive complaints from contract workers and trade unions that contract workers are performing the same or similar work performed by workers employed directly by the principal employer. There is much truth in the complaints received by the Ministry of Labour, and this was validated by our survey. Some of our survey observations vividly depict the extent to which contract workers are exploited. The most striking feature is that most contract workers cannot be a part of the trade union, so the trade union cannot officially fight for their interests. The benefits prescribed by law for contract labourers are routinely ignored. All the permanent workers receive social security benefits from the firms in our study, such as provident funds, medical insurance and employee's insurance. In contrast, only 11.8% of contract labourers hired directly by firms in Gujarat and 13.0% of those hired in West Bengal are reported to receive at least one of these benefits. Interestingly, none of the contract labour supplied by the contractor receives these benefits in Gujarat, but 57.1% of these labourers receive social security benefits in West Bengal.

Table 10: Workers' benefits

Type of Workers	*Percentage of workers in Gujarat*			*Percentage of workers in West Bengal*		
	Receiving social security benefits	*Union members*	*Not union members even when it exists*	*Receiving social security benefits*	*Union members*	*Not union members even when it exists*
Permanent	100.0	39.1	0.0	100.0	34.8	56.5
Contract workers hired by the firm	11.8	0	17.6	13.0	24.1	53.7
Contract workers supplied by the contractors	0.0	0	17.1	57.1	35.7	50.0

Source: Field survey

The share of permanent workers having union membership is 39.1% in Gujarat and 34.8% in West Bengal. It is also important to note that none of the contract workers in Gujarat is a member of a trade union, but in West Bengal, 24.1% of contract workers hired by the firm and 37.1% hired by contractors are members of a union.

Apart from the trade union membership figures, the above table throws light on another aspect of labour employment, that is, provision of social security benefits, which covers items like E.S.I., Provident Funds, etc. The table shows that the law stipulating that firm owners/contractors are to pay these benefits to contract workers is routinely ignored in Gujarat and that these laws are not entirely obeyed in West Bengal either. However, although the manufacturing units in Gujarat religiously deny social security benefits to their workers, they always pay them the minimum wage (the state-specific figure was Rs 100 for skilled workers in 2006-07). In this respect, West Bengal suffers considerably by comparison. The minimum wage criteria are frequently violated in the West Bengal manufacturing units (Rs 75 being the minimum wage for semi-skilled workers in 2006-07, state specific). Indeed, there are some spinning units in West Bengal paying workers less than Rs. 75/- per day (see Table 11 and Table 12). The issue of wage increment does not have much relevance because revision of wages in both states is rarely undertaken.

Table 11 highlights the wage ranges and their corresponding frequency for both states. But this simple comparison does not adequately reflect the difference in the standards of living between the states. So, by taking account of the relative price levels in each state

(consumer price index for the month of December 2008), we expressed the wages in Gujarat in terms of wages in West Bengal. However, the revised figures do not significantly differ from the original wage range observations. Table 12 reports the revised figures for 'real' wages.

Table 11: Wage range for West Bengal and Gujarat

Wages per day (in Rs.)	Proportion of workers receiving wages (including permanent workers)		Proportion of workers receiving wages (not including permanent workers)	
	Gujarat	West Bengal	Gujarat	West Bengal
Below 75	0	0.074	0.00	0.12
75- 100	0.02	0.14	0.02	0.19
100-150	0.21	0.23	0.31	0.29
150-250	0.52	0.32	0.60	0.34
250-350	0.14	0.14	0.07	0.03
Above 350	0.11	0.091	0.00	0.04

Source: Field survey

Table 12: Real wages for Gujarat and West Bengal

Real Wages per day (in Rs.)	Proportion of workers receiving wages (including permanent workers)		Proportion of workers receiving wages (not including permanent workers)	
	Gujarat	West Bengal	Gujarat	West Bengal
Below 75	0	0.074	0.00	0.12
75- 100	0.02	0.14	0.02	0.19
100-150	0.26	0.23	0.40	0.29
150-250	0.47	0.32	0.51	0.34
250-350	0.15	0.14	0.07	0.03
Above 350	0.10	0.091	0.00	0.04

Source: Field survey

In both states, there two kinds of contract workers: those who are hired directly by a firm's management and those who are hired through labour contractors. Therefore, the form of intermediation suggests that labour, particularly contract labour, is benefiting from the industrialisation process. Moreover, in a politically less active state, it is reported that contractors receive incentives for each worker that they supply. As a result, firms rely on them for labour, labour utilises their services for work and contractors enjoy a power over the negotiation with both sides. From this perspective, the contracting system seems to operate quite smoothly. On the other hand, these contractors are largely trade union and politically influenced persons in West Bengal. The direct commission that they receive from a firm undermines their credibility and explains why they apply pressure on the firm to undertake direct recruitment even for contract labour. This has a depressing effect on the industrialisation process, and informality is thus also prevalent in the process of labour recruitment.

Recommendation by friends/relatives is a major source of labour recruitment in Gujarat, whereas recommendation by a trade union leader or the dominant political party in the vicinity is the major instrument for recruitment in West Bengal. The role of trade unions and political parties in the recruitment process has been negligible in Gujarat.

Table 13: Labour recruitment

Mode of recruitment	*Gujarat (%)*	*West Bengal (%)*
Campus interview	0	2.4
Advertisement	12.7	1.2
Recommendation by friends/relatives/peer groups	68.4	4.9
Recommendation by union/political leaders	0	52.4
Through middlemen	17.7	2.2
Others	1.3	17.1

Source: Field Survey

8 CONCLUDING REMARKS

Growth has led economists and policy analysts to explore whether it has contributed to a reduction in poverty across states. It is argued that the process of economic liberalisation that was initiated in the early 1990s played an instrumental role in this regard, but it is not clear in the existing literature which reform factors contributed or to what extent. However, it is evident that some states took advantage of economic liberalisation to a greater extent and showed higher rates of growth than others. The forms and functioning of institutions are influenced by social, political and cultural factors

and must produce differential results in regional development. Therefore, we considered two states, West Bengal and Gujarat, for a field survey in order to examine the anatomy of the industrialisation process. The states are different in terms of investment climate and political activism. We took three common industries and one state-specific industry from each for micro survey. The common industries were cement, iron & steel, and cotton textiles, and the state-specific industries were jute in West Bengal and man-made fabric in Gujarat.

We found that in both states the rise of competitiveness as well as the prevalence of a large unorganised sector has led to firms tending to squeeze in-house production and largely use non-market informal institutions (for example, social groups, political and other peer groups) for transaction, which are based on mutual trust and long-term relations. Such institutions not only reduce transaction costs but also ensure marketing networks. In these transactions, there is a strong influence of political and trade union contracting in Bengal, whereas ethnic relation and an invisible peer group of middlemen play a similar role in Gujarat. Both of these agents have the incentive to earn agency fees. This is also true for hiring labour.

The Annual Survey of Industries, the official record of industrial statistics for the formal sector, accounts that the share of contract labour in organised manufacturing varies from 15% to 26% across Indian states. But we observed that contract labour accounts for 70 to 75% of the total workforce in the sample states and that barely one percent of contract labourers are recruited via a formal procedure. Most of them are controlled and recruited by a firm's relatively experienced workers in Gujarat and by trade unions in West Bengal through their peer group linkages. In both cases, the intermediaries earn fees from both sides. This equilibrium is relatively stable because both parties have interests. For West Bengal, workers join trade unions in order to ensure the probability of retaining their job for a longer period and to protect their own interests. The picture is somewhat different in Gujarat. Labour contractors play the same role in Gujarat as the trade unions in West Bengal, with the only difference being that they do not have political affiliations. They charge a specified fee for each worker that they supply to a firm. Workers have just one incentive: the availability of a job. It emerged in the survey that a large proportion of the workforce in Gujarat is composed of migrant workers from the states of West Bengal and Bihar, and they are generally recruited through personal contacts such as friends and relatives. Their incentive is that they can find employment in Gujarat, and however low their wages, they can send some money home to their families. The employment opportunities in both the states from which the workers migrate are meagre, which acts as a major contributing factor to migration. A general question that may arise from these findings is that if the labour contractors do not have

political affiliation, what gives them bargaining power? The answer to this query is simple: in Gujarat, the scope for alternative employment is huge. Withdrawal of workers from a firm poses more of a danger to the firm than to the contractor because securing another job contract with the firm is not that difficult. Here emerges another crucial difference between the two states. In the case of workers in West Bengal, losing a job is more problematic as the scope for alternative employment is almost negligible. This fact reinforces the importance of trade unions to workers in West Bengal. However, the benefits for contract workers are largely ignored. In Gujarat, contractors receive incentives for labour supply, and both firms and labour come to them for their requirements. The incentive for contractors in West Bengal is that the resolution of issues via public forums undermines their political credibility, and they therefore press for direct recruitment. However, since direct recruitment is considered undesirable by the corporate sector on account of cost, the combination of these two factors has a depressing effect on industrialisation.

Therefore, this is the time to consider policies for 'pro-poor growth' and 'inclusive growth' before the situation becomes irretrievable. There is no doubt about the fact that flexibility helps industrialisation, and the market will automatically set the level of return to labour. Given the size of unemployment, it is very difficult to enforce the minimum wage for contract workers, and market conditions could conceivably drive wages below the level of the minimum wage. At present, the corporate sector takes advantage of the gaps in labour regulation in India. For the corporate sector to be really competitive and if they do not implement a wholesale permanent contracts policy, then they should at least enforce a minimum wage, set at the basic nutrition level to sustain physical capability. This must come under social corporate responsibility. The state, therefore, must ensure that there is an ongoing commitment to ensure that minimum wage stipulations are met, especially since trade unions have been relatively ineffective in attaining minimum wage guarantees for workers due to their lack of solidarity with those whom they are supposed to represent. This not only has welfare implications for contract labourers but also has a direct impact on productivity gain. Higher wages motivate the worker effectively (Shapiro-Stigliz hypothesis) and enhance labourers' physical capability, resulting in a productivity gain (Banerji-Gupta hypotheses). In other words, a minimum wage does not burden the firm but rather provides a productivity gain. Moreover, enforcing the minimum wage in the formal sector may lead to subcontracting to the informal sector at a lower wage, and this has a redistributive impact on the informal sector. Now, if the state were to begin a short-term special enforcement drive, then workers would automatically follow and earn the bargaining power to negotiate wage equilibrium in the market. That is why the state should facilitate the market to work effectively. If contract law is enforced, subcontracting in the informal sector may rise, resulting in a rise in demand for informal workers.

Contractors certainly help to bridge the gap between employer and workers but also take advantage of it by drawing exorbitant fees from the weaker side (i.e., workers). It is not always true that firms pay less than the minimum wage to workers. Rather, it is the contractors who pay less than the minimum, and this is the dark side of the coin. They are able to continue to do so because they give bribes to industrial law enforcement officers. Effective change requires improvement of accountability and transparency between the employer and contractor, and the contractor and workers. Interestingly, quite often these contractors are leaders of trade unions or politically influenced persons, and they favour locally influential people who have a strong hold over the administration and business associations. By taking the contract licence, one trade union leader/politically influenced person not only earns an exorbitant fee, thereby depriving the workers of their rights to a minimum wage and benefits, but also ensures their political supremacy over the larger section of the working population. In effect, trade union leaders have ceased to represent workers and have instead become their masters

The idea behind the existing contract labour laws was to protect the minimum interests of workers. Surprisingly, the enforcement mechanism of the law is not clear. The following aspects need to be looked at carefully for consideration as policy options:

- The rules governing contract workers' employment in core activities should be reconsidered. It should no longer be problematic for contract labourers to be hired to perform production activities. The competitiveness between contract workers and permanent workers will improve the skill formation of the workforce.
- The rigid procedure by which contractors are granted licences to provide workers for firms should be withdrawn. This fuels corruption because the relatively few licence holders for the supply of contract labour either have a close relationship with trade union representatives or are trade union leaders themselves. This undermines a trade union's impartiality and efficacy in pursuing workers' rights protection. Furthermore, contract labour transactions should have improved accountability and be more transparent.
- Promotion of direct contracts by the political centre could assist in bypassing corruption and the excessive fees of intermediate agencies.
- Contract labour regulation should be enforced effectively. Since the most recent budget speech by the Finance Minister also mentions quality of governance and the rule of law, the quality of governance and its transparency could be improved by creating a vigilant association at the state level, involving representation from both the labour department, citizens and perhaps from the workers' community (like other beneficiary committees exist in other sectors) so that functioning could

be effective. This committee should not only look after enforcement of the minimum wage in the organised sector but also control informal transactions from the organised sector to informal producers.

- Given the upsurge of the insurance sector, the firm can also provide minimum ESI to the workers even in the short run, in turn becoming tied to the insurance agencies.
- In recent times, it is seen that firms subcontract a part of their work to the informal sector to reduce production costs. This is simply illegal and bypasses existing taxes.
- Trade union and political activists should not engage in intermediation because it undermines their political credibility and the public's perception of their commitment to workers' welfare. Rather, they should be more active in demanding that the minimum benefits stipulated by law are met.
- The Annual Survey of Industries, the official record of the formal sector database, should report the figures on labour characteristics by type.

REFERENCES

Acemoglu, D., Aghion, P. Griffith, R. and Zillibotti, F. (2005). 'Vertical Integration and Technology: Theory and Evidence', *IFS Working Paper No. W04/34,* Institute of Fiscal Studies

Andrabati, T., Ghatak, M. and Khajwa, A.I. (2006). 'Subcontractors for Tractors: Theory and Evidence of Flexible Specialization, Supplier Selection and Contracting', *Journal of Development Economics*, 79, pp. 271-302

Banerjee, A. and Dulfo, E. (2000), "Reputation Effects and Limits of Contracting: A Study of the Indian Software Industry", *Quarterly Journal of Economics*, 113 (3), 989-1017

Bertola, G. and Rogerson, R. (1997), "Institution and Labour Reallocation", *European Economic Review,* 41, 1147-71

Besley, T. and Burgess, R. (2004), "Can Labor Regulation Hinder Economic Performance? Evidence from India" *Quarterly Journal of Economics*, 19(1), 91-134

Bresnahan T., Brynjolfsson, E. and Hitt, L. (1999), 'Information Technology, Workplace Organization and the Demand for Skilled Labor: Firm-Level Evidence', *NBER Working Papers no. 7136*, NBER

Coase, R. (1937), The Nature of Firm, *Economica*, vol. 4, no. 1, 386–405

Feenstra, R. (1998). 'Integration of Trade and Disintegration of Production', *Journal of Economic Perspective*, 12, pp. 31-50.

Feenstra, R. and Hanson, G. (1999), 'The Impact of Outsourcing and High-Technology Capital on Wages: Estimates for the US, 1979-1990 Globalization, Outsourcing and Wage Inequality', *Quarterly Journal of Economics*, 114, pp. 907-940.

Maiti, D. (2008) 'Organisational Morphology of Rural Industries and it Dynamics in Liberalized India: The Case of West Bengal'. *Cambridge Journal of Economics,* 32 (4), 571-92

Marjit, S. and Maiti, D. (2006), Globalisation, Economic Reform and Informal Labor, in B. Khasnobis and R. Kanbur, eds, Informal Labor Markets and Development. (MacMillan-Palgrave, Helsinki)

Mookherjee, D. and Tsumagari, M. (2004), 'The Organisation of Supplier Networks: Effects of Delegation and Intermediation', *Econometrica*, 72 (4), 1179-219

Williamson, O. (1985), The Economic Institutions of Capitalism, New-York, Free Press