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Article

Diversity of Incentive Structures in Indian Manufacturing Firms

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Under the pressure of liberalization, over the past few decades Indian firms have sought to forge appropriate incentive structures to effectively elicit work effort. However, existing incentive structures considerably vary across firms. Using data collected from 1454 blue-collar production employees from five Indian manufacturing firms, this article examines three factors that control diversity: ownership structure (public vs. private), union movement, and a feature of dominant tasks in manufacturing sections. Our results indicate that considering their specific task features, private firms have tailored an appropriate mix of incentive devices. In contrast, a public firm and a firm with an antagonistic labor union failed to forge appropriate incentive structures. These different firm behaviors address the diversity of incentive structures.

Keywords: work effort; incentive structures; simple task; discretionary task; India

Introduction

India's economic liberalization was initiated by a structural adjustment program in 1991. This triggered a paradigm shift in the country's industry from a state-regulated economy toward a market-oriented direction. Firms in developing countries are often described to be mismanaged in human resource management (HRM), which adversely influences their

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productivity (Bloom, Mahajan, McKenzie, and Roberts 2010). Increasing the product market competition in transition economies is expected to improve HRM practices. Som (2007) and Singh (2013) claim that the adoption of strategic HRM practices under the pressure of liberalization is positively related to firm performance in India. Bloom, Eifert, Mahajan, McKenzie, and Robert (2013) reveal that the introduction of modern management practices to large Indian textile plants significantly increases productivity and profitability.

Though Indian firms have sought to forge appropriate HRM practices in order to effectively elicit work effort in response to a fast-changing business milieu (Budhwar 2003), existing practices across firms do not converge to a unique set (Bloom et al. 2013). HRM practices are inextricably associated with incentive structures that offer a fundamental drive of work effort. Without proper structures, HRM practices cannot achieve their potential. In addition, HRM practices vary across firms that manufacture different products, thus requiring different incentive structures. Hence, the diversity of HRM practices can be examined from the perspective of incentive structures.

The notion 'incentives are the essence of economics' (Prendergast 1999) is often applied to the internal incentive structures of factory organizations. However, economics narrowly interprets incentives as pecuniary compensation that is linked to work effort under the conventional assumption that self-interested employees motivate themselves by responding rationally to incentives. However, there is growing realization that the mainstream economic model of performance-contingent pecuniary incentives does not fully account for actual employee behaviors in organizational settings (Baker et al. 1988).

In addition to pecuniary compensation, Tilly and Tilly (1998) include commitment and coercion as key incentive devices. Commitment is an employee's psychological affinity toward his/her organization. As coercion in an organization is primarily exercised by means of supervision, we call it as monitoring. Compensation, commitment, and monitoring are deeply embedded in each aspect of work, thus creating diversity of incentive structures across firms.

This article aims to explore why diversity of incentive structures exists across Indian firms. For this purpose, we consider three factors that influence the mix of incentive devices: ownership structure (public vs. private), labor union movement supported by the pro-employee stance of industrial laws, and a feature of dominant tasks. The first two factors often impede the forging and functioning of incentive structures, whereas the third factor predicts the diversified incentive structures because the nature of task differs across firms.

In this article, variables were measured as employee subjective perceptions (organizational attitudes and behavioral intention) and not as objectively gauged indicators. This is because objectively assessing work effort of employees and the extent of their motivation due to incentives is very difficult. If it were possible, most problems associated with HRM will not occur. The data used were collected from 1454 blue-collar production employees from five large-scale manufacturing firms in India.

Framework and hypotheses

Institutional factors

We consider two institutional factors that are regarded as the most frequent hindrances in constructing effective incentive structures: ownership structures and antagonistic labor unions.

First, the dichotomy of public versus private ownership has been claimed as critical for the diversity in management practices. Relevant literature widely supports the fact that private firms achieve superior outcomes than their public counterparts (Bordia and Blau 1998; Buelens and Broeck 2007; Gkorezis and Petridou 2012; Ng and Wei 2012). The same line of research in India obtained a similar conclusion (Gupta 2008). However, few empirical studies have so far been conducted on the adverse effects of the malfunctioning of incentive structures in public firms on employee performance.

Second, the presence of a strong labor union movement in India, endorsed by the pro-employee stance of industrial laws, is often blamed to be the culprit for poor HRM practices (Rao 2007). For example, Indian labor unions inescapably tend to protect members' job security

beyond necessity, leading to labor inflexibility and hence poor manufacturing growth.[1] According to *Doing Business in 2005* (World Bank 2005), India scores as high as 90 in the difficulty of firing index (0–100), whereas it is 40 in China and the Philippines, 20 in Thailand, and 10 in Malaysia; 38 is the world average. In addition, as labor union often rejects pay-for-performance compensation, which threatens the members' solidarity, it does not ease the introduction of effective incentive structures.

The pro-employee stance of Indian industrial laws has been gradually relaxed after the advent of economic liberalization in the early 1980s. The structural adjustment program in 1991 accelerated the change.[2] Besley and Burgess (2004) reveal that Indian states that amended the Industrial Disputes Act in a pro-employee direction experienced lower growth in their formal manufacturing sectors than those that amended the act in a pro-organization direction. The amendment of industrial laws in a pro-organization direction after liberalization weakened the excessive presence of labor unions for late entrants. Accordingly, in comparison to public firms and firms with a strong union movement (conventional firms), newly established firms (new generation firms) are relatively less restricted by regulatory burdens. Based on the above discussion, we assume that

> *H1*: Conventional firms fail to construct an appropriate mix of incentive devices due to regulatory constraints, whereas new generation firms that are less restricted by such constraints can forge an appropriate mix of incentive devices.

A comparison of domestic and foreign firms may be another field of interest with respect to management diversity (Amba-Rao, Petrick,

1) Since India's independence in 1947, numerous laws have been introduced to protect employees in the formal sector. For example, the Industrial Disputes Act requires companies with more than 100 employees to seek government approval before dismissing employees. In practice, such approvals are seldom given.

2) Although India liberalized its economy in 1981, when India applied for an IMF loan to cope with its external payment crisis, the liberalization was limited to a certain extent. This led to the full-fledged liberalization in 1991.

Gupta, and Von der Embse 2000; Budhwar and Khatri 2001). Compared with Indian firms, foreign firms in India are often believed to have better-skilled human resources and be more efficient and effective in HRM practices. However, note that foreign firms in India mostly belong to the new generation group, while majority of the domestic firms belong to the conventional group.[3] Partly for this reason, Budhwar and Boyne (2004) reveal somewhat unexpectedly that many similarities exist in HRM practices between Indian public and private firms. As the year of a firm's establishment causes omitted variable bias, meticulous attention is needed when comparing conventional firms with their foreign counterparts.

Task factor

For discussion, we distinguish a discretionary task from a simple task. Some tasks can be categorized as plain, routine, and repetitive operations to the point where unforeseen contingencies are negligible (simple task). Consequently, employees only need to follow standardized procedures to complete their task, with little expected need arising for them to exercise discretion. On the other hand, specifying the entire range of possible contingencies is often impractical for other tasks. Employees thus need to cope with unforeseen contingencies to prevent product failure by selecting a solution approach based on their own judgment (discretionary task).

In principle, a perfectly fashioned complete contract solves motivation problems in a workplace. In economics, 'motivation problems arise only because some plans cannot be described in a complete, enforceable contract under asymmetrical information' (Milgrom and Roberts 1992). For a simple task, monitoring and assessing work effort are not expensive. Thus, monitoring and pay-for-performance compensation serve as incentive devices. Simple tasks constitute a realm in the workplace where the view of mainstream economics prevails.

3) The Foreign Exchange Regulation Act (1973) of India discouraged foreign direct investment in India because the Act imposed stringent clauses that deterred foreign investment. After its enactment, some foreign companies left India.

For a discretionary task, directing necessary assignments in complete detail and monitoring work effort involve high transaction costs. This makes monitoring and pay-for-performance compensation cease to function properly in eliciting work effort (Frey 1993; Osterman 1994a; Ohno 2012). Thus, motivation problems are more prone to emerge for discretionary tasks than for simple tasks. As Milgrom and Roberts (1992) claim, 'important features of many organizations can be best understood in terms of deliberate attempts to change preferences of individual participants' in ways that align employees' interests with the firm's goals through influencing activities. Accordingly, commitment becomes an effective device to elicit work effort for discretionary tasks.

Discretionary tasks include the added requirement that workers must engage in more spontaneous decision-making to complete their tasks without either being monitored or paid-for-performance. Commitment serves as an effective device to elicit work effort for discretionary tasks. Thus, we assume that

> *H2*: Firms where simple tasks are dominant emphasize compensation and monitoring as major incentive devices, whereas those where discretionary tasks are dominant motivate employees by enhancing commitment and reducing the weight of compensation and monitoring.

Finally, we determine labor management policies that shape employee commitment. Several studies have revealed that the social context of a workplace influences employee behaviors (Erdogan and Liden 2002). Industrial relations climate such as employees' assessment of management can serve as the basis for effective implementation of incentive systems (Ferris et al. 1998; Ferris, Hochwater, Buckley, Harrell-Cook, and Frink 1999; Gahan and Buttigieg 2008). We consider employees' relationships with management and coworkers as antecedents of commitment.

The gift exchange hypothesis by Akerlof (1982) sheds light on how industrial relations climate influences work effort. The fact that permanent employees are in long-term employment relationships with the

organization offers a substantial reason to view such a relationship as a gift exchange rather than an economic exchange (Coyle-Shapiro and Conway 2004; Baron and Kreps 2013). Akerlof claims that organizations can elicit spontaneous work effort by offering wage premiums that evoke a sense of reciprocity. Akerlof's model connotes that a certain type of work effort can neither be stipulated in a labor contract nor monitored effectively, as the model would lose its raison d'être under perfect information and negligible monitoring costs. Therefore, compared with simple tasks, this model acquires more significance for discretionary tasks.

Akerlof's model, however, narrowly interprets compensation primarily as pecuniary rewards following a conventional presumption of economics. Practically, compensation in employment relationships encompasses a wide array of rewards including performance evaluation, respect, approval, and care from the organization. Eisenberger, Huntington, Hutchinson, and Sowa (1986) conceptualize non-pecuniary intangible rewards comprehensively as perceived organizational support (POS). POS refers to employees' general perception regarding the extent to which the organization values the contributions by employees and cares about their well-being. The POS model as a generalized Akerlof model argues that employees who perceive non-monetary rewards from their organization enhance their commitment to the organization and consequently feel obligated to reciprocate by performing pro-organizational behaviors (Settoon, Bennett, and Liden 1996; Maertz, Griffeth, Campbell, and Allen 2007).

As the magnitude of discretion over production methods varies across firms, firms need to construct distinct incentive structures, considering their task characteristic. On the basis of the aforementioned reasoning, we assume that

> *H3*: Firms where discretionary tasks are dominant enhance POS-based commitment to elicit work effort.

Data and variables

Data

The data used in this article were obtained from 1454 full-time blue-color employees by a structured interview method. The sample employees hold permanent positions at five large-scale manufacturing firms with more than 500 employees. As the production sections comprise few female employees, all respondents were restricted to males. The respondents were assured of confidentiality. The surveyed firms are located in the industrial zones of Haryana and U.P. adjoining Delhi. Tables 1 and 2 display the key characteristics of firms and sample employees, respectively. To ensure anonymity of the firms, minimum details were maintained.

Firm A is a public enterprise under the Ministry of Science and Technology. Firm B, a leading agro-machinery manufacturer in India, is known for its antagonistic labor union. The management of Firm B intends to shut down the plant after its current employees hit the retirement age. As the firm has stopped hiring long ago, the average worker age is as high as the late 40s. These firms are supposedly conventional firms that pursue strategic HRM practices under tight institutional constraints. They were selected to test *H1*.

Firm C, which was commissioned in 1987, is the largest manufacturer of auto-grade steel in India. Firms D and E are foreign-affiliated firms that produce incandescent bulbs and automobiles, respectively. Being private and established after the advent of liberalization policy, the latter three firms can be classified as new generation firms. The three new generation firms are selected on the basis of the criteria of employee discre-

Table 1　Surveyed firms

Firm	Foundation	Ownership	Main Product
A	1970s	Public	Solar cell
B	1940s	Private Domestic	Agro-machinery
C	1980s	Private Domestic	Steel sheet
D	1990s	Private Foreign	Incandescent bulb
E	1990s	Private Foreign	Automobile

Table 2 Descriptive statistics of sample employees

Firm	N	Age (years)	Tenure (years)	Average Monthly Salary (Rs)	Educational Attainments (%)					
					Junior High and below	Senior High	Vocational School	ITI	University	Total
A	304	34.7 (6.7)	9.1 (4.5)	25044.8 (3881.9)	0.0	0.0	0.0	100.0	0.0	100.0
B	300	48.4 (5.2)	24.0 (5.4)	22165.2 (2200.8)	20.7	26.4	5.4	37.1	10.4	100.0
C	251	33.1 (4.6)	6.4 (1.9)	9048.4 (2111.5)	25.0	31.0	5.0	38.0	1.0	100.0
D	299	31.1 (5.4)	7.5 (4.1)	11339.7 (2301.9)	1.3	10.3	3.3	80.3	4.8	100.0
E	300	35.5 (4.3)	9.8 (4.4)	23992.0 (3496.8)	0.0	1.2	25.9	72.9	0.0	100.0

Note: Standard deviations are in parentheses. ITI stands for Industrial Training Institute.

Table 3　Mincerian wage function

Firm	A	B	C	D	E
Constant	9.69***	9.95***	7.80***	9.15***	9.64***
	(270.84)	(305.24)	(53.88)	(126.19)	(74.55)
TENURE	0.03***	0.01	0.05***	0.01***	0.02***
	(21.49)	(1.48)	(7.60)	(5.14)	(5.75)
MARITAL	0.10***		0.01	0.04	0.07
	(5.11)	N.A.	(0.13)	(1.11)	(1.33)
ED		0.01	0.17**	–0.01	0.02
	N.A.	(0.63)	(7.21)	(0.62)	(1.20)
RANK	0.08**	0.02	0.29***	0.16***	0.09**
	(3.00)	(0.47)	(3.90)	(3.97)	(2.24)
Adj-R^2	0.72	0.01	0.39	0.16	0.16
F-value	254.84***	1.14	39.93***	15.65***	15.72***

Note: All estimates are ordinary least squares. Absolute value of t statistics are given in parentheses. The dependent variable is the log of the monthly salary.
All sample employees of Firm A are graduates of ITI, and those of Firm B are married.　*** $p < 1.0\%$, ** $p < 5\%$

tion over production methods to test *H2*. As will be confirmed, simple tasks are dominant in Firm C, whereas discretionary tasks are dominant in Firm E. Firm D lies between these two cases.

Firms A, B, and E fall under the high salary group, whereas Firms C and D constitute the low salary group. The former pay approximately twice of that paid by the latter. Note that the two conventional firms (A and B) fall in the high salary group.

Table 3 shows the Mincerian wage functions of the five firms. Firms A and B, which fall in the conventional group, are placed at different ends of the spectrum in that Firm A presents a highly fitting function ($R^2 = 0.69$), whereas Firm B shows no significant results ($R^2 = 0.01$). The provisions of Indian labor legislation (Payment of Wages Act, 1936; Minimum Wages Act, 1948) require compensation based on work experience rather than individual competence of employees. As a public enterprise, Firm A seems to determine wages on this basis. On the other hand, Firm B, which has an antagonistic union movement, must accept a

wage policy of uniform salary irrespective of the employees' competence. Uniform wage increment is determined by a collective bargaining agreement that is revised every three years.

Variables

The variables in our model were measured as employee subjective perceptions and not as objectively gauged indicators. Work effort [EFFORT] is a behavioral variable in our model, while attitudinal variables include employees' assessment of the three incentive devices [COMPENSATION, COMMITMENT, MONITORING] and employees' evaluation of a manager [MANAGEMENT] and coworkers [COWORKER] to capture the industrial relations climate. We adopt the assumption of behavioral science that attitudes lead to behaviors (Fishbein and Ajzen 1975). To make the concepts robust, we measured the variables using plural items with satisfactory internal consistency reliability (Cronbach's α). Employees were asked to rate the extent to which they agree with the statements on a 4-point Likert scale (1 = strongly disagree, 4 = strongly agree) to each item.

EFFORT: We developed a set of measures to assess the intention to extend work effort. Because behavior itself is difficult to measure, we captured it as behavioral intention. Three items measured effort: 'I try to work more than assigned in the workplace', 'I always think about productivity and efficiency in the workplace', and 'I regularly try to perform better than my coworkers'. The questionnaire responses were summarized to create an overall scale of EFFORT (Cronbach's $\alpha = 0.70$).

COMPENSATION: The perceived effectiveness of the compensation system [COMPENSATION] was measured with five items concerning effort–outcome instrumentalities in line with the standard assumption of economics: 'My salary reflects my contribution to the company', 'Promotion is impartially conducted', 'Working diligently promises higher wages', 'I am rewarded fairly considering my workload and responsibility', and 'There are ample opportunities for promotion'. The COMPENSATION scale was created by adding the responses to the above five items ($\alpha = 0.76$).

MONITORING: Monitoring is measured by two items: 'I feel that I am strictly monitored by my supervisor while working' and 'My company punishes employees when the company detects that they shirk' (α = 0.71).

COMMITMENT: Organizational commitment is widely advocated as one of the most important attitudinal variables that leads to several favorable organizational behaviors (Mathiew and Zajac 1990). We assess commitment with three items measuring employees' psychological affinity toward their organization: 'I am proud to tell others that I work for this company', 'I feel proud of my work', and 'I feel a strong sense of belonging to my company' (α = 0.70).[4)]

Industrial relations climate: This article considers two industrial relations climate variables regarding relationships with a manager [MANAGEMENT] and with coworkers [COWORKER]. Four items selected from the POS scale of Eisenberger et al. (1986) measured management: 'The manager is trustworthy' 'The manager is trying to improve working conditions', 'The manager cares about employees' well-being', and 'The manager treats employees fairly'. Responses were summed into a single scale of MANAGEMENT (α = 0.81). Thus, MANAGEMENT can be used synonymously for POS. COWORKER is considered as an additional component of industrial relations climate. COWORKER score is created using the following three items: 'Most of my coworkers in the workplace cooperate to get the job done', 'I have good cooperation from my coworkers in the workplace', and 'Coworkers respect each other' (α = 0.77).

Control variables

We controlled for years of experience at the firm [TENURE], educational attainments (primary school = 1, university = 6) [ED], marital status (single = 0, married = 1) [MARITAL], and job rank (rank and

4) Two of the three items concern pride, which has a high affinity for commitment, because perceived external prestige is substantially associated with organizational identification (Smidts, Pruyn, and Van Riel 2001; Fuller et al. 2006) and with organizational commitment (Herrbach and Mignonac 2004).

file = 0, supervisor = 1) [RANK]. Monthly salary [SALARY] is included to examine if the efficiency wage hypothesis holds in India. Prospects for alternative job opportunities (very easy to find = 1, very difficult to find = 4) [ALTERNATIVE] denotes the perceived cost of job loss.

We assume that a task feature influences an appropriate mix of incentive structures. The feature is captured by the required magnitude of employees' discretion over the production process [TASK]. The question is 'Which of the following describes your task appropriately?' A: My task needs to be performed under the strict instruction of supervisor. B: My task allows flexibility and lets me judge on my own account when working (1 = strict instruction, 4 = flexibility).

Results and discussion

Firm differences

Prior to performing regression analyses, we examine the difference between the firm-level mean scores of variables to clarify certain points of contention in exploring how particular incentive structures are forged under different identifiable firm characteristics. First, based on the Tukey HSD test (subset for $\alpha = 0.05$), the surveyed firms can be classified into three groups with respect to the task feature: Firms C (steel plate) and B (agro-machinery) as low discretionary groups, Firm D (bulb manufacturing) as the middle discretionary group, and Firms A (solar panel) and E (automobile) as high discretionary groups (Table 4).

Table 4 Task feature (%)

Firm	Strict Instruction	Somewhat Strict	Somewhat Flexibility	Flexibility	Total	Average Score	Tukey's Significance
C	3.2	67.7	28.7	0.4	100.0	2.26	
B	4.3	59.0	32.3	4.3	100.0	2.37	0.44
D	22.7	16.7	42.1	18.4	100.0	2.56	1.00
A	0.0	20.1	70.4	9.5	100.0	2.89	
E	3.0	25.0	46.0	26.0	100.0	2.95	0.89

Table 5　Tukey's HSD results for variables (z-score)

	EFFORT			COMPENSATION					MONITORING					COMMITMENT				
A	−0.36		B	−1.19					B	−0.61				D	−0.40			
C		0.01	D		−0.14				E	−0.59				A	−0.21	−0.21		
D		0.04	A			0.26			O		−0.05			C		−0.10		
B		0.12	E				0.47		A			0.31		E			0.24	
E		0.19	C					0.71	C				1.13	B				0.45
sig	1.00	0.16	sig	1.00	1.00	1.00	1.00	1.00	sig	1.00	1.00	1.00	1.00	sig	0.10	0.61	1.00	1.00

	MANAGEMENT			COWORKER				
B	−0.90			A	−0.58			
C		0.03		C		−0.09		
A		0.13		E		0.07	0.07	
D		0.19		D			0.20	0.20
E			0.55	B				0.39
Sig	1.00	0.15	1.00	Sig	1.00	0.26	0.43	0.10

A major task of Firm C is to load and unload steel plates. Firm B, a knockdown tractor manufacturer, is known for its antagonistic labor union. The union has resisted changes in workplace that are related to job shedding, such as the introduction of automatic machinery and multi-skilling planned by the firm in the liberalized environment. Thus, the task feature of firm B remains simple. On the other hand, Firm E is a typical case where employees' discretion is required to prevent product failure and to share resources in QC circles. Firm A needs subtle treatment of fragile components.

Table 5 presents the results of the Tukey HSD test for the discussed variables. For comparison, z-scores are used to confirm whether the scores of each firm are below or above the average. Firm A has the lowest EFFORT score among the five firms, while the means of other firms are not statistically different. In terms of COMPENSATION, the five firms have significantly different levels, with Firm B having the lowest score and Firm C having the highest score. Firm C pays the lowest salary, but its compensation system is highly perceived by the employees. On the contrary, the compensation system is least recognized in Firm B even though it is in the high salary group. Thus, high salary does not necessarily produce high COMPENSATION.

The conventional firms (A and B) show a different picture compared with their new generation counterparts (C, D, and E). In particular, Firms B and E are in sharp contrast even though they exhibit significantly high COMMITMENT scores. For Firm E, which is marked by discretionary tasks, commitment rather than compensation and monitoring serve as an incentive device as predicted by *H2*. Actually, it has a high COMMITMENT score, but a low MONITORING score.[5] On the other hand, for Firm B, which is marked by simple tasks, compensation and monitoring are expected to be effective incentive devices. However, both scores are the lowest for Firm B. In this sense, Firm B is an anomaly with respect to *H2*. As for industrial relations climate variables,

5) There exists a negative association between commitment and monitoring because strict monitoring is perceived as a manifestation of principal's distrust toward agents (Frey 1993).

MANAGEMENT score is the highest for Firm A and lowest for Firm B. Thus, *H3* is likely to hold for Firm E, but not for Firm B. Firm B seems to be an anomaly with respect to *H3* as well. This contrast needs to be explored.

The two conventional firms themselves exhibit a bizarre anomaly. Firm A employees are least motivated even though they perceive COMPENSATION to a certain degree. In contrast, though Firm B employees perceive COMPENSATION the least, they manifest high work effort. What explains this contrast?

EFFORT functions

Table 6 reports regression results (standardized coefficients) of EFFORT functions. Column 1 for the pooled data indicates that the three incentive devices have significantly positive coefficients, supporting the Tilly and Tilly hypothesis. A significantly positive coefficient of RANK indicates that promotion enhances work effort. The prospect for alternative job opportunities (perceived cost of job loss) has a significant positive association with work effort. Being employed in the formal sector itself is strongly viewed as a characteristic of Indian employees (Lambert 1963), especially blue-collar employees, as there is little likelihood of getting favorable alternative jobs in the formal sector where employees are highly protected by industrial laws. Thus, the poor prospect for alternative job opportunities deters shirking due to the fear of job loss.

The conventional and new generation groups (columns 2 and 3) show sharp contrast. The former has a significantly positive coefficient only with COMMITMENT, whereas the latter shows results similar to those of the pooled data for the three incentive devices.

Firm-level regression results are shown in columns 4–8 in Table 6. Public Firm A, with the lowest work effort score, shows no significant coefficients, indicating that functional incentive structures are not forged. Though Firm A has a highly fitting wage equation, the employees modestly perceive COMPENSATION. This implies that the wage function has a feature of seniority-based pay, which is still a very prevalent form

Table 6 Effort function (β coefficient)

	1	2	3	4	5	6	7	8
		Group		Firm				
	Pooled	Conv'al	New	A	B	C	D	E
TENURE	0.16***	–0.01	0.20***	–0.05	–0.06	0.17***	0.25	–0.05
	(2.97)	(0.16)	(4.99)	(0.43)	(1.05)	(2.65)	(4.25)	(0.69)
ED	0.01	0.06	–0.01	N.A.	0.06	–0.13**	0.05	0.04
	(0.41)	(1.31)	(0.03)		(1.05)	(2.36)	(0.83)	(0.77)
MARITAL	–0.01	0.04	–0.06+	0.01	N.A.	–0.01	–0.03	–0.15***
	(0.52)	(1.08)	(1.80)	0.22		(0.20)	(0.50)	(2.63)
SALARY	–0.25***	–0.14***	–0.27***	0.02	–0.20***	–0.20***	0.01	0.02
	(3.44)	(2.72)	(2.70)	0.21	(3.72)	(2.84)	(0.18)	(0.24)
RANK	0.24*	0.09**	0.04	–0.02	0.12**	0.01	–0.02	0.10*
	(1.87)	(2.22)	(1.21)	0.26	(2.08)	(0.05)	(0.34)	(1.78)
ALTERNATIVE	0.06**	–0.02	0.10**	0.06	–0.20***	0.05	0.12*	0.12**
	(2.32)	(0.43)	(2.66)	0.96	(3.72)	(1.11)	(1.65)	(2.15)
TASK	–0.06**	–0.10**	–0.05	–0.05	–0.09*	0.01	–0.14**	0.11*
	(2.42)	(2.29)	(1.37)	0.76	(1.71)	(0.12)	(2.57)	(1.92)
COMPENSATION	0.08**	–0.17***	0.21***	0.04	–0.13**	0.10*	0.25***	0.01
	(2.16)	(2.82)	(5.45)	0.69	(2.26)	(1.69)	(3.72)	(0.15)
MONITORING	0.09***	0.04	0.22***	0.00	0.03	0.37***	0.11*	0.04
	(2.84)	(0.77)	(4.55)	0.03	(0.54)	(5.81)	(1.84)	(0.74)
COMMITMENT	0.23***	0.31**	0.15***	0.08	0.32***	0.14**	–0.02	0.35***
	(8.46)	(7.34)	(4.17)	(1.27)	(5.74)	(2.42)	(0.26)	(6.37)
Adj-R^2	0.12	0.16	0.17	0.00	0.15	0.47	0.17	0.18
F-Value	15.58***	11.75***	13.95***	0.54	6.99***	23.51***	7.20***	7.62***

Note: *** p < 1.0%, ** p < 5.0%, * p < 10.0%

in the Indian public sector (Venkata Ratnam 1995), rather than performance-based pay. Seniority-based pay without a promotion tournament does not yield favorable outcomes as an incentive device. As frequently pointed out, state-owned businesses in developing countries face a much larger regulatory burden than their private counterparts, eventuating in maladministration with regard to HRM practices.

With regard to Firm B, whose task is simple, according to our hypothesis, compensation and monitoring should be more effective

incentive devices than commitment. However, the firm has a significant coefficient only for COMMITMENT. MONITORNG has an insignificant effect and COMPENSATION is negatively associated with work effort; actually, both are least perceived. A transition from seniority-based pay to performance-based pay in India (Bordia and Blau, 1998) is witnessed in the private sector (Venkata Ratnam 1995). However, Firm B seemingly does not follow the trend. Due to the antagonistic labor union, its management has not been allowed to effectively use the compensation system as a device to manipulate work effort. Accordingly, it can be said that Firm B failed to forge an appropriate mix of incentive devices. The above findings associated with Firms A and B support *H1*. A significantly positive coefficient for COMMITMENT at Firm B with respect to *H3* will be discussed later.

The new generation firms depict varying aspects of effective incentive devices. Firm C has a significantly positive coefficient for the three incentive devices, with MONITORING being the most prepotent. As simple tasks are dominant in Firm C, monitoring is expected to be the most effective device to elicit work effort. Actually, its employees highly perceive MONITORING (Table 5). On the other hand, at Firm E, whose dominant task is highly discretionary, performance-contingent compensation and monitoring lose their effectiveness as incentive devices. Its employees perceive MONITORING the least. Instead, COMMITMENT is found to be the most proponent incentive device to elicit work effort. These findings are in agreement with Osterman (1994b) and Ichniowski, Shaw, and Prennushi (1997), who claim that gains from strategic HRM practices or flexible work systems are significant in industries where commitment and discretion from employees are required. In Firm D, which lies midway on the simple–discretionary task spectrum, COMPENSATION serves as the most effective incentive device. These findings support *H2*.[6)]

6) Firm C has a significantly positive coefficient for COMMITMENT as well. As will be discussed with regard to Table 7, industrial relations climate variables are not associated with COMMITMENT. This indicates the factors for which we have limited information on influence commitment.

SALARY indicates a significantly negative impact on effort for Firms B and C. For others, the coefficients are insignificant. This refutes Akerlof's gift exchange hypothesis, which expects a positive coefficient, and suggests the possibility of a backward-bending supply curve of labor. To the degree that employment in the formal sector is highly guaranteed by pro-employee industrial laws, a high wage premium does not serve as a discipline device as predicted by the efficiency wage hypothesis.

Commitment and industrial relations climate

Finally, we discuss the influence of industrial relations climate on commitment. Table 7 presents the results of COMMITMENT functions. Because of space constraints, only the coefficients of the two climate variables and ALTERNATIVE are presented. The variables that are included but not presented are ED, MARITAL, SALARY, and RANK.

Regression results from the pooled data analysis in column 1 show that the two climate variables are positively related to COMMITMENT, indicating that a favorable industrial relations climate engenders employees' commitment. A positive coefficient of ALTERNATIVE

Table 7 Commitment function (β coefficient)

	1	2	3	4	5	6	7	8
		Group		Firm				
	Pooled	Conv'al	New	A	B	C	D	E
MANAGEMENT	0.17***	0.14	0.29***	–0.04	0.04	–0.07	0.44***	0.11*
	(5.80)	(0.32)	(8.41)	(0.57)	(0.63)	(1.17)	(7.56)	(1.84)
COWORKER	0.14	0.23***	0.09***	0.12*	0.27	0.06	0.03	0.20***
	(5.54)	(5.52)	(2.78)	(1.89)	(4.74)	(0.96)	(0.60)	(3.49)
ALTERNATIVE	0.18	0.03	0.21***	–0.07	0.03	0.02	0.21***	0.04
	(6.86)	(0.74)	(5.99)	(1.15)	(0.48)	(0.37)	(3.69)	(0.67)
Adj-R^2	0.20	0.22	0.25	0.04	.011	0.16	0.34	0.10
F-Value	28.68***	17.78***	26.10***	2.86***	5.44***	6.78***	18.21***	4.71***

Note: *** p < 1.0%

implies that a paucity of employment opportunities induces employees to commit to their organizations.

For the conventional group (column 2), COWORKER and not NANAGEMENT has a significantly positive coefficient. The two conventional firms show the same results (columns 4 and 5). Though the task of Firm A is highly discretionary, commitment is not fostered by its industrial relations climate. Hence, Firm A may stay in a low commitment group (Table 5).

On the other hand, for the new generation group (column 3), the two climate variables have significantly positive effects on COMMITMENT, indicating that the firms are likely to enhance COMMITMENT by manipulating their industrial relations climates. However, firm-level regression results reveal a different picture (columns 6, 7, and 8). For Firm C, no industrial relations climate variables are determined to be significant. It can be understood that fostering commitment is not a managerial imperative, because simple tasks are dominant. For Firm D, MANAGEMENT shows a significantly positive coefficient, but COMMITMENT itself provides insignificant effect on work effort (Table 5).[7] For Firm E, with highly discretionary tasks, the two climate variables have positively significant coefficients. These findings support *H3*, suggesting that firms' rational choices explain the diversity of incentive structures for the new generation firms.

The remainder of this section examines the different connotations of commitment in the Indian context, referring to the contrasting results of Firms B and E. As *H2* predicts, Firm E, where discretionary tasks are dominant, is expected to rely on commitment as a critical incentive device, rather than on compensation and monitoring. This prediction was supported as discussed above. On the other hand, Firm B, where simple task is dominant, is expected to resort to monitoring and compensation as incentive devices. However, contrary to the prediction, only COMMITMENT is found to be significant.

7) ALTERNATIVE is significant only for Firm D. This is probably because Firm D is located in the outskirts of a local city where few manufacturing firms exist nearby, while the other four firms are located in the industrial zones.

The employees of Firms B and E manifest high levels of COMMITMENT and low levels of MONITORING. Despite these similarities, MANAGEMENT score is the highest for Firm E but the lowest for Firm B. The regression results of Firm E (column 8) show that both MANAGEMENT and COWORKER have significantly positive coefficients. As an auto manufacturer, Firm E has introduced the so-called flexible work systems, which include self-directed work teams, multi-skilled workers, and job rotation. These systems require high solidarity among workers, producing a favorable COWORKER score. MANAGEMENT has a significantly positive effect on COMMITMENT for Firm E, whereas it has an insignificant effect for Firm B, whose union–management relationships are unfavorable. This suggests that the POS model is valid for Firm E but not for Firm B, indicating that COMMITMENT carries an anti-management connotation in Firm B, whereas in new generation firms it carries a pro-management connotation.

In the empirical literature, commitment is highly advocated as one of the most pivotal organizational attitudes that induce pro-organizational behaviors. However, most studies have been conducted in developed societies, where discretionary task is standard. As a simple task is still dominant in some manufacturing industries in developing countries, commitment does not necessarily perform as expected. Note that commitment ascribed to anti-management employee solidarity is a common occurrence in developing countries with numerous pro-employee laws. It is slightly ironical that solidarity-based commitment as observed for Firm B also works as an incentive. However, such commitment is beyond positive HRM policies.

Conclusion

Bloom et al. (2013) claim that information constraints impede the implementation of appropriate management practices in India, producing variations in management practices. This implies that significant deviations from an optimal mix of incentive devices explain the variations. On the other hand, we examined the diversity of incentive structures,

assuming that an optimal mix of incentive devices differs among private firms with different task features, and that conventional firms failed to forge an optimal mix. In other words, this article claims that the diversity is explained partly by firms' rational behaviors and partly by institutional constraints.

This article shares results with previous research on how ownership structure and labor unions influence firms' performance. However, through other measures, we showed that conventional firms failed to forge effective incentive structures to elicit work effort due to institutional constraints.

Another unique approach rests on the emphasis of a task feature to investigate the incentive diversity across private firms. While a discretionary task is standard in developed countries, a simple task is pervasive largely in developing countries. The new generation firms are found to have tailored an appropriate mix of incentive devices, considering their specific feature of dominant tasks. This suggests that the diversity of incentive structures in private firms reflects the firms' rational responses in the era of economic liberalization. On the other hand, as mentioned above, the two conventional firms failed to forge an appropriate mix of incentive devices due to institutional constraints.

Another important finding is the dual faces of employee commitment in India. While commitment is an important organizational attitude that is extensively discussed in developed countries, it can also be fostered by solidarity among union members under labor–management confrontation. An oft-used organizational commitment scale developed by Allen and Meyer (1996) includes items on employees' affectiveness to and psychological identification with organizations. Affectiveness to and identification with organizations are compatible in firms where labor–management relationships are moderate. When labor–management confrontation is critical, commitment is likely to connote employees' solidarity among coworkers in conflict with management. Hence, we measured COMMITMENT solely by focusing on psychological identification with organizations rather than the widely used concept of organizational commitment. Similarly, COWORKER has a two-sided concept. The rela-

tionships among coworkers can be enhanced by either employees' solidarity against management or cooperation among coworkers to complete tasks in a small group. The latter obviously requires discretion of employees. As described, the concepts developed to investigate industrialized economies are often not applicable to developing economies.

The statistical results from combining data of heterogeneous firms are likely to conceal the real causality by neglecting distinct characteristics of individual firms. Our firm-level analysis can minimize the problem of omitted variable bias. On the other hand, however, the small sample size of firms renders this article as a case study. To yield a more profound understanding of incentive systems in developing countries, a sufficient sample size of firms is needed.

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