

# India's Informal Trade with Bangladesh: A Qualitative Assessment

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## 1. INTRODUCTION

THE focus of our study is on India's informal trade with Bangladesh. At the outset, it is important to clarify what *informal* means. The term *informal* has been used to denote (a) illegal economic activities, by others to denote (b) *parallel* markets (i.e. those unregulated by the government) and by still others to mean (c) *extra-legal* activities. Clearly, there is an illegal component to informal trade if we consider trafficking in drugs, narcotics or arms. In addition, if informal trade refers to pure smuggling of goods across borders, i.e. it is taking place primarily to circumvent tariff and non-tariff barriers, it could be termed as illegal trade. However, it is entirely possible that a significant part of informal trade is in the nature of extra-legal trading, tolerated in practice even if illegal in the letter of the law. For instance, informal trading enterprises would be those that are unregistered and unlicensed. In the context of the present study, while all three definitions are relevant, trafficking in drugs, narcotics and arms has not been considered.

In recent years, India and Bangladesh have adopted not only unilateral trade policy reforms but have also undertaken liberalisation under Uruguay Round and

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successive rounds of South Asian Preferential Trading Arrangements (SAPTA).<sup>1</sup> Despite these, recent works (Chaudhari, 1995; and Taneja, 1999) indicate that India's informal trade with Bangladesh continues to thrive and shows no sign of decline. In this context, the present study attempts to understand the elements underlying the vitality of informal trading arrangements as well as to identify the bottlenecks of formal trading arrangement between India and Bangladesh. Specifically, the study focuses on the following three issues of interest in the context of India's informal trade: (a) what are the characteristics of informal trade, (b) why it takes place, and (c) how it differs from formal trade.

To the extent that informal trade is taking place, due to high tariffs and non-tariff barriers in the region, it is reasonable to expect such trade to shift to legal channels with removal of trade barriers. However, free/preferential trade agreements (FTA/PTA) require rules of origin to ensure that goods from third countries passing through another member country of the FTA/PTA meet domestic content requirement before arriving at the final market for consumption to benefit from duty-free entry. Such rules of origin can be complex and sometimes provide the excuse to block official trade making informal trade an attractive option.

Illegal trade could also take place due to domestic policy distortions. For instance, a trader has the incentive to siphon off subsidised items from the public distribution system to the neighbouring countries if such commodities fetch higher prices across the border. Illegal trade of this kind can be checked only if domestic reforms address such policy distortions.

If there are factors other than trade and domestic policy barriers that determine informal trade, then a deeper understanding is essential. There could be several institutional and non-economic factors that influence informal trade. It may be possible that an efficient institutional arrangement exists, which supports informal trade. It is also possible that the informal channel has a better payments mechanism or a good marketing distribution network. These factors would attract traders to the informal channel.

By contrast, if the infrastructure supporting formal trade is weak and costs of trading increase substantially with higher volumes, some of it may spill over into informal trading. In particular, the official machinery through which formal traders have to operate may be very cumbersome causing delays and thereby escalation in costs. Moreover, the rent-seeking activities of the public servants at each step of transactions may dissuade traders from using the official channel. Furthermore, a distinctive feature of the South Asian countries is the inadequate transit

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<sup>1</sup> In 1991, South Asian countries of Bhutan, Bangladesh, India, Maldives, Sri Lanka, Pakistan and Nepal established a preferential trading bloc in the region. Since then three rounds of SAPTA have been concluded. The member countries have also envisaged the formation of a free trading bloc by 2001.

and transport systems (see Taneja, 1999). This often results in high transport costs in the region and creates a strong incentive for trade to take place through informal channels.

There are also other factors. It should be kept in mind that prior to 1947, Bangladesh, Pakistan and India were in fact a single country. While traditional, historical and ethnic links are an important factor both for formal and informal trade, it is more so in the case of informal trade since ethnic ties help in ensuring that payments are guaranteed. Under formal trade, contract is enforced by law. Another factor that could be an important determinant of informal trade flows is that traders with lower education may have lower access to the formal channel.

The plan of the rest of the paper is as follows. Section 2 elaborates on the analytical framework of the study; Section 3 describes the sampling frame of the study while the profile of formal and informal traders of our sample is highlighted in Section 4. Sections 5 and 6 discuss the transacting environment of informal and formal trade respectively. In Section 7, perceptions of traders on factors influencing informal trade are analysed. In Section 8 the discriminating characteristics of formal and informal traders are analysed while the last section summarises the survey findings.

## 2. FRAMEWORK FOR ANALYSIS

In drawing comparisons between informal and formal trading arrangements it is useful to draw on the notion of institutions. While there is still a lack of agreement on the precise definition of institutions there is growing consensus on institutions as a set of collectively defined rules, norms and constraints that govern the behaviour of individuals or groups. These rules and constraints can be formal or informal (Nabli and Nugent, 1989a and 1989b). In the present context, formal and informal institutions that serve similar functions (i.e. they carry out trade across national boundaries) are compared. The agents performing such functions are the formal and informal traders. What demarcates formal traders from informal traders? Under formal trading arrangements, the recourse to law defines contracts between two contracting parties. This ensures that goods move across borders and payments are guaranteed. On the other hand, contracting parties in informal trade cannot resort to the law for violation of terms of contract. Consequently, it is reasonable to assume that individuals trading through the informal channel have developed parallel institutional mechanisms for contract enforcement and dispute settlement. It therefore becomes imperative to focus on issues of enforcement mechanisms including aspects of risk and information in informal trading. On the other hand, it is important to understand the complex institutional structure that supports formal trade where exchange is affected by factors which are not related to the physical process of production, such as

administrative processes, government rules and regulations, infrastructure bottlenecks etc.

The current analysis is carried out using insights from the New Institutional Economics (NIE). The NIE differs from both neoclassical economics and from the 'old institutional approach'. While neoclassical economics focuses on perfect markets, such theory is devoid of institutions. The 'old institutional approach', on the other hand, recognises the importance of institutions but does not provide a theoretical foundation (Langlois, 1986). In contrast, the New Institutional Economics questions the two crucial assumptions of neoclassical economics, namely, cost-less transactions and perfect information, and stresses the role of institutions in facilitating market exchange by reducing transactions costs, providing a predictable framework for exchange and overcoming imperfect information (Assaad, 1993; and Bardhan, 1989).

In the present context it is argued that while both institutional arrangements i.e. the formal and informal, facilitate trade in goods between countries, they are carried out at a cost, *viz.*, transactions cost. These costs include those of organising, maintaining and enforcing the rules of an institutional arrangement. A rational behaviour would imply that a more efficient institution (in terms of lower costs) should be preferred over the less efficient one (Coase, 1960). It is hypothesised here that transaction costs of operating through the informal channel are less than those under formal trading. If this is true, such trade may not shift to legal channels and may, in fact, co-exist with formal trade.

The objective in juxtaposing formal and informal institutions in performing similar transactions, *viz.*, engaging in cross-border international trade, is threefold: first, to understand how informal trading markets function *vis-à-vis* formal trading arrangements, second, to analyse formal and informal trading arrangements particularly in the context of the relative importance of institutional factors *vis-à-vis* trade and domestic policy distortions, and third, to see whether informal trading arrangements provide better institutional solutions than formal trading arrangements.

Given the nature of the study, it is obvious that we need to obtain primary data for analysing the above issues. The study is based essentially on a survey approach covering both formal and informal traders in India and Bangladesh. The details of the sampling frame are given below.

### 3. SAMPLING FRAME

Bangladesh has a long and porous border with India covering three of her states, namely West Bengal, Assam and Tripura. As Chaudhari (1995) has reported that nearly 95 per cent of illegal exports to Bangladesh goes from West Bengal, our sample of traders were drawn from the border districts of West

Bengal in India and from the border regions of Khulna and Rajsahi divisions of Bangladesh.<sup>2</sup>

The survey encompassed an equal number of traders in formal and informal trade. To obtain quality responses and to reduce the risk of canvassing the questionnaire, it was, *ex-ante*, decided that contraband high-value goods like gold, silver, diamonds, narcotics, arms and ammunition etc. would be kept outside the purview of the study. Given the time and cost consideration, 200 traders consisting of 100 traders each in the formal and informal channel, split equally between the two countries, were covered.

The number of sampling units drawn from each centre was proportionate to the importance of that centre in terms of volume of formal and informal trading activity.<sup>3</sup> The sample of formal traders was randomly selected from the list of traders kept with the offices of custom at the various trading centres in the two countries. However, the selection of informal traders was done on the basis of information obtained from knowledgeable persons.<sup>4</sup> Such a selection procedure may lead to a biased sample. Thus, given the nature of the sample of informal traders, the survey estimates may only be indicative and not firm estimates.

#### 4. PROFILE OF INFORMAL AND FORMAL TRADERS

The profile of informal traders in Bangladesh reveals that while all 50 traders (100 per cent) were importing informally, 46 (92 per cent) of the respondents in the formal channel were importing formally. Only 5 (10 per cent) were found to be exporters in the informal channel and 8 (16 per cent) in the formal channel, implying that import is the predominant trading activity for both the informal and formal traders. In India, all 50 respondents (100 per cent) in the formal as well as the informal channels were found to be engaged in exporting activity. Imports were carried out by only 9 traders (18 per cent) in the informal sector and 6 (12 per cent) in the formal sector (see Table 1). Clearly there is a one-way trade from India to Bangladesh in both the formal and informal channels.

Do the informal traders trade only informally or do they also use the formal channel? Table 1 indicates that only 7 (14 per cent) of the informal Bangladeshi traders traded through both channels, implying their weak linkage with the formal channel. The same is true for Indian traders.

<sup>2</sup> Several factors could be attributed to the lower share of informal trade between the North Eastern states of India and Bangladesh. Unlike the North Eastern states, the bordering region between West Bengal and Bangladesh is a plain terrain. Goods from the rest of India are sourced mostly from West Bengal and states lying to the west/south of West Bengal. The North Eastern states of India are too under-developed to meet the demand from Bangladesh.

<sup>3</sup> Interested readers may see the detailed sampling scheme in Pohit and Taneja (2000).

<sup>4</sup> The list of informal traders included only those who were organisers of trade and carriers of smuggled goods across the border.

TABLE 1  
Trading Activity

<i>Category of Trader</i>	<i>Respondents in Bangladesh</i>		<i>Respondents in India</i>	
	<i>Informal</i>	<i>Formal</i>	<i>Informal</i>	<i>Formal</i>
Exporter	5	8	50	50
Importer	50	46	9	6
Domestic market	23	36	4	17
Formal	7	—	3	—
Informal	—	—	—	—
Total respondents	50	50	50	50

TABLE 2  
Commodities Traded (Per cent of respondents)

<i>Commodity Groups</i>	<i>India to Bangladesh*</i>	
	<i>Informal</i>	<i>Formal</i>
Food	65	75
Small machinery	21	11
Textiles	38	12
Consumer goods except textiles	53	9
Intermediate goods	6	48
Others	2	0

Note:

\* Average percentage of commodity flows of Bangladeshi and Indian traders.

Further, 23 informal Bangladeshi traders (46 per cent) sold their goods in the domestic market while only 4 informal Indian traders (8 per cent) sold in the domestic market. Selling in the domestic market provides a cover for informal trading. The fact that the Indian ones did not need such a shield shows that they may have other mechanisms for protecting themselves. Note that formal traders in Bangladesh or India had a marked presence in their respective domestic markets (see Table 1).

Table 2 gives the percentage of respondents trading in each commodity group. The respondents were found to be trading in items that belonged to more than one commodity group. Our survey indicates that food (*viz.*, rice, pulses and onions) was the predominant commodity imported in both channels from India to Bangladesh (see Table 2). Apart from food, textiles and consumer goods are traded predominantly from India to Bangladesh in the informal channel. However, intermediate products (such as stones, cement and coal) are important trading items in the formal channel.<sup>5</sup>

Information was also sought on the size of firms. The survey revealed that, by and large, informal traders had a lower value of annual trade than formal traders.

<sup>5</sup> See Pohit and Taneja (2000) for a complete list of commodities.

TABLE 3  
Size (Per cent of respondents)

<i>Turnover Informal (US\$)</i>	<i>&lt;1,000</i>	<i>1,000 to 100,000</i>	<i>&gt;100,000</i>
Bangladesh	20	80	0
India	0	84	16
<i>Turnover Formal (US\$)</i>	<i>&lt;100,000</i>	<i>100,000 to 1,000,000</i>	<i>&gt;1,000,000</i>
Bangladesh	32	48	20
India	2	60	38
<i>Value of Trade per Transaction – Informal (US\$)</i>	<i>&lt;100</i>	<i>100 to 1,000</i>	<i>&gt;1,000</i>
Bangladesh	57	26	17
India	11	67	22
<i>Value of Trade per Transaction – Formal (US\$)</i>	<i>&lt;1,000</i>	<i>1,000 to 10,000</i>	<i>&gt;10,000</i>
Bangladesh	17	40	42
India	0	36	64

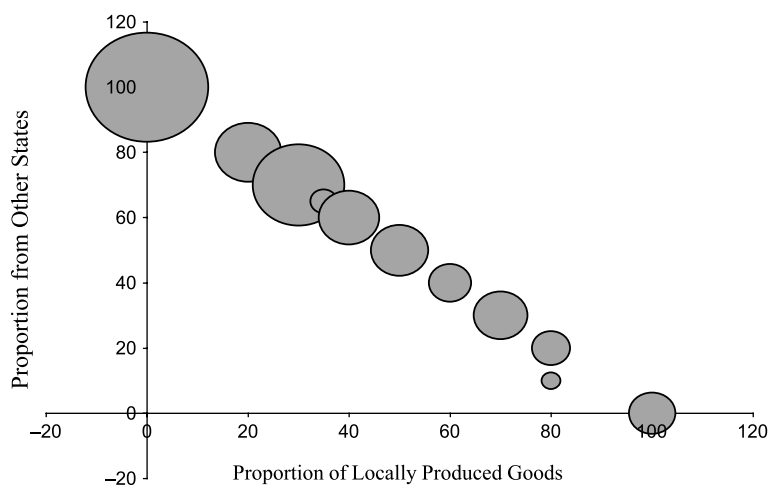
Eighty per cent of the informal traders in Bangladesh and 84 per cent of the informal traders in India had an annual value of trade between US\$1,000 and US\$100,000 (see Table 3). On the other hand, 48 per cent of the formal traders in Bangladesh and 60 per cent of the formal traders in India had an annual value of trade between US\$100,000 and US\$1,000,000. Also, value of trade per transaction was much lower for informal traders than for informal traders. In Bangladesh 57 per cent of informal traders traded in goods worth less than US\$100 per transaction while in India 67 per cent of the informal traders traded in goods valued at US\$100 to US\$1,000 per transaction. Forty-two per cent of the formal traders in Bangladesh and 64 per cent in India traded in goods valued at more than US\$10,000 per transaction.

Since value of trade per transaction is much lower in the informal channel than in the formal channel, commodities like stones, cement and coal in which profit can be generated only through large volumes would be traded more likely through the formal channel. One reason why some bulk items are not likely to be traded informally is that at some point during transportation, goods traded informally are moved across the border in head loads making it infeasible to trade informally.

##### 5. TRANSACTING ENVIRONMENT OF INFORMAL TRADERS

The transacting environment of informal traders is analysed below in terms of sourcing of goods, nature of markets in informal trade, the types of mechanisms

FIGURE 1  
Sourcing of Goods: All Commodities



for the flow of information on trading opportunities as well as the governance of contractual relations in informal markets.

#### *a. Sourcing of Goods*

An aspect that needs to be examined is whether informal trade is carried out in locally produced goods. If goods traded informally are predominantly produced locally in the border region, then one can presume that cross-border trade would be a natural option for local traders. But, if informal traders in India deal in goods that are procured from other states, then informal trade is clearly much more organised. In fact, it is as organised or better-organised than formal trade as it implies that there is a sourcing network which connects other Indian states as well. Informal traders in India were asked what proportion of traded goods were procured locally and from other states. Figure 1 demonstrates that items traded informally are procured mostly from other states.<sup>6</sup> This is true for food as well as other items.

Another aspect concerning procurement of goods for informal exports was whether there was significant leakage of administered price goods from the Public Distribution System (PDS). Chaudhari (1995) in his study has pointed out that the PDS outlets in the border districts of West Bengal get their supplies from the PDS in excess of their local needs. These commodities are then exported informally to Bangladesh. Our survey revealed that 47 per cent of the respondents exporting food items reported that they were procuring their supplies from

<sup>6</sup> The size of the bubble represents the degree of concentration of respondents.



the PDS. However, we find that the relative size of PDS in total informal trade is small; the share of value of goods from the PDS is only 3.05 per cent of total value traded informally by respondents in Indian territory. Thus our finding indicates that this is not an important factor governing informal trade.

### *b. Entry Characteristics*

Given that markets for informal traders are characterised by information asymmetries between trading partners, firms were asked how they entered informal trading. The survey revealed that in the absence of formal contracts between trading partners, the informal trading arrangements were characterised by non-anonymity of transaction. Thus, 74 per cent of respondents in either Bangladesh or India entered through a friend or relative (see Table 4).

Traders were asked to give their perception of the rate of entry and exit into informal trading on a scale ranging from high, medium to low. The survey revealed that the modal range was medium rate of entry/exit in either country. The important point is that informal trading markets are not characterised by high rates of entry and/or exit. A related variable was the age of firms. In other words, if the informal trading market is not characterised by high rates of entry and exit, then such firms should be relatively old firms. As this table shows, 54 per cent of the firms engaged in informal trading in Bangladesh have been trading for five to nine years while in India 46 per cent of the firms were found to be in the same range. This shows that firms trading through the informal channel are, by and large, established firms.

### *c. Information Channels*

Informal trade hinges on how traders can obtain information on commodities and quantities to be traded. Traders in Bangladesh and India were asked about various sources, with the choice of ticking more than one option. As Table 5 shows, informal traders in India and Bangladesh relied mostly on making personal trips (84 per cent) and on their distribution networks (82 per cent) to procure relevant information. Clearly, the distribution network serves the dual purpose of both the marketing and information channels. Note that the dependence on the authorised channel, official media and enforcement agencies as channels of information flows are only marginal for traders engaged in these activities.

Given the institutional focus of the study, information on contractual arrangements between trading partners was also sought. As Table 5 indicates, 59 per cent of respondents concluded their trade deals through advance payment. Further, 39 per cent of the informal traders claimed that prior dealing with the trading partner was an important factor in finalising trade deals. Thus, confirming the non-anonymity of a trading partner was an important factor for finalising

TABLE 4  
Entry Characteristics of Informal Traders (Per cent of respondents)

<i>Entry in Informal Trading</i>	<i>Friend</i>	<i>Relative</i>	<i>Own Initiative</i>
Bangladesh	40	34	26
India	62	12	26
<i>Rate of Entry/Exit</i>	<i>High</i>	<i>Medium</i>	<i>Low</i>
Bangladesh	10	74	16
India	38	58	4
<i>Age of Firm (Years)</i>	<i>&lt;5</i>	<i>5–9</i>	<i>&gt;9</i>
Bangladesh	28	54	18
India	28	46	26

TABLE 5  
Information Channels (Per cent of respondents)

<i>Sources of Information</i>	<i>Bangladesh &amp; India</i>	<i>Modes of Payment</i>	<i>Bangladesh &amp; India</i>
Authorised channel	21	Advance payment	59
Personal trips	84	Collateral used	11
Distribution network	82	Prior dealing	39
Official media	32	Third party reference	26
Enforcement agencies	37	Goods on credit	27
Trade fairs	10		

Note:

Traders have the choice of ticking more than one option.

trade deals. The infrequent use of collateral provides indirect evidence supporting the absence of significant information asymmetries about the attributes of transacting individuals.

#### *d. Risk*

An aspect crucial in informal trading is the risk associated with informal trading. The vital aspects here are extent of risk, risk sharing arrangements and mechanisms of risk mitigation that are prevalent among trading partners trading informally.

Risk for exporters could arise due to delay in delivery of goods, default in payment and due to seizure, while that for importers could arise due to goods not conforming to specifications, default in delivery and delay of goods. Traders in both countries were asked to rank their perception on the extent of risk in a scale of never, rarely and frequent and the relevant data are shown in Table 6. Note that the modal range for each of the attributes was either 'never' or 'rarely'.

Further when informal traders were asked to give their perception on the probability of being caught by enforcement agencies, 58 per cent of them in Bangladesh felt that the probability of getting caught by enforcement agencies was between 0.05 and 0.1 (Table 7). The probability of seizure in India was perceived to be still lower with 72 per cent of them indicating it to be below 0.05. An interesting feature was that none of them in either country felt that this could exceed 0.2.

With regard to risk sharing arrangements between the trading partners. Table 7 shows that most of Bangladeshi traders replied that the risk was shared equally by both partners in case the good was seized. However, most of the Indian traders responded that the risk was borne primarily by the sender of goods. An interesting risk sharing arrangement in case of goods being seized was discovered in the course of the survey. Cross-border trading is carried out through a network of

TABLE 6  
Extent of Risk of Informal Traders (Per cent of respondents in modal class)

<i>Risk Attributes</i>	<i>In Bangladesh*</i>	<i>In India*</i>
Goods not conforming to specifications	44 (never)	
Incidence of default in delivery of goods	60 (rarely)	
Incidence of delay in delivery of goods	52 (rarely)	92 (rarely)
Default in payment		52 (never)
Incidence of goods lost due to seizure		98 (rarely)

Note:

\* Labels in parentheses refer to modal range in options: never, rarely and frequently.

TABLE 7  
Stylised Facts of Risk for Informal Traders (Per cent of respondents)

<i>Probability of Goods Being Seized</i>	<i>&lt;0.05</i>	<i>0.05–0.1</i>	<i>0.1–0.2</i>	<i>&gt;0.2</i>
Bangladesh	20	58	18	0
India	72	26	2	0
<i>Risk Sharing in Case of Seizure</i>	<i>Equally</i>	<i>By Sender of Goods</i>	<i>By Receiver of Goods</i>	<i>Third Party</i>
Bangladesh	76	8	14	2
India	2	80	0	18
<i>Payments to Enforcement Agencies</i>	<i>1–3%</i>	<i>3–6%</i>	<i>6–10%</i>	<i>&gt;10%</i>
Bangladesh	28	60	12	0
India	78	18	4	0

agents in both countries. At some point in the network, goods are transferred from the sender to the receiver. This point of crossing over from the sender to the receiver of goods could take place either in Indian or in Bangladeshi territory. A number of respondents mentioned that risk is borne by the sender till the goods are delivered to the receiver. From that point onwards, the risk is borne by the receiver. In case the goods are seized at the border, then risk is shared equally between the trading partners. The fact that in Bangladesh risk is shared equally only points out that these traders may have faced seizures at the border. By contrast, the Indian ones in our survey felt that risk was borne primarily by the sender, implying that goods were handed over to the agent of the trading partner in the Indian territory.

Informal traders have developed several mechanisms to assuage the extent of risk. As mentioned earlier, non-anonymous transacting is an important mechanism for minimising risk. Further, they make payments to enforcement agencies to mitigate risk. As Table 7 shows, 60 per cent of the Bangladeshi traders paid bribes of between three and six per cent of their turnover, whereas 78 per cent of the Indian traders paid between one and three per cent. To diversify risk, one obvious way for informal traders is to have a large number of transactions. Thus, as we will see later in Section 8a, even though the annual current turnover of informal traders *vis-à-vis* formal traders was significantly lower, informal traders undertook more transactions than the formal ones.

Information was also sought on the mechanism for dispute settlement among contracting parties. We find that traders usually approached the informal trading groups to resolve disputes. In several cases traders reported that they depended on their ethnic ties to resolve conflicts.

#### *e. Transaction Costs*

Informal traders incur transaction costs in the form of payments made to enforcement agencies as bribes, transportation costs, cost of credit and cost of currency conversion. Table 8 shows that 50 per cent of the informal traders in Bangladesh had to make payments of between 10 and 20 per cent of their turnover in the form of transaction costs, while in India 60 per cent of them had to bear transaction costs of less than 10 per cent of their turnover.

An aspect that needed to be probed into was whether bribes had decreased after liberalisation. Informal traders were asked whether bribes as a proportion of their total turnover had increased, decreased or remained unchanged in the last five years. Contrary to our expectations, the survey results point out that 70 per cent of the Bangladeshi traders and 64 per cent of the Indian traders perceived that there had been an increase in bribes in the last five years. Further, when they were asked why payment of bribes to enforcement agencies had increased, most of them replied that custom officials in border areas and officials from the

TABLE 8  
Transaction Cost of Informal Traders (Per cent of respondents)

<i>Transaction Cost in:</i>	<i>&lt;10%</i>	<i>10%–20%</i>	<i>20%–30%</i>	<i>&gt;30%</i>
Bangladesh	25	50	21	4
India	60	38	2	–

Border Security Force see this as an opportunity to raise their personal incomes. Moreover, bribes had become pervasive with links from the border officials through the bureaucracy to the politicians. Yet another reason cited by some traders was the frequent change of officials at the border which meant every new official wanted to maximise his additional income for the duration of his stay in the border area.

#### *f. Financing Informal Trade*

Intrinsic to the activity of informal trading is the issue of financing such activities, nature of transacting environment in the informal financial market, and the modes of financing such activities.

It can be seen from Table 9 that all respondents in Bangladesh or India rely at least to some extent on their own resources for financing trading activities. When traders were asked what proportion of their finances were own-financed, 46 per cent of the traders in Bangladesh and 50 per cent in India said that they financed 80 to 100 per cent of their finances from their own funds (not shown in the tables). In both countries traders usually supplement their financial needs through borrowings from friends, relatives and informal money lenders. In Table 9, it can be seen that 50 per cent of the Bangladeshi traders borrowed from friends and relatives while 52 per cent borrowed from informal money lenders. On the other hand, a fewer proportion of respondents in India depended on these two sources. It is interesting to note that informal traders depend on informal sources of finance even though the rate of interest in the informal market may be higher. Given that the capital market is imperfect, borrowing from formal channels is difficult.<sup>7</sup> Note that none of the respondents in India and only 18 per cent of informal traders in Bangladesh had borrowed from the formal banking channel.<sup>8</sup> If informal traders rely on informal sources of finance, what kind of transacting environment exists in the informal financial market? When traders were asked

<sup>7</sup> See Srivatsava (1984).

<sup>8</sup> Informal traders cannot apply for loans from the formal banking channel for trading across borders as they are not registered for such activities. They can, however, ask for loans for domestic trading, but such loans are difficult to obtain formally.

TABLE 9  
Financing Informal Trade: Stylised Facts (Per cent of respondents)

<i>Source of Finance</i>	<i>Bangladeshi Traders</i>	<i>Indian Traders</i>
Friends and relatives	50	29
Informal money lenders	52	37
Banks	18	0
Own finance	100	100
<i>Information on Loan Transactions</i>		
Contact with lender	92	71
Knew source personally	33	93
Purpose of loan known to lender	50	95
<i>Mode of Financing*</i>		
Barter	0	10
Gold/Silver	0	14
Indian currency	56	49
Bangladeshi currency	76	100
US \$	0	0
'Hawala'	22	0

Note:

\* Respondents were given the choice of ticking more than one option.

whether they had any contact with the lender outside of loan transactions, an overwhelming 92 per cent of them in Bangladesh and 71 per cent in India said they had some contact with the lender (see Table 9). When traders were asked whether they knew the source personally prior to the first loan transaction, 33 per cent of the respondents taking loans in Bangladesh and 93 per cent in India answered in the affirmative. Moreover, when respondents were asked whether the lenders were aware of the purpose of the loans, 50 per cent and 95 per cent of the respondents in Bangladesh and India respectively, gave positive responses. All these factors point to the evidence of a non-anonymous transacting environment which is an important risk reduction strategy. Thus non-anonymity in both trading and financing of informal trade is crucial to the smooth functioning of informal trading markets.

Table 9 also revealed that traders in both countries made payments mostly in Bangladeshi currency. Note that barter, gold, silver and the US \$ were hardly used to finance informal trade. Another aspect which was highlighted in the course of the survey was the use of 'hawala' for financing informal trade. As Table 9 shows, 22 per cent of the informal traders in Bangladesh reported using the 'hawala' for making payments. These traders relied a great deal (60 to 100 per cent) on the 'hawala' for making payments. The uniqueness of this system is

that there is no physical transfer of currency. This mechanism, referred to as the 'hawala' in India and the 'hundi' in Bangladesh, operates on the same principles. Thus an Indian exporter, who exports goods to Bangladesh, gets his payment through the 'hawala'. The dealer in Bangladesh sends an 'I owe you' to the dealer in India and the requisite equivalent amount (in accordance with the black market exchange rate) is paid to the exporter. The 'I owe you' is analogous to cash or cheque in the modern banking system. Our discussion with traders reveals that the moneylenders have well-developed networks and they can provide large capital at short notice.

Since the mode of payment was found mostly through Bangladeshi currency, information was sought from the receiver of payments, primarily the Indian traders, regarding their use. When respondents in India were probed regarding this aspect, 84 per cent of the Indian traders claimed that they changed 100 per cent of the Bangladeshi currency to local currency while the rest of them said they converted at least 50 per cent of the foreign currency to local currency. With regard to ways of converting partner country currency to local currency, our findings emphasised the role of informal money lenders who were used by informal traders for converting currencies. What does get established from the survey is that the Bangladeshi currency comes to India through the informal capital market.

Perhaps what lies at the crux of the informal trading is the issue of balance of payments. Since there is a one-way informal trade between India and Bangladesh, there should be evidence of financing the perennial trade deficit in informal trade. In the course of the survey, it was found that a significant proportion of it is financed through remittances of the Bangladeshi migrants, legal or illegal, residing in India. Illegal migrants obviously do not have access to the formal channel for remitting earnings. Some of the legal migrants also use the informal channel for remittances as this channel is faster than the official channel and they also receive a marginally higher rate for conversion. The informal traders commented that the informal capital market is so efficient that it can remit the money to Bangladesh on the same day. While the number of Bangladeshi migrants residing in India is not available, the official estimate of illegal Bangladeshi migrants currently in India is about 10 million.<sup>9</sup> If each remits Rs1,000 per annum, a total remittance of Rs10 billion can be explained while the informal trade deficit, as per Chaudhari (1995), is Rs12.2 billion in 1995. Surely, then, remittances of Bangladeshi workers in India are being used to settle the imbalance in informal trade. However, there would still be some unexplained deficit that could be attributed to other factors like arms and narcotics, which is beyond the scope of this study.

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<sup>9</sup> See Parliament Proceedings, 1998/99.

## 6. TRANSACTING ENVIRONMENT OF FORMAL TRADERS

Exporting through the official channel consists of several steps starting with obtaining import-export licences, imports for exports etc., quality control certification, and ending with receiving export remittances through a bank. Importing legally is by no means simple as it also involves several steps such as obtaining import licences, letter of credit authorisation forms, availability of finance, clearance from customs, etc. All these procedural complexities along with institutional bottlenecks and lack of transparency give rise to rent-seeking activities by the officials at various stages of trading. Following Coase (1960) terminology, we have called these transaction costs, which exporters or importers incur, in terms of time constraint and/or in the form of money resources they spend in the process. How high is the transaction cost in India relative to that of Bangladesh? Below, we have made an attempt using our survey information to quantify the transaction costs of formal trading activities in Bangladesh and India.

The export-import policy documents of India and Bangladesh indicate that the principal sources of procedural complexities for exports/imports in the two countries arise at the following steps of transactions: (1) obtaining different licences; (2) obtaining various refunds; (3) problems associated with custom authorities; (4) problems relating to banks; and (5) problems associated with transportation of goods. Accordingly, we have estimated in Table 10 the incidence of transaction cost (measured in terms of percentage of traders indicating positive cost) in India and Bangladesh arising from the above five sources. As columns (2) and (3) of this table show, Bangladeshi traders face more problems (and thereby positive transaction cost) than the Indian traders from their respective authorities with regard to licensing, refunds and custom dealings. By contrast, the Indian traders face more problems with banks and transportation.

Table 10 also depicts the break-up of the additional time taken at different steps of transactions. The additional time taken is estimated for our case as the difference between the actual time taken and the average of trader's perception about the time that should be required at these stages. The table indicates that Indian traders in comparison to Bangladeshi ones faced higher transaction costs (in terms of additional time required) at each step of the transactions under analysis from the respective authorities.

What is the magnitude of combined transaction cost in the form of payments to officials as bribes at various stages, transportation cost including insurance cost, and cost of credit as share of their turnover? The relevant data are tabulated in Table 11. As this table shows, the combined transaction cost under these heads is, by and large, lower in India than in Bangladesh.

Our survey indicated that out of the total transaction cost, total payments to officials as bribes usually lie between one and five per cent in either country. The respondents indicated that the total bribes never crossed 10 per cent. Further,



TABLE 10  
Profile of Transaction Cost

<i>Stages of Transactions</i>	<i>Per Cent of Traders Indicating Positive Cost in:</i>		<i>Per Cent of Indian Traders Reporting Additional Time Required (in days)</i>			<i>Per Cent of Bangladeshi Traders Reporting Additional Time Required (in days)</i>		
	<i>India</i>	<i>Bangladesh</i>	<i>1–10</i>	<i>11–19</i>	<i>&gt;20</i>	<i>1–10</i>	<i>11–19</i>	<i>&gt;20</i>
Licences	86	93	21	37	42	67	24	9
Refunds	80	90	40	35	25	24	27	49
Custom	36	55	100			100		
Banks	84	68	74	14	12	100		
Transport	88	67	96	4		100		

TABLE 11  
Magnitude of Transaction Cost (Per cent of respondents)

<i>TC as Per Cent of their Turnover</i>	<i>In India</i>	<i>In Bangladesh</i>
Less than 10%	24	22
10% to 20%	40	
20% to 30%	36	20
More than 30%		58

respondents were asked whether bribes as a percentage of their turnover have declined over time due to greater transparency as a result of liberalisation. Contrary to our expectation, only 12 per cent of formal traders in India and 6 per cent in Bangladesh have replied that bribes have declined. By contrast, 40 and 52 per cent of traders in India and Bangladesh, respectively, have claimed that bribes have increased. Increase in bribes paid by formal traders to various officials at various steps of the transaction is not surprising, since despite a decade of liberalisation in both countries, major institutional reforms have yet to be undertaken.<sup>10</sup> It is important to note that a significant number of both formal and informal traders have reported an increase in the payment of bribes in the last five years.<sup>11</sup>

An interesting feature that emerged was that when contracts were not honoured, formal traders preferred not to take recourse to law even though by definition formal traders can approach the courts in such a situation. Given the weak judiciary, formal traders preferred to settle the dispute mutually or approached traders/business associations for settlement of dispute. We find that a number of respondents in Bangladesh/India made use of their ethnic ties to solve disputes. This implies how formal traders are actually using mechanisms of informal trading to circumvent institutional barriers to trade.

## 7. WHY INFORMAL TRADE TAKES PLACE

The traditional argument is that informal trade takes place due to trade and domestic policy distortions. As and when such distortions are corrected informal

<sup>10</sup> See Siddharthan (2001) and Subramanian and Arnold (2001).

<sup>11</sup> While the relative magnitudes of increase in bribes paid by both types of traders cannot be ascertained through the survey data, the increase in bribes in the informal channel may not be large enough to cause a shift to the formal channel. Moreover, as the number of transactions is much larger in the informal channel than in the formal channel, assuming an equal increase in bribes in both channels, bribes per transaction would be lower in the informal channel than in the formal channel.

TABLE 12  
Reasons for Informal Trade (Per cent of respondents)

<i>Factors Influencing Informal Trade</i>	<i>Bangladesh</i>	<i>India</i>
Presence of high duties in official channel	50	18
Quantitative restrictions	34	22
Imported from third country into Bangladesh	18	6
Leakage of administered price goods	12	14
Absence/shortage of storage/warehousing facilities	24	6
Produced locally across border	40	22
Presence of haats/bazaar	22	20
Lower transportation cost	72	50
Lower time to reach destination for perishable commodities	36	42
Lower time to reach destination for non-perishable commodities	28	30
Absence of trading routes	0	10
No procedural delays	52	82
No paperwork	76	92
Quick realisation of payments	88	94
Lower bribes	26	38
Nexus between enforcement agencies and traders	46	30
Ethnic ties	24	42

Note:

Respondents had the option of ticking more than one factor.

trade would shift to the formal channel. As mentioned earlier, the present study focuses on several other factors that could arise from the transacting environment of formal and informal traders. The survey revealed that institutional factors were the most important factors encouraging informal trade between India and Bangladesh. The top four factors (*viz.*, quick realisation of payments, no paperwork, no procedural delays and lower transportation costs) in Bangladesh or India are found to be factors giving rise to transaction costs (see Table 12). The inadequate transport systems that have been in existence between India and Bangladesh have led to high transportation costs. With respect to transit modalities, the survey has identified the following bottlenecks: port congestion, excessive documentation, delays, slow movement of goods, transshipment and other indirect costs.<sup>12</sup> While in India ethnic ties ranked fifth in importance, the presence of high duties in the official channel ranked fifth in Bangladesh. The fact that informal traders have a low level of education in both India and Bangladesh may also be a deterrent for using the formal channel. The administrative formalities of the

<sup>12</sup> The transit authorities at the Petrapole-Bongaon border point remain closed three days in a week resulting in no trade on these three days. Respondents indicated that trucks have to often wait at the border for 8–10 days before documents are endorsed and checked at the customs. Corruption is rampant at all checkpoints in border areas. Hefty bribes have to be paid to transship trucks across the border.

formal channel not only involve cost but also demand a basic level of education. Informal traders are obviously not equipped to handle the difficulties of the formal channel.

It should be noted that third country goods do not appear to be a major factor influencing informal trade from Bangladesh to India. This is contrary to Chaudhari (1995) where it was indicated that this is the most important factor influencing informal trade flows from Bangladesh.

Since perceptions on factors influencing informal trade were sought from Bangladeshi as well as Indian traders, a Spearman's rank correlation was computed for the ranking of factors given by both kinds of respondents. It shows a high value of 0.77, indicating converging of views regarding the factors influencing informal trade. Formal traders in Bangladesh and India were also asked to give their perceptions on the factors that they considered important for informal trade. A Spearman's rank correlation for perception of factors between formal and informal traders in Bangladesh yields a high value of 0.75. The same for the Indian traders yields a value of 0.76. Thus, there is high degree of agreement among the traders regarding the relative importance of various factors.

#### 8. DISCRIMINATING CHARACTERISTICS OF FORMAL AND INFORMAL TRADERS

In the previous sections, we have examined characteristics of formal and informal traders engaged in Indo-Bangladeshi trade as well as important aspects of modality and behaviour of such trade. While the analysis has suggested differences between formal and informal traders/trade in many respects, these need to be evaluated by some statistical criteria to draw conclusive evidence on differences between the two types of traders/trade. The significance of the differences between the two types of traders/trade is first evaluated in terms of a univariate statistical criterion. The parameters identified by the univariate test as important in differentiating the two groups are then simultaneously included in a multivariate test to control for possible mutual interaction.

##### *a. Univariate Analysis of Differences*

We have applied a non-parametric Wilcoxon signed-rank test for a univariate analysis of differences. A non-parametric test is chosen because it does not assume any specific distribution of the population under analysis which is appropriate in our case. The results of the univariate statistical tests in terms of 21 parameters governing different aspects of trader/trade are depicted in Table 13. As this table indicates, the tests have been carried out separately for the characteristics of Indian traders and Bangladeshi traders. The database for our test on the Indian side is 50 pairs of traders, while on the Bangladesh side we have

TABLE 13  
Results of Wilcoxon's Signed-ranked Test

Sl. No.	Parameter	Bangladesh Territory		Indian Territory	
		Z Statistics	Inference	Z Statistics	Inference
1	Transaction cost (TC)	4.84	Fo > If*	3.27	Fo > If
2	Education level (Edu)	5.84	Fo > If	5.91	Fo > If
3	Awareness of SAFTA (SAFTA)	4.38	Fo > If	5.75	Fo > If
4	Education & awareness of SAFTA (EduSaf)	5.81	Fo > If	6.03	Fo > If
5	Ethnic ties (Ethnic)	-0.63	Fo = If	-3.67	Fo < If
6	Perishable commodities (Perish)	2.12	Fo > If	5.20	Fo > If
7	Number of commodities traded (Com#)	1.24	Fo = If	-1.75	Fo < If
8	Trading in same commodities (Same)	2.54	Fo > If	-0.98	Fo = If
9	Time taken for first trade deal (TimFr)	1.68	Fo > If	2.14	Fo > If
10	Time taken for subsequent trade deal (TimSq)	5.55	Fo > If	6.15	Fo > If
11	Margin fluctuation (MarFl)	-2.24	Fo < If	-1.80	Fo < If
12	Risk	-1.94	Fo < If	-5.07	Fo < If
13	Number of transactions (Tran#)	-2.37	Fo < If	-2.56	Fo < If
14	Own finance (OwnFin)	-4.01	Fo < If	-3.30	Fo < If
15	Finance from friends/relatives (FinFrRel)	-0.51	Fo = If	-1.76	Fo < If
16	Value of trade per transaction (Avsturnover)	5.43	Fo > If	5.24	Fo > If
17	Rate of entry/exit (Ent/Ex)	1.57	Fo = If	0.16	Fo = If
18	Trading period (TrdPrd)	0.83	Fo = If	1.22	Fo = If
19	Presence in domestic market (PreDom)	2.79	Fo > If	2.98	Fo > If
20	Profit	-5.48	Fo < If	-0.68	Fo = If
21	Border price differential (BorPr)	-4.46	Fo < If	0.66	Fo = If

Notes:

\* Fo pertains to formal, If pertains to informal. The tests have been carried out at the 5 per cent level of significance.

46 pairs of observations. In our analysis, the tests are first conducted using a two-tailed test. If the test indicates a significant difference in an attribute between the formal and informal traders, a one-tailed test is again performed to check the direction of the difference.

The earlier sections have emphasised the role of transaction cost in informal and formal trading arrangements. One of the key hypotheses in the paper is to test whether informal trade flourishes because of lower transaction cost in informal trading than in formal trading. In this context the survey instrument was used to arrive at the transaction costs that traders incur in the two channels.<sup>13</sup> The sign-rank test suggests that transaction cost in formal trade in India as well as in Bangladesh is significantly higher than the informal counterpart.

Does a lower level of education amongst informal traders act as a deterrent to the use of the formal channel? The result of the test indeed proves our *a priori*

<sup>13</sup> Transaction costs for informal traders include payments made to enforcement agencies, transportation costs, cost of credit and cost of currency exchange. For formal traders, transaction costs include bribes paid at various stages to officials, and transportation costs including insurance and cost of credit.

prediction that informal traders have a lower level of education than formal traders.

A related hypothesis was to test whether informal traders had a lower awareness of SAFTA than formal traders. The direction of differences suggests that awareness of SAFTA is less among the informal traders than their formal counterparts. The attribute *education & awareness of SAFTA* basically captures the combined score on account of education level and awareness of SAFTA. As expected, it has a higher value for formal traders.

It has also been argued in Taneja (1999) and Chaudhari (1995) that ethnic ties/family linkages play a dominant role in aiding/abetting informal trade. The test using data on Indian traders indicates that informal traders show significantly more ethnic linkages than the formal ones. However, our database on Bangladeshi traders fails to bring out any significant differences in ethnic linkage.

Are perishable commodities traded more through the informal channel than the formal one? Our evidence indicates that perishable commodities are traded more through the formal channel. This may occur due to the fact that goods traded informally are sourced primarily from other states in India.

The next five parameters are constructed to test whether informal traders have developed better or more efficient mechanisms for information. Chaudhari (1995) has argued that the informal trader plays a role to narrow down the short-term demand/supply gap in the border region. If that is so, the informal trader relative to the formal counterpart should not carry out transactions in the same commodity over time. Moreover, the same would indulge in trading in a larger number of commodities depending on the demand/supply condition. The results of the test partially support our hypothesis. The informal traders in India do deal in a larger number of commodities than the formal traders. Also, Bangladeshi formal traders tend to trade more in the same commodities than their informal counterparts. In the other cases, our tests fail to find any statistically significant differences.

How well the information channel of informal trading arrangements is developed is judged by the following two attributes: (a) *time taken for first trade deal* and (b) *time taken for subsequent trade deal*. The result shows that on both these counts, the informal trading arrangement in India as well as in Bangladesh function better than their formal counterpart.

If the informal traders function because of their ability to meet the short-term demand/supply gap, their margin should exhibit a higher fluctuation than the formal one depending on the demand/supply situation. Indeed, the test shows that the fluctuation of margin is more for the informal trader in both Bangladesh and India.

The next attribute relates to the combined risk (*viz.*, goods not conforming to specification and incidence of default/delay in delivery) that traders face in carrying out their transaction. The statistical evidence indicates that informal traders

in both Bangladesh and India bear higher risks than formal traders. To minimise the risk of goods being seized, it is reasonable to assume that the informal trader would send goods across the border in small consignments and thereby require a larger number of transactions than the formal one. The statistical test does support our prediction.

The next two parameters look at the financing part of formal and informal traders. Being quasi-legal in nature, informal traders do not have access to finance from legal financial institutions. How do they meet their financing need? Do they use their own finance or use finance from their friends and relatives for carrying out their business? Inference from the test shows that own finance plays a larger role in informal trade than in its formal counterpart. However, the picture on the share of finance from friends and relatives is mixed: only for Indian traders, do we find significant differences in the share of finance from friends and relatives between formal and informal traders.<sup>14</sup> High dependence of informal traders on own finances and finances from friends and relatives rather than formal bank credit is also explained by lower access owing to a lower level of education amongst informal traders.

Is the informal trade characterised by a large number of transactions, each having a low volume of trade? We do find that value of trade per transaction (Avsturnover) is larger for formal traders than the informal ones both in India as well as in Bangladesh territories.<sup>15</sup> This also implies that as formal traders trade in larger volumes, they require larger amounts of working capital. This explains why own finance and finance from friends and relatives play a minor role in financing formal trade.

Is the informal trading characterised by a higher rate of entry and exit than the formal counterpart? In other words, is the formal trader typically in business over a longer period than the informal one? The statistical test on both these counts fails to identify any differences.

The co-existence of trading in the domestic market with informal trading has been argued by Chaudhari (1995). Is it the typical behaviour of only informal traders? On the contrary, our results indicate that formal traders exhibit a larger presence in the domestic market.

Maximisation of profits is the objective function at the individual level in any trading activities. Naturally, one ponders whether there is a significant difference between the profit margins in the two channels. The test of differences in profit margin of Bangladeshi traders between the two channels is

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<sup>14</sup> Also, lower education levels amongst informal traders would be a deterrent to accessing credit from the formal banking channel.

<sup>15</sup> This variable is generated by dividing annual turnover of a trader by the number of transactions carried out during the year.

rejected in favour of the alternative hypothesis of higher profit margins for the informal traders. However, for Indian traders, we could not find any significant differences.

Expectedly, the border price differential is the driving force for sustaining informal/formal trade activities. In this connection, one may question whether traders prefer one channel to another depending on the border price differential. Our results partially support this hypothesis in the sense that only in Bangladesh was the border price differential higher in the formal channel.

### *b. Multivariate Analysis*

The factors identified by the univariate tests as important in differentiating the two groups are then simultaneously included in a multivariate test to control for possible mutual interaction. Our preferred choice of multivariate technique is step-wise discriminant analysis as it is a rather robust technique and can tolerate deviations from its assumptions (Jackson, 1983). The discriminant analysis involves the fitting of linear discriminant score function on the basis of observed data on a number of discriminating variables of individuals whose group membership is known. These functions (sometimes known as classification functions) can classify further cases into groups on the basis of values of discriminating variables. In our case, discriminant analysis can be used to examine whether informal traders differ from formal, and if so, in terms of which characteristics.

The step-wise discriminant analysis begins by selecting the individual variable that provides the greatest univariate discrimination (in terms of groups mean difference or partial  $F$ -ratio or  $F$  to enter). It then pairs the first variable with each of the remaining variables to locate the combination, which produces the greatest discrimination. The variable, which contributed to the best pair, is selected. In the third step, the procedure goes on to combine the first two with each of the remaining variables to form triplets. The best triplet determines the third variable to be entered, and so on.

Below, the analysis is carried out on Bangladeshi traders followed by Indian traders.

#### *(i) Discriminant analysis of Bangladeshi traders*

The univariate analysis of statistical significance of differences of Bangladeshi traders has identified 16 attributes. Since discriminant analysis demands that no discriminating variables should have high correlation with other variables, one needs to drop several of the variables. Taking the criterion of cut-off point of correlation between two variables as  $\pm 0.4$ , we have decided to drop the following seven variables: education level (Edu), awareness of SAFTA (SAFTA), profit (Profit), border price differential (BorPr), trading in same commodities (Same),



TABLE 14  
Discriminant Analysis for Bangladeshi Traders\*

<i>Steps</i>	<i>Inclusive Variable</i>	<i>F statistic</i>	<i>Degrees of Freedom</i>
1	EduSaf	48.10	$F(1, 90)$
2	TC	35.60	$F(1, 89)$
3	Avsturnover	7.16	$F(1, 88)$
4	OwnFin	5.33	$F(1, 87)$
5	Perish	4.00	$F(1, 86)$
Percentage of formal traders correctly specified			99%
Percentage of informal traders correctly specified			98%

Note:

\* The tests are done at the 5 per cent level of significance.

number of transactions (Tran#), time required for first and subsequent trade deals (TimFr/TimSq).<sup>16</sup>

Table 14 provides the summary of the step-wise procedure and variables selected with their relative contribution to the discrimination in terms of their partial  $F$ -ratio ( $F$  to enter or remove). Note that our classification rule performs reasonably well. The procedure selects only five of the nine variables to be significant discriminants, namely value of trade per transaction, nature of commodity (perishable/non-perishable), transaction costs, level of own finance and education plus awareness of SAFTA. What the analysis tells us is that the above attributes in combination determine whether an entrepreneur would trade through the formal or informal channel. Thus, if a trader is poorly educated and not familiar with recent changes in trade rules, does not deal in large volume of trade per transaction, has access to own finance, deals in non-perishable commodities, he would trade informally since transaction costs are low in the informal channel. The remaining ones are not significant in the multivariate context as they do not add to the discriminating information contributed by the selected variables.

#### (ii) Discriminant analysis of Indian traders

The univariate analysis of characteristics of Indian traders has identified 16 factors. However, we drop the following six parameters – own finance (OwnFin), the combined risk element (Risk), time taken for subsequent trade deal (TimSq), education (Edu), awareness of SAFTA (SAFTA) and no. of transactions (Tran#) – to ensure that all the discriminating variables satisfy the cut-off point of

<sup>16</sup> Expectedly, the variables SAFTA and Edu are correlated with each other. So, they are excluded to include the combined variable EduSaf. The variables Same, Profit, and BorPr, are found to be correlated with each other and with TC, Avsturnover. Since Avsturnover is the cause types variable, we include it instead of the other three. The variable Tran# is also dropped as it is correlated with Tran#. The variables TimFr/TimSq are dropped to include the parameter TC since the latter takes into account time element of the cost.

TABLE 15  
Discriminant Analysis for Indian Traders\*

<i>Steps</i>	<i>Inclusive Variable</i>	<i>F statistic</i>	<i>Degrees of Freedom</i>
1	EduSaf	59.33	<i>F</i> (1, 98)
2	Perish	30.16	<i>F</i> (1, 97)
3	PreDom	11.74	<i>F</i> (1, 96)
4	TC	7.76	<i>F</i> (1, 95)
Percentage of formal traders correctly specified			92%
Percentage of informal traders correctly specified			90%

Note:

\* The tests are done at the 5 per cent level of significance.

correlation ( $\pm 0.4$ ). The logic behind dropping these variables is as follows. EduSaf is included instead of education and SAFTA as the latter two are correlated with each other. The variable TimFr has high correlation with attribute TC since the latter takes into account time element of the cost. So, we have dropped TimFr. The variable risk is found to be correlated with EduSaf and is dropped since it is an attribute representing effect. OwnFin is also omitted as it has a high correlation with Turnover, Perish and TC. Since Tran# is found to be correlated with Avsturnover, we have also dropped this.

Table 15 shows the step-wise procedure and variables selected in the discriminant analysis. Out of the ten potential variables, the procedure selects only the following four attributes – transaction cost, presence in the domestic market, nature of commodity (perishable/non-perishable), and education plus awareness of SAFTA. It can also be seen from the table that our rule appears to be a good fit.

In summary, we may conclude that nature of commodity (perishable/non-perishable), transaction cost, and education level plus familiarity of trade rules stand as important attributes irrespective of the country of origin of the traders.

## 9. SUMMARY OF FINDINGS

This study makes an attempt to provide an in-depth analysis of India's informal trade with Bangladesh. Using insights from the New Institutional Economics, informal and formal institutions engaged in cross-border trade are contrasted to examine whether informal trading arrangements provide better institutional solutions. The study is based on an extensive primary survey conducted in India and Bangladesh. It needs to be emphasised that since the sample frame for informal traders was drawn from an unknown population, the survey estimates may only be indicative and not firm estimates. In sum, one could make several tentative conclusions.

At a general level the survey points to the evidence of a one-way trade flow from India to Bangladesh. The survey data were also used to understand the sourcing network for procurement of goods for informal trade. The survey reveals that a large proportion of goods traded from India to Bangladesh are procured from other states in India. Also, though the survey provides evidence of leakage of goods from the Indian Public Distribution System to Bangladesh, the magnitude is negligible.

The survey provides evidence on various aspects of the transacting environment of informal traders. The survey reveals that in the absence of formal contracts between trading partners, the informal trading arrangements were characterised by non-anonymous transacting in Indo-Bangladeshi trade. Such contractual arrangements not only facilitate entry of firms into informal trade, but also serve as important channels of information flows on quantities and commodities to be traded. The distribution network is the other important channel for information flows.

Given the institutional focus of the study, the stance of the study was directed towards getting information on aspects of risk in informal trading. The survey revealed that the extent of risk for traders was very low. Further, the probability of goods getting caught by enforcement agencies is very low. Clearly informal traders face very little risk in operating through the informal channel. The survey points to the evidence that informal traders have developed mechanisms to mitigate risk.

Our analysis of the transacting environment of formal trade in India/Bangladesh indicates that the inefficiencies of the trade regimes give rise to rent-seeking activities of concerned authorities. An interesting feature that emerged was that formal traders preferred to use mechanisms of informal trading to settle disputes.

The hypothesis posed in the study was that traders would opt for the informal channel if transaction costs of operating through the informal channel are lower than the formal channel. The survey reveals that the transaction costs in the informal channel are significantly lower than in the formal channel in both countries. This aspect was further highlighted when informal traders were asked about why they opted for the informal channel. The survey revealed that factors like quick realisation of payments, no paper work and no procedural delays were instrumental in driving the traders towards the informal channel. The other reasons for the preference of the informal channel could be the lower volume of trade per transaction, lower level of education and lack of awareness of trade rules among the informal traders.

The common attributes between formal and informal traders were analysed in a comprehensive manner by step-wise discriminant analysis. It is used to examine whether informal traders differ from formal ones, and if so, in terms of which characteristics. The analysis of discriminating characteristics of formal and informal traders in India/Bangladesh indicates that transaction cost, level of

education including familiarity with trade rules and type of commodity traded are the most important discriminating characteristics between informal and formal traders in India and Bangladesh.

It is reasonable to surmise that informal trade continues to thrive because the transacting environment of formal and informal trading arrangements give rise to lower transaction costs in the informal channel. The study also indicates that lower education levels and awareness of the policy environment in the informal channel deter traders from accessing the formal channel. An important policy implication from the study is that unless efforts are made to improve the transacting environment of formal traders, informal trade is likely to continue.

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