India's Informal Trade with Nepal: An Exploratory Assessment

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India's Informal Trade with Nepal: An Exploratory Assessment*

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Abstract

The large and vibrant informal trade between India and Nepal continues to thrive despite unilateral/bilateral/regional/multilateral trade liberalisation in the two countries. This calls for an in-depth analysis of India's informal trade with Nepal. Using insights from the ***New Institutional Economics*** informal and formal institutions engaged in cross-border trade are contrasted. 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.

The analysis, carried out on the basis of an extensive survey conducted in India and Nepal reveals that informal traders in India and Nepal have developed efficient mechanisms for contract enforcement, information flows, risk sharing and risk mitigation. Further, informal traders prefer to trade through the informal channel because the transaction costs of trading in the informal channel are significantly lower than the formal channel implying that informal trade takes place due to the inefficient institutional set up in the formal channel. Moreover, lower education levels of informal traders could be an important deterrent for using the formal channel. Finally, the analysis of discriminating characteristics of formal and informal traders in India and Nepal indicates that transaction cost and education level are the two common discriminating factors. An important policy implication from the study is that unless the transacting environment of formal traders improves, informal trade will continue to coexist with formal trade, even if free trade is established in the SAARC region.

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Key Words: Trade; Transaction cost; Institutional arrangements

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India’s Informal Trade with Nepal:

A Qualitative Assessment

1. Introduction

The focus of this study is on India's informal trade with Nepal. 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. This occurs due to the fact that the governance of state machinery does not extend to all corners of society in poor countries.[1] 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, the countries of South Asia have adopted not only unilateral trade policy reforms but have also undertaken liberalisation under Uruguay Round and successive rounds of South Asian Preferential Trading Arrangements (SAPTA).[2] In spite of these developments, the intra-regional trade in South Asia was less than 5% of their global trade in 1998.[3] In addition India and Nepal have gone ahead with a bilateral trading

[1] See Deardorff and Stopler (1990) for the African experience.
[2] In 1991, South Asian countries of Bhutan, Bangladesh, India, Maldives, Sri Lanka, Pakistan, and Nepal decided to establish a preferential trading block in the region. Since then three rounds of SAPTA have been concluded. The member countries have also envisaged the formation of a free trading block by 2001.
[3] See IMF (1999).

arrangement [4]. However, it is too early to say whether this would inject vitality into trade flows in the region. On the other hand informal trade between the two countries continues to thrive. One way would be to focus on the large and vibrant informal trade that India has with Nepal[5]. If such trade is brought within the ambit of official trade, a significant increase in total trade could be witnessed. 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 Nepal. 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. If this is so,

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[4] Under the bilateral Free Trade Agreement between India and Nepal the Government of India provides access to the Indian market free of customs duties and quantitative restrictions for all articles manufactured in Nepal. Nepal on the other hand has imposed a tariff rate 20% lower than its unilateral tariff on all imports from India.

[5] According to Muni (1992) India's informal trade with Nepal was 8 to 10 times of official trade in 1989.

trade through informal channel may actually be preferred. It is also possible that the informal channel has a better payments mechanism or has a good marketing distribution network. These factors would attract traders to the informal channel.

On the other hand, 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.[6] A distinctive feature of the South Asian countries is the inadequate transit and transport systems. This often results in high transport costs in the region and creates a strong incentive for trade to take place through informal channels.[7]

There are other barriers to official trade, which make informal trade a preferred option. 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. It is also possible that banking facilities are inadequate and traders therefore have to use the informal channel for trading.

There are other factors, non-economic in nature. It has to be kept in mind that a large part of the informal trade flourishes because of the traditional, historical, and ethnic links. Another factor that could be an important determinant of informal trade flows is that the traders with lower education may actually have lower access to the formal channel. Thus factors influencing informal trade flows would cover not only the conventional ones arising out of trade and domestic policy distortions but also a host of institutional and non-economic factors.

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. Section 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.

[6] If there is absence or shortage of warehousing facilities, informal channel will be preferred.
[7] See Taneja, 1999.

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 ; 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 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 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 neo-classical economics and from the 'old institutional approach'. While neo-classical 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 neo-classical economics namely cost-less transactions and perfect information and stresses on the role of institutions in facilitating market exchange by reducing transactions costs, providing a predictable framework for exchange and overcoming imperfect information (Assaad 1993; Bardhan 1989).

In the present context it is argued that while both institutional arrangements i.e. the formal and informal facilitate trade in goods across 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 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 Nepal. The details of the sampling frame are given below.

3 Sample Design

India and Nepal share an extremely porous (open) border of length of more than 1800 kilometres spanning over four states in India (West Bengal, Sikkim, Bihar, and Uttar Pradesh) and 25 districts of Nepal. Discussions with knowledgeable people revealed that very little trade (formal or informal) takes place through the border region of Sikkim. Consequently, samples of Indian traders were drawn from the other three states of India. Correspondingly traders were selected in the border region in Nepal.[8]

[8] The centres covered in India were Naxalbari, Jogbani, Raxaul, Banbasa, Nepalganj Road, Nautanwa, Barhni, and Calcutta. The centres covered in Nepal were Kakarbhitta, Biratnagar, Birganj, Mahendranagar, Nepalganj, Bhairwa and Krishnanagar,

It was, ex-ante, decided that contraband high-value goods like gold, silver, diamonds, drugs/narcotics, arms/ammunition would be kept outside the purview of the study. This was done with the twin purposes of obtaining better quality of responses and at the same time reducing the risk of canvassing the questionnaire.

The survey encompassed an equal number of traders in formal and informal trade. Given the time and cost consideration, 154 traders consisting of 77 traders each in formal channel and informal channel were covered. To give a fair representation of the country effect, the sample of 78 Indian traders and 76 Nepalese traders was divided equally between formal and informal traders. The number of sampling units drawn from each centre was proportionate to the relative importance of that centre in formal and informal trading activity.[9]

The sample of formal traders was randomly selected from the list of formal traders kept with the offices of custom department of the selected centres in India and Nepal. By contrast, there was no sample frame for informal traders from which to choose a random sample.[10] Consequently, the list of informal traders to be interviewed in different centres was prepared on the basis of discussions with knowledgeable persons. 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 India revealed that while 31 (79%) of the respondents exported informally, 10 (26%) were engaged in importing activity (see Table 1). In Nepal 20 (53%) were exporters while 19 (50%) were importers. Further it can be seen that while in India only 2 informal traders were engaged in both exports and imports, in Nepal only one trader was engaged in both exporting and importing. Two inferences on trading activity of informal traders can be drawn from the survey data. First, the survey shows that informal traders in both India and Nepal are engaged in either exporting or importing activity. Second, the evidence clearly points to a two-way informal trade

[9] The degree of importance of the various centers of informal trade is based on discussions with groups of informed persons. See Pohit and Taneja (2000) for details.

between India and Nepal. It needs to be pointed out that this is contrary to available evidence, which points out to a one-way informal trade from Nepal to India[11].

The profile of formal traders in the Indo-Nepal survey shows that while in the Indian territory 33 (85%) of them were engaged in exporting, 12 (31%) were importers. In the Nepal territory, 21 (55%) formal traders were engaged in exports and 28 (74%) in imports. Thus, as in informal trade, formal traders are also engaged in a two-way trade. In fact, in formal trade a larger number of traders were involved in both exports and imports than in informal trade (see Table 1).

Table 1 Trading Activity

Category of Trader	Respondents in India		Respondents in Nepal	
	Informal	Formal	Informal	Formal
Exporter	31	33	20	21
Importer	10	12	19	28
Domestic market	20	27	22	23
Formal	-	-	1	-
Informal	-	5	-	5
Total respondents	39	39	38	38

A second aspect that was probed into was the link between formal and informal channels. None of the informal traders in India were using the formal channel while in Nepal there was only one such trader. Five respondents each in India and Nepal in formal trade were using the informal channel. The evidence from the survey points out that by and large traders do not trade simultaneously through both formal and informal channels.

Information was also sought on the type of commodities traded in both informal and formal channels. Since the trading activity of traders revealed that they are essentially engaged in both exports and imports, respondents have been clubbed on the basis of the direction of traded goods. Thus exporters in India and importers in Nepal are classified under 'India to Nepal' while exporters in Nepal and importers in India are classified under 'Nepal to India'. Henceforth this terminology will be used for the rest of the survey wherever the emphasis is on the direction of trade. Table 2 tabulates the percent of respondents trading in at least one item from the different product categories. The survey revealed that 50% of the respondents in the informal sector and 59% in the formal channel

[10] The list of traders included only those who were organisers of trade and not the carriers of smuggled goods across the border.

were engaged in trading in food products from India to Nepal. Other important commodities traded informally from India to Nepal were textiles and consumer goods. In the formal sector 33% of the traders were engaged in trading consumer goods/machinery from India to Nepal. Formal traders were found to be engaged in trading of machinery items and primary products- in both these product categories, presence of informal traders was not significant.

With regard to goods traded from Nepal to India, the commodity markets were generally found to be segmented in the commodity groups mentioned in Table 2. In the informal channel 70% of the respondents were engaged in trading in electronic items while 43% traded in other consumer goods. In the formal channel, food items were the most predominant category traded from Nepal to India followed by other consumer goods.

Table 2 Commodities Traded

	Percent of Respondents			
	India to Nepal		Nepal to India	
	Informal	Formal	Informal	Formal
Food	50	59	13	61
Primary including intermediate goods	8	23	7	27
Textiles	28	18	40	12
Electronics	4	0	70	0
Other consumer goods	30	33	43	48
Machinery	6	33	0	3
Other	0	7	0	3

At a dis-aggregated level, food items namely, rice and pulses, consumer goods namely, salt, and cosmetics, textiles mainly, ready-made garments and fabric were traded informally from India to Nepal.[12] In the formal channel, food items particularly, rice, potatoes, consumer goods such as soaps, biscuits were traded by a majority of traders from India to Nepal. On the other hand, goods traded informally from Nepal to India comprised mainly of electronics items, and a wide range of other consumer goods.[13] In the formal channel, some of the important consumer items traded were mustard, ginger, soaps and detergents, and herbal medicines.

[11] See Muni (1992)

[12] See Pohit and Taneja (2000) for more details.

5 Transacting Environment of Informal Traders

Given the institutional focus of the study the stance of the questionnaire was directed at eliciting information on the transacting environment of informal traders. Information was sought on the controllers of informal trade, sourcing of goods, entry characteristics of informal traders, risk and information, and financing informal trade in order to analyse the institutional mechanism that drives informal trading.

5.1 Sourcing of Goods

An aspect that needs to be examined is whether informal trade is carried out in goods produced locally in and around the border areas. If goods traded informally are predominantly produced locally in the border region, then one can presume that informal trade would be a natural option for local traders. But, if informal traders in India and Nepal deal in goods that are procured from states other than the border areas, then informal trade is clearly much more organised.

Table 3 Sourcing of Goods

Proportion of trade	Percent of Informal Traders	
	Goods from neighbouring states in India India to Nepal*	Third country goods from Nepal to India**
<20%	6	7
20% - 40%	4	3
40% - 60%	16	24
60% - 80%	14	17
80% - 100%	60	49

* Includes respondents in India
** Includes respondents in Nepal

Information was sought on the sourcing of exports from India and of exports from Nepal. In India respondents were asked what proportion of their exported goods were procured from neighbouring states and from other states in India. In Nepal respondents were asked what proportion of the exported goods were procured locally in Nepal and from third countries. The survey revealed that 60% of the respondents engaged in trading in goods from India to Nepal procured 80% to 100% of their goods from neighbouring states viz. Uttar Pradesh, Bihar and West Bengal. On the other hand, 49% of the respondents

[13] Other consumer items exported informally from Nepal to India are electrical goods, crystal, cosmetics, umbrellas, shoes, bags, film roll etc while those exported from India to Nepal are cosmetics, salt, medicines etc.

trading in goods from Nepal to India claimed that 80% to 100% of the goods they traded in were third country goods (see Table 3). It needs to be pointed out that even though a large proportion of trade from Nepal to India is carried out in third country goods, the remaining proportion of trade is carried out in locally produced Nepalese goods.[14]

Thus what does get established from the survey is that while informal trade from India to Nepal takes place in goods produced in local border areas in India, informal trade from Nepal to India takes place essentially in third country goods. Clearly then, there is a sourcing network for procurement of goods for export from Nepal to India that links traders across countries. In fact, informal trade is as organised or better-organised than formal trade for, it implies that there is a sourcing network which involves not just the two countries trading with each other but also other countries. The survey revealed that goods are procured from China, Japan, Thailand, Hong Kong and Singapore.

At this point it is crucial to mention the important features of forms of informal trade from Nepal to India. The informal trade from Nepal to India has two significant forms. First, imports into Nepal from third countries are carried out through the official channel. However, since Nepal is a land-locked country, these goods can reach Nepal only after they cross the Indo-Nepal border.[15] Thus, goods arrive in India either by air or by sea and are then containerised to be transported to Nepal. From Nepal a large proportion of these imports are then informally exported to India. It is important to note here that goods are actually entering Nepal through the official channel but are going back to India across the border informally. This form of trade can be termed as *cross-border informal trade*, which includes not only third country goods but also the locally produced goods in Nepal. A second form of informal trade takes place when Nepal imports goods, but since they are essentially for the Indian market, they are deflected into the Indian market before they enter Nepal. In this form of informal trade, there is no physical transfer of goods from Indian territory to Nepal. Also, such trade is carried out only through the official channel and is often termed as *trade deflection* (Muni 1992).

[14] Some of the local Nepalese items traded informally from Nepal to India are spices, poppy seeds, herbal medicines, resins and stone chips.
[15] Most goods do not reach Nepal directly by air but come to India by sea/air and are then transported to Nepal.

It was also found in the course of the survey that traders engaged in direct imports from third countries were concentrated in Kathmandu. These importers either sell their goods to informal traders in border areas in Nepal or are involved in trade deflection. Traders in the border areas specialise in cross-border informal trading.

5.2 Controllers of Informal Trade

Information was sought on the groups that control informal trade both from Nepal to India and from India to Nepal. In the case of the former we have mentioned the two forms of informal trade that are prevalent. However, since the first step towards either form of informal trade from Nepal to India is official imports into Nepal, traders' perceptions were sought on controllers of imports into Nepal. Seventy-five percent of the respondents claimed that it was the Indian traders in Nepal while 54% of the respondents said that it was local Nepalese traders who imported third country goods into Nepal (See Table 4).

Table 4 Controllers of Imports into Nepal

	Percent of Respondents*
Politicians	0
Bureaucrats	3
Indian Entrepreneurs in Nepal	75
Local Nepalese Traders	54

* Based on perceptions of informal and formal traders in Nepal and India

Information was sought on the controllers of the two forms of informal trade namely cross-border informal trade and trade deflection. The survey responses are shown in Table 5. In the case of cross-border informal trade the survey revealed that of the total number of informal trade respondents in both territories, 54% of them thought that it is controlled by Indian traders in border areas and 46% of them claimed that it was controlled by Indian traders residing in Nepal. On the other hand, an interesting revelation as regards trade deflection was that 39% (of the formal traders) said that trade deflection was controlled by bureaucrats while 27% said that it was controlled by Indian traders in Nepal.[16] This however is not surprising because trade deflection can take place only if Government officials play an active role in connivance with traders. What does get established through

[16] In the course of the survey it was found that such trade was organised by syndicates, run mostly by Indians residing in the border states or the metropolitan cities of India. These syndicates are responsible for distribution of goods. The syndicates operate in close connivance with customs officials.

the survey is that it is Indian traders in Nepal who are controlling informal trade through official channels.

Table 5 Controllers of Cross-border Informal Trade and Trade Deflection

	Cross-border Trade	**Trade Deflection**
Agents	Perceptions of Informal Traders in India and Nepal*	Perception of Formal Traders in India and Nepal*
Indian traders in border areas	54	18
Indian traders in cities	27	19
Indian traders in Nepal	46	27
Politicians in India or Nepal	9	11
Bureaucrats in India or Nepal	16	39
Nepalese traders	36	3

* Respondents were allowed to tick more than one option. All numbers are percent of respondents.

5.3 Entry, Information Channels and Nature of Contracts in Informal Trading

Given the nature of informal trading, how difficult is entry into informal trading? What kind of costs do traders incur to make an entry into informal trading? Firms were asked how they entered informal trading. The survey revealed that in both Nepal and India entry into informal trading was by and large made through friends or relatives (see Table 6). While in Nepal 65% of the respondents entered through friends or relatives in India 58% of the traders entered informal trading through this channel. The evidence points to the presence of non-anonymous transacting. (see Table 6).

Table 6 Entry Characteristics of Informal Traders

	Percent of Respondents		
Entry in informal trading	*Friend*	*Relative*	*Own initiative*
Nepal	47	18	35
India	48	10	42

The mechanism that supports information flows is also very important since what the transacting parties know and do not know will determine systematically the arrangements that will characterise exchange between them. Informal trade hinges on how traders can obtain information on commodities and quantities to be traded. Traders in both India and Nepal were asked how they obtained such information. It can be seen from Table 7 that making personal trips was the most important channel for information for Indian as well as Nepalese traders. It has to be borne in mind that the Indo-Nepal treaty allows for free movement of persons across borders. The fact that there is no visa requirement for cross-border movement makes personal trips a possible and preferred information channel. The second most important information channels are the distribution network and the authorised channel. It is important to note that the distribution network serves the dual purpose of both marketing and information channel. Traders also relied on the authorised channel for information on commodities to be traded. It is important to note that the link with the formal channel is established through procurement of goods. The fact that it is formal traders in Nepal, who import goods from third countries to be sold to informal traders, establishes a link between formal and informal traders. The dependence on official media, enforcement agencies and trade fairs as channels of information flows are virtually absent for traders engaged in informal trader in both countries.

Table 7 Sources of Information Channels

	Percent of respondents
	Nepal and India
Authorised channel	34
Personal trips	77
Distribution network	34
Official media	2
Enforcement agencies	2
Trade fairs	3

Note: Respondents had the option of ticking more than one option.

Given the institutional focus of the study, the stance of the questionnaire was directed towards eliciting information on contractual arrangements between informal trading partners. Respondents were asked how their trade deals were finalised with the alternative of ticking more than one option. 33% of the traders stated that making advance payments were an important instrument for finalising trade deals. Further, 31% of the respondents claimed that prior dealing with the trading partner was an important factor in finalising trade deals. (See Table 8). What is evident from the analysis is that personal contact (through personal trips) with trading partners not only establishes non-anonymity between transacting parties but also ensures knowledge about the attributes, characteristics and features of the trading partners. The evidence that both advance payments and prior dealings are almost equally important in finalising trade deals implies, that while advance payments is the followed norm, prior dealings ensures that cheating, opportunism and shirking will not pay.

Table 8 Finalisation of Trade Deals

Modes	Percent of respondents
	India and Nepal
Advance payment	33
Collateral used	9
Prior dealing	31
Third party reference	21
Goods on credit	22

Note: Respondents had the choice of ticking more than one option.

The infrequent use of collateral in India and Nepal provides indirect evidence supporting absence of significant information asymmetries among transacting parties, which again stems from non-anonymity between trading partners.

5.4 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. Respondents in both India and Nepal were asked about the extent of risk faced by traders in risk attributes arising out of the transacting environment of informal traders. 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. Exporters and importers in the Indian and Nepal territory were asked to rank their perception on the extent of risk ranging from never, rarely to frequent. The survey revealed that the modal range for each of the attributes of both exporters and importers was either 'never' or 'rarely'. The responses were marked by the absence of frequent occurrence as the modal frequency of any risk attribute (see Table 9).

Table 9 Risk Perceptions of Informal Traders

Nature of Risk	Importers' Risk*	Exporters' Risk*
Goods not conforming to specifications:	59 (never)	
Incidence of default in delivery of goods	65 (never)	
Incidence of delay in delivery of goods:	68 (rarely)	63 (rarely)
Default in payment		69 (never)
Incidence of goods lost due to seizure		55 (rarely)

*Percent of respondents in modal class; labels in parentheses refer to modal range in options: never, rarely, and frequently.

Further, in the context of risk associated with seizure, respondents were asked to give their perception on the probability of being caught by enforcement agencies. Table 10 reveals that 74% of the respondents in Nepal and 81% of the respondents in India claimed that the probability of getting caught is less than 0.03. In fact none of the respondents said that the probability of getting caught exceeded 0.1

Table 10 Stylised Facts of Risk for Informal Traders

	Percent of Respondents			
Probability of goods being seized	*<.03*	*0.03 - 0.05*	*0.05-0.1*	*0.1-0.2*
Nepal	74	18	8	0
India	81	16	3	0
Payments to enforcement agencies(%)	*1-3 %*	*3-6 %*	*6-10%*	*> 10 %*
India	59	24	14	3
Nepal	65	25	10	0
Risk sharing in case of seizure	*Equally*	*Primarily by sender of goods*	*Primarily by receiver of goods*	*By the party in the country in which goods are seized*
India	5	95	0	0
Nepal	11	50	25	14

If risk perceived by informal traders regarding various attributes is low, then clearly traders have developed mechanisms to mitigate risk. As mentioned earlier, non-anonymous transacting is an important mechanism that minimises risk in informal trading. Further, informal traders make payments to enforcement agencies to mitigate risk. As Table 10 shows, 59% of the traders in India and 65% in Nepal paid bribes of 1% to 3% of their turnover to enforcement agencies.

Another aspect that needed to be investigated was the risk sharing arrangements between trading partners. Information was sought on the nature of risk sharing arrangements in case of goods being seized by enforcement agencies. Table 10 shows that in both India and Nepal risk was essentially borne by the sender of goods. Since informal trade between India and Nepal is essentially a two-way trade, the arrangement where risk is borne by the sender appears to be the norm.

Information was also sought on the mechanism for dispute settlement among contracting parties. In both Nepal and India informal traders approached the informal trading groups or a third party with mutual consent to resolve disputes. In several cases traders reported that they depended on their ethnic ties to resolve conflicts.

5.6 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 11 shows that 72% of the informal traders in India and 61% in Nepal had to bear transactions cost of less than 10% of their turnover.

Table 11 Transaction Costs

	Percent of Informal Traders			
Transaction Cost	*<10%*	*10% to 20%*	*20% to 30%*	*>30%*
India	72	10	3	0
Nepal	61	36	3	0

Another aspect that was probed into was whether bribes as a percent of turnover had declined with a free trade agreement between India and Nepal. Contrary to expectation, only 13% of the respondents in India and 2% of the respondents in Nepal said that bribes had declined. On the other hand, 44% and 51% respondents in India and Nepal respectively replied that bribes had increased.

Traders were further asked why payment of bribes to enforcement agencies had increased.[17] Traders offered a number of explanations. Most of the traders said that custom officials in border areas and officials from the 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.

5.7 Financing Informal Trade

Intrinsic to the activity of informal trading is the issue of financing such activities since cross-border trade transactions are complete only when payments are made. Information was sought on the transacting environment of financing informal trade. The issues here are- what are the sources of finance for informal trading and what are the modes of financing such trade.

The survey revealed that all the respondents in India and 97% of the traders in Nepal raised at least some proportion of finances from their own funds. Borrowing from friends and relatives was the second most important source of financing (see Table 12). The role of informal moneylenders and the use of the official or formal banking system for borrowing funds were not considered important in both India and Nepal.

Table 12 Sources of Finance for Informal trade

	Percent of Respondents	
	India	Nepal
Friends and relatives	23	47
Informal money lenders	10	13
Banks	0	5
Own finance	100	97

Note: Respondents were given the choice of ticking more than one option.

It can be seen from the table that a majority of the exporters and importers in both India and Nepal financed between 80% to 100% of trade in the Indian currency. In fact it was found in the course of the survey that the Indian currency was readily accepted in Nepal.

6 Transacting environment in Formal Trading

It has been noted earlier that the trade between India and Nepal is governed by Indo-Nepal Treaties of Trade, of Transit, and Agreement for Co-operation to Control Unauthorised Trade, 1996. Under this treaty, India provides on a non-reciprocal basis without quantitative restrictions (QRs) duty free access to the Indian market for all but a

[17] This was an open-ended question to elicit informal traders' perceptions.

few Nepalese manufactured products. Such imports from Nepal are facilitated through a procedure of Certificate of Origin issued by Federation of Nepalese Chambers of Commerce and industry and other affiliated Chambers of commerce to which this power has been delegated by His Majesty's Government of Nepal (HMGN). However, Nepalese import continues to be subjected to Indian countervailing duty. Furthermore, there is provision in the treaty for goods which do not fulfil the conditions required by the Certificate of Origin, to obtain preferential treatment in India provided they are manufactured in the small scale units in Nepal. The GOI extends parity in the levy of Additional Duty on such Nepalese products equal to the treatment provided in the levy of effective Excise Duty on similar Indian products under the Indian Customs and Central Excise Tariff. On its part, Nepal exempts, wholly or partially, imports from India from customs duty and QRs to the maximum extent compatible with their development needs and protection of their industries. Also, both the countries, on a reciprocal basis, would exempt the import of such primary products from basic custom duty as well as from QRs, as may be agreed upon, from each other. Bilateral trade between the two countries would normally be conducted in Indian Rupees, though provision exists for importing few commodities from India against payment in convertible currency. Moreover, the treaty states that payment for transactions between the two countries would continue to be made in accordance with their respective foreign exchange laws, rules, and regulations.

While the treaty provides incentive for Indo-Nepal bilateral trade, it does not imply that the exporters/importers would be waived from import/export documentation procedures. For an Indian trader, exporting through official channel consists of several steps starting with obtaining import-export licenses, imports for exports etc, quality control certification, and ending with receiving export remittances through banks. Importing legally is by no means simple for an Indian trader as it also involves several steps such as obtaining import licenses, letter of credit authorisation form, availability of finance, freight and insurance certificates, clearance from custom, etc. While these procedures are present in some form in the trade regulations of Nepal, Nepalese traders benefit to some extent due to the simplicity of rules in Nepal. For instance, all imports may be brought in Nepal without a licence barring a few banned or restricted items such as (a) products injurious to health;

(b) arms and ammunition etc (c) communication equipment etc, (d) valuable metal and jewellery, and (e) beef and beef products.

In general, documentation requirements are extensive for Indian traders and delays are frequent. They exist for the Nepalese traders as well though on a lower scale. All these procedural complexities along with institutional bottleneck and lack of information transparency give rise to rent-seeking activities by the officials at various stages of trading. These cost traders time, money and cash, including additional detention and demurrage charges, making it more expensive to trade. Following Coase (1960) terminology, we have called these as 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 Nepal? Below, we have made an attempt using our survey information to quantify the transaction cost of formal trading activities in Nepal and India.

The export-import policy documents of India and Nepal are scanned to understand the nature and magnitude of procedural complexities at different stages of export/import transactions. Since trade regulations are not same in both the countries, we have decided to compare the sources of transaction cost at the following steps that are common to most trade transaction:[18] (1) problem in obtaining different licenses, (2) problem associated with custom authorities,[19] (3) problems relating to banks, (4) problems associated with transportation of goods.

Table 13 shows our survey findings on the incidence of transaction cost (measured in terms of percentage of traders indicating positive cost) in India and Nepal arising from the above four sources. As columns (2) and (3) of this table shows, Nepalese traders faced fewer problems due to licensing-- 49% of Nepalese traders indicated that they had faced positive transaction cost against 55% of Indian traders.[20] Note that traders in both countries indicated that incidence of transaction cost due to custom problem are few. This is expected since trade between them is in all reality free of tariff and quantitative restriction.

[18] Another source of transaction cost could be obtaining various duty refunds. However, most of the traders in our survey answered that question as *not applicable.* So, we have not analysed this source of transaction cost.
[19] For exporters from Nepal, this includes problems faced in obtaining rules of origin certification.

With regard to problem relating to banks and transportation, our survey revealed that occurrence of problem (thereby positive transaction cost) is marginally more in the Nepalese territory.

Table 13 Profile of transaction cost

Stages of transactions	% of traders indicating positive cost in		% of Indian traders reporting additional time required (in days)			% of Nepalese traders reporting additional time required (in days)		
	India	Nepal	1-10	11-19	> 20	1-10	11-19	> 20
Licenses	55	49	25	35	50	30	9	61
Custom	14	18	100			100		
Banks	30	36	100			93	7	
Transport.	46	48	100			92	8	

Table 13 also depicts the break-up of the additional time taken at different steps of transaction. The additional time taken is estimated in 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 reveals that licensing typically takes more than 20 extra days for 50 percent of Indian traders requiring additional time. Moreover, 35% of the remaining Indian traders have to spend 11 to 19 additional days to sort the licensing problem. It takes less than 10 additional days only for 25 % of Indian traders. By contrast, Nepalese traders indicated that licensing required more than 20 days for 61% of traders, 11-19 days for 9% of traders and less than 10 days for 30% of traders. Table 14 also shows that Nepalese traders in comparison to Indian traders faced higher transaction cost (in terms of additional time required) from their respective authorities due to banking and transportation problem.

Finally, what is the magnitude of combined transaction cost as share of their turnover? The relevant data are tabulated in Table 14. As this table shows, the transaction cost as percent of turnover is lower in Nepal than in India. Note that 36% of the respondents in India have indicated that transaction cost could be more than 30% where as only 16% of the respondents in Nepal have reported it to be more than 30%. It should be mentioned that the bribe component of transaction cost as percent of turnover in both countries usually lie

[20] Whenever a trader indicates that he has faced problem at licensing stage, we consider it to be a incidence of positive transaction cost.

between 1% to 5%. Further, our survey of traders engaged in Indo-Nepal trade indicates that payments to officials as bribes for export/import activities never exceed 10%.

Table 14 Magnitude of Transaction Cost in Indo-Nepal Trade

Transaction cost as percent of their turnover in the range of	Percent of respondents in	
	India	Nepal
Less than 10%	33	18
10% to 20%	13	42
20% to 30%	18	24
More than 30%	36	16

Note: Transaction cost here includes total payment as bribes to officials at various stages plus transportation cost plus cost of credit.

As in the case of Indo-Nepal survey, respondents were asked whether bribes as a percentage of their turnover have declined over time due to greater transparency as a result of liberalisation. Only 6 % of formal traders in Nepal and 12% in India have indicated that bribes have declined. By contrast, 42% in Nepal and 38% in India have claimed that bribes have increased.[21]

An interesting feature that emerged was that formal traders preferred not to take recourse to law when faced by any kind of risk 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 India/Nepal 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 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. Factors influencing informal trade can be classified under three broad categories- (i) those that are related to the policy environment (ii) institutional factors and (iii) non-economic

[21] 52% and 50% of respondents in Nepal and India respectively have indicated status quo.

factors. Both informal and formal traders were asked to tick the factors they considered important in influencing informal trade. Traders in both countries were classified on the basis of the direction of movement of goods. Table 15 shows that for traders involved in sending goods from Nepal to India, goods imported from third countries was the most important factor. This factor is clearly related to the difference in tariffs with the rest of the world prevailing between Nepal and India. In the context of SAFTA, this implies that third country goods do not meet the requirement of rules of origin principles and are therefore traded informally from Nepal to India. What can be inferred is that tariffs play a crucial role in determining the informal trade flows from Nepal to India.[22] Other important factors were all related to institutional factors. No paperwork, lower bribes and quick realisation of payments in the informal channel were cited as the most important factors influencing informal trade from Nepal to India (see Table 15).

Table 15 Reasons for Informal trade (Percent of Respondents)

	Nepal to India	India to Nepal
Low transportation costs	43	55
Lower time to reach destination	20	28
Imported from third country	70	0
No paperwork	62	78
No procedural delays	42	66
Lower bribes	60	48
Quick realization of payments	44	70
Presence of haats/bazaars	13	36
Absence/shortage of storage/warehousing facilities	8	17
Ethnic ties across the border	15	31
Absence of trading routes	1	8
Leakage of administered price goods	1	3
Presence of high duty in official channel	34	27
Quantitative Restrictions	10	17
Easier to meet demand from across the border rather than the domestic market	25	23
Nexus between BSF personnel and the traders	27	35
Nexus between traders and politicians	4	4

On the other hand institutional factors are the most important factors influencing informal trade flows from India to Nepal. The important ones are- no paperwork, quick realisation of payments and no procedural delays. All these factors give rise to transaction costs in the

[22] The difference between Nepal and India's tariff rates on goods traded informally from Nepal to India

formal channel. A spearman's rank correlation of the ranking of the factors influencing trade flows from Nepal to India and from India to Nepal was only 0.58. The factor, which could be causing such a low correlation, is the importance of third country goods in informal trade flows from Nepal to India. On eliminating this factor, the rank correlation increases to 0.89. The difference in the rank correlation can thus be ascribed to the relative importance of third country goods in informal trade flows from Nepal to India.

8 Discriminating Characteristics of Formal and Informal Traders

In the earlier sections, we have analysed empirically characteristics of formal and informal traders engaged in Indo-Nepal 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.

8.1 Univariate Analysis of Differences

The univariate test applied here is non-parametric. The advantage of using a non-parametric test is that it does not assume any specific distribution of the population under analysis. The test is appropriate since we have very little knowledge of the population (i.e. informal traders). The Wilcoxon signed-rank test is applied here since it is one of the most powerful ones among the non-parametric tests.

The results of the univariate statistical tests in terms of twenty parameters governing different aspects of trader/trade are depicted in Table 16. As this table indicates, the tests have been carried out separately for the characteristics of Indian traders and Nepalese traders. The database comprises of thirty-nine pairs of traders for India and thirty-eight pairs of observations for Nepal. A one-tailed test has been conducted (at a 10% level of

ranged between 5% and 30%.

significance) since we have prior hypotheses regarding the direction of the difference in many cases.

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 examine the transacting environment of both informal and formal traders and also to arrive at the transactions costs that traders incur.[23] The sign-rank test suggests that transaction cost in formal in India as well as in Nepal is significantly higher than the informal counterpart.

Does a lower level of education amongst informal traders act as deterrent to the use of the formal channel? The result of the test indeed proves our a priori 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 that awareness of SAFTA is less among the informal traders than their formal counterparts.

It has also been argued in Taneja (1999) that ethnic ties/family linkages play a dominant role in aiding/abetting informal trade. The test indicates that informal traders show significantly more ethnic linkages than the formal ones in both India and Nepal.

The next five parameters are constructed to test whether informal traders have developed better or more efficient mechanisms for information. It is possible that because of the poor transport networks and storage facilities, informal trader plays an important role in narrowing down the short-term demand/supply gap in the border regions. If that is so, the informal trader relative to formal counterpart should not carry out transaction in the same commodity over time. Moreover, the same should indulge in trading more commodities depending on the demand/supply condition. The results of the test indicate that on both counts, significant differences in attributes are observed for Indian as well as Nepalese traders.

[23]Transaction costs for informal traders includes 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, transportation costs including insurance and cost of credit.

How well the information channel for informal trading arrangement 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 informal trading arrangement in India as well as Nepal takes less time for subsequent trade deals than the formal counterpart. However the null hypothesis is accepted in both the territories for the other attribute, namely, *time taken for first trade deal*.

If the informal traders function because of short-term demand/supply gap, and they shift their commodities from time to time, their margin should exhibit higher fluctuation than the formal one depending on the demand/supply situation. On the contrary, the test for the Nepalese traders shows that the fluctuation of margin is more for the formal trader. However, the test fails to identify any differences for the Indian traders.

The next attribute relates to the combined risk (viz., goods not conforming to specification and incidence of default/delay in delivery) that a traders face in carrying out their transaction. Since informal trade is not legal, do the informal traders face higher risk? The statistical tests fail to identify any significant differences in risk between the two of trade in either country.

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 institution under this head. How do they meet their financing need? Do they use their own finance for carrying out business? Inference from the test is that for the Indian traders, own finance plays a larger role in informal trade than the formal counterpart. However, the picture on the Nepalese territory is just the opposite: own finance is more in the case of formal traders than the informal one.

If a trader needs to borrow, the formal one has access to legal banking sector while the informal trader has access only to the informal banking sector.[24] The latter market usually carries a higher interest rate. What do our survey findings indicate on this count? The analysis indicates that Indian informal traders pay higher interest rate than the formal one whereas the test fails to bring out any significant differences in the interest rate between the two types of traders in Nepal.

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[24] Of course, an informal trader may borrow from banking sector for a different purpose and uses the loan for informal trading. This is feasible, for instance, if he also trades in domestic market.

How different are the sourcing patterns of formal and informal traders? It has been argued in the earlier section that third country import is an important component of India's informal import from Nepal. Statistically speaking, one can hypothesise that third country import into India is more in the informal channel than in the formal channel. Our evidence from the test shows that this phenomenon is more in the case of informal trade.

Transporting goods from eastern part of Nepal to western part is costly as the roads run through hilly region. In this situation, it is reasonable to bring goods, formally or informally through neighbouring region in India. If official trading routes are inadequate in the area, traders in both the countries will meet their demand from neighbouring region. Is this pattern more in the case of informal trade? Our test fails to identify any significant differences in the attributes *local area trade* between the two types of traders in India or Nepal.

Table 16 Results of Wilcoxon's Signed-ranked test

Sl. No.	Parameter	Nepalese Territory*		Indian Territory*	
		Z statistics	Inference	Z statistics	Inference
1	Transaction Cost (TC)	4.575	Fo>If	4.488	Fo>If
2	Education level (Edu)	2.417	Fo>If	1.333	Fo>If
3	Awareness of SAFTA (SAFTA)	2.50	Fo>If	2.485	Fo>If
4	Ethnic ties (Ethnic)	-1.706	Fo<If	-2.810	Fo<If
5	Number of commodities traded (Com #)	2.821	Fo>If	3.233	Fo>If
6	Trading in same commodities (Same)	2.029	Fo>If	1.947	Fo>If
7	Time taken for first trade deal (TimFr)	1.138	Accept null	1.244	Accept null
8	Time taken for subsequent trade deals (TimSq)	2.936	Fo>If	2.819	Fo>If
9	Margin fluctuation (MarFl)	3.704	Fo>If	-1.213	Accept null
10	Risk	-1.211	Accept null	-1.112	Accept null
11	Own finance (OwnFin)	1.76	Fo>If	-2.768	Fo<If
12	Interest rate (Int)	-0.915	Accept null	-2.485	Fo<If
13	Third country import (Nepm)	-4.412	Fo<If	-2.823	Fo<If
14	Local area trade (Local))	1.117	Accept null	.534	Accept null
15	Turnover	5.421	Fo>If	4.307	Fo>If
16	Rate of entry/exit (Ent/Ex)	0.830	Accept null	0.16	Accept null
17	Trading Period (TrdPrd)	2.820	Fo>If	0.314	Accept null
18	Presence in domestic market (PreDom)	1.295	Fo>If	-2.485	Fo<If
19	Profit	1.603	Fo>If	-2.632	Fo<If
20	Border price differential (BorPr)	2.751	Fo>If	-0.231	Accept null

* Fo pertains to formal while If pertains to informal. Tests have been carried out at 10% level of significance

Is the informal trading characterised by 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 formal one? The statistical test on rate of entry and exit fails to identify any differences in the traders in either country. However, the test for the attribute, *trading period,* suggests that formal traders in Nepal are typically in business over a longer period than the formal one.

Do informal traders have a larger presence in the domestic market than formal traders? The test suggests that while in Nepal formal traders have larger presence in domestic market in the Indian territory informal traders exhibit a larger presence in the domestic market.

Maximisation of profits is the objective function at individual level in any trading activities. Naturally, one ponders whether there is significant difference between the profit margins in the two channels. The test on differences in profit margin of Nepalese traders between the two channels is rejected in favour of the alternative hypothesis of lower profit margin in the informal traders. However for Indian traders, we find that profit margin is more for the informal traders.

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 result partially supports the hypothesis in the sense that higher border price differential prevails for trading through formal channel in the Nepalese traders.

8.2 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.[25] The discriminant analysis involves the fitting of linear discriminant score function on the basis of observed data on a number of discriminating variables of

[25] It has been shown that discriminant analysis is a rather robust technique and can tolerate deviation from its basic assumptions, viz. (1) discriminating variables are independent; (2) the population co-variance

individuals whose group membership is known. These functions (sometimes known as classification functions) can classify further cases into the 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 discriminant score functions estimated are of the form:

$$Y_i = \beta_{io} + \beta_{i1} X_{i1} + \dots + \beta_{in} X_{in} \quad (1)$$

Where Y_i is the discriminant score for i = formal trade or informal trader; X_{ij} is the jth discriminating variable (for j = 1 to n); and β_{ij} is a coefficient.

An individual observation is classified into the groups for which the discriminant score on the basis of its observed values is higher. The goodness of fit is judged in terms of significance of mean difference between groups, which can be expressed as F-ratio, and the ability of the fitted discriminant functions in correctly classifying the individual cases.

The practical consideration however demands that too many variables may not prove to be good discriminators. Therefore, a step-wise procedure to select the significant discriminators was adopted. The procedure 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 contributes 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 multivariate analysis is carried out on Nepalese traders followed by on Indian traders.

Discriminant Analysis of Nepalese traders

The univariate analysis of statistical significance of differences of Nepalese traders has identified 15 attributes. Since discriminant analysis demands that none of discriminating variables should have high correlation with other variables, one needs to drop several of the variables. Taking the criteria of cut-off point of correlation between two variables as ±0.4, the following five variables were dropped: number of

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matrices are similar for each group; (3) each group is drawn from populations having multivariate normal commodities traded (Comm #), time taken for subsequent trade deals (TimeSq), trading in same commodities (Same), share of own finance (OwnFin) and fluctuation of margin (MarFl) to begin our discriminant analysis.[26]

Table 17 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 4 of the 10 variables to be significant discriminants, namely turnover, education, third country import, and transaction costs. The remaining ones are not significant in the multivariate context as they do not add to the discriminating information contributed by the significant variables. Note that except for the parameter third country import, none are direct policy related parameters.

Table 17 Discriminant Analysis of Nepalese Traders*

Steps	Discriminating variable entered	F to enter/ remove	Degrees of Freedom	No. of variables included
1.	Turnover	44.570	F(1,74)	1
2.	Edu	17.503	F(1,73)	2
3.	Nepm	10.337	F(1,72)	3
4.	TC	7.076	F(1,71)	4
Percentage of Formal trader correctly specified				89
Percentage of Informal trader correctly specified				95

* The tests are done at 5% level of significance.

<u>Discriminant Analysis of Indian traders</u>

The univariate analysis of characteristics of Indian traders has identified 13 factors. However, we drop the following five parameters--own finance (OwnFin), interest rate (Int), time taken for subsequent trade deal (TimSq), trading in same commodities (Same), number of commodities (Comm #) -- to ensure that all the discriminating variable satisfy the cut-off point of correlation (±0.4). The logic behind dropping these variables is as follows. The variables OwnFin and Int are found to be correlated with each other and

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distribution (see Klecka, 1980, Jackson, 1983).

[26]TimeSq is correlated with TC since the latter takes into account time element of the cost. So, TimSq is omitted. The variable MarFL is found to be correlated with variables such as BorPr, PreDom and hence is dropped. The variables Same and Comm# are found to be correlated with each other and MarFl, BorPr, PreDom and so we have decided to exclude them. OwnFin is found to be correlated with Turnover and TC. Since the other two are cause type variables, we have omitted OwnFin. See Table 17 for explanation on the notations of the variables.

Turnover. Since Turnover is the cause type variables, we have decided to include it and exclude the other two variables. The parameters Same, Comm# are dropped since they are mutually correlated variables and are correlated with BorPr, and PreDom. The variables TC and TimSq are correlated with each other since by its nature the variable TC takes into account time element of the cost.

Table 18 shows the step-wise procedure and variables selected in the discriminant analysis. Out of the eight potential variables, the procedure select only the following three attributes-- transaction cost, ethnic linkage, and education level.

Table 18 Discriminant Analysis of Indian traders*

Steps	Discriminating variable entered	F to enter/ remove	Degrees of Freedom	No. of variables included
1.	TC	12.040	F(1,76)	1
2.	Ethnic	8.563	F(1,75)	2
3.	Edu	6.983	F(1,74)	3
Percentage of Formal trader correctly specified				74
Percentage of Informal trader correctly specified				84

* The tests are done at 5% level of significance

In summary, our analysis suggests that trade related distortion is not the main cause for the continuation of informal trade. In fact, our analysis has picked up only one parameter namely, third country import, related directly to trade policy. By contrast, transaction cost, and education level, which are not directly related to policy distortion, are found to be 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 Nepal. 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 Nepal. 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 data points to the evidence of a two-way informal trade. The survey data was also used to understand the sourcing network for procurement of goods for informal trade. The survey reveals that goods traded from India to Nepal are procured by and large from the neighbouring Indian states of Bihar, Uttar Pradesh, and West Bengal bordering Nepal. On the other hand, goods traded informally from Nepal to India are by and large goods originating in third countries, the most important ones being China, Japan, Thailand, Hong Kong and Singapore.

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 had developed efficient institutional mechanisms that ensured trade across national boundaries. Evidence from the survey supports the view that informal trading arrangements between India and Nepal are characterised by non-anonymous transacting environment. 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 and authorised channel are the other important channels 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 both exporters and importers 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 transacting environment of formal trade in India/Nepal indicates that the inefficiencies of the trade regimes give rise to rent seeking activities of concerned authorities. This is true even though Indo-Nepal trade takes place under the bilateral Indo-Nepal free trade agreement. 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 informal channel are lower than the formal channel. The survey reveals that the transaction costs in the informal channel are significantly lower than the formal channel in both the 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 informal channel. The other reasons for the preference of informal channel could be the lower size of informal trading firms, lower level of education, and lack of awareness of trade rules among the informal traders. However, a large proportion of informal trade flows from Nepal to India is in goods imported from third countries, influenced by import tariff (with the rest of the world) differential between India and Nepal. In fact, this factor was identified as the most important factor influencing informal trade flows from Nepal to India.

The common attributes of formal and informal traders engaged in Indo-Nepal are analysed in a comprehensive manner by step-wise discriminant function to control for possible mutual interaction. It is used to identify the characteristics that in combination differentiate formal traders from informal traders. The analysis identifies for the Nepalese traders the following four discriminating characteristics: size of the firm, education level of traders, transaction cost of trading and third country imports. By contrast, transaction cost of trading, ethnic linkage of traders and their education levels are the differentiating characteristics of the Indian formal traders from their informal counterpart.

It is reasonable to surmise that even with a rapid pace of liberalisation set by the free trade agreement informal trade continues to thrive. However since trade from Nepal to India takes place largely in third country goods, with lowering and equalisation of tariff walls, such trade is likely to diminish but may not disappear, since the transaction cost of operating through the informal channel is lower than the formal channel. Informal trade from Nepal to India in goods other than third country goods is likely to continue since such trade is taking place due to lower transaction costs in the informal channel. On the other hand informal trade from India to Nepal is taking place in locally produced goods. Clearly then such trade will continue to take place through informal channels. An important policy implication from the study is that unless the transacting environment of formal traders improves, informal trade will continue to coexist with formal trade, even if free trade is established between India and Nepal.

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