Informal Trade in the SAARC Region:
A Case Study of India, Sri Lanka and Nepal

Nisha Taneja

Indian Council for Research on International Economic Relations, New Delhi, India

Muttukrishna Sarvananthan

International Centre for Ethnic Studies, Colombo, Sri Lanka

Binod K. Karmacharya

Nepal Council for Development Research, Kathmandu, Nepal

Sanjib Pohit

National Council for Applied Economic Research, New Delhi, India

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1. Introduction[1]

1.1 Background

Informal trade or unrecorded trade is broadly defined to include all trade activities between any two countries which should be included in the national income according to national income conventions but are presently not captured by official national income statistics.

There are two key issues that are at the forefront of studying informal trade in the South Asian region - the magnitude of such trade and the institutional mechanism by which such trade is undertaken. The former would involve preparing estimates of India's informal trade with other South Asian countries in terms of value, volume and pattern of informal trade. Such estimates are important since they would reflect the extent of potential trade that exists in the region. As recorded trade statistics may give a misleading picture of the actual trade taking place, poor regional trade policies are formulated. In the latter it is important to examine the institutional mechanism that drives informal trade which would involve answering questions such as, what is the transacting environment in which informal trade takes place, why it takes place, how it differs from formal trade and what implications it has for regional agreements on formal trade?

The present study aims at preparing estimates of informal trade in the region where such estimates are lacking or inadequate and examining the institutional aspects of informal trading for countries where such an analysis has not been undertaken. These

[1] We are grateful to K.L. Krishna for useful comments on an earlier draft of the study. We are also grateful to Sumana Majumdar for providing able research assistance throughout the study. Thanks are also due to Sonam Gupta for assisting in the early stages of the study.

gaps are with regard to (i) preparing estimates of India's informal trade with Sri Lanka and Nepal, and (ii) examining institutional mechanisms supporting informal trade between India and Sri Lanka.[2] The study is based on surveys carried out in India, Sri Lanka and Nepal.

1.2 Framework for Analysis

What is the rationale for estimating the magnitude of informal trade through primary survey? Perhaps the prime question is why the study does not use secondary data for estimating the value of informal trade. As one of the prime objectives of the study is to prepare estimates of the value of unrecorded trade flows, analysis based on secondary data may not be very meaningful. Some studies have tried to estimate the value of illegal trade activities through the method of Partner-Country Data Comparison. Basically, the method involves comparing the export/import data of the trading partners concerned.[3] Using recorded trade statistics, a countries export should match the corresponding import by its partner country and vice versa. If the figures do not tally it implies the presence of false invoicing, the extent of which is a measure of informal trade.[4] However, if trade is not recorded at both ends which is a prominent feature in the South Asian countries, then partner-country data comparison is not a valid method. As for the present study we have defined informal trade as unrecorded trade flows that are not captured by official national statistics we need to use primary data generated through a survey for quantification of such flows.

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[2] Studies on Indo –Pakistan informal trade continues to be a gap in the literature on studies on informal trade in South Asia.

[3] For an extremely lucid account see Sarvananthan (2001b)

[4] See sarvananthan (2001b) for caveats to the method of partner country data comparisons.

In order to understand the functioning of informal trading markets the analysis has been carried out using the framework developed in Pohit and Taneja (2000). In this paper a more formal presentation of the framework is attempted. The current analysis is carried out using insights from the New Institutional Economics (NIE). A salient feature of the NIE is that acquiring market information and concluding market transactions have costs and this feature is absent in the theoretical framework of neo-classical economics. Institutions are intermediaries through which information and transaction costs are reduced. The NIE incorporates transaction costs in exchange relationships and takes into account the impediments to economic performance caused by institutions, which is an improvement over neo-classical economics (Harriss, Hunter and Lewis, 1995: 3). Accordingly, NIE provides a relatively predictable framework on the role of institutions in facilitating exchange by reducing transaction costs and overcoming imperfect information as compared to neo-classical economics. (Assaad 1993; Bardhan 1989).

Landa (1994) goes beyond the NIE paradigm and brings to focus the role of ethnic trading networks in developing societies as an alternative to contract law in developed societies. Thereby she integrates sociological and anthropological concepts with NIE. Thus, ethnic trading networks functions as an institution that facilitates economising on transaction costs of traders. Landa draws her arguments from the experience of Chinese traders in Southeast Asia. Likewise, MacGaffey and Bazenguissa-Ganga (2000) highlight the ethnic, kinship, religious, and friendship networks of Congolese traders that transcend international boundaries. Sarvananthan (2001b) also highlights the role of ethnic affinities of Tamils and Muslims of Sri Lanka for understanding the nature, causes and effects of Indo-Lanka informal trade.

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. A rational behaviour would imply that a more efficient institution (in terms of lower costs) should be preferred over less efficient one (Coase 1960).

As transaction costs arise from the transacting environment of informal and formal trade, it is important to understand transacting environments in which exchange takes place. In fact examining the transacting environments would enable discerning factors influencing informal trade. 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. At the same time contracting parties in informal trade cannot resort to law for the violation of terms of the 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. At the same time, it is important to understand the institutional structure that supports formal trade where exchange is affected by factors such as administrative processes, government rules and regulations, infrastructure bottlenecks etc.

1.3 Methodology

Both aspects of informal trade namely, (i) estimation of India's informal trade with Sri Lanka and Nepal and (ii) assessment of the characteristics of informal trading between India and Sri Lanka, are investigated through a survey carried out in India, Sri

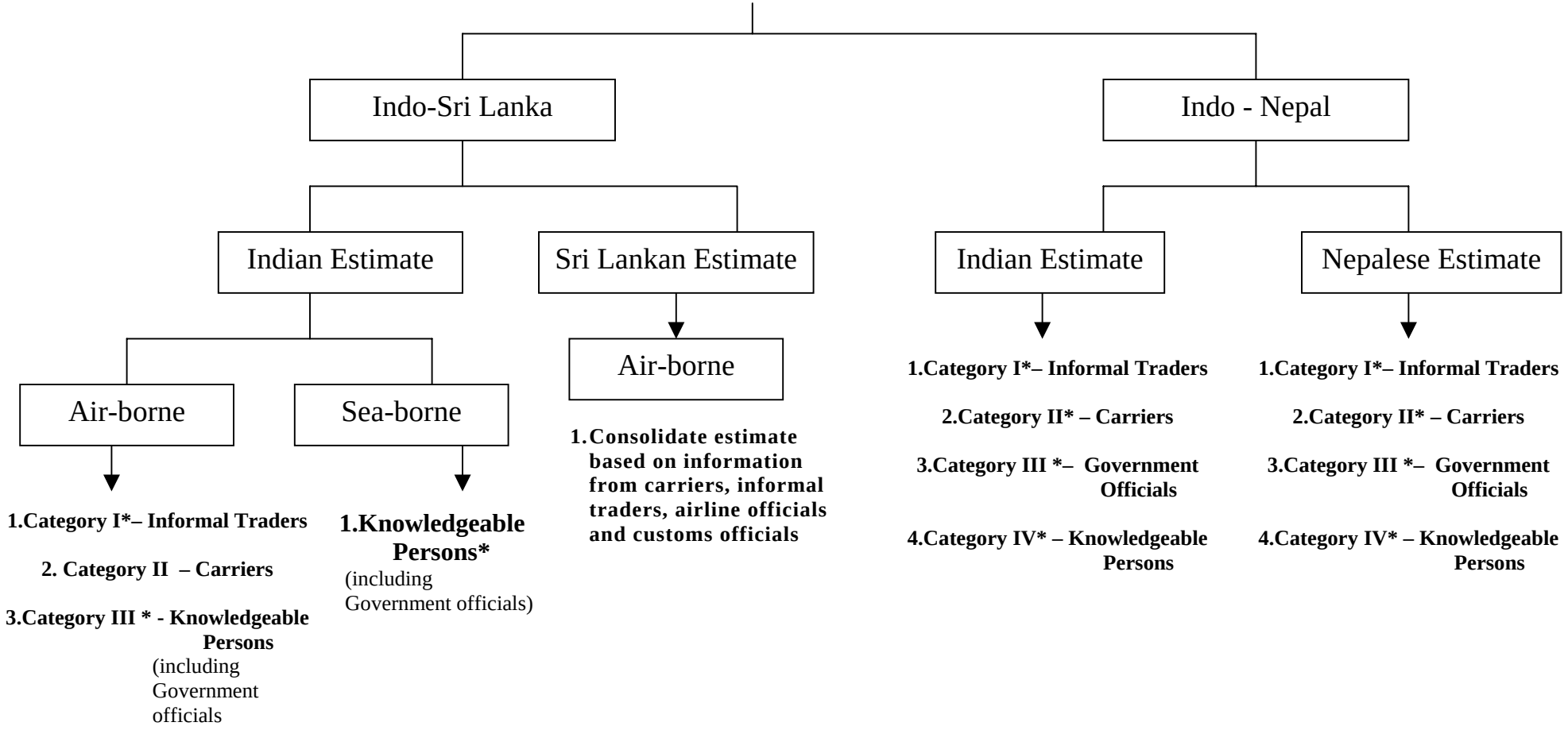
Lanka and Nepal. While the former involves two rounds of survey on the same set of respondents, in the case of the latter only one survey was carried out.[5]

1.3.1 Estimation of India's Informal Trade with Sri Lanka and Nepal

The magnitude and pattern of India's informal trade with Sri Lanka and Nepal have been estimated through a primary survey using the Delphi technique which is essentially a set of procedures for eliciting and refining the opinions of a group over successive rounds of interviews with it. The responses of the first round of interviews with a group of respondents are synthesised and the collective information of the group is presented to each respondent of the group in a second round of interviews to enable them to reconsider their responses. The responses obtained in successive rounds are thus based on feedback provided to the group of previous rounds. The number of rounds or iterations is continued till a consensus emerges or reasons for lack of convergence are documented.

[5] In India, the Economic Information Technology (EIT) of Kolkata was selected to canvass the survey instruments as it has a core team that has carried out earlier surveys on informal trade.[5] In Sri Lanka and Nepal a survey team with prior experience of carrying out surveys was selected as a team to canvass the survey instruments.

Exhibit 1
Estimation of Informal Trade



Note: *Second round estimates obtained

For the purpose of the study, some modifications of Delphi were carried out. For instance, instead of one group of respondents, several broad categories of respondents were defined. A distinctive feature of Indo-Sri Lanka informal trade vis-à-vis Indo-Bangladesh and Indo-Nepal informal trade is that the former is entirely airborne and sea-borne (Sri Lanka being an island nation), whereas the latter two are predominantly across land borders. For air-borne informal trade, in the Indian territory, Category (I) comprised of informal traders, Category (II) comprised of carriers, Category (III) comprised of 'knowledgeable persons'. In the Indian territory, in order to prepare estimates of informal trade between India and Sri Lanka, three sets of estimates were obtained, one each from the three groups of respondents. To prepare estimates from Category (I) and Category (II), information was elicited on perception of centre-level commodity-wise estimates of informal trade. To prepare estimates of air-borne informal trade from the 'knowledgeable persons' (see exhibit) category information on the proportion of the air passenger traffic between India and Sri Lanka primarily for the purpose of informal trade and on the total value of informal trade carried out by each informal trader/carrier was elicited from airline and customs staff, immigration officials, other knowledgeable persons from chambers of commerce, formal traders, local people, media and any other persons who could be identified by the survey team. In the Sri Lankan territory, the methodology used for obtaining estimates of air-borne informal trade was modified. Instead of obtaining separate estimates from each category of respondents, information from four different groups of respondents namely, carriers, informal traders, airline officials and custom officials was used to arrive at a consolidated single estimate for informal trade. To determine the proportion of the air passenger traffic between India and Sri Lanka which is primarily for the purpose of informal trade the expert knowledge of well informed personnel such as airline and customs staff was elicited. However, to estimate the value of goods carried by each

informal trader/carrier information was elicited from the informal traders/carriers themselves rather than from the official category. It was not possible to obtain separate estimates for carriers and informal traders as information on proportion of informal traders and carriers was not known.

For estimates of sea-borne trade, given the nature of trade, and the associated risk factors, in the Indian territory estimates were obtained by identifying respondents in the 'knowledgeable persons' category. Information from respondents was elicited on centre-level commodity-wise perceptions of informal trade. Estimates of sea-borne informal trade between India and Sri Lanka could not be obtained from the Sri Lankan territory given the sensitivity of the subject of the study.[6]

For the Indo-Nepal survey, Category (I) comprised of informal traders, Category (II) comprised of carriers engaged in transporting goods across the border, Category (III) comprised of Government officials namely Customs officials, Border Security Force, Police and Local Administration and Category (IV) comprised of knowledgeable persons which included persons from chambers of commerce, formal traders, local people, politicians, retired officials, local media, and any other knowledgeable persons who could be identified by the survey team.[7] Estimates on informal trade were prepared on the basis of responses obtained on centre level perceptions on commodity- wise informal trade.

The summarised responses of the first round in each group were provided to the respondents in the second round, where respondents were given the chance to revise their opinion. While the initial effort was to attempt successive rounds, the number of

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[6] See Sarvananthan 2001b, Chapter 4.

[7] Category(III) and Category (IV) defined for Indo-Nepal were combined for Indo-Sri Lanka as information from officials and other knowledgeable persons was combined to arrive at a single estimate.

iterations was restricted to two since probing further meant arousing suspicion in the centres where the surveys were being carried out. It was thus decided that in the event of no convergence reasons for divergence would be documented. Average commodity-wise estimates from the first round were tabulated for each of the categories. In the second round the respondents of each category were provided with the commodity-wise average estimates within a range of $\pm$ 20% around the average rather than the average commodity-wise estimate. As the number of rounds was limited to two, a consensus was sought on a range (defined as $\pm$ 20% around the average) within which the average commodity-wise estimate is likely to be.[8] The second round commodity-wise average estimates for each category were summed-up to obtain informal trade estimates of each category. While it was relatively easy to carry out two rounds in the case of Indo-Nepal, there was a problem in carrying out the second round for carriers for estimating Indo-Sri Lanka informal trade in the Indian territory. As the carriers were interviewed at the airports, it was not possible to carry out the second round as they were mobile between the two countries. In the Sri Lankan territory, estimates of total trade were obtained on the basis of own commodity-wise values of traders and carriers as the response on commodity-wise centre level perceptions on informal trade was not as forthcoming. Hence only one round of interviews was conducted. For the study, each survey team in all the three countries namely India, Nepal and Sri Lanka was given the choice of determining the share of respondents in each of the categories. A weighted average of

[8] To prepare estimates from Knowledgeable persons category on Indo- Sri Lanka informal trade in the Indian territory respondents were provided with average informal trade estimates (range of $\pm$ 20%) rather than average commodity wise estimates.

estimates of all groups for each country (except Sri Lankan territory) was then used to arrive at a single estimate for each country.[9]

In preparing estimates of Indo-Sri Lanka and Indo-Nepal informal trade, it is possible that corresponding country estimates may vary not only in value terms but also in terms of the composition of trade. An attempt is being made to arrive at a range within which the estimates are likely to lie rather than firm estimates of informal trade. Also, it is likely that some commodity groups traded informally between two countries may appear in one country survey but may be absent in the other. Also, within the same country some commodities are likely to appear in a particular category of respondents and not in the others. Commodities may appear in the estimates of some centres and not in others. Again, our methodology involved consolidating estimates across categories across the trading partners. The commodity groupings for the two countries also have to be compared with caution. For instance commodity grouping and the items therein for one country may not always correspond exactly to the other country's grouping. The discrepancy arises because the respondents sometimes give estimates at a very dis-aggregated level and at other times they give estimates at an aggregated level.[10]

What needs to be mentioned is that it was a purposive or opportunity (and not random) sample, as in Sarvananthan (2001b) and Pohit and Taneja (2000), due to the illicit nature of the subject matter that requires a close rapport between the interviewer and the interviewee.

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[9] Shares of different types of respondents in the sample were used as weight. Some respondents gave perceptions on exports, some gave their perceptions on imports and some on both. Hence the weighting pattern used is the same for exports and imports. The weighting pattern was not adopted for the Indo-Sri Lanka estimates prepared in Sri Lankan territory.

[10] In addition, some items that do not appear in a territory may be captured in the miscellaneous category estimates.

1.3.2 Assessment of the Characteristics of Indo-Sri Lanka Informal Trading

A Qualitative assessment of Indo-Lanka informal trade was undertaken using modified versions of questionnaires used for formal and informal traders Pohit and Taneja (2000). Two separate questionnaires were used for formal and informal traders.

The questionnaires on formal and informal traders elicited information on several variables. Some variables pertained to informal traders only, some to formal traders only and some referred to both. Data was collected on trading activity, commodities traded, mode of entry, age of firms, contractual arrangements, sources of information, risk attributes, sources of finance, mode of financing, ethnicity, transaction cost, education levels, time taken for trade deals, turnover, number of transactions, trading in same commodities, profits, fluctuation in margins, border price differentials among other things. A univariate test namely the signed-rank test was chosen to evaluate the significance in the differences between the two types of traders. Further, the variables identified by the univariate test as being important in differentiating the two groups of traders were then included in a multivariate test to select variables that account most for the differences in the two groups of traders. The statistical tests carried out were the same as in Pohit and Taneja (2000). However, as the sample of informal traders was not a random one hence the results of the analysis may only be indicative.

1.4 Sampling Design of the Survey

The survey in the Indian territory was carried out during May to October 2001, in Sri Lanka during September to December 2001 and in Nepal during May to June 2001.

1.4.1 Estimates of Informal Trade

For the estimation of Indo-Sri Lanka air-borne informal trade Sarvananthan (2001b) was used as a starting point for identifying centres in the Indian territory and

further discussions were held in Chennai, Thiruvananthapuram, Tiruchirapalli, Mumbai and Delhi.[11] The discussions led us to select only three of these centres namely Chennai, Thiruvananthapuram and Tiruchirapalli. In addition, goods are also procured from Delhi and Mumbai, but traders usually carry goods from these cities by train to Chennai or Thiruvananthapuram from where the goods are carried by air. This is essentially done to cut down on cost of travel. For estimation of sea-borne informal trade respondents were identified in Chennai, Tuticorin and Rameshwaram..[12] In the Sri Lankan territory, since Colombo is the epicentre for Indo-Sri Lanka informal trade, all respondents were selected from Colombo.

For the estimation of Indo-Nepal informal trade discussion with knowledgeable persons, both official and unofficial revealed that in India the important centres of informal trade are Raxaul, Naxalbari, Jogbani, Nautanwa Barhni and Nepalgunj Road while in the Nepal territory the important centres are Kankkadvita, Biratnagar, Birgunj, Bhairahawa and Nepalgunj. In the Indian territory during the visit to the identified centres discussions were held with knowledgeable persons and 10 additional centres around the major centres are identified, namely, Gauri Phanta, Tikoni, Khunwa, Banbasa, Jhulaghat, Darchila, Galgalia, Bhitamore, Sonbassa and Jayanagar. Respondents from these centres are clubbed together under ‘small centres’. The purpose was to identify all major trading points along the Indo-Nepal border.

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[11] Informal trade by air takes place through air passengers who travel solely for the purpose of informal trade on the two airlines namely Indian Airlines and the Sri Lankan Airlines that fly between the two countries. The former flies on the Colombo/Chennai and Colombo/Thiruvananthapuram routes only, whereas the latter flies on the Colombo/Chennai, Colombo/Mumbai, Colombo/New Delhi, Colombo/Tiruchirapalli and Colombo/Thiruvananthapuram routes.

[12] Informal trade by sea is carried out mainly on country boats plying between the coasts of India and Sri Lanka.

In order to select a sample of respondents from the different categories, in each centre lists of respondents to be interviewed was prepared on the basis of discussions with knowledgeable persons. The number of sampling units drawn from each centre was proportionate to the relative importance of that centre in informal trading activity. Each survey team was given the flexibility of selecting the number of respondents in different categories of respondents as the objective was to elicit quality responses. For the estimation of Indo-Sri Lanka informal trade a total of 220 respondents were selected in the Indian territory of which 195 respondents were selected for preparing air-borne estimates and 25 respondents were selected for preparing sea-borne estimates. In the Sri Lankan territory, 75 respondents were selected for preparing estimates of air-borne informal trade. The number of respondents in the sample was larger in the Indian territory than in the Sri Lankan territory for two reasons (i) respondents in Sri Lanka were located from a single centre namely Colombo while respondents in the Indian territory were located from three different cities and (ii) respondents in Sri Lanka were located in a single market in Colombo while in the Indian territory respondents were located in different markets in each city/centre. The number of respondents in each city and in each category are shown in Table 1. For the estimation of Indo-Nepal informal trade a total of 251 respondents were selected along the Indo-Nepal border on the Indian territory while in the Nepal territory a total of 158 respondents were selected. In the Indian territory a larger number of respondents were selected as the number of centres selected in the Indian territory was many more than that in the Nepalese territory. In the Nepalese territory the accessibility to small centres was not easy hence the number of centres and the number of respondents was limited. The distribution of the sample in different centres and categories in both the territories viz., India and Nepal is shown in Table 2.

Table 1: Distribution of Sample Size for Estimating Indo-Sri Lanka Air-borne and Sea-borne Informal Trade by Category of Respondent and Centre

Centres	Category of Respondent				
	Informal Traders	Carriers	Government Officials	Other 'knowledgeable persons'	Total
(1)	(2)	(3)	(4)	(5)	(6)
Indian (Sri Lankan) Territory					
	Air borne				
Chennai	59 (39)	55 (3)	2	5	121 (42)
Tiruchirapalli	19 (6)	22 (6)	1	3	45 (12)
Thiruvanthapuram	12 (7)	13 (1)	1	3	29 (8)
New Delhi	(1)	-	-	-	(1)
Mumbai	(2)	-	-	-	(2)
Colombo	-	-	(10)	-	(10)
Total (Air-borne)	**90 (55)**	**90 (10)**	**4(10)**	**11**	**195 (75)**
	Sea borne				
Chennai	-	-	2	13	15
Tuticorin	-	-	1	4	5
Rameshwaram	-	-	1	4	5
Total (Sea-borne)	-	-	4	21	25
Total (Air-borne and Sea-borne)	**90**	**90**	**8**	**32**	**220**

Note: (i) All figures in parentheses indicate corresponding estimates obtained in the Sri Lankan territory

(ii)For India Column (2) refers to Category I, Column (3) refers to Category II, and Columns (4) and (5) refer to Category III.

(iii) In Sri Lanka Government officials were interviewed in Colombo hence the respondents cannot be classified centre- wise

Table 2: Distribution of Sample Size for Estimating Indo-Nepal Informal Trade by Category of Respondent and Centre

Centres	Category of Respondent				
	Informal Traders	Carriers	Officials	Knowledgeable persons	Total
(1)	(2)	(3)	(4)	(5)	(6)
	Indian (Nepalese) Territory				
Raxaul (Birgunj)	36 (10)	4 (5)	10 (5)	14 (19)	64 (39)
Nataunwa(Bhairahawa)	13 (5)	4 (5)	3 (5)	9 (15)	29 (30)
Jogbani(Biratnagar)	21 (3)	3 (6)	9 (4)	11 (16)	44 (29)
Barhani	8	4	2	10	24
Naxalbari(Kankkadvitta)	40 (4)	4 (6)	2 (5)	4 (15)	50 (30)
Nepalgunj Rd. (Nepalgunj)	7 (4)	(6)	(14)	(6)	7 (30)
Small Centres	33	-	-	-	33
Total	**158 (26)**	**19 (28)**	**26 (33)**	**48 (71)**	**251 (158)**

Note: (i) All figures in parentheses indicate estimates obtained in corresponding centres in the Nepalese territory.
(ii) Column (2) refers to Category I, Column (3) refers to Category II, and Columns (4) refers to Category III and (5) refer to Category IV.

While the focus in the case of air-borne informal trade was to obtain estimates from actual participants of trade, for sea-borne informal trade, information was obtained only from knowledgeable persons. Given the fact that such trade is largely war-induced, it was not possible to interview actual participants in trade. As a result estimates of sea-borne informal trade are likely to be more unreliable than the estimates of air-borne informal trade.

1.4.2 Characteristics of Informal Trading

The survey in the Indian territory was carried out during May to October 2001, in Sri Lanka it was undertaken during March to July 2001.

A total of 210 respondents, i.e. 110 in India and 100 in Sri Lanka were selected to carry out the qualitative survey. [13] For the qualitative analysis an equal number of formal and informal traders were covered in each territory. For the qualitative analysis selection of centres and number of informal traders from each centre were selected on the same basis as was adopted in the quantitative estimation of Indo-Sri Lanka informal trade. Formal traders on the other hand were identified randomly from the list of registered traders in Chennai, Tuticorin, Mumbai and Colombo. In the Indian territory the proportion of formal traders were selected on the basis of information obtained from knowledgeable persons as published data on centre-wise formal trade is not available. Discussions with the Directorate General of Commercial Intelligence and Statistics (DGCI&S) in Kolkata helped in arriving at the proportion of formal traders to be selected from each centre.[14] Further discussions were held with customs officials in Chennai, Tuticorin and Mumbai to re-confirm the relative importance of each of these centres in formal trade. In the Sri Lankan territory, Colombo is the hub for formal and informal trade hence all formal and informal traders were selected from one centre only. In fact Colombo is the only centre that has an international airport and sea port.

Of the 55 informal traders in India, 35 were in Chennai, 12 in Tiruchirapalli and 8 were in Thiruvanthapuram. Among the 55 formal traders in India, 29 were from Chennai, 15 from Tuticorin and 11 from Mumbai. In Sri Lanka, all the 50 formal and 50 informal traders were based in Colombo.

Since the sample of informal traders is not a random one, the selection procedure may lead to a biased sample and thus, data obtained may only be indicative.

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[13] Sarvananthan (2001b) revealed that bulk of the informal traders/carriers in Indo-Lanka informal trade are Sri Lankan nationals. However, for statistical purposes roughly equal number of interviews was conducted in both territories.

1.5 Limitations of the Study

This study does not cover the trade in illicit goods such as narcotic drugs and arms and ammunitions. The present study also does not incorporate war-induced sea borne informal trade (in the Sri Lankan territory) between India and Sri Lanka due to the impossibility of undertaking fieldwork in war-torn areas of Sri Lanka.

The informal trade in high value goods such as gold and silver (mostly in the form of capital transfers) are also excluded from the purview of the present study. The major limitation of the present study is the exclusion of unofficial capital transfers between India and Sri Lanka and between India and Nepal. As capital transfers are not allowed officially (unless for investment in joint ventures) between India and Sri Lanka there is a thriving informal market for capital transfers locally referred to as *undiyal* between the two countries. In the case of Indo-Nepal even though capital transfers are allowed to some extent officially, the use of the unofficial capital market, commonly referred to as *hawala*, for capital transfers is rampant owing to the lower transaction costs and efficient payment mechanisms of the informal capital market.

2. Survey-based Estimation of Indo-Sri Lanka Informal Trade

2.1 Estimates of Air-borne Informal Trade[15]

The reference period for the estimates for India's centre-wise informal trade is April 2000 to March 2001 while that for Sri Lanka is January 2000 to December 2000. The alternative estimates of centre-wise air-borne informal trade between India and Sri

[14] The DGCI&S headquarters based in Kolkata is the assigned authority that publishes India's foreign trade statistics.

[15] In the following sub-sections informal trade flows from India to Sri Lanka refer to India's export to Sri Lanka and Sri Lanka's import from India. Similarly informal trade flows from Sri Lanka to India refer to India's imports from Sri Lanka and Sri Lanka's exports to India.

Lanka are shown in Table 3 and Table 4. The estimates obtained in the Indian territory from informal traders and 'knowledgeable persons' are from the second round. There was a convergence of opinion in the second round. (See Table 1a and Table 1c in Appendix for details of arriving at estimate of informal trade from the knowledgeable persons category). In Table 3 and Table 4 Column (5) gives the weighted average for the Indian territory over different categories of respondents with the number of respondents in each category as weight to arrive at the weighted average for the centre. For the Sri Lankan territory a single estimate of centre-wise informal trade is reported in the last column of Table 3 and Table 4. (For details of arriving at estimate of informal trade in the Sri Lankan territory see Table 1b and Table 1d in Appendix).

Table 3 shows estimates of informal trade from India to Sri Lanka prepared in the Indian and Sri Lankan territory. It can be that the Indian estimate of total air-borne informal trade from India to Sri Lanka is US$ 161 million. The corresponding estimate in the Sri Lankan territory for informal trade from India to Sri Lanka is US$ 190 million. Thus the estimate of air-borne informal trade from India to Sri Lanka is likely to lie within the range of US$ 161 million to US$ 190 million. Note that the estimate in the Indian territory is lower than the estimate in the Sri Lankan territory. At the centre level, in the Indian territory Chennai accounts for 85% of informal trade from India to Sri Lanka while the corresponding estimate in the Sri Lankan territory for Chennai is 63%. As mentioned earlier, the estimate for informal trade from Chennai to Sri Lanka in the Indian territory is likely to include goods coming from Delhi and Mumbai as well. The corresponding estimate in the Sri Lankan territory for informal trade from all three routes namely Chennai, Mumbai and Delhi is 84%. The estimates in the two territories of value of goods traded from Tiruchirapalli and Thiruvananthapuram to Sri Lanka vary within a small range as well. (See Table 3).

Table 3: Alternative Estimates of Centre-wise Air-borne Informal Trade from India to Sri Lanka by Category of Respondent: 2000-01/2000

(US $ million) Current Prices

Indian (Sri Lankan)Territory				
Centres	**Category of Respondent**			**Indian weighted average estimate (Sri Lankan estimate)**
	Informal Traders	**Air-Carriers**	**Knowledgeable Persons**	
(1)	**(2)**	**(3)**	**(4)**	**(5)**
Chennai	138	139	112	137 (119)
Tiruchirapalli	11	17	7	14 (19)
Thiruvanthapuram	8	13	7	10 (11)
New Delhi	-	-	-	(28)
Mumbai	-	-	-	(13)
Total	**-**	**-**	**-**	**161 (190)**

Note: (i)Figures in parentheses indicate corresponding estimates obtained in the Sri Lankan territory.
(ii)Reference period for the estimates for informal trade from India to Sri Lanka in the Indian territory is April 2000 to March 2001and in the Sri Lankan territory it is January 2000 to December 2000.
(iii) For the estimates obtained from 'Knowledgeable persons' in the Indian territory see Table 1a in Appendix.
(iv) For the Sri Lankan estimate see Table 1b in Appendix.
(v) The estimates were obtained in local currencies which were converted to US$ using the average annual exchange rate during the year.

Table 4: Alternative Estimates of Centre-wise Air-borne Informal Trade from Sri Lanka to India by Category of Respondent: 2000-01/2000

(US $ million) Current Prices

Indian (Sri Lankan)Territory				
Centres	**Category of Respondent**			**Indian weighted average estimate (Sri Lankan estimate)**
	Informal Traders	**Air-Carriers**	**Knowledgeable Persons**	
(1)	**(2)**	**(3)**	**(4)**	**(5)**
Chennai	12	19	21	15 (8)
Tiruchirapalli	3	2	1	3 (3)
Thiruvanthapuram	2	1	2	2 (2)
Delhi	-	-	-	(2)
Mumbai	-	-	-	(0*)
Total	**-**	**-**	**-**	**20 (15)**

Note: (i) All the figures in parentheses indicate corresponding estimates for the Sri Lankan territory
(ii)* The actual value of 0.2 is rounded up to 0.
(iii) For details on estimates obtained from 'knowledgeable persons' in the Indian territory see Table 1c in Appendix.
(iv) For details on Sri Lankan estimates see Table 1d in Appendix.
(v) The estimates were obtained in local currencies which were converted to US$ using the average annual exchange rate during the year.

The estimates prepared in the Indian and Sri Lankan territory for air-borne informal trade from Sri Lanka to India are shown in Table 4. The last column of Table 4 shows that the Indian estimate of air-borne informal trade from Sri Lanka to India is US$ 20 million while the corresponding estimate in the Sri Lankan territory of informal trade from Sri Lanka to India is $15 million. Note that the estimate for air-borne informal trade flow from Sri Lanka to India is higher in the Indian territory than in the Sri Lankan territory. The centre-wise estimates obtained in the two territories also do not vary significantly. Chennai is the largest centre for informal trade flows from Sri Lanka to India. In the Indian territory, share of Chennai in air-borne informal trade from Sri Lanka to India is 75% while the corresponding share in the Sri Lankan territory of Chennai, Mumbai and Delhi is 67%. The estimates of share of Tiruchirapalli is 15% in the Indian territory and 20% in the Sri Lankan territory while that of Thiruvananthapuram in the Indian territory is 10% and 13% in the Sri Lankan territory.

2.2 Estimates of Sea-borne Informal Trade

The estimates of India's sea-borne informal trade were prepared in the Indian territory only. The estimate of sea-borne informal trade is quite low at only US$ 27 million. (See Table 5). There was a consensus on these estimates in the second round. However these estimates are only indicative. It needs to be noted that estimates of sea-borne informal trade from Chennai do not indicate that the informal trade is taking place from Chennai. Estimates given by 'knowledgeable persons' in Chennai of sea-borne informal trade pertain to perceptions on informal trade from the coastal regions which is likely to include perceptions on informal trade from Tuticorin and Rameshwaram as well.

Table 5: Estimates of Indo-Sri Lanka Sea-borne Informal Trade by Centre :2000-01 (US $ million) Current prices

Indian Territory		
Centres	**Exports**	**Imports**
Chennai	15	-
Tuticorin	6	2
Rameshwaram	3	1
Total	**24**	**3**

Note: Estimates refer to second round estimates obtained from Knowledgeable persons
Source: Survey estimates

2.3 Estimates of Trade Balance

Table 6 gives a summary of total informal trade and formal trade. Some observations can be made:

(i) Informal trade is largely in one direction-from India to Sri Lanka. There is a trade balance in India's favour in both formal as well as informal trade.

(ii) The Indian estimate for total informal trade between India and Sri Lanka is US $ 208 million while the Sri Lankan estimate is US$ 205 million. The Indian estimate includes sea borne informal trade which is 13% of total informal trade. The Sri Lankan estimate excludes sea-borne informal trade.

(iii) The total informal trade estimated in the Indian territory is 30% of formal trade while the corresponding estimate in the Sri Lankan territory is almost the same at 31%.

(iv) In the Indian territory informal exports are 29% of formal exports while the corresponding figure for the Sri Lankan territory is 31%. In

the Indian territory informal imports are 51% of formal imports while the corresponding figure for the Sri Lankan territory is 27%.

(v) In the Indian territory the trade balance in the formal trade is greater than the informal trade as a proportion of the total. In the Sri Lankan territory it is the other way round.

Table 6: Summary Estimates of Indo-Sri Lanka Formal and Informal Trade Balance: 2000-01/2000

(US $ million) Current prices

Indian Territory				
	Export(X)	**Import(M)**	**X+M**	**X-M**
Formal	640	45	685	595
Informal	185	23	208	162
Informal/Formal*100	29	51	30	27
Sri Lankan Territory				
	Import(M)	**Export(X)**	**X+M**	**X-M**
Formal	600	56	656	-544
Informal	190	15	205	-175
Informal/Formal*100	32	27	31	32

Note: (i) Reference period for India (Formal and Informal) is April 2000-March 2001
(ii)Reference period for Sri Lanka (Formal and Informal) is January to December 2000
(iii)In the Indian territory informal trade estimate includes air-borne and sea-borne informal trade while in the Sri Lankan territory the estimate for informal trade is of air-borne informal trade only.

Source: India (Formal) Monthly Statistics of Foreign Trade of India, DGCI&S, Kolkata
Sri Lanka (Formal) Sri Lanka Customs, Colombo
India and Sri Lanka (Informal): Survey estimates.

2.4 Composition of Air-borne Informal Trade

The composition of informal trade in terms of value from India to Sri Lanka as estimated in the Indian and Sri Lankan territories show that in the Indian territory sarees is the single largest commodity traded informally from India to Sri Lanka.[16] The share of sarees is 40% in the Indian territory and 39%

[16] In the Indian territory estimates of the composition of air-borne informal trade were obtained from two categories of respondents, namely, air carriers and informal traders. We were unable to get

in the Sri Lankan territory. Further, estimates obtained in the Indian territory reveal that electrical and mechanical items are the second largest item traded informally from India to Sri Lanka accounting for 20%, followed by textile items other than sarees accounting for 17% and utensils accounting for 12%. These four items together account for 89% of total informal trade from India to Sri Lanka. The combined share of all other items i.e., food, medicines, electronics, sports goods, cosmetics, brass items, etc. is only 11%. Estimates obtained in the Sri Lankan territory of the composition of informal trade from India to Sri Lanka show that the second largest item traded informally from India to Sri Lanka is textiles (other than sarees) accounting for 37%, followed by electrical and mechanical items accounting for 11% and utensils accounting for 8%.[17] Cosmetics and other miscellaneous items together accounted for 5%.[18]

The composition of air-borne informal trade in terms of value from Sri Lanka to India as estimated in the Indian and Sri Lankan territory show that in the Indian territory the largest item traded informally from Sri Lanka to India is spices accounting for 37% followed by electronic items accounting for 30% ; the corresponding estimate in the Sri Lankan territory of share of spices is 50% and that for electronic items is 39%. In the Indian territory, cosmetics accounted for 21% while the corresponding estimate in the Sri Lankan territory of share of cosmetics consisting only of locally made soaps is 8%. In the Indian territory, liquor and cigarettes accounted for 11%; there was no corresponding estimate

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estimates on composition of informal trade from the 'Knowledgeable Persons' category of respondents.

[17] Of the 37% of other textiles imported informally by Sri Lanka, 19% is accounted for by salwars, 10% by sarongs, and the rest 8%.

[18] See Sarvananthan (2002) and Taneja (2002), for details of commodities traded informally from India to Sri Lanka.

for these two items in the Sri Lankan territory as they are usually bought by informal traders at the duty-free shop at the Colombo airport.[19] Except for spices and soaps all other items are third country goods.[20]

2.5 Composition of Sea-borne Informal trade

The composition of sea-borne informal trade in terms of value was estimated in the Indian territory only. What is noticeable is that electrical and mechanical items and food items are the largest items being exported informally from India, constituting 37% and 34% respectively. Other items exported are utensils (11%) and chemicals (14%). The rest 5% of exports comprises of miscellaneous items and garments. Informal imports by sea which are of the order of only US$ 2.5 million comprise largely of electronic items (41%) followed by liquor and cigarettes (26%), spices (23%) and cosmetics (9%).[21]

2.6 Perceptions on Impact of Trade Liberalisation on Informal Trade

Informal traders and air carriers in both territories were asked about the impact of trade liberalisation on informal trade between India and Sri Lanka. Respondents were asked whether there was an increase, decrease or no change in the value of informal trade in different commodities since 1995.[22] The results of the survey are shown in Table 7. The majority perception in both the Indian and

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[19] The estimate of share of liquor and cigarettes appear to be on the lower side though the anecdotal evidence suggests a much higher magnitude.

[20] See Sarvananthan (2002) and Taneja (2002), for details of commodities traded informally from Sri Lanka to India.

[21] Composition of sea-borne informal imports could not be obtained from Chennai.

[22] The year 1995 was selected because by 1995 both countries were on a progressive path of liberalisation- policy liberalisation in 1991 in India coincided with a 'third wave' of liberalisation in Sri Lanka.

Sri Lankan territory was that there was a decline in informal trade flows from India to Sri Lanka. The perception on the impact of liberalisation on informal trade from Sri Lanka to India differed in the Indian and Sri Lankan territory. While in India majority of the respondents felt that there was a decline in informal trade from Sri Lanka to India, in Sri Lanka the perception of the majority of respondents was that there was no change in the value of informal trade from Sri Lanka to India. Perceptions in both territories indicate that all third country goods experienced a decline since 1995 while there was no change in the informal trade of locally produced goods. It is interesting to note that in the Indian territory a significant amount of third country goods were being procured from other Indian cities into the Southern states of India, particularly from Delhi. Delhi is a major centre where third country goods (mostly made in China) are procured from the Indo-Nepal border, Thailand and some countries from the Middle East and South-East Asia.[23] In addition, third country goods were being informally imported from China via the sea-route directly into the Southern states.

It may be fair to conclude that majority of the respondents perceived a decline or no change in informal trade between India and Sri Lanka in both directions.

[23] Also there was evidence in the survey carried out in the Indian territory of third country goods being imported informally through air passengers travelling from Hong Kong, Dubai and Singapore to Chennai.

Table 7 :Perceptions on Impact of Trade Liberalisation on Indo-Sri Lanka Informal Trade Since 1995

(Percentage of Air Carriers and Informal Traders)

	% Increase	% Decrease	No Change	Total
Impact on Informal Trade from India to Sri Lanka				
Indian Territory	26	41	33	100
Sri Lankan Territory	0	63	37	100
Impact on Informal Trade from Sri Lanka to India				
Indian Territory	0	69	31	100
Sri Lankan Territory	0	49	51	100

Source: Survey Estimates

3. Survey-based Estimation of Indo-Nepal Informal Trade

India and Nepal share a long and porous border spanning a length of over 1800 kilometers. Informal trade between India and Nepal takes place across the land border through carriers and informal traders. Goods are carried in both non-motorised and motorised vehicles across the land border. Informal trade through air-passengers, travelling between Kathmandu and Delhi, Varanasi, Bangalore, Kolkata and Mumbai is almost negligible and has not been covered in the study.[24]

3.1 Estimates of Informal Trade[25]

[24] In the period prior to 1991, informal trade through air-carriers was a predominant mode. In recent years, with a squeeze in profit margins on informally traded goods, the land route is a more viable option for informal trade.

[25] In the following sub-sections of 'Survey- based Estimation of Indo- Nepal Informal Trade' informal trade flows from India to Nepal refer to India's export to Nepal and Nepal's import from India. Similarly informal trade flows from Nepal to India refer to India's imports from Nepal and Nepal's exports to India

Estimates for informal trade flows were obtained from the Indian territory as well as the Nepalese territory. The reference period for estimates prepared in the Indian territory on centre-wise informal trade between India and Nepal is April 2000 to March 2001 while the reference period in the Nepalese territory is April/May 2000 to March/April 2001. The estimates reported are from the second round. There was a convergence of opinion in both territories in the second round. The alternative estimates of informal trade in goods from India to Nepal are shown in Table 8. Column (6) shows the centre-wise weighted average value for informal trade from India to Nepal.

Table 8: Centre-wise Estimates of Informal Trade from India to Nepal: 2000-2001

(US $ million) Current Prices

	Indian (Nepalese) Territory				
Centres	**Category of Respondent**				**Weighted Average**
	Informal Traders	**Carriers**	**Officials**	**'Knowledgeable persons'**	
(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Raxaul (Birgunj)	66 (84)	25 (41)	12 (145)	92 (223)	63 (154)
Nataunwa(Bhairahawa)	13 (3)	5 (6)	14 (5)	15 (7)	13 (6)
Jogbani(Biratnagar)	28 (6)	7 (17)	6 (7)	27 (12)	22 (12)
Barhani	31	6	8	32	26
Naxalbari(Kankkadvitta)	55 (10)	(83)	28 (36)	35 (24)	52 (36)
Nepalgunj Rd. (Nepalgunj)	2 (2)	(3)	(2)	(6)	2 (3)
Small Centres	2	-	-	-	2
Total					**180 (211)**

Note: (i) All figures in parentheses indicate estimates obtained in corresponding centres in the Nepalese territory.
(ii)Reference period for Informal Trade from India to Nepal in the Indian territory is April 2000 to March 2001 and in the Nepalese territory it is April/May 2000 to March/April 2001

Source: Estimated from the survey

It can be seen from Table 8 that total informal trade from India to Nepal was estimated at US $180 million in the Indian territory. The corresponding

estimate for Nepal was US $211 million. The two estimates give us the possible range within which estimates of informal trade flows from India to Nepal are likely to be in. Note that the estimate for informal trade flows from India to Nepal is higher in the Nepalese territory than in the Indian territory. At the centre level the estimates in the two countries is more varied. For instance, the share of Raxual, accounted for 35% of total informal trade from India to Nepal in the Indian territory, while the estimate for the corresponding centre, Birgunj, in the Nepalese territory was 73%.

The estimates prepared in both the territories for informal trade from Nepal to India are shown in Table 9. In the Indian territory the estimate of total informal trade from Nepal to India is US $233 million while the corresponding estimate in the Nepalese territory is US $ 157 million. Note that the estimate for informal trade flow from Nepal to India is higher in the Indian territory than in the Nepalese territory. The centre-wise estimates in the Indian and Nepalese territory are quite varied. The estimate obtained in the Indian territory shows that Naxalbari is the largest centre for informal trade from Nepal to India, accounting for 33%. In the Nepalese territory Birganj is the largest centre accounting for 53% of informal trade from Nepal to India. It is interesting to note that Naxalbari and Birganj are not corresponding centres across the border. This is not surprising as it was found during the survey in the Indian territory that many Indian traders from different cities place their orders for informal imports directly in Birganj rather than in Raxaul which is the corresponding centre in India for Birgunj.

A point to be noted is that from the Indian territory only a small amount, $2.4 million is informally traded from identified small centres other than the six

Table 9: Centre-wise Estimates of Informal Trade from Nepal to India: 2000-2001

(US $ million) Current Prices

	Indian (Nepalese) Territory				
Centres	**Category of Respondent**				**Weighted Average**
	Informal Traders	**Carriers**	**Officials**	**'Knowledgeable persons'**	
(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Raxaul (Birgunj)	54 (85)	38 (27)	31 (86)	46 (97)	47 (83)
Nataunwa(Bhairahawa)	52 (6)	17 (3)	19 (1)	47 (2)	42 (3)
Jogbani(Biratnagar)	33	11 (20)	11 (19)	38 (20)	28 (20)
Barhani	30	7	26	32	30
Naxalbari(Kankkadvitta)	77 (15)	64 (59)	56 (23)	94 (55)	76 (43)
Nepalgunj Rd. (Nepalgunj)	4 (1)	0 (2)	0 (14)	0 (2)	4 (8)
Small Centres	1				1
Total					**228 (157)**

Note: (i) All figures in parentheses indicate estimates obtained in corresponding centres in the Nepalese territory.

(ii)Reference period for informal trade from Nepal to India in the Indian territory is April 2000 to March 2001 and in the Nepalese territory it is April/May 2000 to March/April 2000 Source: Estimated from the survey.

major centres accounting for a mere 0.5% of total informal trade. In other words, even though India and Nepal have a long border, informal trading takes place only from a few centres. While informal discussions at the six major centres led us to believe that informal trade in the border areas other than the six trading centres was very low, it was re-confirmed through the survey.

3.2 Estimates of Trade Balance

Table 10 gives a comparative picture of formal and informal trade estimates for 2000-01. Several observations can be made from Table 10:

(i) There is a significant two way informal trade between India and Nepal. This is contrary to available evidence that suggests that informal trade takes place only from Nepal to India.[26]

(ii) The Indian estimate for total informal trade is US $ 405 million while the Nepalese estimate is US $ 368 million. The Indian estimate is only 10% higher than the Nepalese estimate.

Table 10: Summary Estimates of Indo-Nepal Formal and Informal Trade Balance :2000-2001

(US $ million) Current Prices

	Indian Territory			
	Export(X)	**Imports(M)**	**X+M**	**X-M**
Formal	141	255	396	-114
Informal	180	228	408	-48
Informal/Formal*100	128%	89%	103%	54%
	Nepalese Territory			
	Import(M)	**Export(X)**	**X+M**	**X-M**
Formal	614	359	973	-255
Informal	211	157	368	-54
Informal/Formal*100	34%	44%	38%	21%

Note:(i) Reference period for India (Formal and Informal) is April 2000-March 2001
(ii) Reference period for Nepal (Formal) is June/July 2000-May/June 2001
(iii) Reference period for Nepal (Informal) is April/May 2000-March/April 2001
Source: India (Formal) Monthly Statistics of Foreign Trade of India, DGCI&S, Kolkata
Nepal (Formal) Nepal Rastra Bank & Department of Customs: Provisional figures
India and Nepal (Informal) Survey estimates

(iii) The average of the informal trade flow estimates in the two countries shows that the average informal trade from India to Nepal is US $ 196 million while that of Nepal to India is US $

[26] Earlier studies for example Muni (1982), Blaikie (1980), Shrestha (1990) indicate that there is a one way informal trade from Nepal to India. Taneja and Pohit(2000) points out that there is a two-way informal trade between India and Nepal. However, as the focus was on qualitative aspects, the study does not provide quantitative estimates of such trade.

193 million implying an almost balanced trade on the informal trade account.[27]

(iv) Total informal trade between India and Nepal estimated in the Indian territory is as large as formal trade. In fact total informal trade is only 2% higher than total formal trade between the two countries. The Nepal estimates show that total informal trade is 38% of formal trade. It is interesting to note that there is a larger divergence in formal trade data in the two countries than in the informal trade estimates. The discrepancy in formal trade data needs special mention. India's formal exports/imports should equal Nepal's formal imports/exports. But it can be seen that there is a large discrepancy- Nepal's total formal trade is 246% higher than India's total formal trade. Also, what is startling is that both countries have a negative trade balance (X-M) on the official account.[28]

(v) In the Indian territory, informal exports are 128% of formal exports, while the corresponding figure for the Nepalese territory is 34% . In the Indian territory informal imports are 89% of formal imports. The corresponding figure for the Nepalese territory is 44%.

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[27] The average informal trade from India to Nepal is an average of informal exports from the Indian territory and informal imports into the Nepalese territory. Similarly, the Nepal to India average is an average of informal imports into the Indian territory and informal exports from Nepalese territory.

[28] For details on degree of mis-invoicing in partner-country trade statistics see country report by Binod Karmacharya (2002).

3.3 Composition of Informal Trade

Informal trade is carried out in a large variety of items.[29] In the Indian territory 20 broad commodity groups are traded informally from India to Nepal whereas the Nepalese estimates reveal 18 broad commodity groups. It can be inferred that informal trade from India to Nepal takes place in 23 broad commodity groups. In addition there is a category of miscellaneous informal trade that covers a wide range of items.[30] Indian estimates show that textiles account for 17%, processed food 16%, unprocessed food 14% and cement 12% of goods traded informally from India to Nepal. The rest of the items accounting for 41% (in order of importance) comprised of hardware, automobiles and parts, electrical goods, utensils, plastic, live animals, fuel, sanitary items, medicines, fertilizer, machinery and parts, coconut oil, spices, dry fruits, electronics, tobacco and miscellaneous items. In the Nepalese territory the four largest items traded informally from India to Nepal are textiles accounting for 23%, followed by automobiles/parts 19%, processed food 9% and electronics 7%. The rest constituted items like electrical items, hardware, cosmetics, spices, tobacco, unprocessed food, utensils, dry fruits, machinery and parts, fertilizer, footwear, live animals and miscellaneous items in order of importance. Items that were identified in the Indian territory only were cement, coconut oil, fuel, medicines and sanitary items while items identified exclusively in the Nepalese territory were cosmetics, footwear and beverages.

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[29] For details of centre-wise commodity-wise composition of informal trade see Karmacharya (2002) and Taneja (2002)

[30] See Karmacharya (2002) and Taneja (2002)

A total of 31 commodity groups were traded informally from Nepal to India of which 23 commodity groups were traded informally in the Indian territory while the corresponding number in the Nepalese territory was 22 commodity groups. Among these the top four groups in the Indian territory were electronics accounting for 35%, textiles also constituting 35%, bags/suitcases accounting for 7% and spices accounting for 5%. The remaining categories to be traded were spices, electrical goods, footwear, betel nut, medicinal powder, glass crockery items, cosmetics, beverages, processed food, toys, lighter, lock, fuel and miscellaneous items. In the Nepalese territory the four largest items were textiles 32%, electronics 20%, spices 12% and processed food 5% while the rest 31% consisted of plastic, electrical goods, cosmetics, dry fruits, cigarette, herbs, footwear, toys, chemicals, utensils, scraps, ball bearing, fuel, umbrella, unprocessed food and miscellaneous items. The commodities identified exclusively from the Indian territory were artificial flowers, bags/suitcases, betel nuts, crockery, lighters, locks, melamine ware, medicinal powder and photo-films while those in the Nepalese territory were chemicals, cigarettes, dry fruits, gas cylinders scrap, herbs and live animals.

3.4 Origin of Goods

A striking feature of the origin of goods traded informally is that while informal trade in goods traded from India to Nepal comprise wholly of locally produced goods in India, informal trade in goods moving from Nepal to India are mostly goods from third countries. However, there is some trade in locally produced goods from Nepal to India also, for instance readymade garments, bags, herbs, noodles, stone chips, ginger, poppy seeds, turmeric, cigarettes, fruit juice (fruity), GI wire, live animals (mainly cows), steel items, sutho,

timber and vegetable ghee.[31] There are also some items of Nepalese origin which are traded formally from Nepal to India but are traded informally back into Nepal.[32]

3.5 Perceptions on Impact of FTA on Informal Trade

An important aspect is concerning the impact of the Free Trade Agreement signed between the two countries in 1996.

Table 11: Perceptions on Impact of FTA on Informal Trade Since 1996

(Percent of Respondents)

	%Increase	%Decrease	No Change	Total
Perceptions on Informal Trade from India to Nepal				
Indian Territory	67	10	23	100
Nepalese Territory	46	3	51	100
Perceptions on Informal Trade from Nepal to India				
Indian Territory	48	31	22	100
Nepalese Territory	42	17	41	100

Source : Survey estimates

In the Indian territory the perception of 67% of the informal traders was that after the FTA between India and Nepal there has been an increase in informal trade from India to Nepal. In the Nepalese territory the perception of 51% of the informal traders was that there was no change in the extent of informal trade from India to Nepal. The perception of a majority of respondents

[31] Informal trade in garments, shoes, bags, beetle nuts and soaps are also procured from third countries and informally traded from Nepal to India.

[32] This act of 'reverse export' is believed to be carried out by formal traders to avail benefits of 'duty drawback' and to avoid local VAT in Nepal.

in both territories on the extent of informal trade flow from Nepal to India since the FTA indicated an increase. (See Table 11)

What can be inferred from the survey is that there is an increase or no change in informal trade flows from India to Nepal since the FTA while there has been an increase in informal trade from Nepal to India. Aspects relating to impact of liberalisation on both Indo-Sri Lanka and Indo-Nepal informal trade are examined further in the last section.

4. Characteristics of Indo-Sri Lanka Informal Trading

This section focuses on the key features of the transacting environment of informal and formal traders as revealed from the survey. In the light of comparisons drawn between formal and informal trading reasons influencing informal trade flows are identified from the survey. Finally a comparative statistical analysis between formal and informal traders has been undertaken.

4.1 Trading Activity of Informal and Formal Traders

The sample of formal and informal traders shows that in the Indian territory 47 informal traders were engaged in exporting and 10 in importing activity. Forty nine formal traders were engaged in importing and 7 in exporting activity. The sample shows that there were only two informal traders and one formal trader who engaged in both exporting and importing. In the Sri Lankan side however it was found that in the informal trading sector all respondents were engaged in both exports and imports. In the formal sector too there were larger number of firms engaged in both exports and imports than on the Indian side. In the Sri Lankan territory respondents have been classified according to their primary trading activity. Thus there were 45 informal

traders and 44 formal traders engaged in importing activity and 5 informal and 6 formal traders engaged in exporting activity.

4.2 Transacting Environment of Informal Trading

The transacting environment of informal traders has also been analysed in terms of entry characteristics, nature of contracts, information channels, aspects of risk, financing and role of ethnic networks in informal trading.

Entry, Nature of Contracts and Information

Given the nature of informal trading, how difficult is entry into informal trading? The survey revealed that by and large traders located their initial trading partners through friends and relatives rather than on their own initiative. Sixty eight percent of the respondents in India and 90% in Sri Lanka entered into informal trading through friends or relatives. Further, 60% of the respondents in India and 82% of the respondents in Sri Lanka had repeat dealings with more than 50% of their trading partners indicating trust between trading partners.

The survey instrument also sought information on contractual arrangements between informal trading partners. Advance payment and credit transactions are the predominant modes used to execute trade deals. Traders use more than one mode of payment depending on the informal trader and goods involved. The mode of payment also depends on availability of funds with the importers. Eighty per cent of Indian traders and 60% of Sri Lankan traders deal on credit due to prior dealings.(See Table 12).

Table 12 : Percentage of Informal Traders by Mode of Contractual Arrangement

	Country	
Mode	**India**	**Sri Lanka**
Advance payment	44	62
Collateral used	4	4
On credit because of prior dealing	80	60
On credit because of third party reference	9	28

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

Source: Survey estimates

According to the advance payment mode the profit margin is high for the importer, but they have to invest capital and take the risk of potential default in delivery of goods. On credit transactions the profit margin is lower for the importer, because the informal trader invests the capital and takes the risk.[33] The predominant modes of payment for informal trade transactions reveal a high degree of honesty and integrity between the transacting parties.

The infrequent use of collateral in both India and Sri Lanka provides indirect evidence supporting the absence of significant information asymmetries among transacting traders.

The mechanism that supports information flows is also very important since what 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. One of the advantages of informal trade vis-à-vis formal trade is meeting the demand for goods speedier than through the formal channel. Hence, speedier access to market information is *sine qua non* for informal traders. The distribution channel was the most important source of information in both India and Sri Lanka. (See Table 13).

The second most important source of obtaining information in India was by making personal trips by traders themselves while in Sri Lanka the second most

Table 13: Percentage of Informal Traders by Source of Information

	Country	
Source of Information	**India**	**Sri Lanka**
Formal channel	44	78
Personal trips	73	20
Informal distribution network	76	92
Official media	18	4
Enforcement agencies	49	0
Trade fairs	5	0

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

Source: Survey estimates

important channel was the formal trading channel. It is important to note that the informal distribution network serves the dual purpose of both market information and marketing

Risk

One way of gauging the extent of risk is to look at the probability of goods being seized by the enforcement agencies. Respondents were asked to give their perception on the probability of being caught by enforcement agencies. Fifty five percent of the respondents in India and all the respondents in Sri Lanka claimed that the probability of seizure was nil. (See Table 14). In India the perception on the probability of getting caught was higher than in Sri Lanka. This is because, in India, some of the respondents seemed to include probability of detection (rather than seizure) which is often cleared on payments of rents to the enforcement agencies. In other words, the probability of seizure may be lower than is revealed in our survey but assumes greater significance as most of the trade takes place visibly through customs, immigration and baggage checks

[33] See also Sarvananthan (2001b), Chapter 4

at airports. This is unlike informal trading across large land borders where the means of enforcement are limited.[34]

Table 14: Percentage Distribution of Informal Traders by Probability of Seizure and Payments to Enforcement Agencies

	Probability of Seizure			
Country	***0***	***<0.03***	***0.3-0.06***	***.06-.01***
India	55	24	18	3
Sri Lanka	100	0	0	0
	Payments to Enforcement Agencies as Percent of Turnover			
Country	***<3%***	***3%-5%***	***5%- 10%***	***>10%***
India	94	6	0	0
Sri Lanka	10	58	32	0

Note: Average payments made to enforcement agencies in India and Sri Lanka is 2% and 5% of turnover respectively.
Source: Survey estimates

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. In India 94% of the respondents paid less than 3% of their turnover to enforcement agencies while in Sri Lanka a majority of the traders (58%) paid between 3% to 5% of their turnover. (Table 14).

Financing Informal Trading

Intrinsic to the activity of informal trading is the issue of financing such activities. If goods are being traded across borders, then the transaction is complete only when payments are made for the goods received. Respondents were asked about the sources of finance with the option of ticking more than one option in case they used

[34] See Pohit and Taneja (2000)

more than one source of finance. It can be observed from the survey that in both India and Sri Lanka all informal traders relied to some extent on their own resources for financing trading activities. Own finances were further supplemented with funds from friends and relatives. In India 49% of the traders supplemented their own finances with finances from friends and relatives while in Sri Lanka 82% of the respondents supplemented their finances from friends and relatives. Only 11% of the respondents in India and 26% in Sri Lanka obtained finances through informal money lenders/brokers or banks.

Ethnicity of Informal Traders

Ethnic trading networks are a key to understanding the modalities of informal trade in various parts of the world. A common language, religion, culture, etc, play a critical role in facilitating trading across the border.

The distribution of the total sample among different ethnic communities is reflective of their participation, in the order of importance, in informal trading between India and Sri Lanka. In India 56% of the informal traders were Tamils from Tamil Nadu, 15% were Muslims, 6% were Sinhalese from Sri Lanka and the rest were nationals from rest of India. In the Sri Lankan territory 60% of the survey respondents were hill-country Tamils, 24% of the respondents were Muslims, 12% were North-East Tamils, and the rest 4% were Sinhalese.

Very often particular ethnic groups are responsible for organising and controlling informal trade. According to the survey, in the Indian territory 58% of the respondents perceived that informal trade between India and Sri Lanka was controlled by the Tamils of Sri Lanka while 27% of the respondents felt that informal trade was controlled by the Tamils of Tamil Nadu, 8% felt that informal trade was controlled by the nationals of

other Indian States, and 7% believed the control was by Muslims. In Sri Lanka, 78% of informal traders perceive that the hill-country Tamils dominate the informal trade between India and Sri Lanka, while 22% of the respondents perceive that the Muslim community dominates such trade. Both these communities have ethnic ties in southern India (in Tamil Nadu and Kerala states) which provides an enabling environment to undertake informal trade.

Transaction Cost for Informal Traders

Informal traders incur transaction costs in the form of payments made to enforcement agencies as bribes, transportation costs, cost of currency conversion and cost of credit and imputed risk premium for safe delivery of goods.

Table 15: Transaction Cost of Informal Traders

(Percent of Informal traders)

Transaction cost as a % of turnover	***<10%***	***10% to 20%***	***20% to 30%***	***>30%***
India	25	75	0	0
Sri Lanka	14	80	6	0

Note: Average transaction cost for Indian and Sri Lankan informal traders is 10% and 17% of turnover respectively
Source: Survey estimates

Both in the Indian territory and in the Sri Lankan territory the majority of the informal traders (75% and 80% respectively) incurred transaction costs between 10% and 20% of turnover. (See Table 15).

4.3 Transacting Environment of Formal Traders

Institutions (the rules and regulations that affect economic activities and trading) determine transaction costs, the incentives and disincentives of compliance, and the benefactors and losers of these arrangements. Below, we review the transacting

environment of formal trading in Indo-Sri Lanka trade with a view to understanding and quantifying the sources of transaction costs in formal trading.

The transaction costs in the formal channel may arise at the following stages of international trade transactions: (1) securing import/export licenses, (2) procedural

Table 17: Transaction Cost for Formal Traders

(Percent of Formal Traders)

Transaction cost as % of turnover	***<10%***	***10% to 20%***	***20% to 30%***	***>30%***
India	24	50	26	15
Sri Lanka	25	48	25	2

Note: Average transaction cost for formal traders in India and Sri Lanka is 21% and 22% of turnover respectively

delays at the customs, (3) processing cost at the banks, (4) movement of merchandise. All these procedural complexities along with institutional bottlenecks and lack of information transparency give rise to rent-seeking behaviour by the officials at various stages of trading. These may cost traders time and money including demurrage charges, making it more expensive to trade formally. The additional time taken is estimated as the difference between the actual time taken and the average of trader's perception about the time that is required at different stages of transactions. The survey reveals that licensing takes up to 10 extra days for 54% of traders in India.(See Table 16). In Sri Lanka on the other hand none of the formal traders reported any additional time taken for obtaining licenses. Further, all formal traders in both India and Sri Lanka reported that there was a delay of upto 10 days for clearing goods from customs. A parameter used for examining transaction costs is the additional time taken at different steps of transaction. Additional time to obtain letter of credit/payments from banks took up to 10 days for 88% of the formal traders in India and 82% in Sri Lanka.

Transportation of merchandise between India and Sri Lanka takes up to 10 extra days than expected by 98% of Indian traders and 82% of Sri Lankan traders. (See Table 16).

Table 16: Percentage Distribution of Formal Traders by Elements of Transaction Cost in terms of Additional Days

	Percent of Traders Reporting Additional Time Required (in days)							
	India				**Sri Lanka**			
Stage of Transaction	***1-10***	***10-20***	***>20***	***Total***	***1-10***	***10-20***	***>20***	**Total**
Licenses	54	10	36	100	0	0	0	0
Customs	100	0	0	100	100	0	0	100
Banks	88	5	7	100	82	0	0	82
Transportation	98	2	0	100	82	0	0	82

Note: Row totals for Sri Lanka do not add up to 100 because respondents do not report additional time taken at various stages of transactions. The option of no delay was not provided in the questionnaire.
Source: Survey estimates

Formal traders incur transaction costs in the form of payments (rents) made at various stages of trading, transport costs including insurance and cost of credit. In addition, in the Indian territory transaction costs of formal traders included payments made to clearing agents. Such payments are more significant in the case of goods moving across maritime borders than across land borders. Moreover, we gathered from clearing agents that costs of clearing agents did not vary with the destination of goods.[35] This would imply that Sri Lanka being relatively near to India formal traders incur a relatively higher costs towards clearing agents when trading with Sri Lanka. In the Sri Lankan territory transaction costs of formal traders included domestic taxes. Sri Lankan formal traders do incur costs as payments to clearing agents, but these costs are included in transportation costs.

Majority of formal traders in India (50%) and Sri Lanka (48%) incurred transaction costs between 10% and 20 %. (See Table 17).

[35] However, payments to clearing agents did vary with type of commodities traded.

4.4 Reasons for Informal trade

As discussed in Pohit and Taneja (2000) the conventional argument for informal trading is that it takes place due to trade and domestic policy distortions. As and when such distortions are corrected informal trade would shift to the formal channel. In the present context both India and Sri Lanka have undergone a significant wave of liberalisation in the 1980s and 1990s. Under the initiative of the South Asian Preferential Trade Agreement (SAPTA) both countries offer concessions to each other. But a significant development is the Indo-Sri Lanka bilateral Free Trade Agreement that was signed between the two countries in December 1998 but came into operation only in March 2000. We have observed in Section 3 that with liberalisation informal trade between the two countries has declined in some commodities but it continues to be significant. Clearly then, there could be other factors including those inherent in the transacting environment of formal and informal trading. The possible factors are low transportation cost, lower time to reach market, demand for third country goods, no paperwork, no procedural delays, lower bribes than formal channel, easier to meet demand from across the border than domestic market, quicker realisation of payments than formal channel, ethnic ties across the borders, leakage of administered price goods from India, presence of high tariffs and non tariff barriers in official channel (including rules of origin certification) and presence of high domestic taxes on imports.

Table 18 shows that in the Indian territory the most important factor influencing informal trade flows from India to Sri Lanka is the ability of the informal channel to deliver goods much faster than the formal channel. In fact traders said that it is possible to meet an order at one day's notice. The next four important factors were absence of procedural delays, paper work in the informal channel, presence of ethnic ties between

trading partners and quick realisation of payments. While the first four factors were commonly identified both by Indian and Sri Lankan traders, the factor ranking fifth was different in both territories. While in India quick realisation of payments was identified as the fifth most important factor, in Sri Lanka it was domestic taxes imposed on imports. [36] Interestingly, in both territories none of the respondents considered tariff and non-tariff barriers to be an important factor in influencing informal trade flows. It needs to be mentioned that as most of the trade (both formal and informal) is largely in one direction viz., from India to Sri Lanka, import tariffs in Sri Lanka are relevant for trade. In Sri Lanka the import tariff bands have been streamlined to only three bands viz., 10%, 20% and 25% and there are no quantitative restrictions on trade. It was also evident from the survey that sarees was one of the largest items traded informally from India to Sri Lanka, despite having zero import duty, due to high cumulative incidence of domestic taxes. (See Table 18).

Regarding goods traded informally from Sri Lanka to India, in the Indian territory demand for third country goods was considered the most important factor influencing imports. This factor is clearly related to the difference in tariffs with the rest of the world prevailing in India and Sri Lanka. In the context of the FTA this implies that third country goods do not meet the requirements of rules of origin conditions and are therefore traded informally from Sri Lanka to India. However, such trade is significantly lower than was witnessed in the early nineties when informal

[36] In the Sri Lankan territory respondents were asked about their perceptions on reasons for informal trade flows. There was no distinction in the import and export trade flow. As majority of the respondents were informal importers of goods from India, the reasons considered as important reflect the perceptions accordingly.

exports were roughly equal to informal imports.[37] Lowering of tariffs has led to a reduction in informal imports of third country goods in recent years.

Table 18: Percentage of Informal Traders Reporting Reasons for Informal Trade

Percentage of Informal Traders						
	India				Sri Lanka	
Reasons	Export		Import			
	(1)	(2)	(3)	(4)	(5)	(6)
Lower time to reach market	81	1	75	5	82	3
Demand for third-country goods			80	1		
No paperwork	76	3			88	2
No procedural delays	78	2	76	3	82	3
Quicker realisation of payments than formal channel	57	5	76	3		
Ethnic ties across the border	72	4	78	2	96	1
Presence of high domestic taxes on imports					80	5

Note: (i) Respondents had the option of ticking more than one option.
(ii) Columns (1), (3) and (5) indicate percentage of respondents and column (2), (4) and (6) indicate ranking of factors in (1), (3) and (5) respectively.
(iii) In the Sri Lankan territory (columns 5 and 6) respondents have indicated reasons for informal trade between India and Sri Lanka without distinguishing between the informal export and import trade flows.

Source: Survey estimates

Other factors considered important in influencing informal imports are ethnic ties, quick realisation of payments, no procedural delays and lower time to reach destination. It is important to mention that informal trade from Sri Lanka to India is carried out in locally produced items as well. Our estimates of air-borne informal trade reveal that spices, an important item produced locally constitutes 37%- 50% of goods traded informally from Sri Lanka to India[38] and ceramic are two locally produced items

[37] See Sarvananthan (1994)

[38] (See Section 2). 37% refers to the Indian estimate and 50% refers to the Sri Lankan estimate

constituting 38% of total informal imports. (see Section 2). Such inflows would take place due to factors other than those related to trade barriers.

4.5 Discriminating Characteristics of Formal and Informal Trading

In the previous sub -section we have examined several differential characteristics of formal and informal trading between India and Sri Lanka as well as important modalities of such trade. We shall now undertake a technical statistical analysis of the differential characteristics. The significance of the differences is first evaluated in terms of a univariate test for each of the variables followed by a multivariate test.

4.5.1 Univariate Analysis of Differences

The univariate test applied here is the Wilcoxon signed-rank test. The advantage of using a non-parametric test is that it is free of specific assumptions about the form of the distribution of the variable, which is appropriate in our case. As many of the variables considered here are qualitative in nature they can be classified or ranked but not measured accurately, hence non-parametric tests are more appropriate for our analysis.[39]

Table 19: Results of Wilcoxon's Signed-Rank Test

		India		Sri Lanka	
		Z	**Inference**	**Z**	**Inference**
1.	Transaction cost(TC)	5.715	$\mu > o$	3.076	$\mu > o$
2.	Time taken for transactions (Ttime)	6.326	$\mu > o$	6.128	$\mu > o$
3.	Education (Edu)	3.638	$\mu > o$	3.866	$\mu > o$
4.	Awareness of FTA (FTA)	2.514	$\mu > o$	5.014	$\mu > o$
5.	Ethnic ties (Ethnic)	-2.969	$\mu < o$	-2.309	$\mu < o$
6.	Time taken for first trade deal (Timfr)	-1.279	$\mu = o$	6.196	$\mu > o$
7.	Time taken for current trade deal (Timcur)	2.463	$\mu > o$	6.225	$\mu > o$
8	Risk (Xr)	-2.182	$\mu < o$	-5.544	$\mu < o$

[39] For details see Taneja and Pohit (2002)

9	Own finance (Ownfin)	-3.261	$\mu < o$	-	-
10	Average number of transactions/year (Notrdl)	-2.09	$\mu < o$	-6.218	$\mu < o$
11	Average value per transaction (Avaltran)	5.587	$\mu > o$	6.154	$\mu > o$
12	Age of firm (Age)	2.39	$\mu > o$	5.572	$\mu > o$
13	Trading in same commodities (Same)	-0.61	$\mu = o$	5.778	$\mu > o$
14	Profit	-1.373	$\mu < o$	-3.606	$\mu < o$
15	Margin fluctuation (Marfl)	3.939	$\mu > o$	5.19	$\mu > o$
16	Border price differential (Borpr)	-2.175	$\mu < o$	3.92	$\mu > o$

Null Hypothesis: $\mu = o$ for all variables. Where μ is the population median. Depending on a-priori judgement the alternative hypothesis is $\mu > 0$ or $\mu < 0$ for the variable in question.

Note: The results have to be treated with caution because the sample of informal traders is not a random one.

Source: Survey estimates

The database comprises of fifty-five pairs of traders for India and fifty pairs for Sri Lanka and sixteen parameters. A one-tailed test has been conducted (at a 10% level of significance) since we have prior hypotheses regarding the direction of the difference in many cases. The results of the selected parameters are given in Table 19.

The earlier sections have emphasised the role of transaction costs 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 costs in informal trading than in formal trading. We have used our survey data to arrive at the transaction costs of trading in the two channels. The sign-rank test suggests that transaction costs in formal trade in India as well as in Sri Lanka is significantly higher than the informal counterpart.

Not only are transaction costs important in terms of monetary costs incurred but traders often incur costs in terms of additional time at various stages of transactions. Ideally there should be an imputed cost on time taken for transactions as this would be the correct method of quantifying transaction costs in terms of additional time taken. However, traders were unable to give an imputed value of time cost hence the second best solution had to be adopted viz., eliciting information on time taken at various

stages to carry out the trade transaction between the two countries. The survey was used to elicit information on time taken by formal traders to obtain licenses, to get clearances from banks and customs, realisation of payments and time taken to transport goods to their destination. Informal traders on the other hand were asked about the time taken for realisation of payments and time taken for transportation. The sign rank test shows that in both the territories, time taken at various transacting stages was significantly higher for formal traders than for informal traders.

In some cases, traders use the informal channel not because they are unwilling to abide by laws and regulation, but because lack of education deters them from using the formal channel. A sign rank test of education levels of two types of traders does indicate that informal traders have lower education levels than the formal ones in both India and Sri Lanka. Also we find that the awareness levels of formal traders on Free Trade Arrangements between India and Sri Lanka is significantly higher for formal traders than for informal traders in both Indian and Sri Lankan territories.

Much informal trade takes place due to the ethnic ties between trading partners in the trading countries. A sign-rank test on our survey data indicates that informal traders show significantly more ethnic linkages than the formal ones in India and Sri Lanka. Ethnic ties amongst traders in the informal channel help not only in ensuring that payments are made (even in the absence of formal contracts) but also go towards reducing risk and other transaction costs in carrying out trade across borders.

How efficient the information channel for informal trading arrangement is judged by the following two attributes: (a) time taken for first trade deal and (b) time taken for current trade deals. The result shows that in the Indian territory there is no significant difference between formal and informal traders as regards the time taken to finalise the first trade deal. In the Sri Lankan territory, the test reveals that formal

traders take significantly more time than informal traders to finalise trade deals. However for the current trade deals that were taking place the time taken to finalise trade deals was significantly higher for formal traders than for informal traders in both India and Sri Lanka.

The next attribute relates to the combined risk (viz., goods not conforming to specification, incidence of default/delay in delivery and seizure) that traders face in carrying out their transactions. Since informal trade is not legal, do the informal traders face higher risk? The statistical tests show that risk is significantly higher in the informal channel than in the formal channel in both India and Sri Lanka.

The next parameter looks at the financing part of formal and informal traders. Do they use a higher proportion of own finance than formal traders for carrying out business? Inference from the test shows that in the Indian territory own finance plays a larger role in informal trade than in its formal counterpart.[40]

Do informal traders have a larger number of transactions than formal traders? One way that informal traders could mitigate risk is by having a larger number of transactions. Our test shows that the average number of annual transactions is significantly higher in the informal channel than in the formal channel in both territories. This brings us to the next hypothesis, i.e., is informal trade characterised by large number of transactions, each having low volume of trade? We do find that value of trade per transaction (Avaltran) is larger for formal traders than the informal ones both in India as well in Sri Lankan territories.[41]

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[40] We were unable to get data on proportion of own finance in the Sri Lankan territory.

[41] This variable is generated by dividing annual turnover of a trader by the number of transactions carried out during the year.

Is the formal trader typically in business over a longer period than the informal one? The test reveals that in both India and Sri Lanka the age of firms was higher for formal than for informal traders.

Informal traders could play a role to narrow down the short-term demand/supply gap. If that is so, the informal traders relative to their formal counterpart should not carry out transactions in the same commodity over time. The test shows that in Sri Lanka informal traders have a higher tendency to trade in different commodities than their formal counterparts, whereas in India there is no significant difference between formal and informal traders on this count.

Maximisation of profits is the objective function at individual level in any trading activity. Naturally, one ponders whether there is significant difference between the profit margins in the two channels. The test on differences in profit margin shows that profit margins are significantly higher for informal traders than for formal traders in India and Sri Lanka. Also if profits are higher for informal traders do their profits show higher fluctuations than formal traders? The test shows that margin of profit fluctuation is higher for formal traders than for informal traders in both the territories.

Border price differential is the driving force for sustaining informal/formal trade activities. Is the border price differential higher for informal traders than for formal traders? The test shows that in India the border price differential is higher for informal traders than for formal traders. The converse is true for Sri Lanka.

4.5.2 Discriminant Analysis

The factors identified by the univariate tests as important in differentiating the two groups are then simultaneously included in a multivariate test. Our preferred choice

of multivariate technique is step-wise discriminant analysis.[42] 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.

Discriminant Analysis of Indian Traders

The univariate analysis of statistical significance of differences of Indian traders has identified 14 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. Our multivariate analysis begins with the following ten variables, namely trading period or age of firms, ethnic ties, education levels and awareness of FTA, fluctuation in margins, profits, time taken for current trade deals, risk, total time for various stages of transactions, transaction costs, and average value of transaction.[43] All the 10 variables selected have a correlation of less than or equal to + 0.4 (variables with correlation greater than + 0.4 have been excluded from entering the discriminant analysis). Thus, the assumption of the discriminant analysis that none of the possible discriminating variables have high correlation holds true.[44]

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[42] For details see Taneja and Pohit (2002)

[43] The variables, awareness of FTA and education level, are correlated with each other. So, we have constructed a variable called "EduFta" combining the variables education level & awareness of FTA for including in the discriminant analysis. It is expectedly statistically significant with z-statistics 3.73.

[44] See Table 20 for explanation on the notations of the variables.

Table 20 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). The procedure selects only 5 of the 10 variables to be significant discriminants, namely total time for various stages of transactions (Ttime), ethnic ties (Ethnic), average value of transaction (Avaltran), education levels and awareness of FTA (EduFta) and fluctuation in margins (Marfl).

Table 20: Summary of Step-wise Procedure of Discriminant Analysis :Indian Traders

Steps	Discriminating variable entered	F to enter/ remove	Degrees of Freedom	Variables Included
1	Ttime	10.79	(1,108)	Ttime
2	Ethnic	9.39	(1,107)	Ttime, Ethnic
3	Avaltran	9.07	(1,106)	Ttime, Ethnic, Avaltran
4	EduFta	8.24	(1,105)	Ttime, Ethnic, Avaltran, EduFta
5	Marfl	6.04	(1,104)	Ttime, Ethnic, Avaltran, EduFta, Marfl

The remaining ones are not significant in the multivariate context. These variables might be good discriminators on their own, but they do not add to the discriminating information contributed by the significant variables. Hence their unique contributions to the analysis are inadequate. The discriminant functions are able to classify correctly nearly 82 per cent of the formal respondents and 91 per cent of the informal respondents. So, they appear to be a good fit.

Discriminant Analysis of Sri Lankan Traders

The univariate analysis of statistical significance of differences of Sri Lankan 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. On eliminating variables that are found to be correlated,

we are left with a total of 7 variables namely transaction cost (TC), total time taken for transactions(Ttime), ethnic ties (Ethnic), education levels and awareness of FTA(EduFta), fluctuation in margins (Marfl), profits and border price differential (Borpr) of traders that enter the discriminant analysis.[45]

Table 21 provides the summary of the step-wise procedure and variables selected with their partial F-ratio (F to enter or remove). The procedure selects only 5 of the 7 variables that enter the discriminant i.e., total time for transactions (Ttime), transaction cost (TC), education levels plus awareness of FTA (EduFta), fluctuation in profit margins (Marfl) and profit. It needs to mentioned that that TC in the Sri Lankan territory include domestic taxes and are an important component in causing transaction costs in the formal channel to be significantly higher than the informal channel. However, even if domestic taxes are removed in the formal channel, transaction costs in terms of the total time taken-an equally important component of transaction costs is an important discriminating factor between formal and informal traders. It also needs to be noted that ethnic ties does not get selected in the discriminant analysis. At one level it is surprising as ethnic ties was considered the most important factor influencing informal trade flows, a closer look at the data on ethnic ties reveals that even though ethnic ties for informal traders is significantly higher for informal traders than for formal traders, a fairly large number of formal traders claimed to have ethnic ties with their trading counterparts in India. In India on the other hand most of the formal traders did not have ethnic ties with their partners in Sri Lanka. A plausible explanation is that the formal traders in India had a very small proportion of their total trade with Sri

[45] Variables education levels, awareness of FTA were dropped on account of being correlated and a new variable EduFta was constructed combining the two variables. The Z value for the new variable was found to be 3.63 and Fo>If.

Lanka. Most of them traded with several countries, Sri Lanka being a relatively less significant trading partner.

Table 21: Summary of Step-wise Procedure of Discriminant Analysis: Sri Lankan Traders

Steps	Discriminating variable entered	F to enter/ remove	Degrees of Freedom	No. of variables included
1	Ttime	58.17	F(1,108)	Ttime
2	TC	49.2	F(1,107)	Ttime,TC,
3	EduFta	21.07	F(1,106)	Ttime, TC, EduFta
4	Marfl	10.87	F(1,105)	Ttime, TC, EduFta,Marfl
5	Profit	11.32	F(1,04)	Ttime, TC, EduFta, Marfl, Profit

The discriminant functions are able to classify correctly nearly 86 per cent of the formal respondents and 88 per cent of the informal respondents. So, they appear to be a good fit.

To summarise the discriminant analysis for Indian and Sri Lankan traders, we can conclude that the two common variables that get selected in the discriminant analysis are total time taken for transactions and education levels including awareness of FTA. It needs to be mentioned that in the case of Indo-Sri Lanka the transaction cost in terms of time but not in terms of money that gets selected in the discriminant analysis.

5. Summary and Policy Implications

This study makes an attempt to prepare estimates of informal trade between India and Sri Lanka and between India and Nepal using primary data. It also provides an analysis of the institutional mechanism that enables informal trade to take place between India and Sri Lanka. Using insights from New Institutional Economics, informal and formal institutions engaged in cross-border trade are contrasted to examine the transacting environments of formal and informal traders to understand whether informal trading arrangements provide efficient institutional solutions. The analysis is based on a survey carried out in India, Sri Lanka and Nepal.

The quantitative estimates prepared on Indo-Sri Lanka informal trade reveal that total informal trade (exports plus imports) between India and Sri Lanka is in the range of US$ 205 million and US$ 208 million . Informal trade between India and Sri Lanka is largely in one direction viz., from India to Sri Lanka. Informal trade from Sri Lanka to India, significant until the early nineties, has declined rapidly during the following decade. The trade balance estimates of Indo-Sri Lanka informal trade are in India's favour in the range of US$ 162 million and US$ 175 million. Total informal trade between India and Nepal ranges between US$ 396 million and US$ 408 million. The estimates of informal trade balance vary within a small range (though in opposite directions) between US$ 48million in Nepal's favour and US$ 54 million in India's favour. Interestingly, both in the case of Indo-Sri Lanka and Indo-Nepal informal trade balance estimates are much smaller in magnitude than the formal trade balance.

However in the case of Indo- Nepal there is a large discrepancy in recorded formal trade balance as indicated in the trade statistics of India and Nepal respectively. The recorded trade statistics in India show a trade balance in Nepal's favour while in India the formal trade data shows a trade balance in India's favour. Clearly this incongruity needs to be explained.

Informal trade from India to Sri Lanka and Nepal takes place in goods produced locally in India. Informal trade from Sri Lanka to India takes place in both goods domestically produced in these countries and goods that originate in third countries. Informal trade from Nepal to India takes place largely in goods procured from third countries. The important commodities traded informally from India to Sri Lanka that were commonly identified in both the Indian and Sri Lankan territory are sarees, garments, electrical and mechanical items/ parts and utensils. Estimates of the composition of Indo-Nepal informal trade show that the common commodities traded informally from India to Nepal are automobiles/parts, dry fruits, electrical items, electronic items, fertiliser hardware items, live animals, machinery and parts, plastic items, processed food, spices, textiles, tobacco unprocessed food and utensils.

The important commodities identified in both Indian and Sri Lankan territories to be traded informally from Sri Lanka to India are spices, electronic items and cosmetics. The commonly identified items by both countries for informal trading from Nepal to India are ball bearings, beverages, cosmetics, electrical items, electronic items, processed food, footwear, fuel, plastic items, spices, textiles, toys, umbrellas, and unprocessed food items.

The study provides evidence on various aspects of the transacting environment for Indo-Sri Lanka informal trading . For purposes of comparison

characteristics of formal and formal trading between India and Nepal are presented from Pohit and Taneja (2002). The present study reveals that in the absence of formal contracts between trading partners, the informal trading partners in India and Sri Lanka have developed efficient institutional mechanisms that ensure trade across national boundaries. Evidence from the survey supports the view that informal trading arrangements are characterised by non-anonymous transactions that not only facilitate the entry of firms into informal trading but also serve as important channels of information flows on quantities and commodities to be traded. This evidence is very similar to that obtained on informal trading between India and Nepal[46]

Our analysis of transacting environment of formal traders engaged in trading between India and Sri Lanka indicates that they have to incur high costs in terms of time and money at various stages of transactions. The inefficiencies of the formal channel also give rise to rent-seeking activities of concerned authorities. In the case of Indo-Nepal formal trading similar results were obtained.[47]

The survey results confirm our hypothesis that the transaction costs in terms of both money and time in the informal channel are significantly lower than in formal trading between India and Sri Lanka. 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 delivery of goods, absence of procedural delays and paper work, ethnic ties between trading partners, quick realisation of payments and presence of domestic taxes in the

[46] See Table 5.3.3-1 and Table 5.3.4-1 in Pohit and Taneja(2000)

[47] See table 5.4-2 and Table 5.4-4 in Pohit and Taneja(2000)

formal channel were important in driving traders to trade informally from India to Sri Lanka. In the case of Indo-Nepal informal trading (from India to Nepal) it was found that factors relating to administrative procedures were common with the Indo-Sri Lanka case. However presence of domestic taxes in the formal channel was not an important factor in the case of Indo-Nepal informal trading . Tariff differentials were an important factor influencing informal trade from Sri Lanka to India in addition to ethnic ties, quick realisation of payments, no procedural delays and lower time for goods to reach their destination. In the case of Indo-Nepal informal trading (from Nepal to India) similar results were obtained.[48] In other words, goods moving informally from Sri Lanka to India or from Nepal to India arise largely because of tariff differentials between member countries vis-à-vis the rest of the world .

The discriminant analysis for Indian and Sri Lankan traders shows that the two common variables that account most for the differences in the two groups of formal and informal traders are total time taken for transactions and education levels including awareness of FTA. The results for the discriminant analysis for Indian and Nepalese traders were somewhat different. The two common variables that get selected in Indo-Nepal trading are transaction costs and education levels however an important point to note is that in this case it is transaction cost in terms of money whereas in Indo-Sri Lankan trading it is transaction cost in terms of time that gets selected commonly in trading territories.[49, 50]

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[48] See Table 5.3.8-1 in Pohit and Taneja (2000)

[49] Pohit and Taneja (2000) does not include measurement of transaction costs in terms of time(for informal traders) - this variable was later added in the Sri Lankan study.

[50] See Table 5.5.2-2 and Table 5.5.2-5 in Pohit and Taneja (2000).

What are the policy implications of the study? It is evident that the magnitude of informal trade is quite large and cannot be ignored in any policy dialogue. The recent bilateral Free Trade Agreement between India and Sri Lanka that became operational in 2000, however, does not address the issue of informal trade between the two countries. India and Nepal have had a long history of bilateral Free Trade Agreements. The issue of unauthorised trade has been addressed in the bilateral agreements signed since 1961, but it is important to recognise that the bilateral agreements have focussed only on unauthorised trade in third country goods, clearly referring to the informal flow of goods from Nepal to India. The present study clearly shows that informal trade from India to Nepal in locally produced goods is of an equally large magnitude and cannot be ignored in bilateral talks. Also, the large discrepancies in recorded (formal) trade statistics of the two countries need serious examination before any meaningful policy discussion.

Several other issues have emerged since the implementation of the Indo-Sri Lanka and Indo-Nepal FTAs that have directly or indirectly influenced informal trade. For instance the Indo-Sri Lanka FTA, though in a positive direction is more of a preferential arrangement rather than a free trade agreement as only a limited number of commodities are under the duty free category. Another problem is the large negative list of items on both sides which will continue even after the stipulated period for phasing out tariffs (three years for India and eight years for Sri Lanka) is completed. Also, without the explicit mention of quantitative restrictions, India has in fact imposed them

on the import of tea , garments and textiles.[51] Even though tariff levels in Sri Lanka are low the high domestic taxes on Sri Lankan imports have been an important deterrent to trade.[52] In addition the rules of origin clause that stipulates a minimum of 35% value added in the country of export (reduced to 25% if inputs are from the imported country) is also a deterrent to trade. The controversy over aracnut imports into India from Sri Lanka regarding its rules of origin content demonstrates the problems encountered in the implementation of the rules of origin clauses.[53] The Free Trade agreement between India and Nepal modified in 1996, was perhaps more 'free' than the Indo-Sri Lanka FTA- for instance there was a very limited number of items in the negative list and virtually no stringent requirements of value added but instead a simple certification by the Nepalese authorities of the items origin. While initially it appeared to be a model for a bilateral FTA in the South Asian region, recent developments have raised serious doubts. The imposition by India of a voluntary export restraint on ghee, the enforcement of Food Adulteration Act and quarantine fees on Nepalese food exports to India (along with inadequate testing facilities) have not been viewed favourably in Nepal. The ambiguities in defining Nepalese 'manufactured products' has led to a huge controversy in both countries. In several items like copper, zinc oxide, acrylic fibre etc. India has not only raised the issue of rules of origin content but has also complained of an 'export surge' in these items.[54] Several of these ambiguities and the consequent harassment by customs officials has driven traders to trade informally. The

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51 See Sarvananthan (2000)

52 Domestic taxes are not in the domain of the FTA.

53 Sarvananthan (2002)

54 See Karmacharya (2002)

result has been an imposition of a minimum of 25% value added requirement for Nepalese manufactured products in the recently renewed treaty in 2002. Clearly this is a regressive move against the spirit of liberalisation. Moreover, an uncertain policy environment can be very detrimental to formal trade.

Addressing the problems posed by the two FTA's largely deal with the issue of tariff and non-tariff barriers. But an important point to note is that the implementation of the FTA's is in the hands of the respective country authorities (especially the Customs). The certification of rules of origin principal has been a major impediment to trade. A number of formal traders in Sri Lanka have complained that verification of rules of origin certificates takes a long time thus depriving them of duty concessions under the FTA. Apparently the rules of origin certificates issued in by the Indian exporters are sent to the Indian High Commission in Colombo by the Sri Lanka Customs in order to verify the signature and confirm that the signatories are authorised personnel. This process takes a long time resulting in importers incurring demurrage charges for the delay in clearance of goods from the port. In many cases the demurrage charges may exceed the duty concession due to the importer. In this circumstance many importers opt to clear the goods by paying the normal import duty or else resort to trading informally. The recent inclusion of stringent value-added requirement in Indo-Nepal trade is likely to witness similar problems.

The various impediments to formal trade, the main factor that induces informal trade between India and Sri Lanka, have been highlighted in the study. The plethora of administrative requirements need to be reduced drastically. The recent emphasis on Electronic Data Interchange (EDI) systems is a positive step in this direction but is in its initial stages and is going through teething

problems. For instance in Chennai several formal traders complained that with the use of EDI clearances were withheld till the bribes were paid. In the case of Indo-Nepal formal trade, the problems in carrying out formal trade are much worse. For instance, EDI systems in the border areas insufficient. Also banking facilities are inadequate in the border areas. Similarly the impediments at other stages of formal trade transactions have to addressed and reduced considerably. The associated transaction costs, particularly bribes have a serious connotation. The fact that such costs have been highlighted in the context of cross-border trade is only the tip of the iceberg. Corruption is pervasive in all sectors and segments of the South Asian countries which has serious consequences for the growth of these economies. By attempting a removal of rent seeking activities at the trade level, there is a possibility that such changes would percolate to other sectors of the economies as well.

It has been shown in the study that the institutional mechanism in the informal trading market facilitates informal trade. The channels through which informal trade takes place are rooted in the strong ethnic ties among the traders and in the historical linkages in these societies. Ethnic trading networks that operate on trust and honesty mitigate risks associated with such trading.[55] The involvement of law enforcement agencies to collect rents (thereby mitigating informal trading risks) makes the transacting and transporting processes smooth and acts as an added incentive to carry on informal trade. It is easily perceived that informal trade under these circumstances would be difficult to eliminate. While it can well be argued that if the transacting environment for informal trading is more efficient than for formal trading, why not let it continue - the

[55] The study has not explored the benefits that may have accrued to informal traders had they traded with non-ethnic partners. Such insights may be worth exploring in further studies.

danger is that the associated money laundering to finance such trade deals might prove to be a threat to the smooth functioning of formal capital markets. Even though the issue of informal capital transfers has not been dealt with in the study, the proceeds through informal trading are converted into each other's local currencies through the informal capital market thereby having a relevance to the study. A focus on law enforcement agencies to detect and obstruct informal transit of goods across borders is not a viable solution as increase in enforcement mechanisms could only lead to increase in rent collections. What would be more effective would be to reduce the impediments to trade in the formal channels. This would also have a much larger impact in the form of trade expansion from the South Asian region. It may be stated here that the study finds that the incidence of informal trade between India and Sri Lanka has gone down after liberalisation and further reduction and harmonisation of tariffs and domestic taxes would reduce the incidence of informal trade.

Information is another important aspect which has to be looked into. It is true that a major proportion of informal traders are locals who do not have high levels of education or are only conversant with local languages. It cannot be expected of them to understand and subsequently follow the terms and conditions of the FTA which is a document only available in English (not in any local language spoken in the two countries) and often difficult even for conversant persons to follow. Such gaps have to be filled by suitable dissemination of information and creation of awareness among traders of the various norms. Time delays due to unnecessarily long and complicated procedures need to be reduced by simplifying the procedures.

In sum, while informal trade is unlikely to be totally eliminated because ethnic trading networks between trading partners would continue to facilitate informal trade by reducing transaction costs through minimisation of risk costs, market information and search costs, further reduction of tariffs, improvements in the transacting environment of formal trade, improving awareness and education levels and improving information dissemination would lead to a decline in informal trade flows.

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Appendix

Table 1a: Estimates of Air-borne Route-wise Informal Trade from India to Sri Lanka in the Indian territory by 'Knowledgeable Persons ': 2000-01

(US $ million) Current Prices

Route (1)	Number of Passengers (2)	Proportion of passengers doing informal trade (3)	Value in US $ per trip (4)	Value of estimated annual exports (5)
Chennai- Colombo(SL)	104224	50%	1423	74
Chennai- Colombo(IA)	48913	55%	1423	38
Chennai (SL+IA)				**112**
Tiruchirapalli-Colombo(SL)	22922	30%	985	7
Tiruchirapalli (SL+IA)				**7**
Thiruvanthapuram-Colombo(SL)	41879	10%	876	4
Thiruvanthapuram-Colombo(IA)	14534	20%	876	3
Thiruvananthapuram (SL+IA)				**7**

Note: SL is Sri Lankan Airlines and IA is Indian Airlines
Data Source for Column (2) : From Airline officials of SL and IA.
Data Source for Column (3) : Given by sample of 'Knowledgeable Persons'
Column (5)= [Column (3) of Column (2)] x Column (4)

Table 1b: Estimates of Air-borne Route-wise Informal Trade from India to Sri Lanka in the Sri Lankan Territory: 2000

(US $ million) Current Prices

Route (1)	Number of Passengers (2)	Proportion of passengers doing informal trade (3)	Value in US $ per trip (4)	Value of estimated annual imports (5)
Chennai- Colombo(SL)	102419	55%	1557	88
Chennai- Colombo(IA)	40000	50%	1557	31
Chennai (SL+IA)				**119**
Tiruchirapalli-Colombo(SL)	23041	35%	2386	19
Tiruchirapalli (SL+IA)				**19**
Thiruvanthapuram-Colombo(SL)	42779	15%	929	6
Thiruvanthapuram-Colombo(IA)	10000	50%	929	5
Thiruvananthapuram (SL+IA)				**11**
New Delhi- Colombo (SL)	26705	10%	10550	**28**
Mumbai- Colombo (SL)	16095	10%	8234	**13**

Note: SL is Sri Lankan Airlines and IA is Indian Airlines

Data Source for Column (2) : From Airline officials of SL and unofficial sources of IA.

Data Source for Column (3) : Given by sample of Airline and customs officials.

Table 1c: Estimates of Air-borne Informal Trade from Sri Lanka to India in the Indian Territory by 'Knowledgeable Persons': 2000-01

(US $ million) Current Prices

Route (1)	Number of Passengers (2)	Proportion of passengers doing informal trade (3)	Value in US $ per trip (4)	Value of estimated annual exports (5)
Chennai- Colombo(SL)	108033	50%	263	14
Chennai- Colombo(IA)	48194	55%	263	7
Chennai (SL+IA)				**21**
Tiruchirapalli-Colombo(SL)	23715	30%	175	1
Tiruchirapalli (SL+IA)				**1**
Thiruvanthapuram-Colombo(SL)	42570	10%	175	1
Thiruvanthapuram-Colombo(IA)	14385	20%	175	1
Thiruvananthapuram (SL+IA)				**2**

Note: SL is Sri Lankan Airlines and IA is Indian Airlines
Data Source for Column (2) : From Airline officials of SL and IA.
Data Source for Column (3) : Given by sample of 'Knowledgeable Persons'
Column (5)= [Column (3) of Column (2)] x Column (4)

Table 1d: Estimates of Air-borne Informal Trade from Sri Lanka to India in the Sri Lankan Territory: 2000

(US $ million) Current Prices

Route (1)	Number of Passengers (2)	Proportion of passengers doing informal trade (3)	Value in US $ per trip (4)	Value of estimated annual exports in US $ mn (5)
Colombo(SL) –Chennai	107264	55%	103	6
Colombo(IA)- Chennai	32000	50%	103	2
Chennai (SL+IA)				**8**
Colombo(SL)-Tiruchirapalli	24051	35%	245	3
Tiruchirapalli (SL+IA)				**3**
Colombo(SL) – Thiruvanthapuram	44490	15%	284	1
Colombo(IA) – Thiruvanthapuram	8000	50%	284	1
Thiruvananthapuram (SL+IA)				**2**
Colombo - New Delhi (SL)	25491	10%	729	**2**
Colombo - Mumbai (SL)	16450	10%	139	**0**

Note: SL is Sri Lankan Airlines and IA is Indian Airlines

Data Source for Column (2) : From Airline officials of SL and unofficial sources of IA.

Data Source for Column (3) : Given by sample of Airline and customs officials.