

Amelung, Torsten

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Explaining Regionalization of Trade in
Asia Pacific: A Transaction Cost Approach

by

Torsten Amelung

Institut für Weltwirtschaft an der Universität Kiel

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Kiel Institute of World Economics
Department IV
Duesternbrooker Weg 120, D-2300 Kiel

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I. Introduction

Recent investigations on the regional distribution of trade flows in the Asia Pacific area suggest that some countries have developed strong bilateral trade links, while others obviously tend to be more closely linked towards trading partners outside the Asia Pacific area (Amelung (1990)). Moreover, empirical findings indicate that there are groups (clusters) of countries in the Asia Pacific area which - in relative terms - trade more intensively with the members of their group than with other countries of this area or the world. For instance, in the eighties there was a clear separation between a South East Asian group of trading partners comprising Singapore, Indonesia, Malaysia and Thailand and a group of North East Asian countries encompassing Korea, Taiwan, Japan, China, Hong Kong and the USA as a non-Asian nation. However, the cluster analysis does not explain why this pattern of regionalization emerges. In economic theory the regionalization of trade flows has been attributed to the discrimination of countries through legal (El-Agraa (1988), Nienhaus (1987), p. 84) and natural trade barriers (Langhammer (1983), Deardorff (1987)). Following Viner's custom unions theory (Viner (1950)) a group of countries can negotiate preferential tariff treatment for their members, thus discriminating against non-member countries. Given such an institutional arrangement regional trade is expected to rise as a consequence of trade creation and trade diversion. Moreover, regionalization of trade flows can be enhanced by differences in transport costs resulting from the spatial remoteness of trading partners. As Deardorff shows, these differentials may affect both the direction and the composition of trade, since they constitute natural trade barriers.

However, the process of regionalization in Asia Pacific can hardly be explained by preferential treatment and differences in transport costs. Beside the New Zealand-Australia Free Trade Arrangement, institutional arrangements such as the Bangkok Agreement or even the ASEAN PTA have not been successful, as

their impact on regional trade flows was negligible (Brockmann, Hofmann, Rieger (1990); Amelung (1989); Wong (1988)).

Moreover, spatial distance between trading partners in Asia Pacific is not likely to cause large differences in transport costs that could explain a regionalization of trade flows. The bulk of trade in the Asia Pacific area is due to sea transport (Yeats (1981, 1982)). Transportation by ship is subject to quite low freight costs, which are a function of distance, while the major component of shipment cost is terminal costs. This points to the fact that spatial distance between trading partners to have a comparatively low impact on transport costs and on the degree of regionalization.

Nevertheless, there are a few other obstacles to trade which may lead to the regionalization of trade flows (see Table 1). These obstacles are market imperfections in the sense of the neo-classical model of perfectly competitive markets in general equilibrium (Schenk (1982)). Such imperfections are sometimes identified with transaction costs, even though this is not strictly correct. The opportunity costs of obstacles or trade barriers are measured by the gains from trade foregone. By contrast, transaction costs are incurred, when the transactors attempt to overcome these obstacles through market-making activities (Casson (1982)). Such activities require the allocation of resources such as labour, energy or capital (see Table 1). Hence, transaction costs are private costs for the transactors and determine the profitability of trade from the firms' perspective (Williamson (1979)).

This paper focusses on the question whether differences in transaction costs across countries may affect the direction of trade and the degree of regionalization in Asia Pacific. The second chapter features the variety of transaction costs involved in international trade and shows how differences in transaction costs between countries may explain regional trading patterns. In the third chapter these theoretical findings will be tested empirically for the trade flows in the Asia Pacific region.

Table 1: Classification of Marketing-making Activities

Obstacle to trade	Marketing-making activity	Major resource input
No contact between buyer and seller	Contact-making via search or advertisement	Administrative labour
No knowledge of reciprocal wants	Specification of the trade and communication of details to each party	Administrative labour
No agreement over price	Negotiation	Administrative labour
No confidence that goods correspond to specification	Monitoring: i.e. screening of quality, metering of quantity, timing of instalments, observation of "contingent" events	Administrative labour
Need to exchange custody of goods	Transport	Energy, applied via manual utilization of transport equipment
Tariffs, taxes on gains from trade, price regulations, quotas	Payment of taxes and tariffs. Avoidance or evasion of taxes, tariffs, regulations or quotas	Administrative labour
No confidence that restitution will be made for default	Enforcement	Administrative labour

Source: Casson (1982).

II. Transaction Costs involved in International Trade

International trade involves an exchange of goods, services, information and capital between trading partners in different countries. Such an exchange bears higher transaction costs than domestic trade, as international trade differs from trade within national boundaries in three ways. Firstly, international trade is affected by the lack of enforceable laws. On the national level such laws guarantee property rights for each transactor engaging in an exchange of goods and capital. Individuals who trade internationally run the risk of expropriation and wilful default. For instance, an exporter may not be in a position to enforce any legal action against a customer abroad, if the latter refuses to pay in time. In the same vein, a bank extending a loan to foreign creditors runs the risk of wilful default without enforceable legal claims for compensation. Moreover, international trading partners deliberately expose themselves to foreign exchange risk as international payments are due to other currencies than the legal tenders of the trading partners. These risks, which all can be hedged by respective insurance contracts, add to the costs of international transactions, no matter if the transactors buy an insurance contract or not.

Secondly, international trade can involve an exchange of goods between two proportionally remote trading partners. On average, the geographical distance between domestic trading partners should be lower than between international trading partners. The costs of moving goods or services over space can be expected to rise with increasing distance. As a result, international trade in goods and services can be subject to higher distance-induced transaction costs than national trade.

Thirdly, trading in goods and services involves intense communication between trading partners. Especially, the gathering of information or the bargaining and contracting inhibit costs both on national and international transactions. However, costs of communication are likely to be higher in international trade, since on the national level there is a wide range of costless

public information services. In addition, the exchange of information tends to be more difficult when the trading partners do not share a common ethnic and cultural origin. Hence, the information requirements needed to engage in business with foreigners are larger in international than in domestic trade.

Summing up, there are three factors determining transaction costs in international trade, namely the lack of enforceable property rights, the spatial distance between trading partners and the lack of information goods. In order to determine in what way these factors impact on the structure and the direction of international trade, a more detailed analysis of the various kinds of transaction costs is needed.

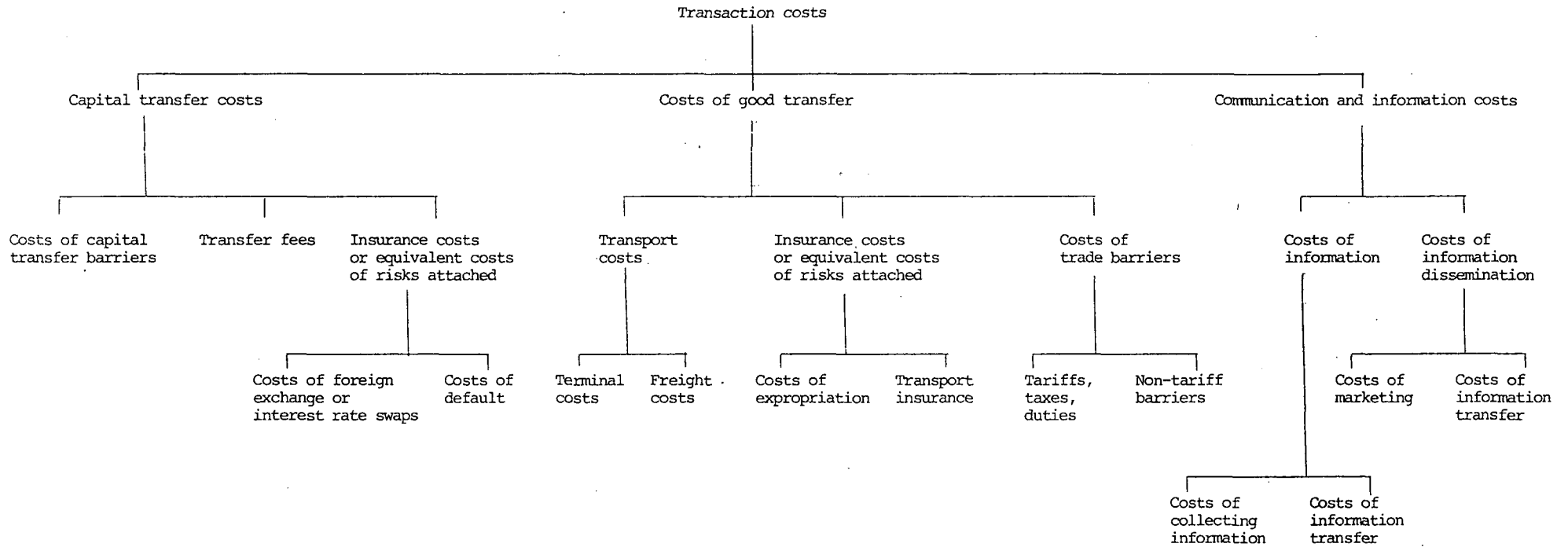
Following Vahlne and Wiedersheim-Paul (1977) international trade in goods and services involves three kinds of transactions namely flows of goods, capital and information. Each of these transactions are subject to various transaction costs as they are given in Table 2.

a) Communication and Information Costs

Communication and information costs encompass all resources which domestic firms allocate towards the gathering of information on firms, products and foreign countries (information costs) as well as the processing and supply of information to the foreign market and trading partner (costs of dissemination). The processing of information facilitates an orderly decision-making process on part of the trading partners (Bates (1988)).

The collection of information on a foreign market is costly, since many of its characteristics cannot be expected to be generally known but have to be investigated. One crucial factor that determines the availability of information is the government's information policy. Many governments regard information and its diffusion as a public good and therefore subsidize institutions providing costless information or contacts between trading partners. In this respect, the information policy of a

Table 2: Overview on the Kinds of Transaction Costs in International Trade



country does also affect the direction of trade flows, since these government information services focus on particular foreign trading partners and products. This involves a discrimination against products and markets which are neglected by the government's information policy. In general, the government tends to provide more information services on domestic than on foreign affairs. Hence, domestic suppliers of goods have a natural advantage in information costs vis-à-vis foreign suppliers, so that differences in information sets can serve as natural trade barriers (Ringle (1977), p.45)).

As far as information on foreign markets is not publicly available, firms wishing to engage in foreign trade have to investigate this information on their own account. In general, such investigations are inhibited by cultural, social, religious and ethnic differences (see Caves 1971, p. 5). Hence, the information cost intensity of trade for a domestic firm exporting goods depends on the country of destination. In case of a strong cultural and lingual affinity between the home country of the exporter and the importing country, costs of information and information dissemination can be expected to be less relevant (see Herrmann et al. (1982), p. 16). Basically, exporting firms will prefer those foreign markets where they can rely on a comparative advantage in information costs vis-à-vis firms from other countries (see Bilkey and Tesar (1977) and Bilkey (1978)). This may lead to a sequence of foreign market entry starting with countries where information costs are lower due to cultural affinity with the country of the exporter (Carlson (1977)). Since cultural affinity is often very high between neighbour states, there is reason to assume that in general foreign trade starts off with neighbour trade.

Cultural affinity evolves as a result of long-term historical processes facilitating cultural exchange, e.g. colonial occupation and migration. In this respect, cultural similarity is also a function of geographical distance, since in many cases prohibitive costs of bridging distances have prevented large-scale migration between remote countries. As a result, avail-

ability of information and cultural similarity can be especially high in neighbour states that have a historical tradition in factor mobility and exchange of information and therefore engage in trade. Even where high information costs may have existed before, they have been gradually removed through historical relations that make cultural barriers less surmountable and enhance communication links between two countries (Herrmann et al. (1982)). As a result of this time-consuming process, the direction of a country's foreign trade may change rather slowly. Due to these historical factors, one can hypothesize that there is an inertia element in international trade as far as its geographical concentration is concerned.

In addition to these historical aspects, there is also a short-term self-propelling effect inherent in international trade, since information costs may decline as a result of increasing intensity of foreign trade and information exchange. If an exporter enters a foreign market as a pioneer, he has to engage in costly market making activities one of them being information gathering. Since many information goods do not allow for a clear exclusion of other users (Bates (1988)), there may be considerable spill-overs of knowledge and information to other firms in the home country of the exporter. For these successors market entrance is clearly less costly than for the pioneer, since the successors behave as free-riders thus using costless information investigated by the pioneer and taking advantage of his learning costs.

Apart from the costs of gathering information, firms have to come up for the costs of information transfer. The level of transfer costs is highly dependent on the availability of a well-functioning infrastructure for communication. As a result of the technical progress in telecommunication networks, costs of information transfer have been drastically reduced in the last two decades. Nevertheless, a high degree of information transfer costs is still dependent on the distance between trading partners, since transactors use to satisfy a large part of their demand for information through personal contacts. The latter are subject to

travel costs that are a function of distance between trading partners (Klaassen (1988), pp. 88-92) and the development of an infrastructure required for passenger transport.

Beside gathering information, firms must also disseminate information on their products and activities to their customers in the foreign market. For instance, firms have to adapt their marketing strategy for the foreign market and develop an effective distribution network. Just like the costs of information collection, the adaption costs are affected by the cultural similarity between the trading partners, since the demand for certain products, i.e. food or textiles, is highly dependent on country-specific tastes and customs. The costs of adaption are also generally higher, if the firm exports heterogeneous goods, that are either service-intensive or subject to high communication requirements, e.g. non-standardized investment goods (Ringle (1977), Olson and Wiedersheim-Paul (1978), p. 6). For this reason, many exporters have to become multinationals, as these information services cannot be delivered by firms in the importing country or treated as a separate product.

Furthermore, the relevance of information costs is affected by the size and the export orientation of the firms in a country. Both the costs of collecting information and the costs of adaption are fixed costs in the sense that the unit costs of information tend to decline with increasing production (Herrmann et al. (1982), p. 57). Hence, large producers exporting to large and absorptive markets may experience considerable information cost advantages compared to smaller enterprises engaging on a smaller foreign market. Moreover, the cost of adaption should be lower in export-oriented enterprises, as these firms can make use of their experience and skills that have been accumulated in other foreign markets, if the knowledge is not too country-specific (Caves (1982), chap. 2). Hence, the degree to which information costs form obstacles to trade depends on the size and the international experience of the industries in the exporting and importing countries (Lall, Khanna, Alikhani (1987)).

Up to this point, it has been implicitly assumed that the exporter has to bear the information costs. In practice, however, it is not unusual that firms look for suppliers on an international market and are prepared to take over a large amount of the information costs required. Given the lack of communication networks and other market-making activities in many developing countries, importers pay a higher share of the information costs involved in North-South trade than in North-North trade. As a result, a high share of the mark-up paid for marketing services in North-South trade may accrue to the importer. Depending on the distribution of transaction costs, there may be different prices of the same product on different markets.

b) Costs of Good and Capital Transfers

Apart from the costs of information, transactors have to pay for the transfer of goods and capital. In this respect, a first group of transaction costs comprises the cost equivalents of barriers to trade and capital transfers, while the latter can be regarded as a non-tariff barrier to trade. As the effect of these obstacles on the direction trade has been broadly discussed in the literature on the custom unions theory (e.g. Amelung (1989); Balassa, Stoutjesdijk (1984); Orantes (1984); El-Agraa (1988)), the further analysis will rather focus on transport costs and risks in international trade.

Transport costs consist of two components: terminal costs which are fixed cost components and freight costs which are a function of distance between transactors. Differences in distance between trading partners impact on the direction of trade, since standard trade theory shows that producers prefer to market their products within their regional entity in order to spend a smaller share of their value-added on transport costs (Yeats (1981), pp. 15-17). Earlier works in location theory, e.g. Lösch (1954), have asserted that given increasing freight costs markets may reach a maximum geographical extension, beyond which there is no demand for the good because of prohibitive transport costs. Following Deardorff (1987) transport costs are natural trade barriers in

the sense that some goods and services may only be traded within delimited regions thus being non-tradables outside the respective region, while other goods are traded worldwide.

In general, the protective effect of transport costs share of freight costs in total unit costs tends to be lower for goods with a rather high value added, low weight and small size for instance durable consumer goods and capital goods (Langhammer (1987)). By contrast, raw materials and non-durables show a higher intensity of transport costs. As Yeats has shown, there are a number of countries that had to adjust their export structure because they faced a comparative disadvantage in transport costs resulting from their remote geographical position. Yet, there is another component of transport costs which is a positive function of distance and value-added. The owner of the goods transported have to take into account the capital costs of the good for the period of transport.

Beside distance, there are some other factors that can affect the level of transport costs. Transport costs between two countries can be extremely high, when the infrastructure, i.e. railroad tracks, roads, harbours, is not well developed. For instance Yeats (1982) shows that the Philippines had little trade with their regional trading partners, since the sea traffic between the Philippines and the other ASEAN states was underdeveloped and costly. The lack of infrastructure may lead to a phenomenon called roundabout trade, which means that an entrepot trader acts as an intermediary.

Moreover, there is a high fixed cost element in transport namely the terminal costs. If the share of terminal costs in total transport costs is very high, total transport costs per unit of distance will fall considerably with increasing distance. The terminal cost intensity of transport depends on the transport equipment eligible for trade. For instance, terminal costs are fairly low in road transport, while the freight rates are comparatively high. The opposite applies to sea transport, which shows a high intensity of terminal costs. Hence, island eco-

nomies which are heavily dependent on sea transport cannot exploit comparative advantages due to geographical proximity to its trading partners, since the geographical distance does not necessarily reduce transport costs. However, differences in freight costs can enhance regionalization, when neighbour states share a border line that is quite long relative to the size of the two countries. In this case, a higher share of bilateral trade can be conducted via road or rail transport, so that small geographical distance and lower freight costs may impact on the direction of trade.

The equivalent of transport costs in capital transfers are the transfer fees charged for the transfer of capital between two countries. Given the technical progress in the banking sector, distance has no impact on the level of transfer costs. However, just like the transport cost the costs of capital transfers depend on the availability of an infrastructure providing market-making activities, i.e. a modern banking sector and international communication networks (Thiessen (1988), Chap. 2).

Beside costs of goods and capital transfer, the risks of expropriation and default form an important cost component in international goods and capital transfer. Transactors of goods and capital deliberately expose themselves to risks due to the lack of enforceable property rights in international trade. Contracting parties or their governments may take advantage of this lack of enforcement and default in a contract. On one hand the transactors can insure themselves against such risks. In this case, the insurance premium determines the level of transaction costs between trading partners.

On the other hand, the trading partners can engage in market-making activities that increase the reliability of transactions, and reduce the incentives for breaking contracts. This is done through contractual arrangements that are much more complicated than trade on the national level. Following North (1987) there are basically three kinds of contractual systems, namely personal

exchange, impersonal exchange with third party enforcement and impersonal exchange without third party enforcement.

Personal exchange relies on personal ties between trading partners, like for instance friendship or family membership. Given these ties trading partners have a large set of information about each other, while defaulting in a contract can be sanctioned by a loss of reputation making the defaulting party an outsider without personal ties. Hence, the personal exchange is not subject to high transaction and information costs, since there is no need for an extensive checking the reliability of trading partners and monitoring the default risk. Personal exchange in international trade is positively affected by cultural homogeneity of the trading partners. When the trading partners have similar cultural roots, their moral attitudes are likely to reveal much resemblance. This may add to the reliability of the partners (North (1987)). Since such conditions prevail especially in smaller geographical regions, personal exchange is well-developed in regional and local trade. Moreover, personal exchange is characterized by the frequency of repeat dealings. As the change of trading partners causes substantial information costs and risks to the transactor, there is a tendency towards stable and long-term partnerships. Therefore, a system of personal exchange involves substantial barriers-to-entry for outsiders (see Johanson and Mattsson (1987), p. 2, Carlson (1977), p. 22). As the number of personal ties in a given area are quite restricted, there are certain limits to the trade potential that can evolve under this system of contracting.

By contrast, impersonal exchange is not a function of personal relationships and thus facilitates a substantial expansion of international trade. Impersonal exchange without third party enforcement comprises all contractual arrangements, in which information and reliability is not given from the beginning and which cannot be enforced by law. The risk involved in these contractual arrangements is higher than in personal exchange. In the same vein, transaction costs are higher than in the case of personal exchange, since there are high costs of information and

insurance. Under a system of impersonal exchange, foreign trade evolves as a slow process starting off with small and few transactions, as both trading partners have to prove their reliability (Johanson and Mattsson (1987), p. 5). Large firms that are internationally known and have developed a widely accepted reputation find it easier to deal with impersonal trade without third party enforcement than smaller enterprises, as the former can afford considerable investment in early warning and monitoring systems. Moreover, large firms are in a position to develop a publicly known corporate image or brand name, which adds to its reliability as a trading partner and serves as a substitute for the gathering of information. In this respect there are considerable barriers to entry in impersonal exchange. Given these barriers in personal exchange and impersonal exchange without third party enforcement there is a high degree of inertia as far as the geographical concentration of partnerships is concerned.

Impersonal trade with third party enforcement is another form of contracting. In its purest form, transactors can enforce their property rights in the country of their trading partners, even though they are not located in that foreign country. However, impersonal exchange with third party enforcement requires extensive legal cooperation between authorities of two countries. A precondition for such a cooperation is a bilateral adjustment of law codes and a willingness for political cooperation. Given this kind of institutional arrangement between two countries, there is no difference between domestic trade within these countries and bilateral trade between these countries. Yet, there are two substitutes for this arrangement. Exporters can also set up subsidiaries in foreign countries and thus become multinationals that are legally treated as domestic firms in the importing country. Hence, the firm substitutes the risks due to expropriation of export goods and debt default for the risk of corporate expropriation. The latter risk can be regarded as a fixed cost element, while costs due to the former risk are a function of the number of transactions. Hence, this substitution may reduce transaction costs when the frequency of transactions is very high.

The alternative way to reduce risks of default is provided by various document-against-payment schemes. The transaction of goods and capital is partly taken over by reliable banks which are paid for their international reliability in these transactions. Apart from these documents-against-payment schemes international banks provide a broad set of services (e.g. future contracts, export factoring, swap deals) reducing risks and transaction costs for individuals engaging in international trade. Especially the risk due to the fluctuation of exchange rates are major obstacles to foreign trade (Nsouli (1984)). Hence, trade can be expected to flourish when there are well-developed international banking systems in the home countries of the transactors. A financial system facilitating a trading of risks and monetary cooperation between governments constitute market-making activities reducing transaction costs.

III. The Empirical Impact of Transaction Costs on the Direction of Trade in Asia Pacific

As it was shown in the last section, there are a variety of transaction costs which are obstacles in international trade and cause costs for transactors. Since these costs are not uniform for all countries, it is very likely that differences in these costs may affect the direction of trade. This may lead to a regionalization of trade in the sense that there may be clusters of countries that share low transaction costs and therefore engage in intense bilateral trade relations.

This leads to the question, how bilateral trade links, that is the variable to be explained in the following, can be measured. In an earlier fact-finding study on regionalization in Asia Pacific (Amelung (1990)), the export shares (EXP), i.e. the share of export from country i to country j in total exports of country i , were calculated in order to correct for the differences in size among countries and show the relative importance of bilateral trade links. On the basis of these export shares, it has been shown that there are clear trends of regionalization in the Asia Pacific area. Using regression analysis it will be tested,

whether it is possible to establish a causal relationship between these export shares and transaction cost for bilateral trade in 17 Asia Pacific countries, as they are listed in Table A1 in the appendix. However, the endogenous variable is subject to fluctuation because of changes in export prices and quantities. For this reason, export shares have been averaged on the basis of export values for the 1981-1987 period.

a) The Model and Data Sources

As far as the exogenous variables are concerned, there is a striking lack of data on transaction costs that enter the cost calculations of transactors engaging in international trade. For this reason one has to resort to proxies that can be derived from the hypotheses discussed in the last section. The model that will be tested for the Asia Pacific area comprises the following variables:

$$\begin{aligned} \text{Export} = & a + b_1 \text{ HIST} + b_2 \text{ CRED} + b_3 \text{ CUL} + b_4 \text{ EXST} + b_5 \text{ LAB} \\ & + b_6 \text{ DIS} + b_7 \text{ CAP} + b_8 \text{ BOR} + b_9 \text{ PCI} + b_{10} \text{ PROT} \\ & + b_{11} \text{ SIZE} + b_{12} \text{ DASEAN} + b_{13} \text{ DBANG} + b_{14} \text{ DSPFT} \end{aligned}$$

The first variable is the historical level of export shares (HIST). (Table A1 in the appendix provides a complete lists of all variables and countries.) It can be hypothesized that this variable is positively related to the export values of the 1981-1987 period. There are two reasons for that. Firstly, it can be argued that relationships between trading partners are fairly robust due to high barriers-to-entry as a result of information costs and risks involved in international trade. Secondly, trade has a self-propelling effect, since information diffusion can reduce information costs over time. The diffusion of information occurs faster the more individuals have obtained that kind of information. For this reason, information costs can be expected to decline more rapidly between pairs of countries that have a tradition in bilateral trade and and thus a high degree of

information on the trading partners (inertia element in international trade). In an earlier study by Herrmann et al. (1982) trade data of 1900 have been taken in order to explain the trade flows between OECD countries in the seventies. The measuring of historical trade flows is somehow difficult, since many countries in the Asia Pacific area achieved their independence after the Second World War. Statistical data reaching back to the colonial period are either not available or not reliable. For this reason, export shares for 1966 have been calculated, as they can be obtained from the IMF Direction of Trade Statistics.

The second variable (CRED) refers to sovereign risk involved in international trade. The higher the reliability in transactions the more trade can be expected to grow between two trading partners. The credibility of trading partners can be proxied by the debt default risk of the particular countries. The respective country ratings ranging from 0 for bad debtors and 100 for good ones have been derived from the publications of the Institutional Investor. The CRED variable features the sum of these ratings for the two trading partners in 1985.

Another risk component in foreign trade is due to exchange rate fluctuations. The variable EXST measures the correlation coefficient of the two trading partners' exchange rate vis-à-vis the US\$. A high positive correlation coefficient would imply a relative stability in the exchange rate movements of the trading partners. The opposite is true for negative exchange rate fluctuations, since in this case an appreciation of one currency is accompanied by a depreciation of the other.

In order to capture the effects of barriers to capital transfers, the percentage difference between the official and the black market exchange rate was averaged on the basis of yearly data from Pick's Currency Yearbook (now called World Currency Yearbook) for the period 1981-1986. It can be argued that this percentage difference is higher the more exchange controls are implemented. The CAP variable proxying the extent of capital transfer barriers between trading partners was calculated as follows:

$$CAP_{ij} = \frac{1}{7} \sum_{t=1980}^{1986} \frac{b_{jt} - e_{jt}}{e_{jt}}$$

where b_{jt} is the black market rate in the year t for the importing country j and e_{jt} is the respective official or effective exchange rate.

In addition, there are transaction costs resulting from tariffs and non-tariff barriers. Since data on the implicit protection for our sample of countries are not available, we took a dummy variable PROT in order to capture the effect of protectionism on foreign trade. These dummies have been derived from classifications of countries with respect to their degree of outward orientation, as it is available in the World Development Report 1987 for the period 1973-1985. In this report a broad sample of developing countries have been classified into various categories, i.e. strongly outward oriented, moderately outward oriented, moderately inward oriented and strongly inward oriented. The PROT variable shows the degree of inward orientation for the importing country. The dummy equals 0 (1) for strongly (moderately) outward oriented countries and 3 (2) for strongly (moderately) inward oriented countries.

Preferential tariff treatment resulting from institutional integration schemes was proxied by introducing dummies for their member countries. DBANG equals 1 for the member countries of the Bangkok Agreement in the sample (Bangladesh, Sri Lanka, India, South Korea). In the same vein, dummies were introduced for the ASEAN countries (DASEAN; Malaysia, Singapore, Philippines, Indonesia, Thailand), the South Pacific Free Trade Arrangement (DSPFT; Australia, New Zealand, Papua New Guinea), and the South Asian Association for Regional Cooperation (DSAARC, Bangladesh, India, Sri Lanka, Pakistan).

Moreover, the CUL variable measures the cultural homogeneity of countries. As it was discussed in the last chapter cultural homogeneity of trading partners reduces risks, costs of information, marketing and bargaining. Hence the regression

coefficient is expected to yield a positive sign. The index of cultural similarity used in the regression was calculated as follows:

$$CUL_{ij} = \sum_{k=1}^n \min \left[\frac{e_{ik}}{\sum_{k=1}^n e_{ik}}, \frac{e_{jk}}{\sum_{k=1}^n e_{jk}} \right]$$

where e_{i1} (e_{i2}) is the number of population belonging to the ethnic group k in country i (j). The data for the calculation of the index have been obtained from the Fischer Weltalmanach (1985) and refer to 1981 and 1982 depending on the particular countries.

Earlier studies, e.g. Herrmann et al. (1982) or Abebe (1980) have tested the lingual affinity by analyzing whether the official languages in pairs of countries are identified. Since English is a widely accepted language in Asia Pacific, it does not make sense to test lingual similarity as communication costs are not likely to evolve because of language problems. For this reason, in this study the ethnic origin of the population was taken as a yardstick in order to assess whether cultural similarity can impact on personal ties, resemblance of customs and habits etc.

Next, two variables with a geographical dimension enter the equation. The first one, DIS, measures the distance between the main ports of the respective trading partners thus serving as a proxy for freight costs. The distance variable has been measured by using the Reeds Marine Distance Table. However, it has to be noted that this variable implicitly measures other transaction costs. For instance, communication is often subject to extensive business travelling, which costs more the larger the distance is. Moreover, it is likely that cultural homogeneity is correlated with geographical distance, since historical migration is function of geographical distance.

The other geographical variable, BOR, attempts to proxy the relevance of border trade due to geographical conditions. If two nations share a border which is very long relative to their size,

there is a high potential of regional trade, since road and rail transport is more important. The proxy for geographical conditions facilitating such border trade is defined as follows:

$$\text{BOR}_{ij} = \frac{L_{ij}}{A_i}$$

where L_{ij} is the length of the border line between the two trading partners (country 1 and country 2), while A_i is the total area of the exporting country i . Since many of the countries in the Asia Pacific area are so-called island economies, borders were also assumed to exist between countries, when the distance across the sea between did not exceed 100 km. This is the maximum range of small vessels with low terminal costs eligible for regional trade. The length of the border lines have been measured by using the world map published by the National Geographic Magazine.

Yet, there are three control variables that can be expected to add to the significance of the regression results. Two of them (LAB and PCI) are related to trade theories. LAB proxies the difference in factor endowments according to the Heckscher-Ohlin-Samuelson model. Accordingly, trade between countries is a result of differences in factor endowments. A simple proxy for the differences in the endowments with human capital and physical capital is per-capita income (Havrylyshyn (1987)). A low per-capita income is supposed to reveal a rather poor endowment with physical and human capital. In order to have a control variable a similar proxy was used in this study:

$$\text{LAB} = \frac{L_i/\text{GNP}_i}{L_j/\text{GNP}_j}$$

where L_i is the labour force of country 1, which is the labour-abundant country, while L_j is the labour force of the country that is relatively scarce of labour. A high value of LAB shows that there are tremendous differences in factor endowments leading to higher intensity of trade between the two countries.

Moreover, there is a potential for intra-industry trade (Linder-type of trade), when both trading partners have reached a high stage of development allowing for the diversification of the demand structure. In order to capture this phenomenon, the per-capita income of the trading partner with the lower income was included as an additional variable PCI.

Finally, the SIZE variable corrects for the size of the countries. The export shares that constitute the endogenous variable can be expected to be higher when the importing country reveals a higher demand because of a large domestic market, high GDP per capita and a free import regime. The SIZE variable features the total import of the importing country in the period 1981-1987. It has to be noted, however, that the SIZE variable comprises also some determinants of transaction costs. As it has been argued in the preceding section, there are several fixed cost components of transaction costs that may cause a reduction of unit costs of transaction given increasing trade volumes. Since large import markets have a high potential for declining unit costs of reduction, we expect a negative relationship between the SIZE variable and the relevance of transaction costs.

b) Empirical Findings

The results of the stepwise cross sector regressions can be obtained from Table 3 on page 22 and 23. Altogether seven equations were tested. This was necessary because there is a high degree of multicollinearity between some variables (see Table A2 in the appendix). As a consequence, some coefficients are not significant in some equations depending on the selection of variables included. As it can be seen from the equations cultural similarity (CUL), geographical distance (DIS), exchange correlation (EXST) and credibility (CRED) of trading partners are significant variables in most of the equations explaining the direction of trade in the Asian Pacific area. Moreover, the past trade flows as they are reflected in the HIST variable is highly significant (equations 6 and 7). This points to the fact that trade relations reveal a high element of inertia in the geo-

Table 3: Estimation Results (N = 272)

	Eq.1	Eq.2	Eq.3
CUL	0.043 (1.78) *	0.045 (1.75) *	0.038 (1.44)
HIST	-	-	-
CRED	0.070* (3.61) ***	0.075 (4.98) ***	0.082 (5.34) ***
EXST	1.332 (1.90) *	1.466 (2.14) **	1.607 (2.30) **
LAB	0.086 (2.54) **	0.068 (2.13) **	0.074 (2.29) **
DIS	-	$1.7 \cdot 10^{-5}$ (0.16)	$6.1 \cdot 10^{-5}$ (0.55)
PCI	$2.6 \cdot 10^{-4}$ (1.08)	-	-
SIZE	-	-	-
DSPFT	-	-	0.783 (0.30)
CAP	-3.165 (1.65) *	1.522 (0.68)	1.566 (0.49)
BOR	0.192 (0.54)	0.248 (0.71)	-
PROT	-	1.687 (3.46) ***	-1.726 (3.55) ***
DSAARC	-	-	4.752 (2.19) **
DASEAN	-	-	1.922 (1.25)
DBANG	-	-	-1.328 (0.64)
Constant	-5.602 (2.75) ***	-4.086 (2.15) **	-5.468 (2.71) ***
\bar{R}^2	0.196	0.225	0.232
F	6.21	10.85	8.46

Table 3 (cont.)

	Eq.4	Eq.5	Eq.6	Eq.7
CUL	0.061 (3.19)***	0.066 (3.57)***	0.063 (3.79)***	0.067 (3.99)***
HIST	-	-	0.274 (8.07)***	0.30 (8.55)***
CRED	0.029 (2.45)**	0.264 (2.32)**	0.022 (2.11)**	0.023 (2.55)**
EXST	-0.498 (0.94)	-0.604 (1.18)	-0.056 (0.13)	-
LAB	-0.004 (0.15)	-0.006 (0.24)	-	-
DIS	$-2.9 \cdot 10^{-4}$ (3.39)***	$-3.1 \cdot 10^{-4}$ (3.82)***	$-2.0 \cdot 10^{-4}$ (2.78)***	$-1.6 \cdot 10^{-4}$ (2.31)**
PCI	-	-	-	-
SIZE	$9.4 \cdot 10^{-6}$ (15.71)***	$9.6 \cdot 10^{-6}$ (16.05)***	$7.1 \cdot 10^{-6}$ (11.45)***	$6.8 \cdot 10^{-6}$ (11.60)***
DSPFT	1.129 (0.58)	-	-	-3.489 (1.96)*
CAP	0.405 (0.23)	0.339 (0.25)	0.661 (0.46)	-
BOR	-0.123 (0.43)	-0.076 (0.30)	-0.049 (0.21)	-0.114 (0.45)
PROT	-	-	-0.105 (3.46)***	-
DSAARC	1.212 (0.73)	-	-	0.847 (0.67)
DASEAN	0.858 (0.75)	-	-	1.246 (1.27)
DBANG	-4.711 (0.30)	-	-	-
Constant	-0.739 (0.51)	-0.165 (0.12)	-0.613 (0.49)	-1.205 (-1.21)
R ²	0.586	0.591	0.671	0.679
F	33.03	49.91	62.41	64.58

Sources: IMF, Direction of Trade Statistics, various issues; Amelung (1990); World Bank, World Development Report, various issues; Institutional Investor, Country Ratings, various issues; Fischer Weltalmanach, various issues; Pick's Currency Yearbook, various issues; National Geographic Magazine, 1957 World Map; own calculations.

graphical concentration of international trade. This supports early findings on the stability of regional trade in Asia Pacific (Amelung (1990)). Among the control variables, the coefficient of the SIZE variable adds considerable explanatory power to the equations 4-7.

The degree of outward orientation (PROT) and the proxy for the barriers to capital transfers (CAP) attach significance to equations 1, 2 and 3. The dummy variables indicating the existence of preferential trading arrangements fail to add explanatory power to the equations, except for DSAARC in equation 3 and DSPFT in equation 7. The latter variable, however, does not yield the correct sign. DASEAN does not impact on the results, though the coefficient of this variable is stable and yields the correct sign in equations 3 and 7.

Moreover, the BOR variable does not seem to impact on the regional direction of trade. This can be explained by the relevance of sea traffic in the Asia Pacific and the lack of data on regional trade, which is only partly registered in the national statistics on foreign trade.

Finally, the LAB variable yields significant results in equations 1, 2 and 3, thus confirming earlier studies analyzing differences in factor endowments. By contrast, PCI turns out to be insignificant, though it gives a correct sign.

The rather low explanatory value of equations 1, 2 and 3 points to the fact that a better specification of transaction costs is required, since it is mainly the SIZE and HIST variables adding to the significance of the other equations. As trade barriers between countries account for a large share in total transaction costs, a better indicator for protectionism between countries should be calculated. Moreover, a more careful specification of differences in factor endowments may add to the significance of the equations. Finally, the availability of market-making activities in the particular country, i.e. indicators on average firm size, multinationals and the development of financing services,

should be taken into account. These extensions of the model together with a more direct specification of transaction costs provide opportunities for further research.

IV. Conclusions

The formation of regional entities characterized by strong bilateral trade links has been attributed to preferential trade agreements and differences in freight costs in the recent literature. In this paper a broader concept was applied, as many other obstacles to international trade incurring transaction costs were included in the analysis. Given such transaction costs (e.g. costs of information, bargaining and insurance) the direction of trade is not only a function of relative differences in production costs but also a function of differences in transaction costs across countries.

In order to assess to what extent these transaction cost differentials affect trade flows, the bilateral trade between 17 countries in Asia Pacific was empirically analyzed. Summing up, it can be concluded that the determinants of transaction costs between trading partners have a considerable impact on the direction of trade in the Asia Pacific area. Cultural similarity among trading partners seems to enhance trade, as it eases communication and thus reduces costs of information, bargaining and marketing. Moreover, the credibility of trading partners and the exchange risks involved in international trade have affected the direction of trade among countries. Moreover the distance between partners affects the opportunities of communication and transport and adds to the transaction costs between trading partners.

Hence, regionalization of trade in the sense that trading activities within a group of countries is more intense than those outside the group can be explained by the difference of transaction costs and their different speed of reduction. Especially the separation between a South East Asian group of countries (Singapore, Malaysia, Thailand) and a North Pacific group (Japan,

USA, China, Hong Kong, Korea), as it was identified in an earlier study (Amelung (1990)) can be explained by transaction cost differentials because the criterion that was used for delimiting those regions in Asia Pacific in that earlier study equals the dependent variable in the regression analysis in this paper.

The case of the Asia Pacific area clearly shows that regional entities are likely to evolve even without any progress in institutional integration schemes especially when transactions are low because of a common cultural tradition and geographical proximity between the countries. Especially the latter determinant seems to suggest, that economic regions can be delimited within geographical areas, even though technical progress has reduced costs of freight and communication substantially.

Moreover, policy variables seem to matter whether countries form an economic region. A coordination of monetary policies reducing exchange rate fluctuations between countries can help to lower transaction costs and enhance trade. In the same vein, the unilateral lifting of barriers for capital transfers and trade may substantially reduce transaction costs in Asia Pacific and provide opportunities for regional trade integration.

Literaturverzeichnis

- Abebe, Teshome (1980), An Econometric Study of the Determinants of International Patterns of Trade: OECD and Africa. Ph.D. thesis, Northern Illinois University. Dekalb Illinois: University Microfilms International, Dissertation Information Service. Ann Arbor, London.
- Amelung, Torsten (1989), Wirtschaftsgemeinschaften. In: Macharzina, Klaus and Martin Welge (Eds.), Handwörterbuch und International Unternehmung. Stuttgart: C.E. Poeschel, pp. 2285-2294.
- Amelung, Torsten (1990), Economic Regions in Asia Pacific: An Exercise in Regional Delimitation. Kiel Institute of World Economics, Kiel Working Papers, 409, Kiel.
- Balassa, Bela and Ardy Stoutjesdijk (1984), Economic Integration among Developing Countries. In: Gosh, Pradip K. (Ed.), Economic Integration and Third World Development. Westport, London: Greenwood, pp. 33-50.
- Bates, Benjamin J. (1988), Information as an Economic Good: Sources of Individual and Social Value. In: Mosco, Vincent and Janet Wasko (Hrsg.), The Political Economy of Information. London: University of Wisconsin Press, S. 76-94.
- Bilkey, Warren J., G. Tesar (1977), The Export Behavior of Smaller-Sized Wisconsin Manufacturing Firms. Journal of International Business Studies, Vol. 8, pp. 93-98.
- Bilkey, Warren J. (1978), An Attempted Integration of the Literature on the Export Behavior of Firms. Journal of International Business Studies, Vol. 9, pp. 33-36.
- Brockmann, Karl Ludwig, Alexander Hofmann, Hans Christoph Rieger (1990), Market Integration in the Asia Pacific: Measures and Institutions of National Governments. Paper presented on an Interim Researchers' Meeting on Regional Economic Integration in Asia Pacific at the Institute of Southeast Asian Studies, Singapore.
- Carlson, Sune (1979), Swedish Industry goes Abroad. An Essay on Industrialization and Internationalization. Lund: Studentlitteratur.
- Casson, Mark C. (1982), Transaction Costs and the Theory of the Multinational Enterprise. In: Rugman, Alan M., New Theories of the Multinational Enterprises. London & Canberra: Croom Helm.
- Caves, Richard E. (1971), International Corporation: The Industrial Economics of Foreign Direct Investment. Economica, Vol. 38, pp. 1-27.
- Caves, Richard E. (1982), Multinational Enterprise and Economic Analysis. London: Cambridge University Press.

- Deardorff, Alan V. (1987), The Direction of Developing-Country Trade: Examples of Pure Theory. In: Havrylyshyn, Oli (ed.), Exports of Developing Countries. How Direction affects Performance. World Bank Symposium, IBRD, Washington, D.C. 1987, pp. 9-21.
- El-Agraa, Ali M. (1988), The Theory of Economic Integration. In: El-Agraa, Ali M. (Ed.), International Economic Integration. Basingstoke, London: Macmillan, pp. 16-41.
- Haefs, Hanswilhelm (Ed.), Fischer Weltalmanach. Frankfurt: Fischer, various issues.
- Havrylyshyn, Oli (1987), Evidence of Differences between South-South and South-North Trade. In: Havrylyshyn, Oli (Ed.), How Direction affects Performance. A World Bank Symposium. IBRD 1987, Washington, D.C.
- Herrmann, Hayo et al. (1982), Kommunikationskosten und internationaler Handel. Schriften des Instituts für Regionalforschung der Universität Kiel. München: Florentz.
- Institutional Investor, Country Ratings. New York, various issues.
- International Monetary Fund (IMF), Direction of Trade Statistics. Washington, D.C., various issues.
- Johanson, Jan, Lars-Gunnar Mattsson (1987), Interorganisational Relations in Industrial Systems - A Network Approach Compared with the Transaction Cost Approach. University of Uppsala.
- Klaassen, Leo H. (1988), Exercises in Spatial Thinking. Brookfield (USA): Avebury.
- Lall, Sanjaya, Ashok Khanna and Iradj Alikhani (1987), Determinants of Manufactured Export Performance in Low-Income Africa: Kenya and Tanzania. World Development, Vol. 17, No. 9, pp. 1219-1224.
- Langhammer, Rolf J. (1987), Transport Costs Differentials and Competitive Advantages of Industrial Countries' Exports to ASEAN Countries. ASEAN Economic Bulletin, March 1987, pp. 379-387.
- Lösch, Alexander (1954), The Economics of Location. New Haven/Conn.: Yale University Press.
- Nsouli, Saleh (1984), Monetary Integration in Developing Countries. In: Gosh, Pradip K. (Ed.), Economic Integration and Third World Development. Westport, London: Greenwood, pp. 153-158.
- North, Douglass C. (1987), Institutions, Transaction Costs and Economic Growth. Economic Inquiry, Vol. 25/3, pp. 419-428.

- Olson, H.C., F. Wiedersheim-Paul (1978), Factors Affecting the Pre-Export Behavior of Non-Exporting Firms. In: Ghertman, M. und J. Leontiades (Eds.), European Research in International Business. Amsterdam.
- Orantes, Isaac Cohen (1984), The Concept of Integration. In: Gosh, Pradip K. (Ed.), Economic Integration and Third World Development. Westport, London: Greenwood, pp. 51-66.
- Ringle, Günther (1977), Exportmarketing. Wiesbaden.
- Schenk, Karl-Ernst (1982), "Institutional Choice" und Transaktionskostenökonomik - Perspektiven der systemanalytischen und industrieökonomischen Anwendung. In: Schenk, Karl-Ernst (Ed.), Studien zur politischen Ökonomie. Ökonomische Studien Band 32. Stuttgart: Gustav Fischer Verlag, pp. 1-21.
- Thiessen, Friedrich (1988), Standortvorteile für Internationale Finanzzentren. Untersuchungen zur Wirtschaftspolitik, Vol. 74, Institut für Wirtschaftspolitik, Universität zu Köln, Köln.
- Vahlne, J.E., Wiedersheim-Paul, F. (1977), Psychic Distance - An Inhibiting Factor in International Trade. Working Paper No. 2, Department of Business Administration, University of Uppsala, Uppsala.
- Viner, Jacob (1950), The Customs Union Issue. New York: Carnegie Endowment for International Peace.
- Williamson, Oliver (1979), Transaction Cost Economics. The Governance of Contractual Relations. Journal of Law and Economics, Vol. 22, No. 2, pp. 233-261.
- Wong, John (1988), The Association of Southeast Asian Nations. In: El-Agraa, Ali M. (Ed.), International Economic Integration. Basingstoke, London: Macmillan, pp. 314-326.
- World Bank, World Development Report. Washington, D.C.: Oxford University Press, various issues.
- World Currency Yearbook (formerly Pick's Currency Yearbook). New York: International Currency Analysis Inc., various issues.
- Yeats, Alexander J. (1981), Shipping and Development Policy: Integrated Assessment. New York: Praeger.
- Yeats, Alexander J. (1982), Market Access and Transport Problems as Constraints to Asian Regional Integration. Paper presented at the International Symposium on "Two Decades of Asian Development and Outlook for the 1980s", March 8-11, Institute of Developing Economies, Tokyo, Japan.

Table A1: Variables in the Equation

Importer	Exporter	Export	exstab	cul	dis	bor 2	lab	cred	pci	cap 2	hist	size	prot
USA	Australia	10.73	0.0000	20.00	12920	0.00	1.5411	178.2	10830	0.00	13.01	2312047	0
	Japan	33.65	0.0000	0.05	11120	0.00	1.5217	191.2	11300	0.00	30.78	2312047	0
	New Zealand	14.17	0.0000	20.30	11600	0.00	2.3448	166.0	7010	0.00	15.74	2312047	0
	Bangladesh	17.89	0.0000	0.00	17000	0.00	89.3505	111.9	150	0.00	16.89	2312047	0
	China	8.12	0.0000	0.30	13240	0.00	53.0230	164.4	310	0.00	0.01	2312047	0
	Hongkong	30.18	0.0000	1.30	14360	0.00	2.7602	163.0	6230	0.00	20.76	2312047	0
	India	19.56	0.0000	0.00	19000	0.00	52.4489	142.4	270	0.00	19.34	2312047	0
	Indonesia	19.53	0.0000	0.30	16080	0.00	26.7193	145.7	530	0.00	23.27	2312047	0
	Korea	35.31	0.0000	0.00	12440	0.00	7.5276	153.4	2150	0.00	38.45	2312047	0
	Malaysia	14.01	0.0000	0.30	16320	0.00	7.4599	160.6	2000	0.00	17.98	2312047	0
	Pakistan	9.07	0.0000	0.00	19600	0.00	35.2699	123.8	380	0.00	11.71	2312047	0
	Papua NG.	3.06	0.0000	1.00	11920	0.00	20.0816	136.0	680	0.00	0.00	2312047	0
	Philippines	34.90	0.0000	0.30	13840	0.00	24.4159	114.5	580	0.00	39.48	2312047	0
	Singapore	19.34	0.0000	0.30	16160	0.00	2.2834	174.2	7420	0.00	6.37	2312047	0
	Sri Lanka	20.70	0.0000	0.00	18600	0.00	41.2592	120.0	380	0.00	8.05	2312047	0
Thailand	16.61	0.0000	0.30	16160	0.00	18.6498	148.1	800	0.00	6.91	2312047	0	
Australia	USA	-2.27	0.0000	20.00	12920	0.00	1.5411	178.2	10830	0.00	2.17	165101	1
	Japan	2.83	0.5978	0.00	9040	0.00	1.0127	177.2	10830	0.00	3.05	165101	1
	New Zealand	14.00	0.9413	91.00	3000	0.00	1.5215	152.0	7010	0.00	4.57	165101	1
	Bangladesh	2.10	-0.9596	0.00	10280	0.00	57.9788	97.9	150	0.00	1.72	165101	1
	China	0.79	-0.8563	0.30	9400	0.00	34.4062	150.4	310	0.00	1.79	165101	1
	Hongkong	2.17	-0.9074	1.00	8360	0.00	1.7910	149.0	6230	0.00	2.20	165101	1
	India	1.22	-0.9228	0.00	11240	0.00	34.0337	128.4	270	0.00	2.00	165101	1
	Indonesia	1.65	-0.9276	0.50	6480	0.00	17.3379	131.7	530	0.00	8.40	165101	1
	Korea	1.36	-0.8670	0.00	9680	0.00	4.8846	139.4	2150	0.00	0.64	165101	1
	Malaysia	1.80	-0.3870	0.50	7640	0.00	4.8407	146.6	2000	0.00	2.97	165101	1
	Pakistan	1.03	-0.8834	0.00	12480	0.00	22.8864	109.8	380	0.00	3.10	165101	1
	Papua NG.	10.48	-0.8765	2.00	3320	0.04	13.0307	122.0	680	0.00	95.77	165101	1
	Philippines	1.70	-0.9265	0.20	7120	0.00	15.8433	100.5	580	0.00	0.38	165101	1
	Singapore	3.31	0.3886	0.50	7280	0.00	1.4817	160.2	7420	0.00	3.23	165101	1
	Sri Lanka	1.07	-0.8873	0.00	9720	0.00	26.7727	106.0	380	0.00	4.41	165101	1
Thailand	1.58	-0.5891	0.80	8520	0.00	12.1017	134.1	800	0.00	0.25	165101	1	
Japan	USA	10.74	0.0000	0.05	11120	0.00	1.5217	191.2	11300	0.00	7.79	946198	1
	Australia	26.76	0.5978	0.00	9040	0.00	1.0127	177.2	10830	0.00	18.49	946198	1
	New Zealand	14.44	0.5294	0.05	10640	0.00	1.5409	165.0	7010	0.00	8.37	946198	1
	Bangladesh	6.37	-0.6147	0.00	6080	0.00	58.7157	110.9	150	0.00	2.17	946198	1
	China	19.52	-0.4107	0.05	2200	0.00	34.8435	163.4	310	0.00	18.84	946198	1
	Hongkong	4.63	-0.4366	0.05	3680	0.00	1.8138	162.0	6230	0.00	5.82	946198	1
	India	10.42	-0.4110	0.00	8120	0.00	34.4662	141.4	270	0.00	8.57	946198	1
	Indonesia	46.57	-0.6419	0.05	6840	0.00	17.5583	144.7	530	0.00	20.73	946198	1
	Korea	15.93	-0.5730	0.00	1360	0.94	4.9466	152.4	2150	0.00	26.27	946198	1
	Malaysia	21.64	0.2066	0.05	6440	0.00	4.9022	159.6	2000	0.00	27.81	946198	1
	Pakistan	9.49	-0.3998	0.00	8680	0.00	23.1772	122.8	380	0.00	3.99	946198	1
	Papua NG.	29.65	-0.3931	0.00	5720	0.00	13.1964	135.0	680	0.00	1.41	946198	1
	Philippines	19.73	-0.4693	0.05	3840	0.00	16.0446	113.5	580	0.00	33.02	946198	1
	Singapore	9.49	0.7229	0.05	6400	0.00	1.5005	173.2	7420	0.00	18.70	946198	1
	Sri Lanka	4.87	-0.7608	0.00	7880	0.00	27.1130	119.0	380	0.00	2.50	946198	1
Thailand	14.08	-0.7707	0.05	5680	0.00	12.2555	147.1	800	0.00	20.54	946198	1	

Table A1 (cont.)

Importer	Exporter	Export	exstab	cul	dis	bor	lab	cred	pci	cap	hist	size	prot
New Zealand	USA	0.36	0.0000	20.30	11600	0.00	2.3448	166.0	7010	0.00	0.42	42213	1
	Australia	5.23	0.9413	91.00	3000	0.00	1.5215	152.0	7010	0.00	6.27	42213	1
	Japan	0.59	0.5294	0.05	10640	0.00	1.5409	165.0	7010	0.00	0.60	42213	1
	Bangladesh	0.36	-0.9724	0.00	13040	0.00	38.1056	85.7	150	0.00	0.69	42213	1
	China	0.12	-0.7528	0.50	11160	0.00	22.6129	138.2	310	0.00	0.00	42213	1
	Hongkong	0.30	-0.9233	1.50	10800	0.00	1.1771	136.8	6230	0.00	0.91	42213	1
	India	0.22	-0.8986	0.40	14160	0.00	22.3681	116.2	270	0.00	0.76	42213	1
	Indonesia	0.79	-0.8499	0.50	9400	0.00	11.3951	119.5	530	0.00	0.38	42213	1
	Korea	0.20	-0.9163	0.00	11560	0.00	3.2103	127.2	2150	0.00	0.00	42213	1
	Malaysia	0.19	-0.3286	0.90	10480	0.00	3.1815	134.4	2000	0.00	0.82	42213	1
	Pakistan	0.16	-0.8748	0.00	15320	0.00	15.0417	97.6	380	0.00	0.38	42213	1
	Papua NG.	0.83	-0.8708	1.00	5560	0.00	8.5643	109.8	680	0.00	0.00	42213	1
	Philippines	0.18	-0.8847	0.50	9600	0.00	10.4127	88.3	580	0.00	0.06	42213	1
	Singapore	0.94	0.4481	0.90	10160	0.00	1.0269	148.0	7010	0.00	0.00	42213	1
	Sri Lanka	0.38	-0.9171	0.00	12640	0.00	17.5960	93.8	380	0.00	2.02	42213	1
Thailand	-0.16	-0.6585	0.50	11280	0.00	7.9537	121.9	800	0.00	0.04	42213	1	
Bangladesh	USA	0.09	0.0000	0.00	17000	0.00	89.3505	111.9	150	0.95	0.00	17861	3
	Australia	0.21	-0.9596	0.00	10280	0.00	57.9788	97.9	150	0.95	0.13	17861	3
	Japan	0.17	-0.6147	0.00	6080	0.00	58.7157	110.9	150	0.95	0.07	17861	3
	New Zealand	0.03	-0.9724	0.00	13040	0.00	38.1056	85.7	150	0.95	0.19	17861	3
	China	0.33	0.8017	1.00	3720	0.00	1.6851	84.1	150	0.95	0.00	17861	3
	Hongkong	0.20	0.9327	0.00	2760	0.00	32.3716	82.7	150	0.95	0.04	17861	3
	India	0.51	0.9059	10.00	2040	12.50	1.7036	62.1	150	0.95	0.13	17861	3
	Indonesia	0.09	0.8992	0.00	4240	0.00	3.3440	65.4	150	0.95	0.00	17861	3
	Korea	0.35	0.9376	0.00	5040	0.00	11.8698	73.1	150	0.95	0.00	17861	3
	Malaysia	0.24	0.3360	0.00	2920	0.00	11.9774	80.3	150	0.95	0.02	17861	3
	Pakistan	1.93	0.9012	0.00	2640	0.00	2.5333	43.5	150	0.95	0.00	17861	3
	Papua NG.	0.00	0.8966	0.00	7520	0.00	4.4494	55.7	150	0.95	0.61	17861	3
	Philippines	0.07	0.8861	0.00	3680	0.00	3.6595	34.2	150	0.95	0.00	17861	3
	Singapore	1.12	-0.4770	0.00	3280	0.00	39.1303	93.9	150	0.95	0.84	17861	3
	Sri Lanka	0.65	0.9275	0.00	2480	0.00	2.1656	39.7	150	0.95	0.00	17861	3
Thailand	0.82	0.6738	0.00	1800	0.00	4.7910	67.8	150	0.95	0.00	17861	3	
China	USA	1.43	0.0000	0.30	13240	0.00	53.0230	164.4	310	0.24	0.01	216766	3
	Australia	3.50	-0.8563	0.30	9400	0.00	34.4062	150.4	310	0.24	2.64	216766	3
	Japan	4.20	-0.4107	0.05	2200	0.00	34.8435	163.4	310	0.24	3.22	216766	3
	New Zealand	2.44	-0.7528	0.50	11160	0.00	22.6129	138.2	310	0.24	0.66	216766	3
	Bangladesh	2.21	0.8017	1.00	3720	0.00	1.6851	84.1	150	0.24	0.00	216766	3
	Hongkong	18.42	0.7953	94.00	1640	0.01	19.2102	135.2	310	0.24	0.91	216766	3
	India	0.36	0.9431	0.00	5960	0.28	1.0109	114.6	270	0.24	0.00	216766	3
	Indonesia	0.49	0.8943	2.50	5280	0.00	1.9844	117.9	310	0.24	0.00	216766	3
	Korea	0.00	0.7408	0.00	1320	0.00	7.0439	125.6	310	0.24	0.00	216766	3
	Malaysia	1.10	0.6508	36.00	4560	0.00	7.1077	132.8	310	0.24	0.00	216766	3
	Pakistan	3.29	0.7461	0.00	6480	0.00	1.5033	96.0	310	0.24	5.02	216766	3
	Papua NG.	2.38	0.7339	0.00	5760	0.00	2.6404	108.2	310	0.24	0.00	216766	3
	Philippines	1.48	0.9339	1.50	2360	0.00	2.1717	86.7	310	0.24	0.06	216766	3
	Singapore	1.56	-0.0843	76.00	4600	0.00	23.2210	146.4	310	0.24	0.00	216766	3
	Sri Lanka	1.81	0.6589	0.00	5880	0.00	1.2851	92.2	310	0.24	10.55	216766	3
Thailand	3.12	0.2861	9.50	3640	0.00	2.8431	120.3	310	0.24	0.00	216766	3	

Table A1 (cont.)

Importer	Exporter	Export	exstab	cul	dis	bor	lab	cred	pci	cap	hist	size	prot
Hongkong	USA	1.33	0.0000	1.30	14360	0.00	2.7602	163.0	6230	0.00	0.75	214299	0
	Australia	2.49	-0.9074	1.00	8360	0.00	1.7910	149.0	6230	0.00	2.17	214299	0
	Japan	3.63	-0.4366	0.05	3680	0.00	1.8138	162.0	6230	0.00	3.78	214299	0
	New Zealand	1.39	-0.9233	1.50	10800	0.00	1.1771	136.8	6230	0.00	0.22	214299	0
	Bangladesh	1.01	0.9327	0.00	2760	0.00	32.3716	82.7	150	0.00	0.08	214299	0
	China	28.40	0.7953	94.00	1640	0.01	19.2102	135.2	310	0.00	29.81	214299	0
	India	1.71	0.9316	0.00	4680	0.00	19.0022	113.2	270	0.00	0.70	214299	0
	Indonesia	1.28	0.9033	2.50	3720	0.00	9.6804	116.5	530	0.00	2.79	214299	0
	Korea	4.60	0.9445	0.00	2960	0.00	2.7272	124.2	2150	0.00	3.76	214299	0
	Malaysia	1.94	0.3409	36.00	2960	0.00	2.7027	131.4	2000	0.00	1.01	214299	0
	Pakistan	2.92	0.9546	0.00	5400	0.00	12.7783	94.6	380	0.00	4.09	214299	0
	Papua NG.	0.37	0.9515	1.00	5240	0.00	7.2755	106.8	680	0.00	0.00	214299	0
	Philippines	4.14	0.9293	1.50	1280	0.00	8.8458	85.3	580	0.00	0.42	214299	0
	Singapore	6.99	-0.4172	76.00	3000	0.00	1.2088	145.0	6230	0.00	13.38	214299	0
	Sri Lanka	0.95	0.8739	0.00	4360	0.00	14.9481	90.8	380	0.00	0.40	214299	0
Thailand	4.36	0.5987	8.00	2040	0.00	6.7568	118.9	800	0.00	6.50	214299	0	
India	USA	0.74	0.0000	0.00	19000	0.00	52.4489	142.4	270	0.13	3.05	121489	3
	Australia	1.05	-0.9228	0.00	11240	0.00	34.0337	128.4	270	0.13	1.36	121489	3
	Japan	0.89	-0.4110	0.00	8120	0.00	34.4662	141.4	270	0.13	1.71	121489	3
	New Zealand	0.58	-0.8986	0.40	14160	0.00	22.3681	116.2	270	0.13	0.19	121489	3
	Bangladesh	2.01	0.9059	10.00	2040	12.50	1.7036	62.1	150	0.13	0.27	121489	3
	China	0.29	0.9431	0.00	5960	0.28	1.0109	114.6	270	0.13	0.00	121489	3
	Hongkong	0.37	0.9316	0.00	4680	0.00	19.0022	113.2	270	0.13	0.05	121489	3
	Indonesia	0.14	0.9287	0.00	4920	0.00	1.9630	95.9	270	0.13	0.10	121489	3
	Korea	1.71	0.8631	0.00	7040	0.00	6.9676	103.6	270	0.13	0.12	121489	3
	Malaysia	2.71	0.5642	10.00	3760	0.00	7.0308	110.8	270	0.13	1.79	121489	3
	Pakistan	1.19	0.8755	0.00	1120	0.70	1.4871	74.0	270	0.13	0.02	121489	3
	Papua NG.	0.06	0.8671	0.00	9000	0.00	2.6118	86.2	270	0.13	0.00	121489	3
	Philippines	0.23	0.9772	0.00	5400	0.00	2.1481	64.7	270	0.13	0.04	121489	3
	Singapore	2.30	-0.2130	4.00	4080	0.00	22.9696	124.4	270	0.13	7.28	121489	3
	Sri Lanka	1.42	0.7929	18.20	1800	0.08	1.2712	70.2	270	0.13	1.22	121489	3
Thailand	0.70	0.4434	0.00	3120	0.00	2.8123	98.3	270	0.13	9.79	121489	3	
Indonesia	USA	0.55	0.0000	0.30	16080	0.00	26.7193	145.7	530	0.13	0.20	91532	2
	Australia	1.62	-0.9276	0.50	6480	0.00	17.3379	131.7	530	0.13	0.20	91532	2
	Japan	1.86	-0.6419	0.05	6840	0.00	17.5583	144.7	530	0.13	1.21	91532	2
	New Zealand	1.06	-0.8499	0.50	9400	0.00	11.3951	119.5	530	0.13	0.00	91532	2
	Bangladesh	0.25	0.8992	0.00	4240	0.00	3.3440	65.4	150	0.13	0.00	91532	2
	China	0.36	0.8943	2.50	5280	0.00	1.9844	117.9	310	0.13	0.00	91532	2
	Hongkong	1.88	0.9033	2.50	3720	0.00	9.6804	116.5	530	0.13	5.89	91532	2
	India	0.61	0.9287	0.00	4920	0.00	1.9630	95.9	270	0.13	0.04	91532	2
	Korea	0.90	0.8554	0.00	6480	0.00	3.5495	106.9	530	0.13	0.24	91532	2
	Malaysia	0.51	0.3889	53.50	1280	1.25	3.5817	114.1	530	0.13	0.00	91532	2
	Pakistan	0.66	0.8575	0.00	6000	0.00	1.3200	77.3	380	0.13	1.13	91532	2
	Papua NG.	0.02	0.8488	1.00	4600	0.68	1.3305	89.5	530	0.13	0.00	91532	2
	Philippines	0.99	0.9416	1.50	3040	0.00	1.0943	68.0	530	0.13	0.04	91532	2
	Singapore	7.47	-0.3973	17.50	1000	0.00	11.7015	127.7	530	0.13	0.00	91532	2
	Sri Lanka	0.07	0.8586	0.00	3320	0.00	1.5442	73.5	380	0.13	0.00	91532	2
Thailand	1.17	0.6008	5.50	2520	0.00	1.4327	101.6	530	0.13	3.22	91532	2	

Table A1 (cont.)

Importer	Exporter	Export	exstab	cul	dis	bor	lab	cred	pci	cap	hist	size	prot	
Korea	USA	2.78	0.0000	0.00	12440	0.00	7.5276	153.4	2150	0.05	1.11	210894	0	
	Australia	3.75	-0.8670	0.00	9680	0.00	4.8846	139.4	2150	0.05	0.21	210894	0	
	Japan	4.47	-0.5730	0.00	1360	0.00	4.9466	152.4	2150	0.05	3.42	210894	0	
	New Zealand	1.69	-0.9163	0.00	11560	0.00	3.2103	127.2	2150	0.05	0.00	210894	0	
	Bangladesh	0.20	0.9376	0.00	5040	0.00	11.8698	73.1	150	0.05	0.00	210894	0	
	China	0.00	0.7408	0.00	1320	0.00	7.0439	125.6	310	0.05	0.00	210894	0	
	Hongkong	1.99	0.9445	0.00	2960	0.00	2.7272	124.2	2150	0.05	0.45	210894	0	
	India	1.85	0.8631	0.00	7040	0.00	6.9676	103.6	270	0.05	0.00	210894	0	
	Indonesia	2.77	0.8554	0.00	6480	0.00	3.5495	106.9	530	0.05	0.13	210894	0	
	Malaysia	4.85	0.2042	0.00	5840	0.00	1.0091	121.8	2000	0.05	1.30	210894	0	
	Pakistan	1.44	0.8900	0.00	7440	0.00	4.6854	85.0	380	0.05	0.00	210894	0	
	Papua NG.	6.99	0.8868	0.00	6320	0.00	2.6677	97.2	680	0.05	0.00	210894	0	
	Philippines	2.44	0.8609	0.00	3520	0.00	3.2435	75.7	580	0.05	2.01	210894	0	
	Singapore	1.56	-0.5757	0.00	5880	0.00	3.2966	135.4	2150	0.05	0.99	210894	0	
	Sri Lanka	0.24	0.9227	0.00	7080	0.00	5.4811	81.2	380	0.05	0.00	210894	0	
	Thailand	1.77	0.6959	0.00	4920	0.00	2.4775	109.3	800	0.05	0.06	210894	0	
	Malaysia	USA	0.78	0.0000	0.30	16320	0.00	7.4599	160.6	2000	0.00	0.15	87118	1
		Australia	1.92	-0.3870	0.50	7640	0.00	4.8407	146.6	2000	0.00	1.69	87118	1
Japan		1.36	0.2066	0.05	6440	0.00	4.9022	159.6	2000	0.00	0.97	87118	1	
New Zealand		1.29	-0.3286	0.90	10480	0.00	3.1815	134.4	2000	0.00	0.59	87118	1	
Bangladesh		0.38	0.3360	0.00	2920	0.00	11.9774	80.3	150	0.00	0.00	87118	1	
China		0.74	0.6508	36.00	4560	0.00	7.1077	132.8	310	0.00	0.00	87118	1	
Hongkong		0.78	0.3409	36.00	2960	0.00	2.7027	131.4	2000	0.00	2.73	87118	1	
India		0.80	0.5642	10.00	3760	0.00	7.0308	110.8	270	0.00	1.13	87118	1	
Indonesia		0.37	0.3889	53.50	1280	1.25	3.5817	114.1	530	0.00	0.00	87118	1	
Korea		0.88	0.2042	0.00	5840	0.00	1.0091	121.8	2000	0.00	0.24	87118	1	
Pakistan		0.37	0.3295	0.00	4840	0.00	4.7279	92.2	380	0.00	3.60	87118	1	
Papua NG.		0.33	0.3215	0.00	5360	0.00	2.6919	104.4	680	0.00	0.00	87118	1	
Philippines		2.80	0.4568	1.50	2640	0.00	3.2729	82.9	580	0.00	0.59	87118	1	
Singapore		15.86	0.6394	55.00	320	0.30	3.2670	142.6	2000	0.00	0.00	87118	1	
Sri Lanka		0.82	0.0364	0.00	2320	0.00	5.5308	88.4	380	0.00	0.11	87118	1	
Thailand		4.39	-0.3853	11.00	1320	1.21	2.5000	116.5	800	0.00	8.12	87118	1	
Pakistan		USA	0.37	0.0000	0.00	19600	0.00	35.2699	123.8	380	0.22	0.78	39343	2
		Australia	0.29	-0.8834	0.00	12480	0.00	22.8864	109.8	380	0.22	0.73	39343	2
	Japan	0.46	-0.3998	0.00	8680	0.00	23.1772	122.8	380	0.22	1.02	39343	2	
	New Zealand	0.29	-0.8748	0.00	15320	0.00	15.0417	97.6	380	0.22	0.00	39343	2	
	Bangladesh	4.92	0.9012	0.00	2640	0.00	2.5333	43.5	150	0.22	0.00	39343	2	
	China	0.84	0.7461	0.00	6480	0.00	1.5033	96.0	310	0.22	1.74	39343	2	
	Hongkong	0.13	0.9546	0.00	5400	0.00	12.7783	94.6	380	0.22	0.22	39343	2	
	India	0.09	0.8755	0.00	1120	0.70	1.4871	74.0	270	0.22	0.00	39343	2	
	Indonesia	0.16	0.8575	0.00	6000	0.00	1.3200	77.3	380	0.22	0.43	39343	2	
	Korea	0.41	0.8900	0.00	7440	0.00	4.6854	85.0	380	0.22	0.00	39343	2	
	Malaysia	1.07	0.3295	0.00	4840	0.00	4.7279	92.2	380	0.22	0.61	39343	2	
	Papua NG.	0.10	0.9998	0.00	9960	0.00	1.7563	67.6	380	0.22	0.00	39343	2	
	Philippines	0.06	0.8606	0.00	6240	0.00	1.4445	46.1	380	0.22	0.02	39343	2	
	Singapore	0.62	-0.3769	3.00	5160	0.00	15.4462	105.8	380	0.22	0.00	39343	2	
	Sri Lanka	2.99	0.8271	0.00	2880	0.00	1.1698	51.6	380	0.22	2.53	39343	2	
	Thailand	0.33	0.5520	0.00	4120	0.00	1.8912	79.7	380	0.22	0.43	39343	2	

Table A1 (cont.)

Importer	Exporter	Export	exstab	cul	dis	bor	lab	cred	pci	cap	hist	size	prot	
Papua NG.	USA	0.03	0.0000	1.00	11920	0.00	20.0816	136.0	680	0.00	0.00	6526	1	
	Australia	1.97	-0.8765	2.00	3320	0.04	13.0307	122.0	680	0.00	2.76	6526	1	
	Japan	0.09	-0.3931	0.00	5720	0.00	13.1964	135.0	680	0.00	0.04	6526	1	
	New Zealand	0.85	-0.8708	1.00	5560	0.00	8.5643	109.8	680	0.00	0.00	6526	1	
	Bangladesh	0.02	0.8966	0.00	7520	0.00	4.4494	55.7	150	0.00	0.04	6526	1	
	China	0.02	0.7339	0.00	5760	0.00	2.6404	108.2	310	0.00	0.03	6526	1	
	Hongkong	0.08	0.9515	1.00	5240	0.00	7.2755	106.8	680	0.00	0.29	6526	1	
	India	0.01	0.8671	0.00	9000	0.00	2.6118	86.2	270	0.00	0.00	6526	1	
	Indonesia	0.00	0.8488	1.00	4600	0.68	1.3305	89.5	530	0.00	0.00	6526	1	
	Korea	0.02	0.8868	0.00	6320	0.00	2.6677	97.2	680	0.00	0.00	6526	1	
	Malaysia	0.03	0.3215	0.00	5360	0.00	2.6919	104.4	680	0.00	0.00	6526	1	
	Pakistan	0.00	0.9998	0.00	9960	0.00	1.7563	67.6	380	0.00	0.00	6526	1	
	Philippines	0.07	0.8514	0.00	4040	0.00	1.2158	58.3	580	0.00	0.00	6526	1	
	Singapore	0.53	-0.3786	0.00	5040	0.00	8.7946	118.0	680	0.00	0.13	6526	1	
	Sri Lanka	0.00	0.8233	0.00	7680	0.00	2.0546	63.8	380	0.00	0.00	6526	1	
	Thailand	0.02	0.5518	0.00	5880	0.00	1.0768	91.9	680	0.00	0.00	6526	1	
	Philippines	USA	0.75	0.9000	0.30	13840	0.00	24.4159	114.5	580	0.09	1.14	48364	2
		Australia	6.67	-0.9265	0.20	7120	0.00	15.8433	160.5	580	0.09	1.10	48364	2
Japan		0.82	-0.4693	0.05	3840	0.00	16.0446	113.5	580	0.09	2.85	48364	2	
New Zealand		0.87	-0.8847	0.50	9600	0.00	10.4127	88.3	580	0.09	0.68	48364	2	
Bangladesh		0.00	0.8861	0.00	3680	0.00	3.6595	34.2	150	0.09	0.00	48364	2	
China		0.84	0.9339	1.50	2360	0.00	2.1717	86.7	310	0.09	0.03	48364	2	
Hongkong		1.28	0.9293	1.50	1280	0.00	8.8458	85.3	580	0.09	1.02	48364	2	
India		0.07	0.9772	0.00	5400	0.00	2.1481	64.7	270	0.09	0.04	48364	2	
Indonesia		1.10	0.9416	1.50	3040	0.00	1.0943	68.0	530	0.09	3.33	48364	2	
Korea		0.62	0.8609	0.00	3520	0.00	3.2435	75.7	580	0.09	0.32	48364	2	
Malaysia		1.75	0.4568	1.50	2640	0.00	3.2729	82.9	580	0.09	1.18	48364	2	
Pakistan		0.22	0.8606	0.00	6240	0.00	1.4445	46.1	380	0.09	0.20	48364	2	
Papua NG.		0.76	0.8514	0.00	4040	0.00	1.2158	58.3	580	0.09	0.00	48364	2	
Singapore		1.31	-0.2922	1.50	2600	0.00	10.6927	96.5	580	0.09	2.10	48364	2	
Sri Lanka		0.03	0.8257	0.00	4600	0.00	1.6898	42.3	380	0.09	0.00	48364	2	
Thailand		0.54	0.4990	1.50	2320	0.00	1.3092	70.4	580	0.09	1.20	48364	2	
Singapore		USA	1.59	0.0000	0.30	16160	0.00	2.2834	174.2	7420	0.00	0.17	196820	0
		Australia	2.76	0.3886	0.50	7280	0.00	1.4817	160.2	7420	0.00	1.83	196820	0
	Japan	2.64	0.7229	0.05	6400	0.00	1.5005	173.2	7420	0.00	1.41	196820	0	
	New Zealand	1.46	0.4481	0.90	10160	0.00	1.0269	148.0	7010	0.00	0.00	196820	0	
	Bangladesh	4.73	-0.4770	0.00	3280	0.00	39.1303	93.9	150	0.00	3.35	196820	0	
	China	4.08	-0.0843	76.00	4600	0.00	23.2210	146.4	310	0.00	0.00	196820	0	
	Hongkong	3.31	-0.4172	76.00	3000	0.00	1.2088	145.0	6230	0.00	4.84	196820	0	
	India	1.94	-0.2130	4.00	4080	0.00	22.9696	124.4	270	0.00	0.53	196820	0	
	Indonesia	10.55	-0.3973	17.50	1000	0.00	11.7015	127.7	530	0.00	0.00	196820	0	
	Korea	1.73	-0.5757	0.00	5880	0.00	3.2966	135.4	2150	0.00	0.84	196820	0	
	Malaysia	20.50	0.6394	55.00	320	0.30	3.2670	142.6	2000	0.00	0.00	196820	0	
	Pakistan	1.40	-0.3769	3.00	5160	0.00	15.4462	105.8	380	0.00	0.00	196820	0	
	Papua NG.	1.20	-0.3786	0.00	5040	0.00	8.7946	118.0	680	0.00	2.82	196820	0	
	Philippines	3.60	-0.2922	1.50	2600	0.00	10.6927	96.5	580	0.00	0.31	196820	0	
	Sri Lanka	2.59	-0.6976	0.00	2640	0.00	18.0691	102.0	380	0.00	0.20	196820	0	
	Thailand	8.30	-0.9152	11.00	1560	0.00	8.1675	130.1	800	0.00	7.17	196820	0	

Table A1 (cont.)

Importer	Exporter	Export	exstab	cul	dis	bor	lab	cred	pci	cap	hist	size	prot
Sri Lanka	USA	0.04	0.0000	0.00	18600	0.00	41.2592	120.0	380	0.34	0.05	13104	2
	Australia	0.17	-0.8873	0.00	9720	0.00	26.7727	106.0	380	0.34	0.56	13104	2
	Japan	0.15	-0.7608	0.00	7880	0.00	27.1130	119.0	380	0.34	0.29	13104	2
	New Zealand	0.18	-0.9171	0.00	12640	0.00	17.5960	93.8	380	0.34	0.07	13104	2
	Bangladesh	0.08	0.9275	0.00	2480	0.00	2.1656	39.7	150	0.34	0.15	13104	2
	China	0.16	0.6589	0.00	5880	0.00	1.2851	92.2	310	0.34	2.81	13104	2
	Hongkong	0.30	0.8739	0.00	4360	0.00	14.9481	90.8	380	0.34	0.39	13104	2
	India	0.79	0.7929	18.20	1800	0.08	1.2712	70.2	270	0.34	1.71	13104	2
	Indonesia	0.03	0.8586	0.00	3320	0.00	1.5442	73.5	380	0.34	0.11	13104	2
	Korea	0.24	0.9227	0.00	7080	0.00	5.4811	81.2	380	0.34	0.00	13104	2
	Malaysia	0.30	0.0364	0.00	2320	0.00	5.5309	98.4	380	0.34	0.17	13104	2
	Pakistan	1.03	0.8271	0.00	2880	0.00	1.1698	51.6	380	0.34	2.29	13104	2
	Papua NG.	0.02	0.8233	0.00	7680	0.00	2.0546	63.8	380	0.34	0.00	13104	2
	Philippines	0.20	0.8257	0.00	4600	0.00	1.6898	42.3	380	0.34	0.00	13104	2
	Singapore	0.83	-0.6976	0.00	2640	0.00	18.0691	102.0	380	0.34	0.46	13104	2
	Thailand	0.32	0.8113	0.00	2360	0.00	2.2123	75.9	380	0.34	1.92	13104	2
Thailand	USA	0.49	0.0000	0.30	16160	0.00	18.6498	148.1	800	0.00	0.42	70611	1
	Australia	0.70	-0.5891	0.80	8520	0.00	12.1017	134.1	800	0.00	0.76	70611	1
	Japan	1.32	-0.7707	0.05	5680	0.00	12.2555	147.1	800	0.00	3.08	70611	1
	New Zealand	0.48	-0.6585	0.50	11280	0.00	7.9537	121.9	800	0.00	0.00	70611	1
	Bangladesh	0.49	0.6738	0.00	1800	0.00	4.7910	67.8	150	0.00	0.00	70611	1
	China	0.75	0.2861	9.50	3640	0.00	2.8431	120.3	310	0.00	0.00	70611	1
	Hongkong	0.89	0.5987	8.00	2040	0.00	6.7568	118.9	800	0.00	1.77	70611	1
	India	0.47	0.4434	0.00	3120	0.00	2.8123	98.3	270	0.00	0.23	70611	1
	Indonesia	0.33	0.6008	5.50	2520	0.00	1.4327	101.6	530	0.00	2.45	70611	1
	Korea	0.61	0.6959	0.00	4920	0.00	2.4775	109.3	800	0.00	1.92	70611	1
	Malaysia	3.02	-0.3853	11.00	1320	1.21	2.5000	116.5	800	0.00	1.04	70611	1
	Pakistan	0.67	0.5520	0.00	4120	0.00	1.8912	79.7	380	0.00	0.02	70611	1
	Papua NG.	0.04	0.5518	0.00	5880	0.00	1.0768	91.9	680	0.00	0.00	70611	1
	Philippines	0.95	0.4990	1.50	2320	0.00	1.3092	70.4	580	0.00	0.09	70611	1
	Singapore	4.19	-0.9152	11.00	1560	0.00	8.1675	130.1	800	0.00	5.45	70611	1
	Sri Lanka	0.29	0.8113	0.00	2360	0.00	2.2123	75.9	380	0.00	0.03	70611	1

Note: Dummy variables showing the membership preferential trading arrangements are not listed as the data can be derived from the text.

Source: See Table 3.

Table A2: Pearson Correlation Coefficients

PEARSON CORRELATION COEFFICIENTS												
	EXPORT	EXSTAB	CUL	DIS	BOR2	LAB	CRED	PCI	CAP2	HIST2	SIZE3	PROT
EXPORT	1.0000 (272) P= .	-.1116 (272) P= .033	.1988 (272) P= .000	.1629 (272) P= .004	-.0281 (272) P= .322	.1230 (272) P= .021	.4232 (272) P= .000	.2806 (272) P= .000	-.2182 (272) P= .000	.6503 (272) P= .000	.7216 (272) P= .000	-.3322 (272) P= .000
EXSTAB	-.1116 (272) P= .033	1.0000 (272) P= .	.0805 (272) P= .093	-.3841 (272) P= .000	.0995 (272) P= .051	-.4256 (272) P= .000	-.4516 (272) P= .000	-.0745 (272) P= .110	.1712 (272) P= .002	-.1572 (272) P= .005	-.1173 (272) P= .027	.1913 (272) P= .001
CUL	.1988 (272) P= .000	.0805 (272) P= .093	1.0000 (272) P= .	-.2460 (272) P= .000	.0566 (272) P= .176	-.0734 (272) P= .114	.2186 (272) P= .000	.1738 (272) P= .002	-.0879 (272) P= .074	.0598 (272) P= .163	-.0364 (272) P= .275	-.0752 (272) P= .108
DIS	.1629 (272) P= .004	-.3841 (272) P= .000	-.2460 (272) P= .000	1.0000 (272) P= .	-.1276 (272) P= .018	.4386 (272) P= .000	.3873 (272) P= .000	.2238 (272) P= .000	-.1101 (272) P= .035	.1014 (272) P= .048	.4365 (272) P= .000	-.1642 (272) P= .003
BOR2	-.0281 (272) P= .322	.0995 (272) P= .051	.0566 (272) P= .176	-.1276 (272) P= .018	1.0000 (272) P= .	-.0767 (272) P= .104	-.1287 (272) P= .017	-.0529 (272) P= .193	.1439 (272) P= .009	-.0275 (272) P= .326	-.0401 (272) P= .255	.1419 (272) P= .010
LAB	.1230 (272) P= .021	-.4256 (272) P= .000	-.0734 (272) P= .114	.4386 (272) P= .000	-.0767 (272) P= .104	1.0000 (272) P= .	.1570 (272) P= .005	-.2796 (272) P= .000	.1777 (272) P= .002	.0851 (272) P= .081	.2437 (272) P= .000	.0689 (272) P= .129
CRED	.4232 (272) P= .000	-.4516 (272) P= .000	.2186 (272) P= .000	.3873 (272) P= .000	-.1287 (272) P= .017	.1570 (272) P= .005	1.0000 (272) P= .	.6206 (272) P= .000	-.4154 (272) P= .000	.2936 (272) P= .000	.4171 (272) P= .000	-.4088 (272) P= .000
PCI	.2806 (272) P= .000	-.0745 (272) P= .110	.1738 (272) P= .002	.2238 (272) P= .000	-.0529 (272) P= .193	-.2796 (272) P= .000	.6206 (272) P= .000	1.0000 (272) P= .	-.2552 (272) P= .000	.1867 (272) P= .001	.2801 (272) P= .000	-.3606 (272) P= .000
CAP2	-.2182 (272) P= .000	.1712 (272) P= .002	-.0879 (272) P= .074	-.1101 (272) P= .035	.1439 (272) P= .009	.1777 (272) P= .002	-.4154 (272) P= .000	-.2552 (272) P= .000	1.0000 (272) P= .	-.1730 (272) P= .002	-.2249 (272) P= .000	.6521 (272) P= .000
HIST2	.6503 (272) P= .000	-.1572 (272) P= .005	.0598 (272) P= .163	.1014 (272) P= .048	-.0275 (272) P= .326	.0851 (272) P= .081	.2936 (272) P= .000	.1867 (272) P= .001	-.1730 (272) P= .002	1.0000 (272) P= .	.5046 (272) P= .000	-.2245 (272) P= .000
SIZE3	.7216 (272) P= .000	-.1173 (272) P= .027	-.0364 (272) P= .275	.4365 (272) P= .000	-.0401 (272) P= .255	.2437 (272) P= .000	.4171 (272) P= .000	.2801 (272) P= .000	-.2249 (272) P= .000	.5046 (272) P= .000	1.0000 (272) P= .	-.3888 (272) P= .000
PROT	-.3322 (272) P= .000	.1913 (272) P= .001	-.0752 (272) P= .108	-.1642 (272) P= .003	.1419 (272) P= .010	.0689 (272) P= .129	-.4088 (272) P= .000	-.3606 (272) P= .000	.6521 (272) P= .000	-.2245 (272) P= .000	-.3888 (272) P= .000	1.0000 (272) P= .

(COEFFICIENT / (CASES) / 1-TAILED SIG)

" . " IS PRINTED IF A COEFFICIENT CANNOT BE COMPUTED

Source: See Table 3.