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BUSINESS BENEFITS OF TRADE FACILITATION

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BUSINESS BENEFITS OF TRADE FACILITATION

A literature survey, with particular focus on SMEs and developing country firms

Executive Summary

The aim of this paper is to assess the business benefits of trade facilitation based on a survey of available studies. The approach adopted is to look at trade transaction costs for business that would be reduced by trade facilitation measures.

Particular attention has been paid in the literature to transaction costs, which need to be considered alongside tariffs and non-tariff measures as constraints on international trade. Trade transaction costs differ from country to country, depending not only on the characteristics of traded goods and on factors such as the size and type of businesses but also on the efficiency and integrity of interacting businesses and administrations. Trade transaction costs may be defined as being composed of: costs directly related to formalities; charges for trade-related services; costs related to procedural delays; lost business opportunity costs; and costs related to lack of predictability.

Although there exist descriptions of obstacles faced by businesses that trade internationally (e.g. complex requirements; procedural delays; arbitrary decisions; and even official corruption) little verifiable information has been found on their monetary costs. Moreover, the few “original” estimates of trade transaction costs identified are not recent. Estimations undertaken in the 1970s and the 1980s are geographically specific and do not reflect subsequent technological progress or developments in business operations. Thus, in addition to the imprecision of these estimations, they appear too old to apply adequately to today’s situation. In addition, among the elements of trade transaction costs, cost estimates of lost business opportunities and of lack of predictability hardly seem to exist.

SMEs, particularly in developing countries, may find that unavoidable transaction costs often require considerable managerial time and attention and represent an important deterrent to international trading. While benefits to the public sector are not the main interest of this paper, there exists relevant anecdotal information, in particular relating to improved collection of import duties.

The present literature survey on trade facilitation suggests that it would be useful for upcoming international discussion to update and improve the factual content of work on the benefits of trade facilitation. Future efforts could aim at greater precision with respect to trade transaction costs for certain product categories and with reference to size and types of businesses, focusing in particular on SMEs and enterprises in developing countries.

A. Background

1. As tariff levels have declined through successive GATT/WTO rounds, and global supply chains have come to dominate production patterns, growing attention has been directed to the remaining cost factors that are important for international competitiveness, in particular those incurred by trade formalities and procedures. The WTO added trade facilitation to its agenda at its Singapore Ministerial meeting (December 1996). Under the mandate approved at that time, the Council for Trade in Goods would carry out "*… explanatory and analytical work, taking into account the work for other relevant organisations, on the simplification of trade procedures, in order to assess the scope for WTO rules in this area*." Relevant discussions, including on the possibility of including trade facilitation in a new round of multilateral trade negotiations, have been underway in several WTO fora.

2. At the Doha Ministerial Conference (November 2001) WTO Members recognized "*… the case for further expediting the movement, release and clearance of goods, including goods in transit, and the need for enhanced technical assistance and capacity building in this area"*. They agreed "*… that negotiations will take place after the Fifth Session of the Ministerial Conference on the basis of a decision to be taken, by explicit consensus, at that Session on modalities of negotiations."* In the meanwhile, they decided to review, clarify and improve relevant WTO provisions and "*… identify the trade facilitation needs and priorities of Members, in particular developing and least-developed countries."*

3. The present paper responds to a request by the OECD Trade Committee, on the basis of a proposal initially made by the United Kingdom Delegation. The aim of the paper is, by reviewing existing literature on the benefits of trade facilitation, to provide a basis for further reflection, research and discussion on:

- the business costs of trade transactions that would be reduced by trade facilitation;
- asymmetric effects on SMEs and enterprises of developing countries; and
- information gaps that could be addressed in order to contribute to international discussions on trade facilitation, including possible multilateral trade negotiations.

4. The paper is structured as follows: definition and scope of trade facilitation; estimates of trade transaction costs and the economic impact of trade facilitation; asymmetric effects on SMEs and enterprises of developing countries; and possible further steps. It should be noted that the focus of this survey is on the benefits of trade facilitation (or costs of its absence) for trade operators, rather than on effects felt elsewhere, such as in the public sector.

B. Definitions and scope

a) Definition and scope of trade facilitation

5. There is no single, commonly accepted definition of trade facilitation, but a traditional definition might be the following: trade facilitation is the simplification and standardisation of procedures and associated information flows required to move goods internationally from seller to buyer and to pass

payment in the other direction[1]. Similarly, the WTO Homepage states that trade facilitation is "*the simplification and harmonisation of international trade procedures*", where trade procedures are the "*activities, practices and formalities involved in collecting, presenting, communicating and processing data required for the movement of goods in international trade*"[2].

6. Such procedures to collect, present, communicate and process information enter into all international trade transactions, typically including international transportation, trade insurance and cross-border payment; as well as official procedures and formalities reflecting regulatory requirements in the hands of Customs and such other official agencies as those concerned with public health, the environment, dangerous goods security and quarantine (see Box 1).

Box 1: Transactions involved in international trade

International trade involves several transactions, which are necessary in order to secure the contractual rights and terms and references and to liquidate and clear the obligations in relationship to the other stakeholders including the government authorities. These transactions include (but are not limited to) the following :

- Conclusion of a cross-border sales contact;
- Formalities related to the contractual payment;
- Arrangements for the international transportation and cargo-handling;
- Cargo insurance;
- Border control and clearance;
- Clearance of the contractual obligations.

It should be noted that these transactions take place across the border or in both the importing and exporting countries. In addition, they are often interdependent, as completing a procedure in one transaction may be a prerequisite for commencing another transaction. For example, in order to draft and negotiate the "Bill of Exchange" that will allow him to collect the sales money, the exporter needs to submit the following documents to the bank:

- Letter of Credit (issued by the bank in the importing country for the exporter as the beneficiary);
- Bill of Lading (issued by the transport company's office in the exporting country in return of the submission of the Mate's Receipt produced by the shipping boat upon the loading of the cargoes);
- Commercial Invoice (produced by the exporter)
- Cargo Insurance Policy (issued by the trade insurance agency)
- Any other documents, if any specified in the sales contract with the importer, e.g. certificate of origin, laboratory testing results/certificate, etc.

(Source: Morii, 1993)

1 John Raven, former President of the IECC, in a communication with the Secretariat on 18 May, 2001.

2 UN/ECE defines trade facilitation as "the systematic rationalisation of procedures and documentation for international trade", where the definition of trade procedures is the same to that of the WTO.

7. However, trade facilitation may also be defined more widely. For example, Messerlin and Zarrouk (2000) include the issues of technical regulations, conformity assessment and certification. In fact, mutual recognition agreements (MRAs) in this field are sometimes referred to as "Trade Facilitation Agreements"[3]. APEC also considers technical regulations, conformity assessment and certification, as well as the mobility of business people as parts of the trade facilitation agenda (see APEC 1997). The definition used by Dee, Geisler and Watts (1996) is even wider, including technical regulations, conformity assessment and certification, competition policy, government procurement and transparency, in addition to customs procedures. Furthermore, some feel that the provision of physical infrastructure, educational activities and export promotion may be considered as trade facilitation measures.

8. While attempting to take an inclusive approach, particularly in light of ongoing discussions in other fora, this paper principally adopts the traditional definition of "trade facilitation". Therefore, costs related to physical infrastructure are not included. The focus will be on transactions occurring after the conclusion of an international sales contract, up to, and including, the liquidation and clearance of the obligations between the sellers and buyers and those related to border authorities. Costs related to a possible production change in order to meet the importing country's technical regulations are not included, as it is assumed that such an adjustment might have taken place before the conclusion of the international sales contract.

b) Trade transaction costs – components and elements

9. Existing studies have deemed the economic benefits of trade facilitation for businesses to be equivalent to the trade transaction costs that could be avoided through trade facilitation measures. Accordingly, in order to calculate the impact of trade facilitation, they have first tried to estimate the procedural and associated "documentary" business costs incurred in typical international trade transactions. The distinction between benefits and costs, however, is crucial in this kind of study, because there are transaction costs that will not be possible to eliminate through trade facilitation measures. Some secondary references mistakenly quoted the benefits of trade facilitation as equivalent to the totality of the transaction costs[4]. In short, there have been few straightforward efforts to estimate the benefits of trade facilitation, and even in those studies, the estimation methodology might raise questions (see the following section).

10. Trade transaction costs cover the preparation and presentation of all prescribed documentation or electronic equivalents and the provisions of any required explanations, authentifications and supporting supplementary information to service commercial and official procedures at all stages of the physical movement of the goods from consignor to consignee and the movement of related means of payment in the opposite direction. As presented in Box 1, several transactions are involved in an international trade operation. It is generally assumed that the composing elements and causal mechanism of the different costs are similar across transactions. Nevertheless, differences between transactions may arise depending on whom such operations are designed for, e.g. banks, transporters, customs, etc. While such avoidable and unavoidable costs can accrue to and be calculated for certain parties at a given point, they will eventually pass on to and penalise the ultimate consumer and tax payer.

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3 Cf. "EU and Japan sign trade facilitation agreement (Ref:117059)", electronic communication from the Trade Directorate-General of the European Commission, 5 April 2001.

4 For example, APEC (1997, p.18) states that the Cecchini study identified potential gains of about 1.6 to 1.7% of the total intra-EC trade value from eliminating administrative costs to firms. Nevertheless, as these figures represented the totality of administrative costs incurred by firms, 1.6-1.7% gains would be possible only if countries eliminated completely their customs formalities (e.g. as in the case of regional market integration).

11. The rest of this section discusses the types of costs that may be classified as trade transaction costs and provides some examples from the existing literature.

Direct costs

12. ***Compliance costs:*** The 1994 UNCTAD study on trade efficiency (UNCTAD, 1994b) showed that an average trade transaction goes through 27 to 30 parties, including brokers, vendors, banks, carriers, sureties and freight forwarders. It needs at least 40 documents, not only for government authorities, but also for related businesses. Over 200 data elements are typically requested, of which 60 to 70 per cent are re-keyed at least once while 15 per cent are re-typed up to 30 times. Compliance costs are those required to collect, produce, transmit and process required information and documents: e.g. personnel wages, communication fees, etc. Charges of outsourcing to service providers, such as customs brokers may also be included.

13. These estimates may be less relevant for transactions involving multinational manufacturers and express carriers, or, as is increasingly the tendency today, relying on global logistic chain supply services. By eliminating, reducing, or offering expert management of the many functional interfaces characteristic of traditional international trade operations, these can now provide businesses with an almost seamless transaction. Here, compliance costs can be easily identified in respect of services covered, as they will figure as fees and delivery charges.

14. The importance of error-free operations for international trade transactions may cause even minor errors to halt the entire transaction, or at least multiply the compliance costs due to possible repetitive error corrections, re-keying, and re-filing. While, by definition, it is impossible to predict the occurrence of errors, some indications could be drawn from experience: risks of error would be multiplied when the number of participants in trade transactions is large and their requirements are complicated. For example, SITPRO in 1991 showed that there was at least one error in over 50 per cent of the sets of documents presented to the bank for obtaining payment under credits, which justified the bank in refusing acceptance (IECC, 1996). The costs incurred by the procedural delays or the legal costs such as penalties and costs for introducing administrative/legal challenges as a result of an information error are further described under the respective categories mentioned below.

15. ***Charges of trade-related services:*** Every trade transaction calls on and includes supporting services: e.g. cross border banking, international transportation, trade insurance, cargo handling, measurement, port-management, etc. Agents' charges for these services may largely be transferred to import prices. Such service charges may rise due to policies restricting market entry in that service sector or regulating operations of concerned service providers. In particular, high road transport charges in the transit countries, resulting from lack of competition, inefficient productivity as well as duplicate official controls, reduce the access of landlocked countries to the world economy. A DSTI paper on Regulatory Reform in International Air Cargo Transportation [DSTI/DOT(99)1] lists cost-increasing factors in this service sector, which result in a rise in the price of traded goods. Such factors include: market access regulations including licensing; pricing regulations; competition regulations; and infrastructure access regulations.

Indirect costs

16. ***Costs generated through procedural delays***: Each transaction needs a certain time for processing information. Delays may be attributed to exogenous factors (such as under-staffing, lack of automation, low productivity of officials) or endogenous factors (e.g. deliberate stoppage, low incentive in officials). For example, a report introduced at the WTO Symposium on Trade Facilitation showed that time wasted

by starting work late and other idle time represents 23 per cent of the working time in Indian ports. Port equipment in those ports is reported to be idle about 20 per cent of the time.

17. Customs procedures are only one aspect of improving the overall efficiency of the cargo clearance process. A WCO study of cargo clearance times at Indonesian ports found that the customs clearance process for certain shipment took an average of 6.4 minutes, compared to 159 hours and 23 minutes for other activities involved in cargo clearance (including problems with incomplete documents; red tape involved in releasing goods from warehouses; payment hold-ups and deliberate delays in delivery, even after the release of goods by customs officials) (APEC 2000). Another study by the Japan Customs and Tariff Bureau shows that the biggest reduction in total elapsed time from cargo arrival to release between 1991 and 1998 was in the plane-to-warehouse and time-in-warehouse stages of the process (Mikuriya, 2001)

18. In either case, procedural delays produce time-sensitive costs. Such costs can be multiplied if there is an error in documents. Procedural delays in border controls impede road haulage and cause stagnation of goods in the warehouse, which, in turn, raise the transportation fees and the inventory charges. A study by Cargo 2000, an interest group of IATA airlines, reviewed the delays on air cargo shipments between Europe, the US and the Far East. It has found that 42 per cent of the shipments moved door-to-door in 72 hours or less, but the average was up to 4 to 5 days. The cause of delays was estimated to be the 40 different steps involved between forwarder and airline chains, while integrated carriers took merely 11 steps (DSTI/DOT(99)1).

19. Delays can significantly increase the losses for some agricultural products, such as fresh vegetables, dairy products, and cut flowers. The same is true for technology intensive products, e.g. PCs, and pharmaceutical products whose market-life tends to be short. Furthermore, these delays, in particular payment delays by importers or through a bank operation of negotiating Bills of Exchange, increase the capital costs and time-based insurance costs of exporters.

20. Delay costs are probably the easiest cost component to identify and support. If a container arriving in a given port is delayed for thirty days, it is relatively easy to establish the costs to the trader in terms of interest on capital, demurrage and port charges. It is also relatively easy to establish a rough norm against which the total delay time can be judged in order to estimate to what extent it would have been avoidable. Parallel estimates can be made of losses to the port because occupation of quay space frustrated the reception and handling of other vessels and cargo. The advantage of such analyses is that remedial action can not only be justified but also focused and tested by regular subsequent soundings.

21. It is important to note that while such studies are usefully illustrative, they are only valid in respect of the point in place and time and the particular circumstances in which they are made. As with most other such cost estimates, it can be misleading and counter-productive to attempt to extrapolate or generalise from their findings.

22. ***Lost business opportunity costs (business foregone)***: Due to the direct and indirect costs mentioned in this section, enterprises often lose business opportunities. For example, for a company operating a just-in-time, low-inventory production network across countries, a delay in one country may cause stagnation in the entire global production chain, with potentially enormous lost business. Another example can be seen when a cash poor company foresees payment delays and high capital costs may drive it to give up a trade contract. In addition to importers and exporters of goods, suppliers of trade-related services (such as express airfreight operators) may also lose business opportunities if their clients foresee critical delays due to the procedural requirements for the delivery of their services.

23. ***Costs related to unpredictability:*** Other direct and indirect costs can be brought about by a lack of transparency or of uniformity in the interpretation of regulations and contracts. At the WTO Symposium on Trade Facilitation in 1998, transparency and procedural irregularities attracted the participants' attention. Lack of transparency in relevant regulations and formalities increases the effective cost of producing the necessary trade and procedural information; it can also cause duplicative efforts and errors, thus increasing compliance costs and acting as a deterrent to further international sales contracts. Similar effects may arise from lack of uniformity in interpreting regulations and contractual terms and references. Lack of uniformity may exist in all levels of official procedures, including document verification, inspection and dispute settlement. The causes may vary from personal misinterpretation, communication gaps (perhaps related to geographical remoteness), poor competencies or incentives, to corruption. Although there exists some anecdotal evidence, such costs are difficult to generalise.

24. In addition, lack of transparency and arbitrariness in the interpretation of applicable regulations may cause unpredictable harsh penalties. A minor mistype could be qualified as a serious fraud. Furthermore, in some countries the domestic dispute settlement mechanism is felt to be insufficient, authoritative and dishonest, whereas a legal administrative challenge tends to be unpredictably long and costly.

c) General considerations, including methodology

25. The Secretariat has identified several attempts to quantify the costs of trade transactions. Many of the studies are not recent – are even quite old – and may rely on secondary references that are difficult to verify. The estimation of US NCITD (US National Committee on International Trade Documentation, 1971) seems to be one of the earliest studies of this kind. Some observers have questioned whether the estimates are still valid today as the business environment has greatly changed since that period (IAPH, 1986; Ernst & Whinney, 1987; IECC, 1996) (see Box 2 below). Yet, it is noted that the range of the estimates is "*still generally accepted in trade facilitation circles as an order of magnitude for the direct and indirect costs of procedures*." (Dee, Geisler and Watts, 1996, p.10).

26. Besides the problem of having up-to-date work, another serious issue arises from the fact that the large number of previous studies did not make their own estimates but rather quoted from other studies' estimates or used these estimates as a basis for partial modification. The above-mentioned 1971 US NCITD figures were frequently referred to in several European studies in the 1980s (Ernst & Whinney, 1987a). UNCTAD estimates were not derived from UNCTAD information sources but rather from three earlier works: the 1971 NCITD), the 1989 EU COST 306 Final Report and the 1991 SITPRO (UNCTAD, 1994b; Raven, 1996; IECC, 1996). Among the three studies, the 1989 EU COST 306 Final Report, (where "COST" stands for "European **C**o-operation in the field **o**f **S**cientific and **T**echnical Research"), is not a cost study. It mentions some estimates in a background section, but does not provide any supporting data or references for the estimates. The UNCTAD estimates were introduced in the 1994 "Columbus Ministerial Declaration on Trade Efficiency"[5] and have become a popular reference frequently and widely quoted even today by others, such as Staples (1998) and Messerlin and Zarrouk (2000).

[5] The Ministerial Declaration was adopted at the UN International Symposium on Trade Efficiency, Columbus, Ohio, on 17-21 October 1994.

Box 2: What has changed since the 1970s?

In 1971 the US NCITD issued its survey results concerning international trade compliance costs based on 1970 data. Since that date, a number of developments in business practices and in the related regulatory environment have considerably altered the transaction process and certainly affected the ensuing costs. The following list is not exhaustive :

- The UN aligned documentary system (UN Layout Key) was formally recognised as a global standard for trade documentation in 1978.
- The WCO Convention on the Harmonised Commodity Description and Coding System (HS) entered into force in 1988.
- The WTO Customs Valuation Agreement was concluded in 1994 (its predecessor, concluded in 1979 had only a partial country coverage).
- The Automated Commercial System (ACS), an integrated automated entry processing and release system, was introduced in the US in 1983.
- The International Convention for Safe Containers (CSC), a convention providing for mutual recognition of container safety standards and certificates, entered into force in 1977.
- Express carriers such as FedEx and UPS started express airfreight services in the early 1970s. The volume of express consignment has grown with a double-digit growth rate annually for 20 years.
- It is said that “just-in-time” production management was introduced in response to the oil crises in 1973. The vice-president of Toyota Motor published the “Toyota production model” based on the “just-in-time” concept in 1978.
- Reflecting an increase in cross-border production, capital goods exports from the US increased from 0.7% of the GDP in 1970 to 5.3% in 1998 and capital goods imports in the US increased from 0.1% of the GDP in 1970 to 5.7% in 1998 (during the same period consumer goods exports increased merely from 0.2% to 1.0% and consumer goods imports from 0.9% to 3.9%). These figures do not include automobiles and parts, or agricultural products.
- Both exports and imports of IT commodities (PCs, IT products, telecommunications equipment, and semi-conductors) have grown faster than any other commodity group in the US.
- Although facsimile was invented in the 19th century, it had to wait until the late 1980s for common use, when reliable and inexpensive G3 standard machines were launched. Business and media started recognising the usefulness and potential of the Internet in 1993. In 1994, the first virtual shopping mall was established.

27. Regrettably, in some cases, the scope and assumptions of initial estimates have been ignored or misinterpreted after multiple successive quotations. The 1971 US NCITD estimates represented all direct costs for trade transactions, including finance, insurance, shipping and official compliance. UNCTAD interpreted the figures as including indirect costs as well as direct costs, while still covering a wide range of transactions. Staples (1998) took this UNCTAD figure to cover merely customs formalities. As a result, the recent papers including Messerlin and Zarrouk (2000, p.580) quoting Staples state that business costs of customs formalities account for 7-10 per cent of the value of international trade. Obviously, this is misleading and an exaggeration that deviates from the message of the original survey[6].

28. With respect to methodology, Ernst & Whinney (1987a, p.3), a consultant firm employed by Cecchini *et al* (1988) for the European Commission's study on the benefits of the single market, questioned the value of secondary references. In order to capture the business reality from primary sources, it conducted a business survey in which a questionnaire was sent to over 2000 companies in six major European economies and 467 replies were received. It found that there were differences in the customs compliance costs in different countries and in different sizes of businesses, and it assumed that they reflected differences in the industrial composition and trade, and variations in agents' charges across countries. Similarly, IECC (1996) has criticised estimations ignoring the diversity of traded goods and the type and size of businesses. It has provided the example of imported automobile spare parts for which approximately on thousand documents need to be submitted to customs, while for fuel imports only four or five documents are required. The pertinent administrative costs are significantly different. In another example, intra-firm trade may involve relatively smaller transaction costs (e.g. when goods are imported by a producing firm's foreign affiliate after being transported by another affiliate) than when operators are independent.

29. These patterns imply that a bottom-up approach, such as a business survey covering experience in a specified category of products, might add significant value, while a more aggregate approach might be misleading and ignore the differences in the composition of imports in different countries. Noting the lack of recent data from primary information sources, Dee, Geisler and Watts (1996) have argued that "*a key area for further research would be to get … a more up-to-date estimate of the direct benefits of trade facilitation measures.*" Similarly, APEC (2000) has stated that the general perception on trade facilitation might be that "*there is clearly a void in public policy and academic research on facilitation issues*".

C. Estimates of trade transaction costs and the economic impact of trade facilitation

30. In short, estimates of trade transaction costs in the studies found to date range from 2 to 15 per cent of the trade transaction value. These figures should be compared to the WTO estimate that the post-Uruguay Round weighted average tariff of developed countries on industrial goods excluding petroleum is 3.8 per cent. The gap from 2 to 15 per cent is attributed to differences in the year of the study, the components of trade transactions taken into account and probably differences in geographical conditions.

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6 The US NCITD estimate (10-15% of the value of international trade) covers compliance costs (direct costs) incurred through transactions of government, financial/insurance, carrier, and forwarder/broker. Among these transactions, manhours used for government transactions amounted to 27% of the total manhours for imports, and 9% for the exports: that is, approximately 2.7-4.0% of the value of international trade for imports and 1.4-2.1% for export (source: US NCITD, 1971, p.54).

31. The UNCTAD estimates contain both direct and indirect costs covering private and public procedures and formalities. UNCTAD has estimated the entire trade transaction costs at 7 to 10 per cent of the total value of world trade, where trade facilitation measures could reduce the costs by one-quarter (UNCTAD, 1994a). Yet, it has not provided a detailed cost-composition of its estimates. The following section presents the other studies providing detailed information on estimates in terms of cost characteristics.

a) Direct costs

Compliance costs

32. US NCITD (1971) examined the documentation costs for international trade in manufactured and consumer products, where these costs arose from the range of commercial and official procedures and requested documentation, for financing, insurance, shipping and customs purposes. It estimated that the documentation costs were equivalent to 7.5 per cent of the total value of US export and import shipments (the average documentation costs were cited as $375.00 for exports and $320.00 for imports). Subsequent researchers converted these figures at about 5 per cent for exports and 7 per cent for imports. Arguing that transaction costs were assumed to exist at both ends of the transaction (i.e. at the exporting and at the importing end), these researchers estimated that the total costs were between 10 and 15 per cent of the total value of the goods traded (Raven, 1996).

33. In the early 1980s, SWEPRO internally conducted a study on documentation costs, which collected data from the Swedish authorities and several companies on trade in goods (excluding oil, iron, ore, ships and aircraft). SWEPRO (1985) published a summary of this study. It estimated that costs for documents and procedures were equivalent to 4 per cent of the value of import and export consignments respectively, which means 8 per cent of the total value of the goods traded. Since the study itself was unpublished, details of the methodology and its coverage have not been available to the Secretariat.

34. Ernst & Whinney (1987a) estimated the customs compliance costs for internal European Community trade, including both import and export procedures, was 0.7-0.8 per cent of the value of imports and exports respectively (or 1.5 per cent of the total value of intra-trade). In this study, compliance costs were limited to those related to internal corporate administration costs including staff, computers, overheads, and agents' fees for customs clearance.

35. EU COST 306 Final Report (The European Commission, 1989) estimated documentation costs as ranging from 3.5 to 7 per cent of the value of goods traded, with these figures increasing up to 10 to 15 per cent if typing or other errors were included (UNCTAD, 1994b; Raven, 1996; and IECC, 1996). No detailed or supporting information was provided.

36. A survey of Japanese manufacturing and trading companies conducted by the Ministry of International Trade and Industry (MITI) in Japan (1998) concluded that the costs for administrative procedures rest within the range of 0.5-1.2 percent for transportation machinery and 0.5-2.4 percent for machinery and equipment.

37. Several anecdotal statements were made at the 1998 WTO Symposium on Trade Facilitation, although they did not provide detail or supporting evidence. For example, in India, compliance costs for export procedures have been estimated at about 10 per cent of the value of traded goods (WTO, 1998, p.44). The International Chamber of Shipping (ICS) has estimated that about 10 per cent of the total cost of moving goods relates to the preparation and transfer of information on these goods (*ibid.*, p.59).

Charges for trade-related services

38. Regulations on the operation of service providers may cause inefficiencies in the particular service sector. The Indian National Transport Policy Committee estimated in 1980 that road hauliers wasted 30 to 46 per cent of effective travel time on inspection formalities at various internal state-borders, waste which increased local transportation costs including for imports/exports (WTO, 1998). However, the Committee did not provide any figures in money terms.

39. Guasch and Spiller (1999), argued that monopoly port service providers and inefficient regulation of port operations gives rise to implicit tariffs of 5 to 25% on exports in Latin America. A speaker at the 1998 WTO Symposium on Trade Facilitation reported that high labour costs and low productivity in Indian port cargo handling services results in high costs in moving a container from India: about 50% higher than for neighbouring countries, 10 per cent higher than for Canada, the UK or Germany, and one-third higher than for the US or France (WTO, 1998, p.46).

40. Limão and Venables (2000), using an econometric technique, have argued that median landlocked countries pay transport costs around 50 per cent higher than median coastal economies. Similarly, the World Bank (1995) showed that in some African landlocked countries final prices of imported products are from 30 to 80 per cent higher than the value of goods f.o.b.. With respect to exports from these countries to Europe, the c.i.f. price at the European border is 70 per cent higher than its f.o.b. value for timber and 180 per cent higher for coffee, significantly diminishing these countries' competitiveness. The rise in cost is due to the fact that almost all consignments from landlocked countries need to transit across neighbouring countries, thus multiplying transportation costs.

Indirect costs

Costs generated through procedural delays

41. IATA conducted delay cost analysis in the mid-1970s in Section 6 of its CART study (IAPH, 1986). It studied the time necessary for air cargoes to proceed through all the steps, both private and official, from consignor to consignee. It found that the delay costs did not relate to the goods value and that the costs were not significant in absolute terms.

42. Focusing on road transportation for trade within the European Community, Ernst & Whinney (1987b) conducted a study on the costs borne by road hauliers as a result of customs formalities at border and inland clearance points. With some conditions and assumptions, this study estimated these costs at 415-830 million ECU.[7]

43. The same study (Ernst & Whinney, 1987) assumed that no inventory costs were imposed by procedural delays in customs clearance. Yet, it should be noted that the study covered only intra-Community trade using samples carried by trucks and assuming that procedural delays in custom procedures were on an hour-basis.

[7] Cecchini *et al* (1988), which used the Ernst & Whinney findings as a basis, publicised that estimate without further explanations. Dee, Geisler and Watts (1996) calculated that this figure would represent 0.5% of the value of internal Community trade at the time. However, on the basis of our calculations, that percentage would rather be around 0.1-0.15%.

44. IRU (International Road Transport Union) has estimated that 1 to 7 per cent of total road transport costs in Western Europe and 8 to -29 per cent of road transports costs in Central and East European countries are attributable to time lost as a result of customs formalities (WTO, 1998, p.70).

45. SITPRO in 1991 asserted that errors in the documents submitted to banks in the exporting country for the acceptance of means of payment (e.g. letters of credit) could cause delays in settlements of at least two weeks. At the UK national level, this resulted in UK exporters losing 70 million pounds annually (IECC, 1996). A speaker at the 1998 WTO Symposium on Trade Facilitation also pointed out that the time gap between delivery of the goods and payment can range between 88 and 208 days, during which time the exporters give up control over the goods while they have not yet received payment for them. This time gap can be quantified in money terms: if an interest rate is 12 per cent, the payment gap is estimated as 3 to 7 per cent of the total price of the goods (*ibid*., p.99-100).

Lost business opportunity costs (business foregone)

46. Interviewing mail order firms and express companies, Ernst & Whinney (1987) estimated that business forgone in the European internal market due to customs formalities was around 1 to 3 per cent. Nevertheless, it recognised that the estimation was based on firms' perceptions and needed to be treated with caution. In addition, the estimate reflected the specific nature of the services provided by mail order and express companies.

Costs linked to lack of predictability

47. According to results of a survey on 1,024 individuals, conducted by a Thai University and KSC Internet, 74.4 per cent of respondents answered that they paid bribes in order to facilitate customs clearance in Thailand. As an aggregate estimate, Thai customs officials annually extorted 400 million Baht. (Thai media, 2001)

48. Cecchini *et al* (1988) presented some arbitrary penalties which were appealed to the European Commission: a lorry driver who had been given incorrect documents from a customs agent in the UK was fined FF60,000 by the French authorities; a German employee going on a course in the company's French subsidiary had his personal computer confiscated and fined by the French authorities; a tourist carrying personal goods declared as a gift was fined DR300,000 by the Greek Customs.

What are the benefits of trade facilitation?

49. In light of the different elements that make up trade transaction costs, there is a whole range of possible trade facilitation measures. They include (but are not limited to) harmonisation of data requirements and document formats, issuance of advance rulings, remote filing and single window procedures, pre-arrival processing, differed payment and post-clearance audits, use of EDI (electronic data interchange)[8] or other automation systems, risk assessment techniques and use of simplified procedures in case of good performance records, etc. As trade transaction costs are studied element-by-element, benefits of trade facilitation might be examined measure-by-measure. There are anecdotal data presenting

[8] Although costs linked to putting or receiving a sales order are outside the coverage of this paper, we may report some cost-savings attributable to the use of EDI . For example, "Quantifying the Benefits of EDI – GE Information services, 1995" shows significant possible savings (80-100%) in sending and receiving sales orders and Invoices through EDI systems.

improvements in terms of trade restrictiveness realised by certain trade facilitation measures, but most of the improvements have not been expressed as savings in money terms. Although there are many reports on Customs endeavours aimed at expediting import clearance through computerisation, use of an EDI system and simplified customs procedures, few studies provide estimates of cost savings of specific trade facilitation measures in money terms. In particular, available information does not allow to identify whether particular time or resource savings should be attributed to a specific facilitation measure or to a combination of several measures, and in that case the contribution of each of the measures to facilitation benefits. For instance, how much of the facilitation described below should be attributed to automation and how much to prior simplification of the automated procedures ?

50. Japan Customs reduced the customs clearance time significantly from 1991 to 1998: the time required to file the import declaration after the arrival of the cargo was reduced from 50.3 hours to 30.8 hours for air cargo and from 142.1 hours to 81.1 hours for sea cargo; (and the time elapsing between the import declaration to the permission was reduced from 2.3 hours to 0.7 hours for air cargo and from 26.1 hours to 5.6 hours for sea cargo (Arichi, 1999, Mikuriya, 2001). Philippine Customs reduced the time for cargo release from the Customs custody from 6-8 days to 4-6 hours for "green channel" shipments and 48 hours for other shipments by introducing an EDI system based on UNCTAD's ASYCUDA++[9] (Maniego, 1999). Chinese Taipei used to spend 10 to 15 hours for customs clearance of air cargoes. Thanks to the use of EDI and pre-arrival screening, actual clearance after the arrival of aeroplanes takes merely two to four hours (DSTI/DOT(99)1).

51. Chile Customs reported that the time required from import declaration to permission is 2.2 hours on average and 3.0 hours at maximum based on an EDI system, in comparison to 10.8 hours for the paper-based system and that controls based on risk management reduced the need for physical inspection by 5-12 per cent, resulting in direct cost savings for the private sector of more than US$1 million per month (WTO, 1998, p.131). Peru Customs announced that the use of PSI services shortened the customs clearance time from 10-30 days to 1-3 days, although the use of such services do raise some problems, such as costly user fees and procedural delays in the country of origin (*ibid.*, p.76, 79, also see Box 3). The World Bank reported that the Port of Beirut has accelerated customs clearance from 2 or 3 days to few hours thanks to the use of ASYCUDA++ and SAD[10] (*ibid.*, p.170).

52. The London Chamber of Commerce estimated in 1973 that the harmonisation of documents by using the UN aligned system (UN Layout Key) cut documentation costs by more than 50 per cent in comparison with those when a conventional form-by-form process was used (IAPH, 1986).

53. SITPRO estimated in 1998 that a paper-based purchase order can cost US$ 200 to generate and process, whereas its electronic equivalent can cost as little as US$ 20 (WTO, 1998a, p.36). The Air Transport Association of America has estimated that a paper-based air waybill costs $6 while the electronic one costs less than 1$.

54. According to the 1998 survey of the Japanese MITI, feasible cost reduction from narrowly-defined facilitation is around 2 percent of import prices for most of the Asian developing economies, while the specific impacts differ among economies and sectors (APEC, 1999).

55. UK Customs estimate that the replacement of the duty linked system for the collection of import VAT by a similar system to that used to collect domestic VAT may save businesses 175 million pounds sterling annually.

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9 **A**utomated **Sy**stem for **Cu**stoms **Da**ta: Computer software for customs procedures developed by UNCTAD. The current version is called "ASYCUDA++".

10 Single Administrative Document: Uniformly designed document for multiple administrative purposes.

Box 3: Pre-shipment Inspection (PSI) and Trade Facilitation

One may question the appropriateness of discussing PSI services under the agenda of trade facilitation. However, there are potential links between corruption and trade facilitation. The IMF and World Bank often advocate use of PSI services to their developing Member countries, for the principal purpose of fighting corruption in customs[11]. In addition, in many user countries, imports accompanied by the Clear Report of Findings issued by a PSI company in the exporting country are often entitled to pass via the "green channel", i.e. use a simplified customs procedure. Therefore, PSI services have at least certain trade facilitation effects (Dutz, 1998).

Despite a wide use of PSI services in many developing countries, conflicting views are frequently raised. Governments have pointed out that PSI services are costly to them. Low (1995) reported that they have not functioned well[12]. Importers complain that PSI fees are costly to businesses and the PSI is time-consuming in the country of origin. For example, at the WTO Trade Facilitation Symposium, the Director of the Chilean Customs revealed that the costs of preshipment inspection to external trade was equivalent to raising average tariffs by one percentage point, equivalent to a 15% tariff increase in the case of Chile (WTO, 1998).

The "Recommendations and Guidelines for Trade Efficiency"[13], which is an integral part of the 1994 "Columbus Ministerial Declaration on Trade Efficiency", asserts that PSI may be accepted in certain circumstances, but governments should institute customs reform programmes, avoiding as far as possible the need to use PSI services. Several trade facilitation measures might directly or complementarily function as such reform measures. Some trade facilitation measures are designed to increase transparency and those measures, in particular risk assessment screening and post-clearance audit, have deterrent effects on duty evasion and collusive corruption in customs. Also, they bring about a more effective use of "green channel" procedures based on their own risk analyses. Once trade facilitation measures have enhanced the efficiency of national Customs, the State may have little interest in hiring PSI services that are costly both to governments and trade operators.

56. Like other measures of trade liberalisation, trade facilitation measures are equivalent to a reduction in implicit import duties. Some estimates exist of the effects of aggregate trade facilitation measures on the national economy:

- UNCTAD (1994b) has asserted that facilitation measures would reduce the trade transaction costs by one-quarter, in other words, 2.5 per cent of the total value of World trade annually from 1994 to 2000. This was quoted by the 1994 "Columbus Ministerial Declaration on Trade Efficiency". Nevertheless, no explanation of the calculation of this figure has been provided.

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11 Dutz (1998) representing the World Bank at the Technical Seminar on Pre-shipment Inspection (Commonwealth Secretariat/WTO: Geneva, 28-30 July 1998), stated that there is not a formal World Bank position on PSI services. While Bank staff in general sees PSI as a second best approach, he has argued that the Bank has been generally supportive of client governments' decisions to adopt PSI services under certain circumstances.

12 Low (1995) reported that significant revenue collection shortfalls were observed in three PSI user countries.

13 Recommendations to Governments, B. Customs, paragraph 12.

- Dee, Geisler and Watts (1996), based on the Cecchini *et al* (1988) and UNCTAD (1994b) studies, ran an econometric model that predicted cost reductions from facilitation measures equivalent to between 5 and 10 per cent of total trade. This rather large estimate was defended by the authors by noting that it includes "trade facilitation" measures in a wide sense, such as in the areas of TBT, competition policy, government procurement and transparency.

- Referring to the three main studies already cited [Cecchini *et al* (1988), UNCTAD (1994b), and Dee, Geisler and Watts (1996)], APEC (1997, p.19) concluded that "*it appears that the range of 2 to 3 per cent of total import value is a consensus of the potential direct cost saving from various trade facilitation measures*." Yet, taking into account the very different levels of development and regulatory approaches of APEC members, it took a conservative approach by halving the "consensus estimates" for its own purposes. It thus concluded that direct cost savings from trade facilitation measures could amount to 1 per cent of import prices for the newly industrialising economies, and to 2 per cent for the other developing countries. APEC (1997) also observed that, although the proposed facilitation measures were non-discriminatory and unilateral, the welfare gains to APEC economies were much larger than those to non-APEC economies and thus free riding on the benefits of APEC trade facilitation measures was not a cause for concern.

57. Besides the benefits coming from better market access, there are of course other benefits too. Trade facilitation may benefit the national economy e.g. by facilitating the efficient collection of import duties and circulation of goods. At the WTO Symposium on Trade Facilitation (9-10 March 2001) and in national reports on trade facilitation experience submitted to the WTO Council of Trade in Goods, several success stories on benefits to the public sector have been recounted. Trade facilitation measures might save on the costs borne by governments to pursue Customs administration and enforcement. An increase in public sector efficiency through trade facilitation measures might enable governments to cut redundant resources or move such resources from resource-sufficient activities (such as document format verification) to more labour-intensive activities (such as physical inspection).

58. Anecdotal information indicates that computerisation and the use of EDI (electronic data-interchange) in Customs results in a rise in import duty collection. Gutierrez Ossio (2001) reported that Bolivia Customs raised its duty collection up to 11% (25% when the applied reduction in tariff rates is taken into account). Similarly, UNCTAD reported ASYCUDA's success stories: following the introduction of ASYCUDA the Philippines increased customs revenue by more than US$215 million, Sri Lanka by more than US$100 million, and Panama by 3 per sent in spite of its 50 per cent cuts in tariff rates (WTO, 1998, p.147).

59. Ernst & Whinney (1987a) estimated that European market integration would enable a possible cut of 500-1,000 ECU millions in budgetary costs to the public authorities in terms of the material and human resources used to conduct inspection for intra-Europe trade. This estimate took into account possible resource transfers between resource redundant activities to resource poor activities.

D. Asymmetric effects on SMEs and enterprises in developing countries

Cost burdens

60. In the multilateral trading system today, it is important to consider carefully the implications of trade policy measures for small and new actors, in particular developing countries and small and medium enterprises. With respect to trade transaction costs, the question arises whether there are asymmetric effects on SMEs and on enterprises in developing countries. Keeping in mind the components of transaction costs mentioned above, the answer is "probably yes".

61. Ernst & Whinney (1987a, p.4) suggested that compliance costs have very little relationship with the value of goods traded, which leads to the conclusion that the export of small value consignments, and by small firms, would bear a disproportionately high cost burden. This survey showed that compliance costs per consignment were 30-45 per cent higher for firms with fewer than 250 employees than for larger firms.

62. When trade formalities are extensive and complex, trade operators require more manpower. In practice, they have three options for dealing with this burden: an increase of the number of personnel; a rise in the productivity of personnel; and an increase in working hours. Two types of trade operators might be particularly adversely affected by such requirements:

- Those trade operators who lack human resources for allocation to intermediate services, such as SMEs; and

- Those trade operators whose productivity in intermediate services is lower than other competitors, such as enterprises in developing countries.

63. For these two types of trade operators, trade formalities might require spending significant time in internal transactions[14]. This could result in disproportionately high compliance costs, since manpower costs are composed of unit wages multiplied by working hours.

64. Lengthy processing time affects not only the opportunity costs but also the capital standing of firms, since capital bears interest and frozen capital compromises further business opportunities. Therefore, the interest required for the time until receipt of payment reduces the exporter's capital standing. Similarly, the interest requirements for the time until the receipt of shipping documents reduces the importer's capital standing. For those operators whose capital reserves are thin, such as SMEs and enterprises of developing countries, lengthy processing might constitute a prohibitive trade barrier.

65. Lack of predictability entails significant disadvantages for SMEs and enterprises in developing countries (IECC, 1996). When the necessary information on applicable regulations is not readily available, trade operators have to spend additional resources to obtain that information. Enterprises operating in an untransparent business environment, as is often the case in developing countries, would need to spend more resources or time to obtain regulatory and market information. To this time and resources they will frequently have to add expenses for bribes, penalties and administrative or judicial appeals. As these additional expenses do not usually vary according to the value of the goods or the volume of the sales, they drive the operational costs per product unit quite high and put SMEs in a weaker position than larger enterprises.

66. These factors can deter SMEs and enterprises in developing countries from seeking to expand in international markets. This may be one of the reasons why the bulk of exports today are made by a small number of large firms. This tendency is assumed to have been stronger in the past, which might have contributed to past under-estimations of trade transaction costs (Ernst & Whinney, 1987a).

[14] This view is based on the assumption that outsourcing of such intermediate services is more costly than in-house services.

Benefits

67. Accordingly, SMEs and enterprises in developing countries suffer from heavier burdens of trade transaction costs. Yet, when the existing burdens are high, the benefits from a possible removal of these burdens are high too. In the past, trade transaction costs were merely one among a wide range of cost-factors, which included import duties and lack of local market information. Companies without sufficient resources were hardly aware of foreign market demand or foreign corporate practices. They also rarely advertised abroad about their corporate profile and their products. Internet and the development of e-commerce have reduced these information barriers. The potential fruits of trade facilitation for SMEs and enterprises in developing countries have grown much larger than in the past.

68. The European Community (1999) has illustrated how trade facilitation in a country's trading partners and transit countries, and especially in developing countries, can bring about broader economy-wide benefits for all countries involved. Simplification and harmonisation of trade procedures, together with enhanced transparency, will reduce officials' incentives to corruption, which are reputed to be high in many developing countries. In addition, reports made in the WTO about national experiences show that some trade facilitation measures, notably the computerisation of customs procedures and the use of EDI (electronic data interchange), can strongly contribute in enhancing government revenue collection. However, automation and the use of information technologies presuppose an access to those technologies and related infrastructure, which is still unsatisfactory in many developing countries. In order for these countries to fully benefit from the potential of such facilitation measures, endeavours should be undertaken to enhance their communication networks. As many developing countries largely rely on import duties as an important revenue source, this might result in improvements in social welfare in the country. Enhanced predictability, efficient public services and low operational costs should attract foreign direct investment in countries having introduced facilitation measures.

E. Conclusions

69. A review of existing literature on the business benefits of trade facilitation underscores the important information gaps in this area. Although several estimates of trade transaction costs can be found, studies using original data are few and generally not recent. Subsequent technological and regulatory developments and changes in business working practices may make these studies too old to apply adequately in today's situation. Additional methodological problems may be raised by the frequent confusion between trade transaction costs and trade facilitation benefits, which tends to overestimate the relative importance of those benefits. Finally it appears very difficult to perceive the relative importance of the different factors at the root of transaction costs and thus to identify what benefits can be brought about thanks to a specific facilitation measure.

70. It would seem that considerable scope exists for updating and improving available data on the benefits of trade facilitation. In particular, although the characteristics of trade transaction costs suggest that SMEs, especially in developing countries, may find that such costs often require considerable managerial time and attention and represent a deterrent to international trading, no clear indication exists of the type and magnitude of such costs. Future efforts could aim at greater precision with respect to trade transaction costs for certain product categories and with reference to size and types of businesses, focusing in particular on SMEs and enterprises in developing countries. Such work could develop primary information that would contribute to the international discussion on trade facilitation. The OECD Trade committee will accordingly work to construct a template for identifying and measuring the costs of unnecessarily complex procedures and inefficient official and commercial applications, so as to determine the benefits of trade facilitation. It will also review the regulatory framework affecting services related to the movement of goods. Based on the outcomes of this work, it may decide to undertake analysis of other facilitation related issues as appropriate.

Table 1. Summary of some of the major estimates on trade transaction costs and trade facilitation benefits

Study	Scope	Estimates on costs	Estimate on benefits	note
US NCITD (1971)	direct costs: documentation costs required by government; finance & insurance; carrier; and forwarder/ broker or their contractual counterpart	average documentation costs are $375.77 for exports and $320.58 for imports. Total costs aggregate represents 7.5% of the value of the total US export and import.	(none)	based on business survey
Ernst and Whinney (1988a,b) for Cecchini et al (1988)	(1) direct costs: customs compliance costs. (2) indirect costs: road hauliers; and business foregone	customs compliance costs (7,500 million ECU), road hauliers (415-830 million ECU), and business foregone (4,500-15,000 million ECU). Approximately around 1.5% of total intra-EC trade value for customs compliance; 1-3% for business foregone.	(none)	based on business survey: survey on lost business opportunities and road hauliers had some methodological reservation
SWEPRO (1985)	direct costs: customs compliance costs	customs compliance costs are 4% of the value of import or export; i.e. 8% of the total value of goods traded	(none)	apparently certain figures were obtained from Swedish customs and businesses
EU COST 306 Final Report (1989)	direct costs: documentation costs	documentation costs are 3.5-7% of the value of goods traded; with errors becomes 10-15%	(none)	no information about the methodology
UNCTAD (1994b)	direct and indirect costs - transaction costs include: banking/insurance; customs; business information; transport; telecommunication	transaction costs are US$400 billion (10% of the total world trade value), trade transaction costs are at 7-10% of the world trade value.	one-quarter of transaction costs (US$100 billion) can be saved by "efficiency" by the year 2000, (i.e. one-quarter of US$400 billion): approximately 2-3% of import value	Use NCITD (1971), EU COST 306 Final report (1989), SITPRO (1991) and some other.
Dee, Geisler and Watts (1996)	APEC trade liberalisation programmes including trade facilitation measures, TBT, competition policy, government procurement, and transparency	used the estimates of Cecchini (1988), and UNCTAD (1994b)	5% of value of value of goods traded (trade facilitation measures only); 10% (if TBT, competition policy, government procurement, and transparency measures are taken into account)	apparently used a secondary reference
APEC (1997)	APEC trade liberalisation programmes including trade facilitation measures, TBT, competition policy, government procurement, and transparency	general reference to Cecchini (1988), UNCTAD (1994b) and Dee, Geisler and Watts (1996)	While assuming that a consensus estimate on direct savings from trade facilitation is around 2-3% of total import value, corrected to 1-2%	apparently used a secondary reference
Staples (1998), *et al*	direct costs: customs compliance costs	customs compliance costs are 7-10% of the value of international trade	(none)	apparently used a secondary reference

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