Working Party of the Trade Committee

BUSINESS BENEFITS OF TRADE FACILITATION

Preliminary findings from literature survey, with particular focus on SMEs and developing country firms

Paris, 20-22 June 2001

Contact: Tadatsugu Matsudaira, tél: (33-1) 45 24 89 33; e-mail: tadatsugu.matsudaira@oecd.org
BUSINESS BENEFITS OF TRADE FACILITATION

Preliminary findings from literature survey,
with particular focus on SMEs and developing country firms

Executive Summary

This paper attempts to assess the business benefits of trade facilitation based on a survey of available studies. Instead of directly looking at the benefits of trade facilitation, this paper first looks at trade transaction costs for business that would be reduced by trade facilitation measures.

Particular attention has been focused on the concept of costs, having in mind the complementarity between transaction costs and tariffs or non-tariff measures. Although there exist descriptions of obstacles faced by businesses that trade internationally (e.g. complex requirements; procedural delays; arbitrary decisions; and even official corruption) the Secretariat has found little information on their monetary costs.

Trade transaction costs differ from country to country, depending on the characteristics of traded goods and on factors such as the size and type of businesses. Trade transaction costs could be defined as being composed of: costs directly related to complicated formalities; charges for trade-related services; costs related to procedural delays; lost business opportunity costs; and costs related to lack of predictability. Among these elements, cost estimates of lost business opportunities and of lack of predictability hardly seem to exist.

Overall, the Secretariat found several estimates of trade transaction costs, although “original” studies are few and generally not recent. Estimations undertaken in the 1970s and the 1980s are geographically unique and do not reflect subsequent technological progress or developments in business operations. Thus, in addition to the imprecision of these estimation, they appear too old to apply adequately to today’s situation. 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.

Concerning the effects on SMEs and enterprises in developing countries, the characteristics of trade transaction costs suggest that doing business is more costly for them and may in certain cases deter them from engaging directly in trade.

The present literature survey on trade facilitation suggests that considerable scope exists for updating or improving the factual content of work on the benefits of trade facilitation. For example, 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.
1. Background of this paper

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 (and still valid), the Council for Trade in Goods “carries 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 its January 2001 meeting, the OECD Trade Committee Working Party discussed a UK proposal for further study of trade facilitation (TD/TC/WP(2001)4) and agreed to have the Secretariat commence a literature survey on the benefits of trade facilitation.

3. This paper is a first attempt to respond the Working Party’s instructions, taking account of comments by Delegations. The aim of the paper is, by reviewing literature in this field, to present the following issues to the Working Party for discussion and consideration of how possible further work might usefully be developed:
   - 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 in this field, where the OECD may contribute to international discussions on trade facilitation, including to possible multilateral trade talks in this field.

4. The rest of this 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 the public sector.

2. Definitions and scope

a. Definition and scope of trade facilitation

5. There is no “official” 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 direction¹. Similarly, the WTO Homepage states that trade facilitation is “the simplification and harmonisation of international trade procedures”, where trade procedures are the “activities, practices

¹ This definition was provided by the ex-president of the IECC, Mr. John Raven, in a communication with the Secretariat on 18 May, 2001.
and formalities involved in collecting, presenting, communicating and processing data required for the movement of goods in international trade.\textsuperscript{2}

6. Such procedures to collect, present, communicate and process information exist at each transaction in international trade, which typically involves international transportation, trade insurance and cross-border payment; they also exist with respect to official procedures and formalities required during border controls (see Box 1). These trade transactions might be included within the scope of trade facilitation in its traditional sense.

\begin{center}
\textbf{Box 1: Transactions involved in international trade}
\end{center}

1. 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 with the other stakeholders including the government authorities. These transactions include (but are not limited to) the following:

- Transaction related to making a cross-border sales contact;
- Transaction related to the contractual payment;
- Transaction for the international transportation and cargo-handling;
- Transaction for the cargo insurance;
- Transaction for the border control clearance;
- Transaction to fulfil obligation under the contract.

2. It should be noted that these transactions exist cross border or in both the importing and exporting countries. In addition, these transactions are often interdependent, as when completing a procedure in one transaction may be a prerequisite for commencing another transaction. For example, in order to collect the sales money by drafting and negotiating a “Bill of Exchange”, 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)

\textsuperscript{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 (that of UN/ECE might be the original though).
7. However, some observers consider trade facilitation of be of wider scope. For example, Messerlin and Zarrouk (2000) include issues of technical regulations under the heading of trade facilitation. In fact, a mutual recognition agreement (MRA) is sometimes referred to as a “Trade Facilitation Agreement”\(^3\). APEC (1997) also considers issues of technical regulations as well as mobility of business people as parts of the trade facilitation agenda. The scope used by Dee, Geisler and Watts (1996) is much wider, including technical regulations, 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 dealt under the agenda of trade facilitation.

8. While attempting to take an inclusive approach, particularly in light of ongoing discussions in other fora, this paper principally adopts a traditional definition of “trade transactions”. Therefore, costs related to physical infrastructure are not included. The focus will be on transactions occurring after concluding 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.

\(b. \quad \text{Trade transaction costs – components and elements}\)

9. Business economic benefits of trade facilitation are equivalent to the business costs incurred through trade transactions that can be avoided by trade facilitation measures. Accordingly, in order to calculate the impacts of trade facilitation, one should first estimate the business costs incurred through trade transactions. The distinction, however, is crucial in this kind of study, as few secondary references mistakenly quoted the transaction costs as the benefits of trade facilitation\(^4\). To short, there have been few straightforward efforts to estimate the benefit of trade facilitation, and even in those studies, the estimation methodology might raise questions (see the following section).

10. Trade transaction costs are composed of the costs of producing the required documents, filing these formalities with the relevant entities for their processing and obtaining the output for the next step (e.g. authorisation, cash, other documentation, etc.) and related indirect costs. As presented in Box 1, several transactions are involved in an international trade operation. Nevertheless, as far as transaction costs are concerned, it is assumed that the elements and causal mechanism are similar across transactions. A difference between transactions is for whom such operations are designed, e.g. banks; transporters; customs, etc.

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.

---

\(^3\) Cf. the electronic communication from the Trade Directorate-General of the European Commission, entitled “EU and Japan sign trade facilitation agreement (Ref:117059)” delivered on 5 April 2001.

\(^4\) For example, APEC (1997, p.18) states that the Cecchini study identified potential gains for administrative costs as about 1.6-1.7%. Nevertheless, the Secretariat confirmed that the figures were the administrative costs itself. 1.6-1.7% gains would be possible only if countries eliminate their customs formalities (e.g. regional market integration).
Direct costs

- **Compliance costs**: A UN study on trade efficiency 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 service agents such as customs brokers may also be included.

As international trade transactions tend to require error-free operation, even a tiny or minor error can halt the entire transaction, or at least it might multiply the compliance costs due to possible repetitive error correction, re-keying, and re-filing. While errors are, by definition, exceptions from a predicted norm, some sort of indication could be delivered from experience: an error risk 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 that for administrative/legal challenge as a result of information error are categorised in the respective groups mentioned below.

- **Charges of goods-trade-related services**: Trade transactions often require services: e.g. cross border banking, international transportation, trade insurance, cargo-handlers, measurers, port-management, etc. Agents’ charges for these services may largely be transferred to import prices. Such service charges might rise due to policies regulating operations of such service providers and restricting market entry in that service sector. In particular, for landlocked countries, high road transport charges in the transit countries, resulting from lack of competition, inefficient productivity as well as duplicate official controls, reduce their access to the world economy. A DSTI paper on Regulatory Reform in International Air Cargo Transportation (DSTI/DOT(99)) 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

- **Costs generated through procedural delays**: Each transaction needs a certain time for processing information, delays might 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 late work-starts 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.

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

Delays can significantly increase the losses for some agricultural products, such as fresh vegetables, dairy products, and cut flowers. The same is true for the 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 Bill of Exchange, increase the capital costs and time-based insurance costs of exporters.

- **Lost business opportunity cost (business foregone);** - Due to the implicit and explicit 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.

- **Costs related to unpredictability;** - Other direct and indirect costs can be brought about by lack of transparency and lack of uniformity in 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 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 reference. In official procedures, lack of uniformity may exist in all levels of official procedures, including document verification, inspection and dispute settlement. Causal factors might vary, such as personal misinterpretation, communication gaps (perhaps related to geographical remoteness), capacity/incentive-shortage, and corruption. Although there exists some anecdotal evidence, such costs are difficult to generalise.

In addition, lack of transparency and arbitrary official's interpretation of regulations may cause unpredictable harsh penalties. A tiny or minor mistype could be found to be serious wicked 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

12. 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. On one hand, some observers have questioned the validity of the estimates and business environment from that period as out-of-dated (IAPH, 1986; Ernst & Whinney, 1987; IECC, 1996) (see Box 2 below). On the other hand, UNCTAD has recognised the US NCITD estimates as conservative and 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).
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. One might raise a question if the survey results are still valid today. This Box simply lists some developments that might affect transaction costs that partly or entirely did not exist in 1970.

- UN aligned documentary system (UN Layout Key) was formally recognised as a global standard of trade documentation in 1978.

- WCO Convention on the Harmonised Commodity Description and Coding System (HS) was entered into force in 1988.

- WTO Customs Valuation Agreement was concluded in 1994 (its predecessor was concluded in 1979 but was incomplete in terms of the country coverage.)

- The Automated Commercial System (ACS), an integrated automated entry processing and release system, was introduced in the US in 1983.


- 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.


- Reflecting an increase in cross-border production chain, the size of capital goods exports from the US increased from 0.7% of the GDP in 1970 to 5.3% in 1998 (while consumer goods exports increase merely 0.2% to 1.0%). At the same time, capital goods imports in the US also increased from 0.1% of the GDP in 1970 to 5.7% in 1998 (while consumer goods imports increase 0.9% to 3.9%). (note: figures do not include automobiles/parts, agricultural products)

- Both exports and imports of IT commodity group (PCs, IT products, telecommunications equipments, and semi-conductors) has grown up faster than the other groups in the US.

- Although facsimile was invented in the 19 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.

Thus while business practices and environment have changed significantly since 1971, the 1971
13. Besides the problem of having up-to-date work, another serious issue arises from that the large number of previous studies did not make their own estimates but rather quoted from others’ 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: NCITD (1971); EU COST 306 Final Report (1989) and SITPRO (1991). (UNCTAD, 1994b; Raven, 1996; IECC, 1996) Among the three studies, EU COST 306 Final Report (1989), where “COST” stands out “European Co-operation in the field of Scientific and Technical Research”, is not a cost study. It mentioned some estimates in a background section, but did not provide any supports or reference for the estimates. The UNCTAD estimates was introduced in the 1994 “Columbus Ministerial Declaration on Trade Efficiency” and has become a popular reference frequently and widely quoted even today by others, such as Staples (1998) and Messerlin and Zarrouk (2000).

14. Regrettably, in some cases, the scope and assumptions of 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.

15. 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 2,000 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.

16. 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

---

5 The Ministerial Declaration was adopted at the UN International Symposium on Trade Efficiency, which was held in the City of Columbus, Ohio, US, on 17-21 October 1994.

6 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 transaction counted 27% of the total manhours for imports, and 9% for the exports: approximately 2.7-4.0% for imports and 1.4-2.1% for export of the value of international trade (source: US NCITD, 1971, p.54).
be misleading and ignore the difference in imported product composition of 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".

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

17. In short, the studies found to date estimate trade transaction costs at between 2 to 15 per cent of trade transaction value. (Note: According to the WTO, 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 study, in the components of trade transactions and probably in geographical conditions.

18. 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.

Direct costs

Compliance costs

- US NCITD (1971) examined the documentation costs for international trade in manufactured and consumer products, where these costs arose from the range of documentation and procedures, commercial and official, such as finance, 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 these costs were assumed to exist at both ends of the transaction (i.e. an international trade operation entails both exporting and importing), these researchers estimated that the total costs were between 10 and 15 per cent of the total value of the goods traded (Raven, 1996).

- In the early 1980s, SWEPRE 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). SWEPRE (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.

- 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 1/2 per cent of the total value of intra-trade). In this study, compliance costs were limited to those related to corporate internal administration costs including staff, computers, overheads, and agents' fees for customs clearance.
• EU COST 306 Final Report (The European Commission, 1989) estimated documentation costs as some 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.

• 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, about 10 per cent of the value of traded goods has been estimated as compliance costs for export procedures (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 goods-trade-related services

• Regulations on operation of services cause inefficiencies in the particular service sector. Indian National Transport Policy Committee quantified in 1980 that road hauliers resulting from the inspection at the internal state-border wasted 30 to 46 per cent of effective travel time of truckers, which increased local transportation costs including for imports/exports (WTO, 1998). Yet, it did not provide the figures in money term.

• Guasch and Spiller (1999), arguing that monopoly port service providers and inefficient regulation of port operations gives rise to implicit tariffs of 5-25% 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).

• Limão and Venables (2000), using an econometric technique, have argued that median landlocked countries are paying transport costs around 50 per cent more than median coastal economies. Similarly, the World Bank (1995) showed that some African landlocked countries’ buyers pay prices for imports 30 to 80 per cent more than goods f.o.b. value. 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 trade operations need to transit across neighbouring countries, which bears an additional cost for landlocked countries.

Indirect costs

Costs generated through procedural delays

• 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.
• Focusing on road transportation in intra-Europe trade, 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

• 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 made on intra-European Community and all of their samples for the procedural delay study were carried by trucks and procedural delays in custom procedures were supposed to be on an hour-basis.

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

• 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 delayed settlements by at least two weeks. At the UK national level, this resulted in UK exporter loss of annual 70 million pounds (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 be ranged between 88 and 208 days, during which time the exporters give up control over the goods while they have not received payment for them. The time gap can be quantified in money term: 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 opportunity costs (business foregone)

• Interviewing mail order firms and express companies, Ernst & Whinney (1987) estimated that business foregone in the European internal market due to customs formalities was at 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

• 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)

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

7 Cecchini et al (1988) provided merely the amount of the estimates of 415-830 million ECU. Dee, Geisler and Watts (1996) calculated it as the percentage of the value of internal Community trade and got 0.5%. The Secretariat does the same and gets 0.1-0.15%.
What are the benefits of trade facilitation?

In light of the different elements that make up trade transaction costs, a number of different trade facilitation measures exist (e.g. harmonisation of documents, use of EDI (electronic data interchange))\(^8\), etc. For those relating to customs procedures, see TD/TC/WP(99)19. As trade transaction costs are studied element-by-element, benefits of trade facilitation might be examined measure-by-measure. There are anecdotal data presenting improvements in trade restrictiveness realised by certain trade facilitation measure, but most of the improvements have not been expressed as savings in money terms. There are few studies providing cost savings of specific trade facilitation measure in money term, while many reports are found in customs efforts for expediting import clearance procedures through computerisation, use of an EDI system and merely two to four hours (DSTI/DOT(99)1).

- Japan customs reduced the customs clearance time significantly from 1991 to 1998: from 2.3 hours to 0.7 hours for air cargoes and 26.1 hours to 5.6 hours for the time required from import declaration to permission (Arichi, 1999); and from 50.3 hours to 30.8 hours for air cargoes and 142.1 hours to 81.1 hours for the time required from arrival of cargo to import declaration (Mikuriya, 2001). Philippine customs reduces the time for cargo release from the customs custody from 6-8 days to 4-6 hours for “green channel” and 48 hours for the other 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 a use of EDI and pre-arrival screening, actual clearance after the arrival of aeroplanes takes merely two to four hours (DSTI/DOT(99)1).

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

- The London Chamber of Commerce estimated in 1973 that harmonisation of documents by using 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).

- 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). Air Transport Association of America has estimated that paper-based air waybill costs $6 by paper while the electronic one costs less than $1.

---

\(^8\) While putting and receiving a sales order is not included in this paper, some improvements by a use of EDI have been reported. For example, “Quantifying the Benefits of EDI – GE Information services, 1995” shows significant possible savings (80-100%) in sending and receiving a sales order and sending Invoices

\(^9\) Automated System for Customs Data: Computer software for customs procedures developed by UNCTAD. Current version is called “ASYCUDA++”.

• The replacement of transaction-based duty collection by post-clearance audit was estimated to save 175 million sterling pounds annually.\textsuperscript{11}

19. 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.

• Dee, Geisler and Watts (1996), examining Cecchini et al (1988) and UNCTAD (1994b), 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 some non-traditional trade facilitation measures including 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 of the wide variety of APEC members, it took a conservative approach by using a half of the “consensus estimates" and used 1 per cent of import prices for direct cost saving from trade facilitation for the newly industrialising economies, and 2 per cent for the other developing countries.

20. 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 the transaction costs in governments in pursuing their administration and enforcement. An increase in public sector efficiency through trade facilitation measures, might enable governments to cut redundant resources or mobilise such resources from the resource-sufficient sectors (such as document format verification) to more labour-intensive sectors (such as physical inspection).

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

• 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

\textsuperscript{11} This information was provided by the UK Department of Trade and Industry on 17 May 2001.
estimate took into account possible resource mobilisation between resource redundant sector to scarce sector.

Box 3: Pre-shipment Inspection (PSI) 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. 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. 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, trade facilitation effects (Dutz, 1998).

Despite a wide use of PSI services in many developing, conflicting views are frequently raised. Governments have pointed out that PSI services contract is costly to them. Low (1995) reported that they have not functioned well. Importers complain that PSI fee is costly to the businesses and the PSI is time-consuming in the country of origin. For example, At the WTO Trade Facilitation Symposium, the Director of Customs, Chile, 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).

Recommendations and Guidelines for Trade Efficiency, 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 the 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 effective use of "green channel" based on their own risk analyses. Once national customs is "facilitated", the State might have little interest in hiring PSI that is costly both to governments and trade operators.

---

12 Dutz (1998) states as a representative from the World Bank at the Technical Seminar on Pre-shipment Inspection (Commonwealth Secretariat/WTO: Geneva, 28-30 July 1998), that there is not a formal World Bank wide 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 circumstance

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

14 Recommendations to Governments, B. Customs, paragraph 12.
3. Asymmetric effects on SMEs and enterprises in developing countries

Cost burdens

21. 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."

22. 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. Its survey showed that compliance costs per consignment were 30-45 per cent higher for firms with fewer than 250 employees than for larger firms.

23. When trade formalities are extensive and complex, trade operators require more manpower. These operators operationally 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.

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

24. Lengthy processing time affects not only the opportunity cost but also the capital standing of firms, since capital bears interest and frozen capital kills other 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.

25. Lack of predictability entails significant disadvantages for SMEs and enterprises in developing countries (IECC, 1996). Lack of transparency in necessary information on regulations means that trade operators spends additional resources to obtain the information regardless the value of goods or the scale of sales. It drives cost per head for SMEs high and pushes them in a weaker position than larger enterprises. Lack of transparency would be attributed not only to lack of supply of information but also to poor accessibility to these information sources. Enterprises situated in such a business environment, e.g. developing countries, would take more resources or time to obtain a certain information than those of developed countries would pay. As well as additional spending for obtaining information, bribery, penalty

---

15 This view is based on an assumption that outsourcing of such intermediate services is more costly than in-house services.
and costs for administrative/legal remedies tend to be regardless the value of goods or scale of sales, making cost per head for SMEs higher than larger enterprises.

26. These factors can deter SMEs and enterprises in developing countries from accessing international trade directly. This may be one of the reasons that the bulk of exports today is 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).

**Benefits**

27. Accordingly, SMEs and enterprises in developing countries suffer from heavier burdens of trade transaction costs. Yet, when the existing burdens are high, the benefits of possible removal of these burdens are high too. In the past, trade transaction costs were merely one of a number 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 hardly provided information abroad about their corporate profile and their products. Internet and 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.

28. Furthermore, trade facilitation in developing countries as well as in trading partners and transit countries can provide broader economy-wide benefits as illustrated in European Community (1999). Simplification and harmonisation of trade procedures, together with enhanced transparency, will reduce corruptive incentives for officials, which are reputed to be high in many developing countries. In addition, WTO national experience reports have shown that some trade facilitation measures, notably computerisation of customs procedures and the use of EDI (electronic data-interchange), can have a tremendous effect on increasing government revenue collection. 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 “facilitated” countries.

4. **Possible further steps**

29. With a view to expanding past studies and deepening understanding of trade facilitation, further work in OECD may be able to provide value-added in the following areas. (If delegations express interest, the Secretariat will develop these ideas further. Their requirements would vary accordingly.

a. **Develop the work on procedural aspects of NTBs:** The present paper finds that business incurs transaction costs through numerous and complicated requirements, procedural delays and lack of predictability: in other words, by non-tariff procedural barriers. In this light, there is a logical link to the Trade Committee’s work on NTBs that may lead to significant analytical synergy. For example, it could help deepen understanding of trade facilitation to draw out the information collected on procedural barriers in the NTB project, building ongoing work relating to the implementation of particular types of NTBs and in particular sectors. In addition, in light of the relevant information collected in the recent country reviews of regulatory reform, it could be useful to explore the possibility for updating and refocusing the analysis in the earlier paper on “Procedural Factors as Non-Tariff Barriers” (TD/TC/WP (99)46).

b. **Construction of a template for identifying and measuring the costs incurred of inefficient procedures/benefits of facilitation to be won, and on whom:** The main objective of such work would be to estimate benefits of trade facilitation on businesses, in particular importers, through looking at
trade transaction costs. However, the Secretariat is well aware that importers are one of many stakeholders in international trade. Other stakeholders might include trade-related services providers, government bodies, and consumers. Gains in economic welfare by trade facilitation (or alternatively economic welfare loss by "not-facilitationised") might be well captured by looking at gains/loss of the other stakeholders. This paper introduces some success stories in raising import revenue collection resulting from trade facilitation measures. Such work may study, with different stakeholders' perspectives, a specific facilitation measure, e.g. a use of EDI (electronic data interchange) at the border controls.

c. **Conduct a survey of business costs arising from procedural delays in trade:** The globalised world economy today is characterised by cross-border production networks; just-in-time operations; rapid transportation services; short-market cycled high-tech products; etc. The avoidance of procedural delays has thus become crucial for businesses to compete globally. A survey of time spent in satisfying customs procedures has been promoted through the efforts of the WCO and its members. However, time needs to be translated into cost if its trade restrictive character is to be appreciated: only in this way can it be compared to tariffs and NTB tariff equivalents. To date there is no satisfactory framework that converts procedural delays into cost in money-terms. A survey of the business costs arising from procedural delays affecting time-sensitive products (such as New Economy products or fresh agricultural products) would produce a solid basis for furthering the international discussion on trade facilitation. Since the purpose would be to establish or confirm the cost-time relationship, a business survey limited to the industrial sector might be an appropriate approach.

d. **Examine regulations concerning the operation of services related to trade in goods:** Trade in goods requires various types of trade-related services, e.g. to move the goods, to liquidate settlement between buyers and sellers, to clear the official requirements, etc. As seen in the previous section, it has been argued that the cost of such trade-related services should be included in the cost of trade transactions. Such service costs would be increased by regulations affecting the operations of service providers/operators as well as by regulations restricting market access in these service sectors. Services issues, in particular market access, are addressed under GATS. Nevertheless, there can be an approach from the viewpoint of trade in goods as regulations on service operations raise charges and thus the final price of imports. A useful complement to other work and discussion could be to examine regulations concerning the operation of services related to trade in goods. Such work could build upon and in co-operation with that undertaken in the services work programme.

e. **International rule making for trade facilitation:** The present paper has mainly focused on the need to enhance market openness. At the proper point, the discussion should move to consider possible international rule making in the field of trade facilitation. Without doubt, any trade facilitation measures and their implementation should be consistent with WTO disciplines. Trade facilitation measures, by definition, should reduce the burden to business of trade transactions at an aggregate level. Yet some facilitation measures, in particular those based on risk-assessment selection, may be set and implemented in an arbitrary or selective manner. It could be explored whether the OECD Trade Committee’s six principles of regulatory reform could be applied to or developed as a “best practices” approach for trade facilitation.
<table>
<thead>
<tr>
<th>Study</th>
<th>Scope</th>
<th>Estimates on costs</th>
<th>Estimate on benefits</th>
<th>note</th>
</tr>
</thead>
<tbody>
<tr>
<td>US NCITD (1971)</td>
<td>direct costs: documentation costs required by government; finance/insurance; carrier; and forwarder/broker/or their contractual counterpart</td>
<td>average documentation costs are $375.77 for exports and $320.58 for imports. Total costs aggregate represent 7 and 1/2 % of the value of the total US export and import.</td>
<td>(none)</td>
<td>based on business survey</td>
</tr>
</tbody>
</table>
| 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 | (none)               | Use NCITD (1971), EU COST 306 Final Report (1989), SIIPRO (1991) and some other.                  |
| Dee, Geisler and Watts (1996) | APEC trade liberalisation programmes including trade facilitation measures, TBT, competition policy, government procurement, and transparency | mentioning estimates of Cecchini (1988), UNCTAD (1994b) and Dee, Geisler and Watts (1996), but did not provide which one it took                                                                                   | (none)               | apparently use a secondary reference                                                                |
| APEC (1997)                  | APEC trade liberalisation programmes including trade facilitation measures, TBT, competition policy, government procurement, and transparency | mentioning estimates of Cecchini (1988), UNCTAD (1994b) and Dee, Geisler and Watts (1996), but did not provide which one it took                                                                                   | (none)               | apparently use 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 use a secondary reference                                                                |
BIBLIOGRAPHY

APEC (Asia Pacific Economic Co-operation) (1997), The Impact of Trade Liberalisation in APEC (APEC Economic Committee)

APEC (2000), Cutting Through Red Tape, pamphlet for the Canadian-sponsored, in co-operation with the World Bank and Canada's Asia Pacific Foundation, APEC Workshop on Trade Facilitation (Singapore, 12-14 September 2000)


Dee, Philippa; Geisler, Chris and Watts, Greg (1996), The Impact of APEC's Free Trade Commitment, staff information paper (Industry Commission of Australia)


European Community (1999), Trade Facilitation in relation to Development (G/C/W/143 and WT/COMTD/W/60), communication to the Council of Trade in Goods (10 March 1999)

Gutierrez Ossio, José E. (2001), Customs Reform and Modernisation Program, statement draft contributed to the WTO Workshop on Technical Assistance and Capacity Building in Trade Facilitation (Geneva, 10-11 May 2001)

16 "*" means that the document per se could not be obtained while its partial or incomplete contents were obtained such as through secondary references.


US NCITD (US National Committee on International Trade Documentation) (1971), PAPERWORK or PROFITS? in International Trade (US NCITD)


* SWEPRO (Sweden Trade Procedures Council, 1985), “Data Interchange in International Trade”


* UNCTAD (United Nations Conference for Trade and Development) (1992), Analytical report by the UNCTAD Secretariat to the Conference
UNCTAD (1994a), UNCTAD Statistical Pocket Book (TD/STAT/PB.1)


World Bank (1995), Improving African Transport Corridors, in Precis number 84 (WB Operations Evaluation Department) [URL]
