Chapter 3

The Economic Impact of Trade Facilitation

by

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This chapter examines the economic impact of trade facilitation and in particular the link between trade facilitation and trade flows, government revenue and foreign direct investment. It finds that improved and simplified customs procedures would have a significant positive impact on trade flows. It further shows that a large number of mostly developing countries have managed to boost government revenue by implementing customs modernisation programmes that result in more efficient collection of trade taxes. In addition, the chapter demonstrates that facilitated cross-border movement of goods would have a positive effect on countries' ability to attract foreign direct investment and better participate in international production supply chains.

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Introduction

This chapter studies the effect that trade facilitation and related reductions in trade transaction costs (TTCs) may have on: *i)* trade flows; *ii)* government revenue; and *iii)* foreign direct investment (FDI). It draws on empirical data from country experiences and recent quantitative estimates of the economic impact of improvements in border procedures. It complements other OECD work on trade facilitation (see Chapter 1 in this volume) and its benefits for business (OECD 2001), automation (see Chapter 5), costs of customs reform (see Chapter 6) and developing country experiences (see Chapter 4 and OECD, 2005a). The OECD's work on trade facilitation aims to increase awareness of customs issues and the importance of border procedures among customs administrators and trade policy analysts. This chapter also aims to provide background material to the Negotiating Group on Trade Facilitation (NGTF) and feed into the negotiations on trade facilitation launched in July 2004 under the Doha Development Agenda (DDA).

The International Chamber of Commerce (1999) argues that efficient customs administration is essential for companies that compete in international markets. This chapter examines available evidence on how efficiency in border procedures affects economic performance. The losses that companies suffer through delays at borders, lack of transparency and predictability, complicated documentation requirements and other outdated customs procedures are estimated to exceed in many cases the costs of tariffs. Indeed, governments have much to gain from customs modernisation because efficient customs operations have the potential not only to increase trade but also to facilitate tax collection. This is of importance to many developing economies that partly finance their public administrations with trade taxes. In addition, small and medium-sized enterprises (SMEs) create most new jobs in both low-income and high-income countries, and surveys have shown that these companies are more negatively affected by inefficient customs procedures than multinationals.

Several trends are increasingly putting pressure on countries to increase capacity and improve their customs operations. First, the growth of international trade has exceeded GDP growth for decades: trade liberalisation and the integration of markets coupled with fragmentation of value chains have led to rapid growth in international commerce since the mid-20th century.[1] Some of this growth is attributed to increasing trade flows

1. Keen (2003) states that between 1980 and 1999, the volume (in value) of all merchandise exports grew by 250% (280%). At the same time, world GDP grew by 164%.

within multinationals, resulting in the heightened visibility of unnecessary trade transaction costs (TTCs). Second, reductions in transport costs and the development of complex logistics systems have led to leaner companies holding lower levels of stock. Lean production has made companies dependent on frequent delivery of small batches of intermediary inputs. Third, customs are under pressure to enforce various security and import restrictions, in particular those concerning environmental and sanitary and phytosanitary (SPS) matters. Rules of origin attached to preferential trading arrangements also impose new demands on customs resources.

In the following discussion, "trade facilitation" is used in accordance with the WTO definition, which refers to "the simplification and harmonisation of international trade procedures". Trade procedures are here the "activities, practices and formalities involved in collecting, presenting, communicating and processing data required for the movement of goods in international trade".[2] This definition implies that trade facilitation is affected by GATT Articles V, VII, VIII and X as well as the Agreements on Customs Valuation, Import Licensing, Preshipment Inspection, Rules of Origin, Technical Barriers to Trade, and the Agreement on the Application of Sanitary and Phytosanitary Measures.[3] However, the Doha ministerial declaration limits the trade facilitation agenda to GATT 1994 Article V (freedom of transit), Article VIII (fees and formalities connected with importation and exportation) and Article X (publication and administration of trade regulations). This chapter focuses on measures that are covered by these three GATT articles. However, the following analysis draws heavily on surveys and of earlier work that were not restricted to such a narrow definition; the empirical and quantitative review therefore thus addresses border procedures in general, including customs procedures. Port services are occasionally mentioned as well.

Port services are not necessarily covered by the DDA mandate and a more detailed definition of "customs procedures" is seldom, if ever, provided in the reference material. Moreover, the cited studies do not necessarily provide data that are strictly relevant to the NGTF negotiations. The broader picture of border procedures is nevertheless useful in discussions of trade facilitation. Significant inefficiencies are due to poor customs practices and weak administrative capacity at borders, but poor infrastructure and capacity at seaports and airports are sometimes an even greater problem for traders. Inadequate road and transport infrastructure also

2. www.wto.org/english/tratop_e/tradfa_e/tradfa_e.htm. See also WTO (1998) G/L/244.

3. www.wto.org/english/tratop_e/tradfa_e/tradfa_overview_e.htm.

often add substantial costs for traders, but these types of inefficiencies are not addressed here.

The first section of this chapter surveys some studies and empirical evidence relating to TTCs and attempts to distinguish factors that affect customs performance. It also reviews some country surveys that have examined traders' views on the impact of customs on business performance and refers to some estimates of the global welfare effects of adopting trade facilitation measures. The second section takes a closer look at the empirical and quantitative evidence of links between customs efficiency and trade flows, government revenue and foreign direct investment (FDI). A final section draws some conclusions.

The overall relevance of trade facilitation

The studies surveyed in OECD (2001) and in Chapter 1 of this volume suggest that TTCs involved in import and export procedures range between 1% and 15% of the trade transaction value. This discrepancy is mainly attributed to differences in the efficiency of different countries' customs administrations and to the definitions used for trade facilitation (and thus the scope of the relevant TTCs).[4] Most estimates are in the low or middle range. While the upper end of the range likely concerns the world's more inefficient customs administrations, developed countries generally operate capable customs administrations and gains from customs modernisation are likely to be found at the lower end.

In addition to direct costs for complying with border procedures, TTCs often include indirect costs which may be particularly difficult to express in monetary terms. Long delays before customs inspection can result in loss of business opportunities and also impose depreciation costs (*e.g.* for perishable goods) and inventory-holding costs (including high opportunity costs) (see Chapter 1).

Subramanian and Arnold (2001) examined the transport and logistics networks in South Asia and found that the main problems for traders were related to the time, reliability and safety of logistics services. Direct customs clearance procedures accounted for less than 0.5% of cargo value for most examined routes but border crossings were still a major cause of high TTCs and long delivery time. Customs clearance procedures caused unnecessary delays and indirect costs. For example, the costs for intermediate handling, including port handling costs other than loading and unloading vessels, were

4. This chapter examines the impact of procedures at the border. Several studies use a wider definition of trade facilitation including standards and other behind-the-border measures (*e.g.* Messerlin and Zarouk, 2000; Wilson *et al.*, 2004).

about 20-25% of total costs. Problems included limited working hours at customs, lack of customs officers, shortage of gates for receiving cargo, and insufficiently transparent procedures for inspection and valuation. The authors also concluded that customs efficiency often varies greatly between customs points in the same country and that the economic impact differs depending on the type of product. Agricultural produce was found to be especially sensitive, a finding that is confirmed by the findings in Chapter 1.

Several studies have tried to estimate the potential welfare gains to be realised from trade facilitation. Most use computable general equilibrium (CGE) modelling to estimate the welfare effect of marginal reductions in TTCs. Table 3.1 presents the results of some recent exercises which concur in finding that lower TTCs – for instance from faster and more efficient border crossings of goods – would significantly increase global welfare. An (Wilson *et al*., 2002) study concluded that cutting TTCs by 5% in the APEC region would add around USD 154 billion to member economies. An APEC study conducted in 1997 estimated that the average gains from trade facilitation in the Asia-Pacific region were almost twice the potential gains from tariff liberalisation.

Table 3.1. Welfare effects from trade facilitation measures

	Key findings
Francois *et al.* (2005)	Based on a CGE model exercise, the authors estimate that world annual income will increase by USD 72 billion (USD 151 billion) following a 1.5% (3.0%) reduction in TTCs for goods trade. In proportion to national income, most of these gains would benefit developing countries. All regions or major trading nations would benefit except China in the 1.5% reduction scenario. All countries/regions would benefit in the 3.0%, or "full liberalisation", scenario.
OECD[1]	Based on a CGE (GTAP – Global Trade Analysis Project) model exercise, the authors estimate that a 1% reduction in TTCs for goods trade will bring annual gains of about USD 40 billion on a world basis. Most of these gains will benefit developing countries in relative terms. There are no losers. Estimates as share of GDP reveals that Middle East and North Africa (0.27%), non-OECD Asia Pacific (0.25%), OECD Europe (0.19%) and Sub-Saharan Africa (0.18%) would be particularly well off.
Wilson *et al.* (2002)	Based on a CGE model exercise for APEC economies, the authors estimate that a 5% reduction in TTCs for goods trade will raise APEC's GDP by USD 154 billion, or 0.9%.
Commonwealth of Australia (2002)	In terms of annual increases in real incomes measured in 1997 prices, gains from reforms of customs procedures are estimated to be USD 0.4 billion in the Philippines, USD 2.3 billion in Singapore and USD 1.2 billion in Thailand.
UNCTAD (2001)	A 1% reduction in the cost of maritime and air transport services in developing countries could increase global GDP by USD 7 billion (1997 value).

1. See Chapter 1 in this volume.

The comparative advantage of quick and predictable delivery

Most large manufacturers are heavily dependent on frequent and timely delivery of raw material and intermediary goods for their production processes.[5] Inefficient customs services add to costs and delivery times; this in turn lowers the competitiveness of a country's producers. Hummels (2000) estimated that the average *ad valorem* equivalent of a one-day delay for manufactured goods is around 0.5%. This approximation is frequently used in quantitative exercises even if Hummels (2001) later raised this estimate to 0.8%.

OECD (2004) cites a 2002 study by Verma which estimates that Indian companies suffer a 37% cost disadvantage when shipping containers of clothing products from Mumbai/Chennai to the east coast of the United States, relative to similar shipments originating from Shanghai. This cost disadvantage is due to delays and inefficiencies in Indian ports. This study also shows that competitive labour costs are important in the labour-intensive production of textiles and clothing, but efficient customs procedures can partly make up for labour-cost disadvantages. It highlights the importance of efficient port infrastructure, reliable and competitive modes of transport and efficient customs procedures for maintaining an edge in competitive, time-sensitive and fashion-oriented textile and clothing markets.

Table 3.2 compares logistical and dutiable costs for shipping textile and clothing products to the US market from seven exporting countries under various trade arrangements. While the cost calculations do not only concern border procedures, they show the extreme disadvantages suffered by countries with inefficient customs operations and inadequate port services and logistics systems. The table also highlights the new business opportunities enjoyed by countries that modernise their customs operations and port infrastructure. It shows for example the considerable disadvantage experienced by Kenyan garment producers which are hampered by long delays in customs clearance and poor linkages to international transport networks. The time disadvantage is even more pronounced when one considers that many textile and clothing producers depend on foreign inputs

5. Customs clearance time can be reduced through appropriate use of information and communication technology (ICT), inter-agency co-operation both between customs and other border agencies and between the customs authorities of trading nations, single-window environments, risk assessment with related procedures, etc. While this chapter does not examine the various tools and strategies that can be used, Chapters 4, 5 and 6 and OECD, 2005a provide further information on the topic.

which have to be transported to, and clear customs in, the country of production.

Table 3.2. Transit, freight and duty costs on US imports of textiles and clothing

	Outbound from United States [days]	Inbound for United States [days]	Transit days [days]	Time factor 0.5%/day[1]	Freight cost[1]	Customs duty[1]	Total cost[1]	Relative to China[1]
Mexico								
Two-way shipment	2	2	4	2.0%	1.2%	0.0%	3.2%	20.9%
One-way shipment		2	2	1.0%	0.6%	0.0%	1.6%	22.5%
Canada								
Two-way shipment	2	2	4	2.0%	1.8%	0.0%	3.8%	20.3%
One-way shipment		2	2	1.0%	0.9%	0.0%	1.9%	22.2%
Dominican Rep.								
Two-way shipment	5	5	10	5.0%	3.4%	0.0%	8.4%	15.7%
MFN shipment		5	5	2.5%	1.7%	12.3%	16.5%	7.6%
Colombia								
Two-way shipment	9	10	19	9.5%	3.4%	0.0%	12.9%	11.2%
MFN shipment		10	10	5.0%	1.7%	12.3%	19.0%	5.1%
China								
MFN shipment by sea		12	12	6.0%	5.8%	12.3%	24.1%	-
MFN shipment by air		2	2	1.0%	14.5%	12.3%	27.8%	-
South Africa								
Two-way shipment	34	25	59	29.5%	10.0%	0.0%	39.5%	-15.4%
MFN shipment		25	25	12.5%	5.0%	12.3%	29.8%	-5.7%
Kenya								
Two-way shipment	62	61	123	61.5%	9.8%	0.0%	71.3%	-47.2%
One-way shipment		61	61	30.5%	4.9%	0.0%	35.4%	-11.3%
MFN shipment		61	61	30.5%	4.9%	12.3%	47.7%	-23.6%

1. In percentage of import value.

Source: OECD (2004).

The Asian Development Bank (2003) refers to estimates indicating that Bangladesh's garment exports could earn 30% more if port inefficiencies were removed.[6] Filmer (2003) provides the example of Fiji's garment and footwear producers, which are unable to compete with exporters in low-cost countries on a price basis because of their labour costs. However, Fiji still successfully competes because of its ability to provide quick deliveries of high-quality garments. Fijian producers enjoy a reputation as reliable suppliers able to meet orders, particularly small one-off orders, in a way that many lower-cost competitors cannot.

Cadot and Nasir (2001) describe a Malagasy garment exporter whose prospective gains from reducing port clearance time to one day would equal a saving in labour costs of 20-30% for producing a long-sleeved shirt. The World Bank has estimated that the average time required for customs clearance of sea cargo in Africa is 10.1 days, compared to 2.1 days in OECD countries (World Bank, 2003a). According to Hummels (2001), this represents an additional cost of approximately 8.1% and 1.6%, respectively, of the total transaction value. The World Bank (2004a) also refers to two country reports which conclude that average firm-level productivity could increase by 18% by halving the number of days required to clear customs in Ethiopia. In Nigeria, fraud, corruption and poor security at customs are estimated to increase the cost of imports by approximately 45%.

Potential cost savings from cutting customs clearance times are small in countries like Canada where the standard clearance time was 0.75 hour in 2000. In Australia, 98% of electronically lodged import entries were processed within 0.25 hour in 2000-01. Low customs clearance times are also reported for Spain (4 hours), Greece (0.5 hour) and France (0.23 hour) (see Chapter 5). Some developing countries have managed to reduce customs clearance times for most goods to less than 24 hours (see Chapter 4). Japan's experience also shows that large trading nations can also realise substantial gains. Nomura Research Institute (2004) estimates that Japanese trade facilitation measures cut average lead time for cargo by 56% between 1991 and 2001.[7] This saved cargo owners, shipping companies, terminal operators and customs brokers an estimated JPY 39 billion.

Table 3.3 provides estimates of customs clearance times for imports and exports in a number of countries. It reveals that border barriers are

6. Port inefficiencies may be related to poor management, corruption and restricted port capacity in terms both of numbers and of types of vessels that can be handled.

7. Here, average lead time means average requisite time from port entry to permit issuance.

significant for exporters even before their products reach their target markets. While the time to clear imports is 1-2 weeks in most of the countries, time to clear exports at the sending country' border reduces the competitiveness of its export industry. The average clearance time is eight days for imports (median) and 4.5 days for exports.

Table 3.3. Customs clearance times in selected developing countries

Country	Days to clear imports (median)	Days to clear exports (median)
Bolivia	7	2
China	5	3
Eritrea	7	2
Ethiopia	14	4
India	7	3
Kenya	7	4
Morocco	2	1
Mozambique	12	17
Nigeria	18	7-10
Uganda	4	3
Zambia	5	2

Source: Eifert and Ramachandran (2004).

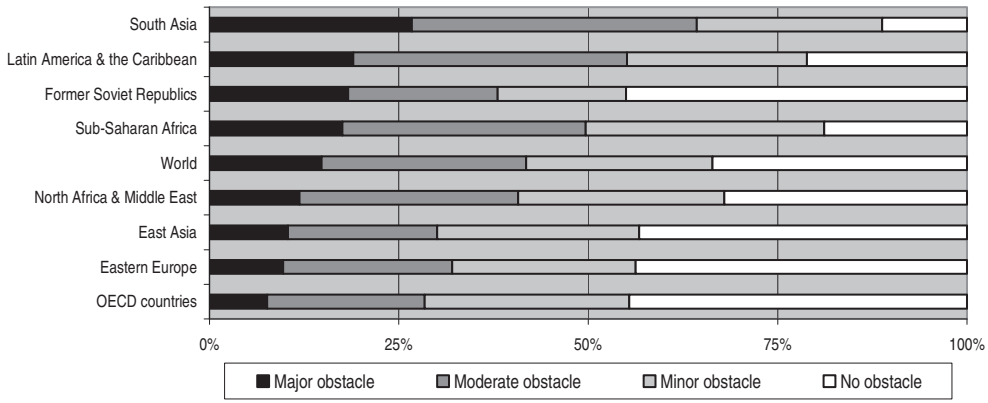
Traders' complaints about border procedures

A survey conducted by the World Bank in 1999-2000 and involving more than 10 000 companies in 80 countries found that companies in many parts of the world still find customs (and foreign trade regulations) a major or moderate obstacle to trade.[8] Figure 3.1 shows that companies in mostly developing countries perceive these procedures as a serious impediment to growth. The operations of companies in South Asia and Latin America and the Caribbean were worst affected: two-thirds of companies in South Asia perceived customs and foreign trade regulations to be a major or moderate obstacle for their businesses. Besides, SMEs were much more likely to find customs and foreign trade regulations difficult to comply with. This finding

8. The bundling together of customs procedures and trade regulations reflects the wide definition of "trade facilitation" often used by the World Bank, which includes both at-the-border and behind-the-border measures.

may not be surprising given that SMEs can least afford a specialised customs and transit department.

Figure 3.1. How problematic are customs/foreign trade regulations for the operation and the growth of businesses?



Source: World Bank (2000).

Another survey conducted by The Asia Pacific Foundation of Canada (APFC) in 2000 of 461 companies in the Asia-Pacific region found customs procedures to be the single most serious trade impediment, ahead of restrictive administrative regulations and tariffs. 53% of respondents described customs procedures as a serious or very serious problem and 69% of developing country respondents were particularly concerned (39% in developed countries). Among the issues specifically concerning customs procedures, complexity of customs regulations (52%); lack of information on customs laws, regulations, administrative guidelines and rulings (49%); and problems with the mechanism of appealing customs decisions (43%) received the largest share of "serious" or "very serious" replies. Table 3.4 shows the customs issues ranked in descending order of seriousness for developed and developing countries.

The replies from developed countries and developing countries were similar but the former group did not perceive goods classification to be as serious a problem as the latter group. Lack of transparency was the most serious concern for companies in developed countries while the complexity of customs regulations was the biggest concern for developing-country exporters. Increased transparency and information sharing, better training of customs officers and more streamlined customs regulations thus seem to be

high priorities. A year after the study, APEC members agreed in the Shanghai Accord 2001 to work to reduce transaction costs in the region by 5% between 2001 and 2006.

Table 3.4. Ranking of customs issues in the APEC region

Overall	Developed countries*	Developing countries**	Type of customs issues
1	2	1	Customs regulations too complex
2	1	2	Lack of information on customs laws, regulations, administrative guidelines and rulings
3	3	4	Problems with mechanism for appealing customs decisions
4	7	3	Problems associated with classification of goods
5	4	5	Customs authorities failing to protect IPRs at borders
6	5	6	Customs procedures not harmonised with those of partner countries
7	8	7	Problems associated with valuation of goods
8	6	8	Problems with temporary importation of goods

* Replies from companies in Australia, Canada, Chinese Taipei, Hong Kong (China), Japan, Korea, New Zealand, Singapore and the United States.

** Replies from companies in Brunei Darussalam, Chile, China, Indonesia, Malaysia, Mexico, Papua New Guinea, Peru, Philippines, Russia, Thailand and Vietnam.

Source: APFC (2000).

The economic impact of trade facilitation

Tariffs and many non-tariff border barriers (such as quantitative restrictions) have been reduced or eliminated over successive rounds of trade negotiations. As conventional trade barriers are lowered, transaction costs related to customs procedures are increasingly important.

TTCs can be analysed as *ad valorem* tariff equivalents. Economic analysis describes two main types of effects of such tariffs: price and efficiency effects. *Price effects* can be either direct, as in payments of customs fees, port fees, rents to corrupt officials, etc., or indirect, as in costs

resulting from delays and unreliability of customs clearance. Price effects increase the price of traded products over what they would otherwise be, with a generally dampening effect on the level of trade and a potentially positive effect on domestic production. *Efficiency effects* arise from distortions in the allocation of resources in the economy, which may be reflected in FDI flows, for example. The effect on FDI flows is somewhat ambiguous however. TTCs decrease efficiency-seeking FDI but they may also increase market-seeking FDI for tariff-jumping purposes in large markets. A large share of FDI today is for establishing production capacity for export markets and higher TTCs are thus very likely to have a negative effect on FDI. Both price and efficiency effects generate welfare losses for consumers and producers in both importing and exporting countries.

The nature and magnitude of the effects may differ depending on the products traded. For highly perishable products, delays of goods at the border can generate product losses or increased costs for refrigeration, chemicals, etc. If the product has a limited shelf life, then prolonged stays at the border could push the product out of the market. If the delay or costs of bringing production inputs into a market cannot be anticipated, investors may find the market less attractive.

While TTCs may be analysed as *ad valorem* tariffs, it should be noted that they result in little, if any, government revenue. Only the direct fees paid for border services benefit the government. Customs modernisation programmes may raise customs productivity and reduce smuggling and corruption, and the effect of trade facilitation on government revenue will be positive if savings from increased customs productivity and revenue from an increased tax base exceed the costs of the modernisation programme and the reductions in direct customs fees.

One of the challenges in quantifying the effect of customs modernisation on trade flows is to determine the causal link between them. Increased trade and FDI flows are likely to lead to greater pressure on customs administrations to provide efficient services (see Wilson *et al*., 2003). Another challenge from an empirical point of view is that customs reform is usually implemented in steps over a long period of time. In some of the country cases presented in Table 3.7 below, reform measures were introduced over a ten-year period.

The impact of trade facilitation on trade flows

Table 3.5 presents the main findings of nine recent quantitative estimates and surveys that explore the link between trade facilitation and trade flows. Most use either gravity models (four cases) or CGE models (three cases) to estimate the effect on trade of more efficient customs procedures and ports. Four studies model the outcome of trade facilitation in the APEC region; although the region only includes 21 countries, it still represents around half of world trade and includes a number of both developed and developing countries.[9]

Wilson *et al*. (2003, 2004) assume in their calculations that countries that are below average in border infrastructure (customs and ports) will be able to raise their efficiency half-way to the APEC average. Other studies assume a fixed across-the-board reduction in TTCs (APEC, 1999) or other types of increased customs efficiency (Kim *et al*., 2004; APEC, 2004a). The studies do not engage in cost-benefit analysis but some indicate that customs reform, while often costly and difficult to implement, may be less costly than the investments needed in port infrastructure.

Five key conclusions can be drawn from the findings presented in Table 3.5:

- All the studies indicate that there is a positive link between trade facilitation and trade. This translates into significantly increased trade for even modest reductions in trade transaction costs.
- The studies also indicate that trade in both rich and poor countries stands to gain from trade facilitation. In relative terms, trade gains would be higher in developing countries than in developed countries, as their customs administrations and ports are comparatively less efficient.
- Both the country improving its customs procedures and the countries exporting to this country stand to benefit from efficiency measures. The country that improves its border procedures benefits most. This underscores the value of unilateral action.
- The potential gain from increasing port efficiency is considerably larger than for increasing the efficiency of customs procedures. Still, improved customs procedures would significantly increase trade flows.

9. The APEC region's share of world trade was 48.8%, and growing, in 2000 (APEC, 2004b).

- The quantitative results echo the results from business surveys: inefficient movement of goods across borders is a serious impediment to trade and growth.

These key conclusions are further supported by the country case studies presented below, which show that customs reform has often led to considerable increases in trade flows. Some quantitative studies show that trade effects from trade facilitation can vary widely among product categories. For example sectors characterised by constraints related to seasonality, perishability or just-in-time production are likely to be more sensitive to inefficient customs procedures. This includes textiles and clothing, for which seasonality and the need for quick deliver heighten the value of efficient border procedures and access to transport networks, as the above-mentioned case of Fijian garment producers illustrates. For agricultural produce, perishability is of utmost importance; Kenya's successful export experiences with cut flowers and Mali's experience with mangoes show that improved border procedures and logistics systems can open up new business opportunities for developing countries (World Bank, 2003a; 2004b).

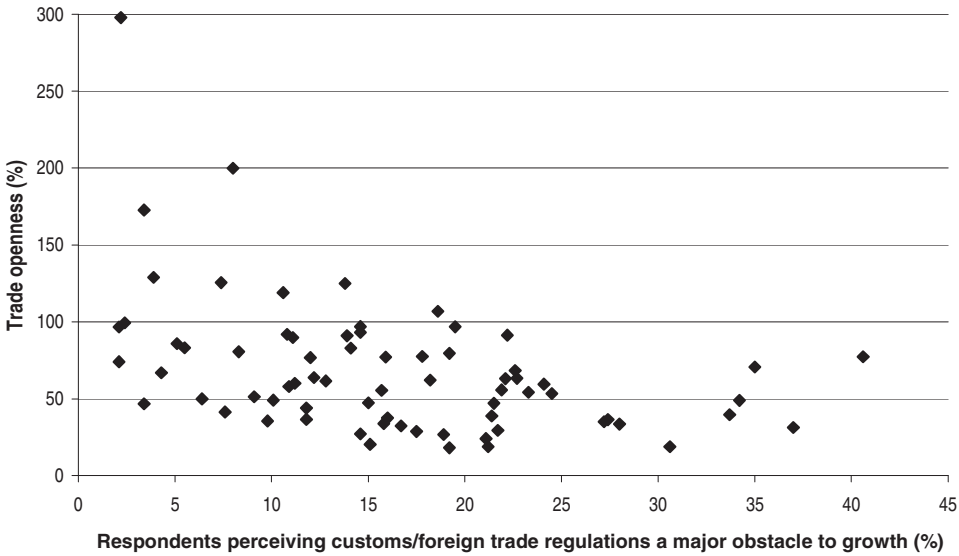
Clarke (2005) has studied factors that affect the export performance of manufacturing enterprises in African countries. He finds that manufacturing enterprises are less likely to export in countries with poor customs administrations and restrictive trade and customs regulations. For instance, a reduction in trade and customs regulations from the level observed in Tanzania, the second most restrictive country in his sample, to the level in Zambia, the second least restrictive, would increase exports as a share of production by approximately 4% for an average enterprise. This represents an increase of one-third in overall exports since most production is for domestic consumption.

Table 3.5. The impact of trade facilitation on trade flows

Author (year)	Key findings
APEC (2004a)	Based on a gravity model exercise for APEC economies, the authors find that a 10% improvement in trade facilitation boosts intra-APEC imports by a minimum of 0.5% in the area of customs procedures.
Dollar *et al.* (2004)	Based on survey results from 7 302 companies in eight developing economies (including Brazil, China and India), the authors find that "customs clearance times … are key determinants of … export status." Maximum likelihood estimates show that customs clearance times for both imports and exports have a significant negative effect on exportation.
Kim *et al.* (2004)	Based on a gravity model exercise for APEC economies, the authors conclude that a 50% improvement in customs procedures performance would increase imports by 1.7-3.4% in industrialised APEC economies, 2.0-4.5% in newly industrialised APEC economies, and 7.7-13.5% in industrialising APEC economies.
Wilson *et al.* (2004)	Based on a gravity model exercise for 75 countries, the authors find that improving port efficiency and customs administration half-way to the global average in countries with below-average efficiency would increase trade flows by USD 107 billion and USD 33 billion, respectively. Improvements in customs administration would benefit all regions but in particular developing country importers. Port efficiency improvements would also greatly benefit developing countries.
Batra *et al.* (2003)	Based on survey results from 8 560 companies in some 80 countries, "customs/foreign trade regulations" were identified as the second most serious "tax and regulatory constraint" on operations and business growth/trade in Latin America, Africa, Developing East Asia and the Middle East. In 44% of non-OECD countries, half or more of the companies reported that "customs/foreign trade regulations" were moderate or major obstacles to operations and business growth/trade. SMEs were particularly affected.
Fox *et al.* (2003)	Based on GTAP model estimates, the authors conclude that a removal of the frictions (delays) in border crossings between Mexico and the United States would lead to a USD 7 billion rise in trade, with southbound trade estimated to increase by USD 6 billion and northbound trade by USD 1 billion. Welfare would increase by USD 1.8 billion in Mexico and by USD 1.4 billion in the United States.
Wilson *et al.* (2003)	Based on a gravity model exercise for APEC economies, the authors find that enhanced port efficiency has a large and positive effect on trade. Improvements in customs significantly expand trade but to a lesser degree than port improvements. If port efficiency and the customs environment in below--average APEC members were brought half-way to the initial APEC average, intra-APEC trade is estimated to increase by 11.5%. A 9.7% gain (USD 117 billion) is expected from increased port efficiency and 1.8% (USD 22 billion) from an improved customs environment.
Hummels (2001)	The author estimates that each additional day spent in transport reduces the probability that the United States will source from the country by 1–1.5% for manufactured goods. No effect is found for commodities. Each day saved in shipping time is worth 0.8% *ad valorem* for manufactured goods.
APEC (1999)	Based on CGE analysis, the authors find that a 1% reduction in import prices (from reduced TTCs) for the industrial and newly industrialising economies of Korea, Chinese Taipei and Singapore, and a 2% reduction for the other developing economies yield an increase in APEC merchandise trade of 3.3%.

Figure 3.2 shows data for trade openness in 2000 (the sum of exports and imports of goods as a percentage of GDP) in relation to respondents in some 71 non-OECD countries that perceived customs and foreign trade regulations to be a major (or "very severe") obstacle to growth (based on the World Bank's 2000 survey of more than 10 000 companies). The figure indicates a negative link between trade and burdensome border procedures. A few countries whose private sectors perceive customs to be a major obstacle to growth also have a relatively high degree of trade openness. These are mainly oil-producing nations like Nigeria and Venezuela.

Figure 3.2. Trade facilitation and trade openness



Source: OECD calculations, based on World Bank (2004), *World Development Indicators*.

Table 3.6, based on the gravity model exercise of Wilson *et al*. (2003), provides a breakdown of country-specific gains of trade.[10] The authors calculated the trade effect for countries that bring port and customs efficiency half-way to the APEC average. The magnitude of the results is related to the efficiency of each country's initial port and customs operations and the exercise is arguably a good indicator of the realistic outcome of modernisation. Under this scenario, more efficient customs procedures would increase trade flows by as much as 30% in Russia and 22% in Indonesia. Chile's customs administration would not be affected because its customs administration is already above the APEC average, but the country's imports would increase owing to more efficient export procedures in other APEC countries. The table also distinguishes the trade effect from more efficient customs procedures and more efficient port management. The effect of port improvement translates into an average 64% increase in the nine countries; the average effect of customs improvement is 12%.

Table 3.6. Trade facilitation and trade flows

Country	Customs environment scenario			Port efficiency scenario		
	Δ exports (%)	Δ imports (%)	Total (%)	Δ exports (%)	Δ imports (%)	Total (%)
Chile	..	2	2	21	20	41
China	9	1	10	74	2	76
Indonesia	21	1	22	51	9	60
Korea	3	2	5	15	14	29
Mexico	8	0	8	37	1	38
Peru	5	1	6	98	5	103
Philippines	13	1	14	100	3	103
Russia	25	5	30	73	36	109
Thailand	8	1	9	15	5	20

Source: Wilson *et al.* (2003).

10. The basic version of the gravity model relates the volume of bilateral trade flows to the economic size of trading countries as well as to measures of distance that serve as a proxy for trade costs. The attractiveness of gravity models stems from their consistency with both the classical and new trade theories as well as their relatively high empirical explanatory power (see OECD, 2005b, for further discussion).

The impact of trade facilitation on government revenue

In addition to the potential cost savings that trade facilitation can bring to traders, benefits may also accrue from more efficient and reliable tax collection, which is particularly important for many developing country governments that depend on trade taxes for financing their public administrations.[11] Weaknesses in domestic institutions often render taxation of consumption difficult, or indeed unmanageable, and the collection of tariff payments and other trade taxes may sometimes be easier to enforce in developing countries. OECD (2005c) has estimated that taxes on international trade and transactions make up more than a third of government revenue in countries like Côte d'Ivoire (41%), Lesotho (39%), Madagascar (36%) and Vanuatu (34%). Raising the efficiency of weak customs administrations is thus likely to have a positive impact on revenue collection.

Traders benefit from reductions in costs and delays at borders and from increased predictability and transparency of customs clearance procedures. Customs modernisation programmes in developing countries often aim both to reduce customs clearance times and to increase government revenue. "Actual revenue" can be much lower than "potential revenue" because of corrupt and incompetent customs officials or because of inadequate and outmoded customs procedures. Smuggling is another big problem in countries with porous borders and severe border barriers. Customs modernisation in countries that suffer from high levels of smuggling may significantly reduce informal trade flows and thereby increase their tax base. The case studies on Angola, Mozambique and the Philippines describe dramatic increases in trade flows due to reductions in smuggling. Like any monopoly, customs administrations may have limited incentives to improve their productivity. Introducing effective reform programmes requires time, resources and commitment at all levels, and these are seldom readily available.

Despite some countries' cautious approach to the trade facilitation negotiations in Geneva, trade facilitation is largely considered to be a win-win solution for traders in developed and developing countries alike. Countries that are sceptical about new trade facilitation initiatives generally do not question the objectives but rather worry about the costs of customs modernisation and question whether new commitments should be binding or not.

11. OECD (2005c) analyses the impact of tariff reductions on developing countries' government revenue. It also offers a discussion of tax reform policies that could accompany tariff reform, including references to past experience with trade-related fiscal adjustment.

While costs may have exceeded the benefits in some cases, the studies summarised in Table 3.7 prove that the benefits have often exceeded the costs by a wide margin. "Trade facilitation is not about impeding or diminishing individual government's power and sovereign right to protect their borders…[but rather]…a way of making the necessary work of customs and other authorities cheaper and more efficient." (SWEPRO, 2003)

As Chapter 4 in this volume points out, revenue enhancement appears to be a principal incentive for customs reform. Revenue losses from inefficient border procedures have been estimated to exceed 5% of GDP in some cases. In addition, high TTCs have been found to offset some countries' competitive advantage in terms of their labour costs. Staples (2002) reports that arguably the main reason why more than 40 governments are using pre-shipment inspection (PSI) is because they need to deal with inefficient and corrupt customs authorities. Revenue collection shortfalls of up to 50% are reported to have occurred in some countries.

Several countries' experiences show that trade facilitation has a net positive effect on customs revenue collection. Table 3.7 describes the fiscal outcome of various types of customs modernisation programmes in 12 countries. From moderate action plans implementing single-window automation systems (including Singapore) to the complete overhaul of the customs administrations (Angola, Bolivia or the Philippines), trade facilitation shows that the potential gains are substantial.

Developing countries with weak customs administrations have in many instances managed to increase customs revenue by a factor of two – and sometimes by more – over a relatively short period of time. The countries with the largest potential to increase customs revenue are often the very countries with the least capacity to implement a comprehensive long-term customs reform programme. As Table 3.7 indicates, technical assistance has played an important role. Most countries received some form or combination of technical assistance from the World Bank or the World Customs Organization (WCO), financial assistance from external aid agencies, or have engaged in public-private partnerships.

Table 3.7 only takes into account revenue collected at the border. Perhaps as important is the related efficiency-enhancement effect that arises from increased trade and more efficient employment of production factors. These effects are likely to be evident only in the medium and long term. Several of the countries described are still in the process of implementing their customs reform programme. Design and implementation of ICT networks, training of customs staff and the use of effective tools – such as risk assessment which is dependent on trade statistics – take considerable

time. Any reform programme – no matter how comprehensive from the start – requires incremental improvements of which the results are often only seen in the long run.

Table 3.7. Trade facilitation and government revenue: country experiences

Angola OECD (2005a)	Following years of civil war and a poorly operating customs administration, Angola adopted a customs expansion and modernisation programme in 2000. Crown Agents were hired to help design and introduce a thorough reform programme. The reforms focused on institutional weaknesses of the customs authority and six priority areas were identified. These included a reorganisation of the customs authority, the design and introduction of a new customs legislation framework, investments in HR management and training, the introduction of new customs procedures, financial management practices and the implementation of new IT equipment. Half-way through the five-year programme, revenue receipts had increased by 150% and customs processing time had been reduced to 24 hours for correctly submitted documentation.
Bangladesh Abid Khan (2004) Draper (2000)	In mid-1999, Bangladesh initiated a customs modernisation programme after domestic and international pressure had heightened awareness of the poor state of the customs administration. The first wave of reform saw the implementation of ASYCUDA++, a simplified tariff schedule, the introduction of PSI and strengthening of training and competence building. Despite some significant operating problems, six months after the start of the programme customs revenue was up by 14% year-on-year and Draper concludes that the scheme was at least in part responsible for this increase in import tax revenue. Customs clearance times were reduced to 1-3 days for imports and 3-8 hours for exports.
Bolivia Escobar (2004) Gutiérrez (2001)	In 1997, Bolivia introduced a customs reform project aimed at a total reengineering of the customs organisation, staffing, and its processes and procedures to restore institutional credibility, improve tax collection, and reduce high levels of corruption. The reform processes included the implementation of a new legislative and regulatory framework, a new organisational structure with previously corrupt customs official made redundant, and replacement of around 80% of staff. Wages were significantly raised and ASYCUDA++ was implemented. Despite certain setbacks and shortcomings, two years after the reform process was initiated, both corruption and customs clearance times had been substantially reduced. However, following the economic slowdown, there was a reduction in imports and private investment. The drop in imports exceeded the decline in customs revenue. In 2000, customs collection was up by 11% or 25% if account is taken of tariff reductions.
Bulgaria WTO TPR (2003)	Bulgaria has drastically reformed its customs administration since 1998 when it harmonised its customs legislation with that of the European Union. Most restrictions to the importation of goods were removed and in 2001, all specific registration requirements for customs purposes were eliminated. Bulgaria also introduced a single administrative document for customs declaration and a number of other measures to tackle the problems with administrative and operational capacity. The senior management of the Customs Agency was changed in 2002 and a three-year programme of customs reform was initiated with the assistance of Crown Agents. This programme aimed to improve the customs legislation and management practices, train customs officials and improve customs controls and anti-smuggling activities through the deployment of "mobile assurance teams". The World Bank assisted the work with institutional reform and trade facilitation. It also helped to improve the Bulgarian Integrated Customs Information System. Since September 2002, when mobile assurance teams were introduced, there has been a steady increase in customs revenue. In January-May 2003, revenues increased by 158% year-on-year.

Ghana De Wulf (2004)	During the 1990s, Ghana introduced a number of reform initiatives to improve capacity and efficiency at its customs authority and the country also started to implement a more open trade policy agenda. In early 2001, Ghana introduced a customs ICT network based on a model of Singapore's TradeNet. The customs system was initiated as a public-private partnership with a number of stakeholders offering experience and competence while sharing costs and risks. In mid-2003, the network covered 90% of Ghana's total trade flows and government revenue collected from airport traffic had increased by approximately 30% on a yearly basis when checked for currency changes and an increase in imports. In addition, customs clearing times were significantly reduced. For example, at the main international airport, average customs clearance time was down from three days to four hours.
Jamaica Staples (2002) UNPAN (2002)	In 1993, Jamaica's government initiated a reform programme following complaints about widespread corruption and poor administrative practices. The reform programme included the implementation of a single-point clearance mechanism, the introduction of risk assessment procedures and the publication of a customs manual of procedures setting out all customs rights and responsibilities in export clearance. A customs automation service was later introduced and Crown Agents was contracted to implement software components for risk analysis, intelligence collection and data processing for valuation purposes. As a result of these initiatives, there was a steady and significant increase in revenue collection despite little or no economic growth in the country. Between 1998 and 2001, customs revenue increased by 110%.
Morocco Steenlandt and De Wulf (2004)	In 1996, Morocco's customs administration was highly inefficient: in the main port of Casablanca, releasing a container took on average 18-20 days. A reform process was initiated and covered all aspects of customs operations, including an overhaul of the customs code, the implementation of the Customs Valuation Agreement of the WTO, new staff incentives and training, and focus on ICT. The results were impressive. Imports (other than for home consumption) increased by 48% between 1996-2002 while customs revenue increased by 8% despite progressive tariff reductions. Customs clearance times were reduced to an average of 1-2 hours in 2001-03.
Mozambique OECD (2005a) Mwangi (2004)	In 1997, Mozambique introduced a new customs programme – including a PSI scheme – which thoroughly reformed the customs administration. The reforms focused on improving the customs legislation, systems and procedures, HR management, organisation, IT and financial management. Crown Agents had also been hired in 1996 to help manage the customs authority. During the first two years of the programme, imports increased by 4% while customs revenue increased by 58% despite significant duty rate reductions. There was also a marked reduction in the clearance time of goods at the country's principal points of entry: in the capital Maputo, 80% of road imports and 62% of imports by sea are cleared by customs within 24 hours of correctly submitted documentation. Initial investments in the customs administration were recovered within 14 months from additional revenue receipts.
Peru Goorman (2004)	Following an economic crisis in 1990 and a number of failed attempts at reforming its customs administration, Peru finally managed to implement a customs reform programme in the beginning of the 1990s. It reduced the number of tariff levels from 39 to two, initiated competence-enhancing programmes and brought in automation systems and best practices in line with international standards. Despite a reduction in the average tariff level and the number of staff (from 3 800 to 2 600), customs revenue increased by 105% between 1990 and 1992 (327% in 1990-95) whereas the value of imports increased by 37% over the same period (175% in 1990-95). Customs release time dropped from range of 15-30 days to 2 hours to 2 days.

Philippines Keen (2003) Bhatnagar (2001)	In 1995, the Philippine customs authority decided to implement ASYCUDA++ for payment, risk assessment, clearance processing and shipment release from customs control. This was a response to fraud in the customs administration and unduly long clearance times due to highly bureaucratic control procedures. One of the goals was also to raise government revenue. The cost of the project was approximately USD 27 million. The results were positive: customs clearance time was reduced from an average of 8 days before automation to 4 hours to 2 days following its introduction. The Philippine customs authority experienced significant problems during the implementation phase and the Asian financial crisis also affected trade. Nevertheless, the net present value of increased revenue was considerably higher than the expenditure and customs was able to meet revenue targets in three of six years. Between 1990 and 1996 imports grew by 160% while revenue grew by 60%.
Singapore United Nations (2002)	In 1989, Singapore introduced TradeNet, a highly efficient electronic trade document system which cost the country SGD 20 million to develop. The system linked trade parties – including 34 government units – to a single point of transaction for most trade-related activities. These activities cover customs clearance, payments of duties and taxes, processing of import and export permits and certificates of origin, and the collection of trade statistics. Studies suggest that the new system reduced trade documentation processing costs by 20-35% for traders. Singapore is the largest trader in the world when trade flows are measured in relation to GDP and government revenue is not linked to trade taxes. Nevertheless, Singapore claims that properly applied trade facilitation is saving it in excess of 1% of GDP each year.
Uganda De Wulf (2004)	Uganda undertook a comprehensive reform programme in the 1990s which aimed at trade liberalisation and customs modernisation. The initiatives included the establishment of an independent revenue agency to improve revenue collection. Again, as in the case of Angola and Mozambique, the reforms included an overhaul of the entire customs authority including significant changes to the tariff schedule, improvements of the customs legislation, emphasis on HR management, implementation of ICT through ASYCUDA++, and simplification of customs procedures. Revenue of the Uganda Revenue Authority increased from 7.7% to 13.0% of GDP in the ten-year period to 2002.

There are several examples of failed customs reform programmes. The issues and the reasons why some countries have failed are not discussed here, but the challenges and costs involved are acknowledged. The experiences presented in Table 3.7 show that successfully implemented reform programmes can bring impressive results in terms of reduced customs clearance time and increased revenue. It is difficult to estimate the revenue effect of customs modernisation since tariffs in many of the country cases were reduced or tariffs schemes simplified. Tariff reductions along with customs reform result in understating the true revenue effect.

The experiences described in Table 3.7 indicate some general trends:

- Successful implementation of customs reform programmes can bring significant increases in customs revenue in countries with weak customs administrations.

- Even moderate modernisation initiatives can bring quantifiable improvements in customs revenue.
- Some customs reforms show that customs revenue remained stable after significant cuts in tariffs.
- Financial improvements are not necessarily immediate since reform programmes are implemented over time.
- Technical and financial assistance were crucial components in many of the reform programmes in developing countries. Public-private partnerships also helped some countries to address their customs issues.

The impact of trade facilitation on foreign direct investment

Global sourcing, *e.g.* by multinationals locating production capacity in foreign countries, represents a significant share of international investment flows as international production chains increasingly depend on manufacturing in developing and emerging market economies. Manufacturing industries require cheap, quick, transparent and predictable customs services. Countries that wish to attract investment in labour-intensive sectors are thus likely to gain from modern and efficient border procedures. Inefficient border procedures give rise to TTCs that are included in the cost-benefit calculations used by companies to evaluate alternative locations. Inefficient border procedures can thus generate potentially high opportunity costs. This is underscored by empirical evidence provided by Radelet and Sachs (1998) who show that countries with lower TTCs have experienced higher economic and manufacturing export growth over the last three decades than those with higher TTCs (here equivalent to transport costs). The authors also note that in a sample of 90 developing countries, none of the 15 largest manufacturing exporting countries was landlocked during the period 1965-90.

The positive effect of trade facilitation measures on FDI is largely taken for granted in the economic literature. Little empirical work has attempted to verify this. Earlier studies (*e.g.* Kinoshita and Campos, 2004) have shown, for example, that good governance and open markets have positive impacts on FDI flows. From a business perspective, high predictability and low direct and indirect TTCs are key factors in investment decisions. For a typical investment project, a rough first assessment removes candidates on the basis of a fixed set of performance criteria. Thereafter, a more thorough analysis is made to compare a larger set of variables for candidates that fulfil general criteria. Direct and indirect costs such as the cost and risk associated with a country's border procedures are included in the cost calculations.

Ultimately, the chosen candidate location will be the one that comes out on top in the cost-benefit analysis.

Box 3.1 describes how border procedures affect investment decisions at Philips Electronics and Unilever Plc. and shows how costs related to border procedures are estimated and included in cost calculations used in the evaluation process. Multinationals have a relative advantage compared to SMEs for circumventing some of the inherent inefficiencies at borders. Large companies have dedicated teams which work exclusively on customs clearance and trade procedures and can sometimes negotiate special deals with the customs authorities in countries in which they invest. For example, a European flower company that recently decided to grow and import flowers from Ethiopia negotiated a deal with the Ethiopian customs and airport authorities to have access to and store the flowers in an airport hangar. The deal also allowed the company to clear customs and transport the flowers by air on any day of the week.

Another example is provided by a Dutch company which grows and imports plants and flowers from Kenya and South Africa. In this industry, quick and predictable customs clearance – in addition to efficient transport and logistics services – is key for the survival of the flowers. Only a few hours of extra waiting time at 35 °C as well as slow unloading and handling procedures at cold Dutch airports can seriously damage the shipment. If delivery is late, the products may be difficult to sell, especially in the case of flowers targeting the Christmas and Easter season. In order to minimise prospective losses due to irregular customs clearance, the company has detailed agreements with local cargo companies that guarantee customs clearance and transport. In addition, quick delivery requires co-operation between customs officials and SPS inspection personnel. Dutch investments in the South African and Kenyan plant and flower industry would be less likely without solutions to these border issues.

One of the few studies that has empirically examined the importance of trade facilitation for foreign investment is by Dollar *et al*. (2004). Based on survey results from 7 302 companies in eight developing economies (including Brazil, China and India), the authors conclude that "customs clearance times … are key determinants of foreign investment". Maximum likelihood estimates show that customs clearance times are key determinants of FDI and export status.

Box 3.1. Border procedures and investment decisions at Philips Electronics and Unilever Plc.

Philips Electronics is Europe's largest electronics company. Its 161 000 employees are active in over 60 countries and sales topped EUR 30 billion in 2004. The company operates a fairly decentralised organisation and has a large number of production units located around the world. These units work closely together in a complex global supply chain.

Philips has established a specialised service unit consisting of 150 professionals which assists the movement of goods across borders. The unit handles issues related to border and customs procedures, such as customs declarations, customs invoices, etc. The work of roughly 40 of the professionals concerns the Chinese market, which represents about 25% of production and 20% of sales.

Customs procedures are seldom a major issue in Philips' investment decisions. Customs issues are only high on the agenda when production is outsourced and short lead times are critical and documentation requirements complex. Customs procedures are normally taken into consideration at the end of the investment evaluation process. Potential locations are first identified using a broad set of criteria, and the company only investigates the efficiency of the candidate countries' customs procedures in the final stages of the evaluation process. Customs procedures are less important for investment decisions in major markets. For example in China, Philips enjoys an early-mover advantage and its dedicated service unit for border issues has long since established relations and agreements with local authorities concerning customs clearance. The company's relative market size and importance as a large foreign investor also play an important role in its ability to affect border barriers. For example at the beginning of the 1990s, Philips invested in production facilities in Hungary, and one of its conditions was that the local authorities would agree to cut clearance time, which was a major hurdle at the time. The company managed to negotiate a cut in customs clearance time from an average of 4-5 days to 1-2 days.

Unilever Plc. is one of the world's largest consumer goods companies with 223 000 employees in 150 countries. In 2004, the company had a turnover of EUR 39 billion and sales were generated fairly evenly around the world. Much of Unilever's production in developing and emerging market economies is aimed for the domestic or regional markets. Production for domestic markets and the need for raw material and inputs highlight the relative importance of efficient border procedures in the countries where Unilever has production facilities.

The size and characteristics of local markets matter most in Unilever's evaluation of where to locate production capacity. However, investment decisions in emerging markets also take into account issues such as good governance, transport and logistics systems, and economic and political stability as investment decisions imply long-term commitments. The investment decision is in the end based on a cost-benefit analysis of locations that fulfil general requirements. TTCs stemming from inefficient border procedures are estimated and included in the overall calculations which also include many other variables, such as import duties for the importation of raw and input material, transport and logistics costs, production costs and costs related to SPS regulations and to technical barriers to trade.

Customs clearance time and predictability are of particular concern in the food business. Unilever has production facilities in several Sub-Saharan African countries including Ghana, Kenya and South Africa. Regional agreements covering border procedures are of particular value here, including mutual recognition agreements acknowledging neighbouring countries SPS regulations.

Source: Consultations with Philips Electronics and Unilever.

Dollar *et al*. (2003, 2004) also found considerable variation in customs clearance time from one location to another within countries. The study concluded that the measure for the longest clearance time is useful for measuring predictability. The longest clearance time was in many cases found to be twice the average clearance time. Another study by Eifert and Ramachandran (2004) estimated that if the number of days required to clear customs were halved in Ethiopia, average firm-level productivity would increase by 18%. The authors reckon that since Ethiopia is in the middle range for surveyed least developed countries (LDCs) on customs issues, the returns to effective customs reform in more inefficient countries are substantial and have significant potential to raise investment attractiveness.

Volatile delivery forces companies to keep higher levels of stock. Gausch and Kogan (2001) found inventory holdings in manufacturing to be 200-500% higher in developing countries than in the United States. The authors estimate that halving inventories could reduce unit production costs by 20%. Better transport and logistics systems not only lower the costs of delivery, but make the timing of delivery more reliable. A significant share of FDI in developing economies goes into production facilities which make goods aimed for export markets. Filmer's (2003) study concludes that the importance of customs administration to FDI decisions is not negligible. This also holds for domestic investment. In many developing countries, where capital is scarce and capital costs are high, delays that tie up capital are particularly costly.

The European Round Table of Industrialists recently conducted a survey among its members to examine their views on trade facilitation issues.[12] More than one-fifth of the companies were found to have foregone or abandoned investment opportunities or business activities in developing countries because of inefficient border procedures. More than two-fifths had also done so in transition economies, while none had abandoned investment opportunities in the OECD area because of customs issues. Moreover, four-fifths of the companies stated that substantial improvements in trade facilitation would make them look more favourably at new local investments or added business activities in developing countries. Seven out of ten companies indicated that this was the case for transition economies. Three out of ten also replied that OECD countries would be more attractive FDI locations if they were to improve border procedures.

12. Because the survey targeted multinationals, the shares would likely have been larger if SMEs had been included.

Conclusions

Many countries have inefficient border procedures that make traders suffer from delayed and unreliable delivery, costly customs clearance and missed business opportunities. Successfully implemented trade facilitation programmes may reduce trade transaction costs, increase customs productivity and improve the collection of trade taxes. This chapter has examined the link between trade facilitation and trade flows, government revenue and foreign direct investment.

A review of existing business surveys and quantitative estimates uniformly indicates that there is a significant and positive link between trade facilitation and trade flows. Even fairly modest reductions in trade transaction costs have a positive impact on trade in both developed and developing countries. The trade effect is relatively more pronounced for developing countries than for developed countries, partly because of their generally less efficient border procedures. The quantitative literature typically divides efficiency-enhancing border procedures into improvements in customs procedures and in port standards. Available estimates show that potential gains from increased port efficiency are relatively larger than those for improved customs procedures.

Twelve short case studies of country experiences show that customs modernisation programmes can have a marked positive effect on the collection of trade taxes if effectively implemented. Several countries have more than doubled their customs revenue after the introduction of comprehensive reform programmes. Their experience also indicate that even relatively modest modernisation programmes have brought quantifiable increases in customs revenue. However, the financial return may take some time to appear, since modernisation programmes usually are implemented over an extended period of time.

The study also shows that trade facilitation has a positive effect on investment attractiveness. For businesses, inefficient border procedures give rise to trade transaction costs. These are included in cost-benefit calculations when companies evaluate the attractiveness of different locations. Border procedures are of particular importance in attracting investment in industries that produce time-sensitive or perishable goods. Reduced customs clearance time and improved logistics systems have proved to be critical in attracting FDI and creating certain types of new businesses in developing countries.

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Acronyms and Abbreviations

ABAC	APEC Business Advisory Council
ACE	Automated Commercial Environment
ADB	Asian Development Bank
AFIP	Federal Administration of Public Revenue (Argentina)
APEC	Asia Pacific Economic Cooperation
APFC	Asia Pacific Foundation of Canada
ASEM	Asia-Europe Meeting
ASYCUDA	Automated System for Customs Data Processing
BDV	Brussels Definition of Value
BSCC	Baltic Sea Customs Conference
CAP	Collective Action Plan
CASE	Customs Automation Services (Jamaica)
CBR	Central Board of Revenue
CCRA	Canada Customs and Revenue Agency
CEMP	Customs Expansion and Modernisation Programme
CGE	Computable general equilibrium
CIS	Commonwealth of Independent States
CRMS	Customs Risk Management System
CTB	Customs and Tariff Bureau
CTG	Council for Trade in Goods (WTO)
DDA	Doha Development Agenda
DFAT	Department of Foreign Affairs and Trade
DFID	Department for International Development (UK, ex ODA)
DI	Destination Inspection
DTRE	Duty and Tax Remission for Exporters

EC	European Commission
EDI	Electronic Data Interchange
ESCAP	Economic and Social Commission for Asia and the Pacific
EU	European Union
FAST	Flexible Anti-Smuggling Team
FDI	Foreign Direct Investment
FoB	Free On Board
FTA	Free Trade Agreement
G7	Group of Seven
GAINDE	Gestion automatisée de l'information douanière et économique)
GATT	General Agreement on Tariffs and Trade
GoP	Government of Pakistan
GSP	Generalised System of Preferences
GTAP	Global Trade Analysis Project
HS	Harmonized System
IADB	Inter-American Development Bank
IAP	Individual Action Plan
ICC	International Chamber of Commerce
ICT	Information and Communication Technology
IDA	International Development Association (World Bank)
IMF	International Monetary Fund
IOC	Input Output Co-Efficient
IOCO	Input Output Co-efficient Organisation
ISIDORA	Internet-Integrated System For Customs Operations and Regulations (Chile)
IT	Information Technology
JETRO	Japan External Trade Organization
JICA	Japan International Co-operation Agency
JSEPA	Japan-Singapore Economic Partnership Agreement
LAC	Latin American and Caribbean countries

LDC	Least Developed Countries
MIS	Management Information System
MOF	Ministry of Finance
MoFP	Ministry of Finance and Planning (Mozambique)
NAFTA	North American Free Trade Agreement
NCTS	New Computerised Transit System (EU)
NGTF	Negotiating Group on Trade Facilitation (WTO)
ODA	Overseas Development Administration (UK, now DFID)
PAT	Port Authority of Thailand
PRINCE	Project Management in Controlled Environments
PSI	Pre-Shipment Inspection
SAD	Single Administrative Declaration
SBE	Single Bill of Entry
SIM	*Sistema Informático María*
SIU	Staff Irregularities Unit
SME	Small and Medium-Sized Enterprise
SOFI	Computer System for International Freight *(Système d'ordinateurs pour le fret international)*
SPS	Sanitary and Phytosanitary
SRC	Survey and Rebate Cell
TEDI	Trade Electronic Data Interchange
TEPI	Trade, Export Promotion and Industry Initiative
TIMS	Trade Information Management System
TPR	Trade Policy Review
TTCs	Trade Transaction Costs
UMA	Angolan Technical Unit for Customs Modernisation
UN	United Nations
UN/CEFACT	United Nations Centre for Trade Facilitation and Electronic Business
UN/EDIFACT	UN Directories for Electronic Data Interchange for Administration, Commerce and Transport

UNCTAD	United Nations Conference on Trade and Development
UNECE	United Nations Economic Commission for Europe
URA	Uganda Revenue Authority
USTR	United States Trade Representative
UTRA	Mozambique Customs Rehabilitation Unit
VAN	Value-Added Network
VAT	Value-Added Tax
WCO	World Customs Organization
WTO	World Trade Organization

Table of Contents

Acronyms and Abbreviations 7

Executive Summary 11

Chapter 1. Quantitative Assessment of the Benefits of Trade Facilitation 19

Chapter 2. Examining the Effect of Certain Customs and Administrative Procedures on Trade 51

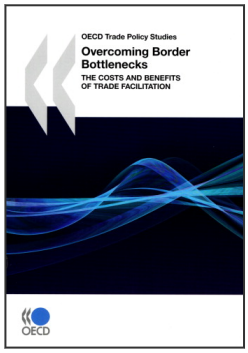
Chapter 3. The Economic Impact of Trade Facilitation 81

Chapter 4. Trade Facilitation Reform in the Service of Development 113

Chapter 5. The Role of Automation in Trade Facilitation 141

Chapter 6. The Cost of Introducing and Implementing Trade Facilitation Measures 173

Annex A. Report on the OECD Global Forum on Trade Facilitation, Colombo, Sri Lanka, 18-19 October 2005 219



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