



# Asia-Pacific Research and Training Network on Trade

## Trade costs and impacts of trade facilitation on manufacturing exports by Thailand

*Piya Wongpit*

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## **Abstract**

The improvement of international trade in recent years has been influenced by the reduction of trade costs. The attention of international trade is to minimize trade costs through tariffs, trade facilitation and trade logistics, both inbound and outbound. As one of the emerging economies in international trade, Thailand's economy depends much on trade and therefore the Government has been attempting to eliminate all trade barriers. Since Thailand's manufacturing trade amounts to some 90% of total trade, trade costs must play a significant role in such trade. The objective of this paper is to estimate trade costs of manufacturing exports between Thailand and its trading partners, and to analyse the impacts of trade facilitation on such exports by Thailand. The study first estimates the comprehensive trade costs of the manufacturing industry for Thailand and 23 trading partners from 1999 to 2010 by using the Chen and Novy (2009) model. Then the comprehensive trade costs are decomposed into their component parts. The impacts of trade facilitation, including documentation and time involved in the export and import process, and the liner shipping connectivity index on manufacturing exports by Thailand are also discussed. The results indicate that manufacturing trade costs have continuously decreased over time due to the reduction of tariff and non-tariff costs. The manufacturing trade costs between Thailand and Singapore are the lowest while between Thailand and Japan, the most important trading partner of Thailand, they are the third lowest. On the other hand, the manufacturing trade costs between Thailand and the European Union are relative high due to the distance between the two regions. Distance contributed the highest proposition of trade costs. Trade facilitation, such as the reduction of the number of documents and time involved in manufacturing exports and imports have also been an important factor associated with trade costs in recent years. The trade facilitation factor has had an impact on manufacturing exports by Thailand and has become more important in the country's manufacturing trade. The results of this study are robust and exhibit consistency with previous studies that have found that the improvement of trade facilitation enhances manufacturing exports by Thailand.

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**Keywords:** Trade costs, trade facilitation, manufacturing exports, Thailand

## Introduction

The improvement of international trade in the 2000s has been influenced by the reduction of trade costs. Recent studies of international trade have emphasized the role played by trade costs in exports and imports. Anderson and van Wincoop (2004) estimated the trade cost equivalent to ad valorem tariffs for industrialized countries to be 170%. The intention of international trade is to minimize trade costs through tariffs, trade facilitation and trade logistics. Recent evidence indicates that tariffs have been reduced on average to lower than 5% for developed countries and 10-20%, with a few exceptions, for developing countries (Anderson and van Wincoop, 2004). In addition, many countries attempt to reduce trade costs by improving trade facilitation, including infrastructure and time costs. The developing countries have continued to develop their infrastructure such as road, seaport and airport construction. Furthermore, the time costs for such procedures as well as lead times have been dramatically reduced.

As an emerging economy in international trade, Thailand depends much on trade and the Government of Thailand has therefore been attempting to eliminate all trade barriers. Since manufacturing trade shares around 90% of total trade, related costs must play a significant role in manufacturing trade by Thailand. The overall tariff rate in Thailand has been reduced since the country joined the Association of Southeast Asian Nations (ASEAN) Free Trade Area (FTA) and signed bilateral trade agreements with many countries. In addition, the Government of Thailand has improved infrastructure and trade facilitation in recent years. Therefore, the reduction of trade costs, including tariff costs and trade facilitation, must benefit the country's manufacturing exports.

In view of the fact that trade costs have been reduced around the world, the questions are how much are the trade costs between Thailand and its trading partners, and which components of trade costs are the most important. Furthermore, since trade facilitation has become an important component in international trade, another question is concerns the impacts of trade facilitation on the manufacturing exports of Thailand. Therefore, the objectives of this paper are: (a) to estimate trade costs incurred by the manufacturing industry in trading between Thailand and its trading partners; and (b) to analyse the impacts of trade facilitation on exports by the manufacturing industry in Thailand. The study covers 23 trading partners that account for a more than 90% share of Thailand's manufacturing trade. The paper covers 1999 to 2010, when the country was

in its recovery period after the Asian financial crisis of 1997. Furthermore, during that period manufacturing exports were recording a high growth rate averaging 12% per year.

## 1. Literature review

Trade costs have become a topic of attention in the international trade context during the 2000s. Many studies have estimated trade costs and analysed the impacts of such costs on the trade, both among countries and regions. Anderson and van Wincoop (2003) derived the gravity model from a microeconomic foundation and later called it the AvW model. The model emphasizes the role of trade costs, which are calculated from distance, inward and outward trade barriers. The results indicate that an absence of national border restrictions reduces trade costs between industrial countries by a moderate level of 20%-30%. Anderson and van Wincoop (2004) surveyed various measurements of trade costs and found that although they were high in wealthy countries, poor countries faced even greater trade costs.

Chen and Novy (2009) derived the comprehensive trade costs from the AvW model. They defined them as: “Comprehensive trade costs include all additional costs involved in trading goods internationally with another partner (i.e., bilaterally) relative to those involved in trading goods intra-nationally (i.e., internally or domestically)” (Duval and Utkatham, 2011b). The comprehensive trade cost is a general concept, which includes not only international transport costs and tariffs costs but also other components such as costs associated with the use of different language and currencies. Comprehensive trade costs also include direct and indirect costs associated with completing trade procedures or obtaining necessary information (Duval and Utkatham, 2011b).

Duval and Utkatham (2011b) estimated the comprehensive trade costs of Asia and Pacific countries using the Chen and Novy (2009) equation. They pointed out that most countries and subregions had made significant progress in reducing trade costs; trade costs among Asian countries still often exceed costs of trade between Asian countries and developed countries outside the region; in fact, tariff costs account for only a small portion of comprehensive trade costs, although tariff cuts accounted for a large share of overall trade cost reduction during the past decade. Arvis et al. (2012) re-estimated trade costs during 1995-2010 of the manufacturing and agriculture industries using a new data set of 178 countries. The results clearly indicated that

trade costs were falling noticeably faster in developed countries than in developing countries. They also found that maritime transport connectivity and logistics performance were important factors in determining trade costs between two countries.

Because many countries have improved trade facilitation, such as infrastructure and trade procedures, it is important to investigate the impacts of trade facilitation on trade. De (2006) applied the augmented gravity model to eight sectors in 10 Asian countries in order to examine the effects of both policy and non-policy barriers on trade. Infrastructure quality, transportation and tariffs were found to be the main determinants for Asia's trade flows. Shepherd and Wilson (2008) estimated trade costs resulting from various factors, such as distance, tariff rates, and quality of airports and seaports, in order to study the impact of trade costs on trade by ASEAN member countries. They used that information to produce a gravity model of exports and imports in the region. The results indicated that a 1% increase in bilateral distance decreased trade by 0.4%, the reduction of tariffs increased intraregional trade by about 2%, and improved port facilities boosted trade by 7.5%.

Moise and Sorescu (2013) studied the impacts of trade facilitation on trade by developing countries. Sixteen trade facilitation factors were constructed from the Organisation for Economic Co-operation and Development (OECD) database and other sources. They also used the ESCAP and ESCAP-World Bank trade cost database. The result suggested that enhancing trade facilitation had positive impacts on trade flow. Furthermore, it was apparent that the most significant trade facilitation measures (i.e., those that have the highest impact on trade volumes) were information availability, harmonization and simplification of documents, automated processes and risk management, streamlining of border procedures, and good governance and impartiality.

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