

**Impacts and Strategic Implications of Environmentally-
Related Non-Tariff Barriers on Exporters from Developing
Countries: a Study of the Chinese Organic Food Industry**

By

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Abstract

This thesis researched the influence of ETBs on exporters from developing countries and their corresponding strategies through a case study of the Chinese organic food industry.

Initially, a description of international trade and world export was developed, including their roles in the process of globalization. Trade barriers generated in international trade were then explained, with the focus on NTBs, especially ETBs. Lastly, the link between ETBs and market access was described and then the purpose of this study was proposed.

Recent literature relating to NTBs were reviewed, including types of NTBs, developing countries' NTBs concerns, the principles of WTO involved in ETBs, and market entry considerations. To gain more insight into the impact of ETBs on exporters, a case study of the Chinese organic food industry was chosen as the current research strategy to carry out a comprehensive description and qualitative analysis.

Background of the organic food industry was firstly introduced, and then national differences in standards, certification and accreditation systems as major ETBs for the export-oriented developing countries were fully described. In order to obtain direct and true data, in-depth interviews with managers in the Chinese organic food industry were performed to measure their perceptions of the influence of organic certification as one ETB on market entry and their corresponding strategies to overcome this ETB. Results showed that organic certification was a primary ETB, and definitely played a main role in making a go/no-go decision and affects export trade. Based on the results, some implications were given at the end, including three aspects: managerial, governmental and WTO's implications.

Finally, conclusions indicated that ETBs had exerted immense influence on exporters from developing countries and therefore managers, governments and WTO should cooperate to overcome and eliminate the impact of ETBs and thus promote free trade.

Keywords: Environmentally-related non-tariff barrier, International trade, Organic food, Organic certification, Market entry strategy, WTO

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List of Abbreviations

ASEAN	Association of South East Asian Nations
CAGR	Compound Annual Growth Rate
CBI	Centre for the Promotion of Imports from Developing Countries
CNAB	China National Accreditation Board
CTA	Technical Centre for Agricultural and Rural Cooperation
CTE	Committee on Trade and Environment
DS	Dispute Settlement
DSB	Dispute Settlement Body
DSU	Dispute Settlement Understanding
EEC	European Economic Community
EFTA	European Free Trade Association
ETB	Environmentally-related non-tariff Barriers
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FRCO	Registered Foreign Certification Organisation
FTA	Free Trade Agreement
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
ICTSD	International Centre for Trade and Sustainable Development
IFOAM	International Federation of Organic Agriculture Movements
IIED	International Institute for Environment and Development
ILEAP	International Lawyers and Economists against Poverty
IMF	International Monetary Fund
INTAL	Institute for the Integration of Latin America and the Caribbean
ISO	International Organization for Standardization
ITC	International Trade Center
ITD	Integration, Trade and Hemispheric Issues Division
JAS	Japan Agricultural Standard
LEAD	Livestock, Environment and Development Virtual Centre
MAFF	Ministry of Agriculture, Forestry and Fisheries
MOFCOM	Ministry of Commerce of People's Republic of China

NAFTA	North American Free Trade Agreement
NAMA	Non-Agricultural Market Access
NOP	National Organic Program
Npr-PPMs	Non-product-related PPMs
NTB	Non-Tariff Barrier
NTM	Non-Tariff Measure
OECD	Organization for Economic Co-operation and Development
OFDC	Organic Food Development Center
OFPA	Organic Foods Production Act
PPMs	Process and Production Methods
Pr-PPMs	Product-related PPMs
RCO	Registered Certification Organisation
RECIEL	Review of European Community and International Environmental Law
SCM	Subsidies and countervailing measures
SEPA	State Environmental Protection Administration
SPS	Sanitary and Phytosanitary Measures
TBT	Technical Barriers to Trade
TRAINS	Trade Analysis and Information System
TRIPS	Trade Related Aspects of Intellectual Property Rights
US	United stated
USDA	United States Department of Agriculture
USTR	United States Trade Representative
UNCTAD	United Nations Commission on Trade and Development
WTO	World Trade Organization

Chapter I Introduction

1.1 International trade and globalization

International trade is the exchange of goods and services across international boundaries or territories. Since the 1970s, world exports have grown significantly more quickly than both world production and total economic output, suggesting that international trade is increasingly important. One detailed comparison of growths of world exports, world production and world GDP during 1950-2005 is shown in Figure 1 (WTO, 2006). International trade has been a major driver of global growth and prosperity over the last fifty years.

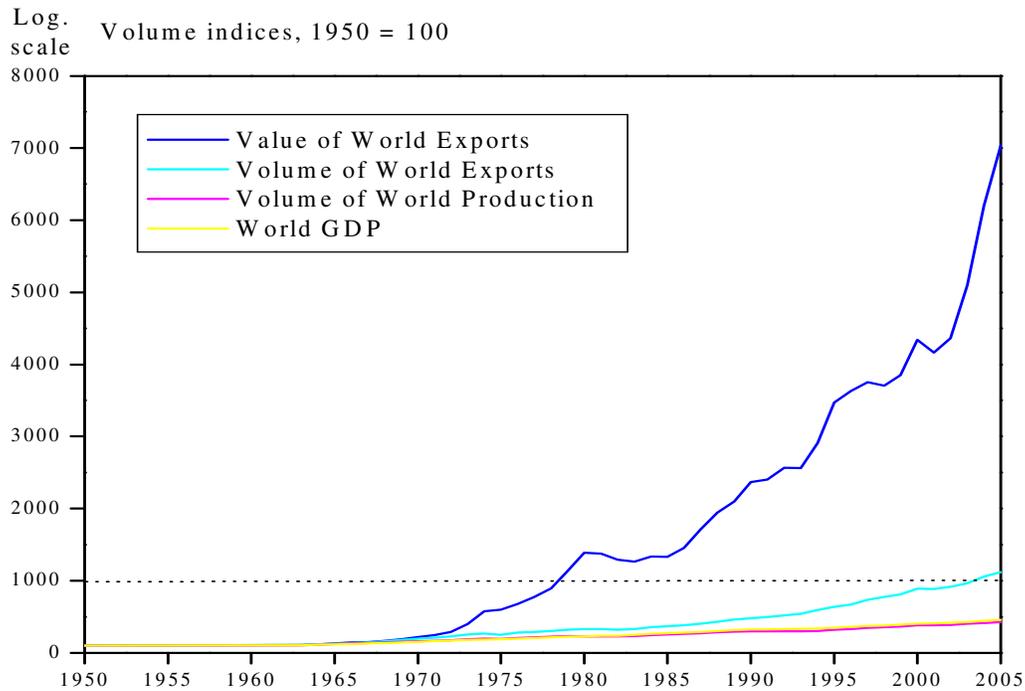


Figure 1: Comparison of growth of world exports, world production and world GDP

Source: Author’s calculations on the basis of WTO (2006) data (see Appendix A)

Prior to the 1970s, a dichotomy was observed between the developed and developing countries as raw materials were flowing north and finished goods were flowing south. This situation can mainly be explained by differences in levels of development. From the 1970s, this situation changed as industrial development took place in many developing countries in Latin America (Mexico), Southeast Asia (Malaysia, Thailand,

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Indonesia) and East Asia (China, South Korea, Taiwan). Many industrial processes that initially took place in the developed countries were relocated in new locations offering lower production costs, namely because of cheaper labour. Consequently, global trade flows are now characterized by significant flows of merchandises from developing to developed countries (Figure 2) (Rodrigue, 2006).

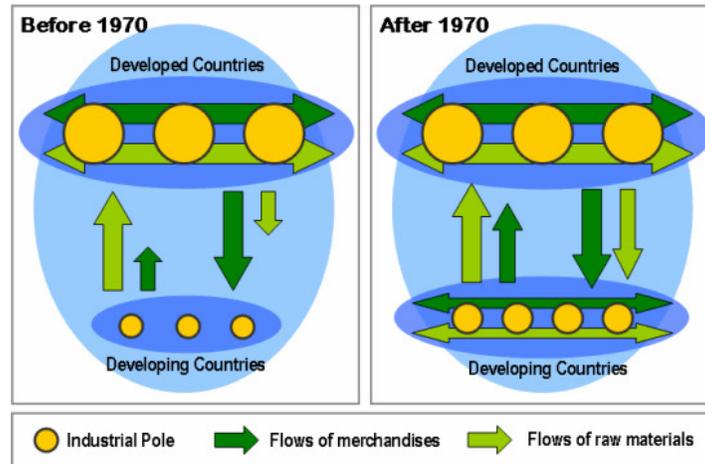


Figure 2: Changes in global trade flows

Source: Rodrigue, 2006

The global trade has grown both in absolute and relative terms, particularly after 1995 where global exports surged in the wake of rapid industrialization in developing countries, particularly China (Rodrigue, 2006). Following 25 years of solid growth, the value of China's exports overtook those of the US, making China the world's second-largest exporter. Increasing exports in other developing countries, notably Brazil and India, have further increased the weight of developing countries in world trade. Developing-country trade reached a landmark in 2006. Over the long term, as these trends continue, the share of developing countries in world trade is projected to reach some 45 percent by 2030 (World Bank, 2007).

The tremendous growth of international trade over the past several decades has been both a primary cause and effect of globalization, which started after World War II but had accelerated considerably since the mid-1980s (Soubbotina & Sheram, 2000). Globalization could spur faster growth in average incomes in the next 25 years than during 1980-2005, with developing countries playing a central role. The global economy could expand from \$35 trillion in 2005 to \$72 trillion in 2030. However,

unless managed carefully, it could be accompanied by growing income inequality and potentially severe environmental pressures, predicts the World Bank. Internationally, the Global Economic Prospects 2007 calls for stronger institutions for tackling threats to the global commons. It also calls for more and better development assistance. Reducing barriers to trade is vital as well, since it can create new opportunities for poor countries and poor people. “Revitalizing the Doha round of world trade negotiations and concluding an agreement that benefits the poor is urgent,” said Mr. Dadush (World Bank, 2006).

1.2 Benefits of international free trade

Irwin (1996) had provided a concise definition of free trade: free trade generally means that there are no artificial impediments to the exchange of goods across national markets and that therefore the prices faced by domestic producers and consumers are the same as those determined by the world market.

The benefits of free trade are well known to the economists, and the policy of advancing trade receives widespread support from the profession. Economic theory, dating back at least to Adam Smith and David Ricardo, had concluded that free markets are the cornerstone of economic growth and prosperity. Adam Smith, the founder of modern economics, was a strong champion of both free markets and free trade, and his arguments (1776) was compelling: free trade allows countries to take advantage of their comparative advantage, with all nations benefiting as each one specializes in the areas in which it excels. David Ricardo (1817), who was one of the most influential classical economists, introduced the theory of comparative advantage: countries prosper first by taking advantage of their assets in order to concentrate on what they can produce best, and then by trading these products for products that other countries produce best.

According to neoclassical economic theory, trade would largely eliminate the handicaps of countries with limited natural resources or those in lower developmental stages. It is through trade that developmental opportunities would be more widely distributed across the world. Although the causal direction between open trade and growth was not clear (Garrett, 2000; Harrison, 1996), many empirical studies supported the idea that free and open international trade promoted economic growth (Edwards, 1992, 1997; IMF, 1993; Sachs & Warner, 1995). Edwards (1992) found

that there was a catch-up effect, in the sense that countries with a lower initial level of income per capita will tend to grow faster than other countries. Countries with more open trade policies have a greater ability to capture new technologies being developed in the rest of the world (Barro & Sala-i-Martin, 1995; Edwards, 1997). Open markets foster an economic dynamism as entrepreneurial individuals create new opportunities afforded by access to global markets (O'Driscoll & Cooper, 2005). Trade liberalization is the best way for an economy to realize its comparative advantages (Krueger, 1997; Rapley, 1996) and to increase economic efficiency (Kim & Shin, 2002).

Trade is also enriching to the extent it allows countries to take greater advantage of economies of scale. In addition, open markets and international trade can increase the flexibility of an economy. Further, trade can increase the competitive pressures in the market place, pushing firms to cut waste, keep prices down, improve quality, and raise productivity. Finally, trade can accelerate the pace of technical advance and boost the level of productivity (Elwell, 2006).

Krugman (1987) asserted that for 170 years the appreciation that international trade benefits a country had been one of the touchstones of professionalism in economics. Economic theory thus leads to the conclusion that free trade is to the mutual advantage of all participants. In principle all countries would benefit from the complete elimination of artificial barriers to international trade; each country would be enabled to achieve the greatest possible benefit from the resources available to it. However, in practice trade barriers are widespread, and indeed are maintained, for a variety of reasons, as a deliberate policy measure (Barrass & Madhavan, 1996).

1.3 Reasons for trade barriers

Although there are many benefits from international free trade, a country opening to international trade also faces considerable risk associated with strong competition in the international markets. Many national enterprises and even entire industries that are less competitive and adaptable will be forced out of business, which explains why trade liberalization is so often opposed even in high income, better prepared countries. Therefore, governments of developing countries often argue that many of their national industries require temporary protection until they become better established and less vulnerable to foreign competition. To protect domestic producers,

governments seek to weaken competition from foreign produced goods by introducing import quotas or, more often, by imposing import tariffs to make foreign goods more expensive and less attractive to consumers (Soubotina, 2004).

Any restriction imposed on free flow of trade is a trade barrier. Trade barriers can either be tariff barriers, which are levy of ordinary customs duties within the binding commitments undertaken by the concerned country in accordance with Article II of GATT or NTBs, which is any trade barriers other than tariff barriers (Gupta, 1997). Trade barriers go against exporters because they interfere with the normal supply and demand and make international trade more complicated. They also negatively impact importers and ultimately consumers since they interfere with competitive sourcing which can result in higher prices (Virginia, 2006).

Trade barriers are as ancient as trade itself and there are many reasons countries institute trade barriers. Trade barriers initially arose in the form of tariffs levied to raise money. For many countries, tariffs are a major source of income and very important to the national economy. In addition, tariffs, quotas and NTBs such as excessive regulations are now commonly used to protect domestic industry from foreign competition. Finally, countries often use barriers as tools of foreign policy, and very high or low tariffs can be used to reward or punish other nations in support of foreign policy initiatives. This is the premise of most free trade agreements and embargoes, boycotts and sanctions. For all of these reasons, trade barriers are sensitive and controversial issues (Virginia, 2006).

Barrass and Madhavan (1996) argued that the use of policy instruments involving trade barriers is logical if it affords some longer-term gain, which offsets the short-term cost of forgoing the benefit of free trade. There are various circumstances in which trade barriers may be advantageous:

- Exogenous shocks — where an economy is subject to sudden changes which strain its capacity to adjust, trade barriers may moderate the effects of the change and afford “breathing space” while the adjustment is made.
- Structural change — countries can pursue policies that consciously aim to restructure economic activity, so that a sector that is currently uncompetitive

in world markets may become competitive in the future. Another concern is to protect industries from disruption caused by a practice known as “dumping”.

- Relative advantage — the argument for free trade may in some circumstances be inconsistent with policy objectives. Countries may be more concerned with their relative advantage, and may seek to weaken their rivals by excluding them from access to markets.
- Strategic considerations — free trade may also be thought undesirable for political reasons, particularly to avoid dependence on foreign sources for items that are of key importance in times of conflict.

Finally, they concluded that although trade barriers might be advantageous in some specific circumstances, economists justify protectionist policies — used by developed countries too — mostly as temporary measures. In the long run, such policies can be economically dangerous because they allow domestic producers to continue producing less efficiently and eventually lead to economic stagnation. However, it is conceivable that, in the long term, a phased liberalization of trade would be preferable to an immediate removal of trade barriers.

1.4 Creation of free trade mechanisms

Intensification of efforts to improve restraints on national government’s capabilities to adopt protectionist policies restricting international trade leads to differing developments of states coming together for development of trade, such as bilateral trade between US and Canada; regional trade among EU, formerly EEC established in 1957; and multilateral trade among GATT/WTO.

A number of international institutions established in the wake of World War II have played an important role in promoting free trade in place of protectionism. The IMF and the World Bank were both created at an international conference convened in Bretton Woods in July 1944. The goal of the conference participants was to establish a framework for economic cooperation and development that would lead to a more stable and prosperous global economy (IMF, 2006). The GATT, which came into being in 1948, is a treaty related to development of free trade throughout the world. GATT is originally authorized to seek reductions in tariff and NTBs to trade, as well as establish a mechanism for settling international disputes related to trade. The WTO

was founded in 1995 to replace the GATT at the Uruguay Round and aims to lower tariffs and NTBs to increase international trade (Soubboyina, 2004).

During the past two decades, nearly every country that participated in GATT or the WTO has also joined with neighbouring countries in some form of regional trade arrangement. These regional trade arrangements differ in structure and in the issues they negotiate, but they have a common objective to increase trade and prosperity through mutual reduction of barriers to the exports of neighbouring countries. Regional trade agreements have proliferated in recent years. Arrangements that partially or fully embrace free trade among countries within a given region have been established in North America, Europe, Southeast Asia, the southern part of South America, the Andean region of South America, Central America, and in several African sub-regions, such as NAFTA, ASEAN, EU, and so on (globalization101.org).

Bilateral trade deals may forge two or more countries into larger trade entities, thereby reducing the number of borders in the world. Instead of establishing privileged trade relations between countries at the exclusion of others, bilaterals might act as stepping stones towards global liberalisation, provided that the bilateral agreement would establish “deep integration”, meaning: a high level of market access for both goods and services, coupled with a series of agreements on trade-related issues, such as investment, competition, government procurement, trade facilitation, TBT, SPS, intellectual property protection, etc (Maes, 2007).

1.5 Dominance of the NTBs in international trade

The NTBs did not seriously affect trade flows until the mid-1960s (Baldwin, 1970). Prior to that time, tariffs were the dominant means of distorting world trade flows to the benefit of a particular host country. However, the success of the GATT and WTO had resulted in relatively low tariff levels, which was indicated as the following (BBC News, 2007):

- 1949 — Second GATT round of trade talks held at Annecy, France, where countries exchanged some 5,000 tariff concessions.
- 1950 — Third GATT round held in Torquay, England, where countries exchanged some 8,700 tariff concessions, cutting the 1948 tariff levels by 25%.
- 1955-56 — The next trade round resulted in \$2.5bn in tariff reductions.

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- 1960-62 — Fifth GATT round yielded tariff concessions worth \$4.9bn of world trade and involved negotiations related to the creation of the EEC.
- 1964-67 — The Kennedy Round achieved tariff cuts worth \$40bn of world trade.
- 1973-79 — The Tokyo Round achieved tariff reductions worth more than \$300bn.
- 1986-93 — The Uruguay Round achieved the biggest market access tariff reduction package ever achieved in GATT negotiations, being 30 times larger than outcomes achieved from previous negotiating rounds. Most tariffs were cut by at least one third.

Since significant tariff reductions were agreed, tariffs have been declining, but new threats have emerged to the free-trade regime. NTBs had emerged as a difficult, challenging constraint and may now be the most significant trade distorting mechanism (Ray & Marvel, 1984). Industry demands for some form of protection had multiplied in nearly all countries, and increasingly, governments had sought to satisfy these demands for protection through NTBs. NTB generally refers to any measure other than a tariff, which restricts or distorts trade. It ranges from instruments directly related to trade, for example quantitative restrictions on imports, to regulations that affect international trade in practice although they were designed for different objectives (Reichert, 2006).

Since the early 1970s, global environmental problems such as ocean pollution, biodiversity loss, climate change and ozone depletion have raised awareness among scholars, activists and governments throughout the world that issues once considered local now demand extraordinary levels of international cooperation (Roberts *et al.*, 2004). And meanwhile, the trend of environmental protection in international communities is becoming greater and greater, and environmental protection is used as an important condition in regulating international trade and is likely to form a new kind of NTBs, *i.e.* ETB. In fact, ETBs are increasingly acting as the significant roles in international trade and are coming to front (Qin, 1999).

Environmental measures cover all measures that have been introduced by importing countries to protect the environment, as well as the health and safety of wildlife, plants, animals and humans (Fontagné *et al.*, 2001, 2005). Environmental and health

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standards and regulations, as well as related consumer and business preferences may take several forms, such as: technical standards and regulations, product-content requirements; sanitary and phytosanitary measures; mandatory labelling; and packaging requirements (LEAD, 2006). In the WTO, environmental measures can be seen as a trade barrier from two perspectives: (1) as discriminating between domestic and foreign products; (2) requiring exporters to fulfil requirements and procedures that result in additional costs or otherwise hinder trade. In the context of environmental measures it is crucial which criteria are used to assess whether a measure is more trade-restrictive than necessary and which scientific principles and methods are considered valid (Reichert, 2006).

Unfortunately, many countries, in the name of environmental protection, apply environmental measures and require imported products to meet demands of environmental technical standards and of laws, regulations and requirements concerning SPS but without informing exporters concrete condition in advance, which essentially set up the barriers to foreign products' accession to domestic market. Absolutely, the impact of ETBs on the developing countries is more enormous due to their lack of financial and technical resources. There are more and more trade restricting and distorting effects caused by many environmental measures especially those adopted by developed countries. Many governmental officials and scholars from developing countries worry that once strict environmental laws and standards advocated by developed countries are affirmed by the WTO, they are likely to be abused by major trading powers and cause ETBs, and as a result products from developing countries are unable to gain access to their domestic markets (Qin, 1999).

Market access is a key issue for developing countries. As tariffs have declined developing countries worry that environmental policies in developed countries may be applied as ETBs and adversely affect market access of their products. Many developing countries are concerned that they are ill-prepared to meet increasingly complex and burdensome standards and regulations, because producers in developing countries may lack technical and financial ability to comply with the environmental regulations of industrialized nations. Environmental, SPS and other technical requirements have been viewed by a number of developing countries as a greater constraint or barrier on their ability to export agricultural and food products than

tariffs and quantitative restrictions, particularly in the case of their export to the EU (LEAD, 2006).

1.6 Purpose of the thesis

Globalization makes more and more firms internationalize for proactive motives (e.g. profit and growth goals) and reactive motives (e.g. competitive pressures) (Hollensen, 2004). While a well organized, planned firm with suitable strategy into international markets will enhance the probability of success as well as the level of success, many obstacles and challenges still are likely to be encountered (Naumann & Lincoln, 1991). It has been noted that closed markets (*i.e.*, those with a high level of tariffs and/or NTBs) are the biggest challenge to firms entering international trade (Jeannot & Hennessey, 1988). Especially in recent years, environmental issues are increasingly raising awareness throughout the world and ETBs are likely now to be the major obstacles faced by exports from developing countries attempting to enter developed countries' market. Although significant research is to be found in the academic literature concerning the impact of ETBs on international trade, the same cannot be said about research on the impact of ETBs on managerial decision-making. There is little to be found in this area. My thesis therefore seeks to deal with the latter in the context of the case study, which will focus on the impact of organic certification on the Chinese organic food firms exporting to the EU. I hope that my research will provide some valuable insight to such managers working in this complex area.

Chapter II Literature review

2.1 Definition of NTBs

In some of the literature, NTBs are also called NTMs. In the WTO and UNCTAD the term “measure” is most widely used because it is more neutral. Such researchers as Baldwin (1970), Walter (1972), Hillman (1991) and Deardorff & Stern (1997) provided their definitions of this phenomenon.

- The most general was that provided by Walter, who categorized as NTBs all policies that distort the volume of trade, the commodity composition of trade, and the direction of trade.
- A narrower definition of NTB was provided by Baldwin, who defined an NTB as any measure that causes internationally traded goods and services or resources devoted to the production of these goods and services to be allocated in such a way as to reduce potential real world income.
- Hillman defined a NTB as any governmental choice or practice other than a tariff which directly impedes the entry of imports into a country and/or which discriminates against imports — that is, does not apply with equal force on domestic production or distribution.
- Deardorff and Stern defined NTBs as all barriers to trade that are not tariffs. NTBs include such well-known trade distorting policies as import quotas and VERs. And they also included a potentially unlimited plethora of policies that alter however indirectly the prices and/or quantities of trade.

Moreover, several international organisations like UNCTAD (2004) and GATT/WTO (2002) contributed to formulation of the term “NTBs”. In 2002, NAMA Negotiations indicated that there was no official definition but, in general terms, NTB refers to any measure other than a tariff, which protects domestic industry (WTO, 2002). Based on a careful review of these definitions as well as study of NTBs, Movchan and Eremenko (2003) proposed the following definition: NTBs are measures, other than tariffs, that are tightly connected with state (administrative) activity and influence prices, quantity, structure and/or direction of international flows of goods and services as well as resources used to produce these goods and services. In this definition, the emphasis was made on the role of the state in establishment of NTB, although some

researchers proposed to consider actions of private persons (entrepreneurs) as NTB source (Baldwin, 1970; Walter, 1972).

2.2 Types of NTBs

Reliable data on NTBs are scarce. UNCTAD's TRAINS is among the most complete sets of data on NTBs. Other sources include notifications of NTBs made to the WTO during the Doha Round's NAMA negotiations, NTBs reported by industries to various governments, and barriers reported to various regional trade bodies (Fisher, 2006) (see Appendix B).

UNCTAD (1994) used a classification of over 100 trade measures, including with a discretionary or variable component. UNCTAD classification grouped seven broad types of NTMs such as para-tariff measures, price control measures, finance measures, automatic licensing measures, quantity control measures, monopolistic measures, and technical measures. Core NTMs included three major categories of NTMs: (i) Quantity control measures, excluding tariff quotas and enterprise-specific restrictions; (ii) Finance measures, excluding regulations concerning terms of payment and transfer delays; and (iii) Price control measures (Bora *et al.*, 2002). However, this classification does not include any measures applied to production or to exports. Trade policy researchers like Deardorff and Stern (1997), often described NTBs/NTMs under the following major categories:

(i) Quantitative restrictions and similar specific limitations

Quantitative restrictions are implemented through various actions such as import quotas, export quotas, licensing requirement for imports and exports, voluntary export restraints, prohibitions, foreign exchange allocation restrictions, surrender requirements, import monitoring, temporary bans to balance trade, discriminatory bilateral agreements, counter trade, domestic content and mixing requirements, mandatory certification, and allocation process for quantitative restriction.

(ii) Customs procedures and administrative practices

Several customs procedures and administrative practices such as customs surcharges, decreed customs valuation minimum import prices, customs classification procedures, customs clearance procedures, minimum custom value, excises, and special customs formalities like stamping often create barriers to trade.

(iii) Non-tariff charges and related policies affecting imports

Imports may also be affected by various policies and non-tariff charges such as special sales taxes, variable levies, border tax adjustment, value added tax, antidumping and countervailing measures, cash margin requirements, and rules of origin.

(iv) Government participation in trade, restrictive practices and more general policies

Governments often provide subsidies and other aids, participate in state trading, and designate goods subject to specialized management by line ministries. In addition, they formulate state procurement policy, tax exemptions for critical imports, single or limited number of channels for imports of food and agricultural products.

(v) Technical barriers to trade

Governments, on various grounds, often set standards such as health and sanitary regulations and quality standards, safety and industrial standards and regulations, packaging and labeling regulations, advertising and media regulations.

2.3 Developing countries' NTB concerns

Some literature had suggested that NTBs may now be the major obstacles faced by firms attempting to enter foreign markets (Czinkota *et al.*, 1989; Jeannot & Hennessey, 1988). The OECD had recently analyzed NTBs of concern to developing countries. The analysis focused on three questions: what NTBs developing countries faced, which products were affected, and whether the issues differed for North-South and South-South trade. The OECD study concluded that: (a) the most significant sectors affected by NTBs were fishery products, electrical equipment, pharmaceuticals, textiles and clothing, the automotive sector and food products; (b) customs and administrative procedures and TBT were problems mostly for North-South trade; and (c) customs and administrative procedures and charges on imports were problems for South-South trade (UNCTAD, 2005).

TBTs, customs and administrative practices, and SPS regulations, are prominent in analyses of developing countries' NTB concerns. TBTs are the primary reported barrier to developing countries' NTB concerns. Almost half of the complaints in this area concern technical regulations and standards (46%), followed by testing and

certification arrangements (26%) and by marking, labeling and packaging requirements (16%). A commonly reported impact of these trade barriers is the unnecessary (and often significant) increase in costs that effectively impedes exports. The NTBs reported with second greatest frequency is customs and administrative procedures, which accounts for almost a third of the total notifications. Within this broad category, two most prominent barriers are rules of origin and import licensing, each responsible for more than one-third of notifications. Other areas exhibiting a high to moderate number of notifications under this category are customs valuation, formalities, and to a lesser extent, classification. These factors contribute to delaying trade and increasing costs. SPS measures are the third most frequently reported barrier. While SPS measures may serve legitimate purposes, the notifying countries report extra formalities, time, and costliness that restrict or inhibit exports. Obtaining SPS approvals also reportedly involves tedious and substantial documentation and bureaucratic procedures (Fliess & Lejarraga, 2005).

The types of products exported by developing to developed countries must often meet various and conflicting TBT and SPS regulations and standards. Burdensome and opaque customs rules and practices also present difficulties. Complaints are frequent that these NTBs constrain exporters who find it difficult to meet detailed product standards, testing and certification procedures, marking and labeling requirements, rules of origin and import licensing procedures (Fisher, 2006).

2.4 Environmentally-related NTBs

Under the seven broad types of NTMs that UNCTAD (1994) distinguished, ETBs may fall into all these categories with the exception of price control measures. There is a growing consensus that the environmental concerns need to be defined broadly in the debate on trade and environment. TBT and SPS measures are systematically included in relevant studies. A recent WTO study showed, for instance, that “in the WTO, the majority of trade-related environmental measures had been notified under the TBT Agreement. Since the entry into force of the Agreement on 1 January 1995, about 2300 notifications had been received, of which some 11 percent were environment-related” (Nordström & Vaughan, 1999). The environmental concerns were defined here in a broad sense and six different categories of importing country motivations for ETBs had been taken into consideration: protection of environment;

protection of wildlife; protection of plant health; protection of animal health; protection of human health; protection of human safety (Fontagné *et al.*, 2001, 2005).

Environment strictly accounts for only a limited amount of restrictive measures; human health and safety concerns are associated with ETBs affecting a much larger number of products and a much larger value of world trade, while corresponding to similar levels of restrictiveness (similar proportion of affected trade). In contrast, plant and animal health are of more limited concern. Lastly, it must be understood that the protection of wildlife, although affecting a limited number of products, is associated with the highest degree of restrictiveness (Fontagné *et al.*, 2001, 2005).

Market access can be impeded by a wide variety of environmental measures, including regulations, standards, and import controls. Such measures are being used increasingly by more countries (WTO, 2003). TBTs, customs and administrative practices, and SPS regulations, are prominent in analyses of developing countries' NTB concerns. Among these three NTBs, TBTs and SPS regulations are relevant to the environment. So developing countries' NTB concerns are mainly ETBs.

2.5 Treatment of NTBs in international agreements

NTBs affect all WTO members. Especially, exporters from developing countries often complained that these NTBs constrained their exporting. Indeed, NTBs are already a major focus of GATT/WTO work, and the WTO today has rules that try to address many of these issues and introducing disciplines and rules for handling them by requiring transparency, consistency, fairness and timeliness (Fisher, 2006).

New trade agreements, including WTO negotiations, are addressing NTBs. WTO negotiations on trade facilitation focus on issues such as excessive documentation, inadequate use of information technology, lack of transparency, unclear import and export requirements, inadequate procedures, and lack of cooperation among customs and other government agencies (Bora, 2003; Mattson *et al.*, 2004).

At the multilateral level, a first step in dealing with NTBs was taken in the Tokyo Round of the GATT in the 1970s, but agreement could only be reached in some of the categories and several of the disciplines were laid down in the so-called Codes whose membership was optional. The issue was tackled in earnest in the Uruguay Round by

increasing the number of agreements dealing with NTBs, making them mandatory for all members and subjecting them to the WTO DS mechanism. Today, the primary source for rules and practices directed against NTBs was thus certainly the WTO Agreement and the mechanisms agreed to implement and enforce these rules in that organisation (Tschäni & Wiedmer, 2003).

At the regional level, the EU provides the most ambitious model for dealing with NTBs, in tune with its objective of achieving a unified internal market and a political union. Such obstacles in internal trade are aggressively pursued and the corresponding articles in the Treaty of Rome belong to those, which are most frequently subject to judgements by the Court of Justice. The EFTA countries, relying on an FTA with a more limited coverage, also have a different approach towards NTBs. Quantitative restrictions and measures with equivalent effect are not permitted in trade between the members, but the organisation does not have a court or supranational entity like the EU Commission to pursue such obstacles. On the other hand, both EU and EFTA had followed a similar line in the FTAs they concluded with a growing number of countries in Central and Western Europe, the Mediterranean Basin and beyond. These agreements contained less strict and explicit requirements for handling NTBs than the EU in its internal trade and followed more the practice established by the EFTA countries (Tschäni & Wiedmer, 2003).

Especially, the treatment of ETBs was given specific definition by the GATT/WTO. A number of GATT provisions were directly relevant to trade-related environmental issues. Environmental concerns were also addressed in a number of different WTO Agreements and Decisions.

(i) GATT 1994 — Articles I and III on Non-Discrimination

Article I, known as Most-Favored-Nation Treatment, says a WTO member cannot treat a product of another country more favourably than the products of other WTO members (except in certain circumstances such as under regional free-trade agreements or preferential treatment for developing countries' exports). Article III, known as National Treatment, stipulates that once goods have entered a market, they must be treated no less favourably than equivalent domestically produced goods. Both provisions compose the WTO's non-discrimination rules.

(ii) GATT 1994 — Article XI on General Elimination of Quantitative Restrictions

Article XI of the GATT 1994 addresses the elimination of quantitative restrictions introduced or maintained by countries on the importation or exportation of products. It prohibits such restrictions to encourage countries to convert them into tariffs, which are more transparent and less-trade distortive instruments.

(iii) GATT 1994 — Article XX on General Exceptions

Article XX on “General Exceptions” lays out a number of specific instances in which WTO members may be exempted from GATT rules. These exceptions are provided in Article XX(b) (“measures necessary to protect human, animal or plant life or health”) and Article XX(g) (“measures relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption”). The “chapeau” of Article XX is designed to ensure that the GATT — inconsistent measures do not result in arbitrary or unjustifiable discrimination and do not constitute disguised protectionism.

(iv) The GATS

Negotiated during the 1986–94 Uruguay Round, the GATS contains a “general exceptions” clause, Article XIV, similar to GATT Article XX. The GATS article starts with an introduction (“chapeau”) that is identical to that of GATT Article XX. Addressing environmental concerns, paragraph (b) allows WTO members to adopt policy measures that would normally be inconsistent with GATS if this is “necessary to protect human, animal or plant life or health” (identical to GATT Article XX(b)). As under GATT, this must not result in arbitrary or unjustifiable discrimination and must not constitute protectionism in disguise.

(v) The TBT Agreement

The TBT Agreement seeks to ensure that product specifications, whether mandatory or voluntary (known as technical regulations and standards), as well as procedures to assess compliance with those specifications (known as conformity assessment procedures), do not create unnecessary obstacles to trade. In its preamble, the Agreement recognizes countries’ rights to adopt such measures to the extent they consider appropriate — for example, to protect human, animal or plant life or health, or the environment. Moreover, members are allowed to take measures to ensure that

their standards of protection are met (This is known as adopting “conformity assessment procedures”).

(vi) The SPS Agreement

The SPS Agreement deals with food safety, and human, animal and plant health and safety regulations. It recognizes members’ rights to adopt SPS measures but stipulates that they must be based on a risk assessment, should not create unnecessary obstacles to trade (should be applied only to the extent necessary to protect human, animal or plant life or health), and should not arbitrarily or unjustifiably discriminate between members where similar conditions prevail. The Agreement encourages members to adapt their SPS measures to the areas that supply their imports. The SPS Agreement complements the TBT Agreement and aims to limit NTBs associated with such concerns. It allows members to adopt SPS measures for environmental purposes, but subject to such requirements as risk assessment, non-discrimination and transparency.

(vii) The TRIPS Agreement

The WTO Agreement on TRIPS refers explicitly to the environment in Section 5, which deals with patents. It says (in paragraphs 2 and 3 of Article 27 — Arts 27.2 and 27.3 for short — of Section 5) that members can make certain inventions ineligible for patenting: “To protect human, animal or plant life or health, to avoid serious harm to the environment” and “Plants and animals”. These provisions are designed to address the environmental concerns related to intellectual property protection. The TRIPS Agreement allows members to refuse to patent inventions that may endanger the environment.

(viii) The SCM Agreement

The Agreement on Subsidies, which applies to non-agricultural products, is designed to regulate the use of subsidies. Under the Agreement, certain subsidies referred to as “non-actionable” are generally allowed. Amongst the non-actionable subsidies that had been provided for under Article 8 were subsidies used to promote the adaptation of existing facilities to new environmental requirements (Article 8.2(c)). However, this provision expired in its entirety at the end of 1999. It was intended to allow Members to capture positive environmental externalities when they arose.

(ix) The Agriculture Agreement

Adopted during the 1986–94 Uruguay Round, the WTO Agriculture Agreement seeks to reform trade in agricultural products, and provide a basis for market-oriented policies. In its preamble, the agreement reiterates members' commitment to reform agriculture in a manner that protects the environment.

(x) Relevant decisions

Two ministerial decisions addressing environmental issues were adopted at the end of the Uruguay Round. A ministerial Decision on Trade and Environment, created the CTE with the aim of making international trade and environmental policies support each other. Ministers also adopted another Decision on Trade in Services and the Environment, which instructs the CTE to examine and report on the relationship between services trade and the environment, including the issue of sustainable development, in order to determine if any modifications of GATS Article XIV are required.

Both the WTO and EU rules and practices are important for developing countries. The WTO provisions comprise a set of harmonised basic rules for NTBs addressed that are compelling for the WTO members. The EU rules are of a preferential nature and thus at times more ambitious than those of the WTO. EU is the most important trading region for developing countries. The EU rules and practices thus provide an important target in the process of gradually improving domestic rules, especially as concerns the TBT and SPS fields (Tschäni & Wiedmer, 2003).

2.6 PPMs

Article XX of the founding agreement provides for exceptions even to the golden rules. Exceptions are to protect human, animal and plant life and health; to protect human morals; to conserve “exhaustible” natural resources, and, perhaps most interestingly, to define products produced by prison labor as “unlike” other, physically identical, products not so made. That is the point where the importance of how a product is made, of its PPM, was first recognized in the GATT (Arden-Clarke, 1998). Traditionally attention has focused on product standards. More recently, however, increased attention had been paid to standards relating to PPMs (Vossenaar, 1999).

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According to the OECD (1997), the term PPMs refers to “the way in which products are manufactured or processed and natural resources are extracted or harvested”. OECD defined two main categories of PPMs: pr-PPMs and npr-PPMs. Pr-PPMs seek to regulate processes that generate consumption externalities, and concern themselves with product characteristics such as chemical or physical properties, health and sanitary risks, mandatory types of packaging, waste disposal, and recycling of the product, etc. On the other hand, npr-PPMs address production externalities focusing on the front end of a product life cycle (starting from the beginning of cultivation to exploitation of natural resources, extraction of raw materials and production/manufacture of goods).

The PPM debate consists, in its core, of the resistance of developing countries towards technical barriers based on npr-PPMs, which may undermine their competitiveness. This debate had been extensively carried out in the context of the CTE in the WTO, with discussion peaking in the mid 1990s, with a strong re-appearance since then. In the TBT Agreement, only product-related barriers are permitted under the conditions and procedures specified in the Agreement. The main body of the Agreement covers technical regulations and the annex to the Agreement contains the Code of Good Practice regarding international voluntary standards such as those detailed in the ISO (Borregaard & Dufey, 2005).

WTO rules are often accused of standing in the way of legitimate environmental policies that attempt to distinguish between products based on the way they are produced (e.g. a country banning the importation of a product because of its polluting production process). From an environmental perspective, such distinctions are essential in order to encourage products that are produced using clean PPMs, and to discourage those that are not. From a trade perspective, these distinctions are feared by some member governments, particularly when the PPMs do not have an effect on the final product, on economic, political, environmental and legal grounds. The 1991 Tuna/Dolphin dispute between Mexico and the US brought to the fore the difficulties involved in accommodating under the trading system trade-related environmental measures based on npr-PPMs. Developing countries have, since that dispute, feared the extraterritorial imposition by developed countries of their environmental standards through the attachment of an “environmental conditionality” to their exports. Such

conditionality, they argue, runs counter to the economic argument. In general, WTO rules do not permit the application of npr-PPMs to imported products (Motaal, 1999).

The use of PPM-based mechanisms, in particular, needs special safeguards. PPM-based standards can act as ETBs to trade for many reasons, their costs of compliance may be high; the technologies and raw materials required may not be available domestically; the standards may be inappropriate in the conditions of the exporting country; and they may result in the extraterritorial application of the environmental policies of the importing country (Arden-Clarke, 1998).

A promising way forward on the PPM issue is to identify “win-win” situations, where improved market access for exports of developing country can be achieved simultaneously with environmental and developmental gains. Supportive mechanisms for addressing PPM-related issues, such as technology transfer and financial and technical assistance, could be sought through international cooperation. Well-designed eco-labeling programs and environmental certification pursued at an international level may also help developing countries capture the rents associated with environmental concerns in industrialized countries. At the same time, such measures might enable developing countries to upgrade their PPM-based standards. Proposals to move towards more “environment-friendly” PPMs can also be put forward (Vossenaar, 1999).

2.7 Responses to NTBs

It is clear that numerous NTBs will affect businesses’ access to foreign markets (OECD, 2003). Although there are a number of studies identifying NTBs to international trade, there is little in the literatures that give corporate management the strategies for dealing with these barriers, especially environmentally related NTBs. For instance, one article by Naumann and Lincoln (1991) Zimmerman (1999) had attempted to provide an analysis of NTBs and help international managers to overcome NTBs through different strategies, but they did not mainly study the impact of ETB, because they have not become major concerns in international trade at that time. Of particular interest for this study is advice focused on overcoming ETBs. Remedies generally fall into three major categories: WTO dispute settlement, international negotiations and management actions.

2.7.1 WTO dispute settlement

DS is the central pillar of the multilateral trading system, and the WTO's unique contribution to the stability of the global economy. From 1948, the GATT regulated DS among member countries principally through its Articles XXII and XXIII (Gertler, 1997). From 1995 until the end of 2005, there were 335 disputes notified to the WTO, consisting of 368 individual countries' complaints (Wilckens, 2007). DS is one of the methods to deal with NTBs used by the developing countries. For examples, on 30 January 1996, India, Malaysia, Pakistan and Thailand used the WTO Dispute-Settlement Process to challenge a prohibition by the US on the import of shrimp that the US claimed were caught using methods that killed endangered sea turtles (Kaczka, 1997). The Panel and Appellate Body reports were adopted by the DSB on 6 November 1998, and finally the US lost this case (Werksman, 1999).

Although more advanced and larger developing countries have started to use the DSU, however, there is evidence that developing countries have a disadvantageous position in the WTO DS system (Besson & Mehdi, 2004) and are less likely to participate actively in WTO litigation because of two central structural factors: (i) individual developing countries' relatively smaller value, volume and variety of exports, resulting in fewer economies of scale in mobilizing legal resources, and (ii) the high cost of access to the system (Shaffer *et al.*, 2003).

There are other economic hurdles contributing to the lack of developing country engagement in potential DS activity related to their market access interests. For instance, a "litigation only" bill of \$500,000 to an exporter for a market access case is likely to be fairly typical. However, this would include neither the resources necessary to investigate potential claims in the pre-litigation phase, nor the resources necessary to engage public relations and/or political lobbying in the post-litigation phase to generate compliance (Bown & Hoekman, 2005).

Most developing and all the least developed countries have not used the system at all since its inception whereas the G4 countries (EC, US, Japan and Canada) are over-represented (Besson & Mehdi, 2004). Bown (2005) concluded with the empirical findings: "despite market access interests in a dispute, an exporting country is less likely to participate in WTO litigation if it has inadequate power for trade retaliation, if it does not have the capacity to absorb substantial legal costs, if it is particularly

reliant on the respondent country for bilateral assistance, or if it is engaged with the respondent in a preferential trade agreement. These are characteristics typically associated with developing countries in the WTO membership”.

The empirical study of Guzman and Simmons (2005) indicated that the developing countries were using the DSU in a way that reflects their current incapacity to launch effective legal cases against potential trade law violators. However, Besson and Mehdi (2004) concluded that the developing countries were unlikely to win dispute because of (i) asymmetric legal capacity (ii) economic dependence via bilateral assistance (iii) international political factors.

2.7.2 International negotiations

The WTO has a number of definitions and specific rules for bilateral trade deals. Article XXIV of GATT allows for FTAs, which is reserved for agreements that eliminate all trade barriers on essentially all trade within a time period of ten years and liberalise trade in goods between two or more WTO members. Article V of the GATS allows for “regional integration agreements”, *i.e.* for deeper liberalisation of the trade in services between countries (Maes, 2007).

Jank (2003) suggested that market access was much better addressed in a bilateral or regional framework as negotiations between a reduced numbers of countries allow for deeper trade liberalization. The bilateral, regional and multilateral negotiations further addressed the reduction or elimination of NTBs such as standards or rules of origin requirements – measures which still persisted in both developed and developing countries (ILEAP, 2004). For example, in April 2005, the EU published a guiding booklet on restrictive measures on textile products from China based on Article 242, setting concerned conditions and procedures for the restriction. In June, China and the EU reached an agreement on textile trade which received a warm response in the textile industry by negotiation. People in charge of China Association of Enterprises with Foreign Investment said that it was a win-win agreement through difficult negotiation between China and the EU. “We can see through China-EU agreement that during the process of global economic integration and textile integration, difference and problems are inevitable, but we can obtain way to deal with the dispute and get win-win if we abide by free trade rules, principals under the WTO, in accordance with equal negotiation and good intention.” (MOFCOM, 2005)

2.7.3 Management responses

As consumer preferences and government policies increasingly favor a balanced business approach to the environment, managers are paying more attention to the strategic importance of their environmental decisions. Clearly, failing to consider the environmental impact of strategic decisions may affect the financial stability of the firm and the ability of that firm to compete with others in the industry (Hollensen, 2004).

Kotler (1986) described “blocked” markets as those with high entry barriers caused by governments, labor unions and other interest groups. Hollensen (2004) found that the higher the degree of trade barrier, the firm favored increasing adaptation of their marketing mix. The four Ps was one way – probably the best-known way – of defining the marketing mix, and was first expressed in 1960 by McCarthy. Generally speaking, the four Ps are product, price, promotion, and place. Kotler prescribed the use of “megamarketing” to overcome blocked markets, adding two Ps (power and public relations) to the familiar four Ps of marketing. Kotler recommended that international executives map the existing power structure, develop a strategy and an implementation plan. In addition, he specifically mentioned “at home” lobbying — using the home government to pressure a foreign government into opening a market. Duffy (1991) seemed to echo Kotler in recommending “educational efforts to inform the public and politicians about the truths surrounding protectionist myths and the adverse affects of trade barriers”. She also recommended that firms and individuals should lobby for more cooperative trade agreements and reduced barriers.

2.8 Market entry considerations

Kim and Hwang (1992) eliminated 18 cases in their study of multinational firm entry-mode choice where respondents answered that governments imposed restrictions on the entry mode options available. This might be taken as evidence that trade barriers are an early consideration in deciding on whether to enter a market and then what entry mode to employ to combat these barriers.

The basic choices for entry into foreign markets have been clearly established (Figure 3), and three broad groupings emerge when one looks at the assortment of entry modes available to the firm when entering international markets. A firm must choose

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between export modes (indirect export modes, direct export modes, cooperative export modes/export marketing groups), intermediate modes (contract manufacturing, licensing, franchising, joint ventures/strategic alliances, management contracting) or hierarchical modes (domestic-based sales representatives, resident sales representatives/foreign sales branch/foreign sales subsidiary, sales and production subsidiary, region centers (regional headquarters), transnational organization, establishing wholly owned subsidiaries – acquisition or greenfield, foreign divestment: withdrawing from a foreign market). There are different degrees of control, risk and flexibility associated with each mode (Hollensen, 2004). The entry mode decision, reduced to its essentials, is based on market potential and country risk. One important aspect of the latter is the existence of tariffs and other barriers (Douglas & Craig, 1989).

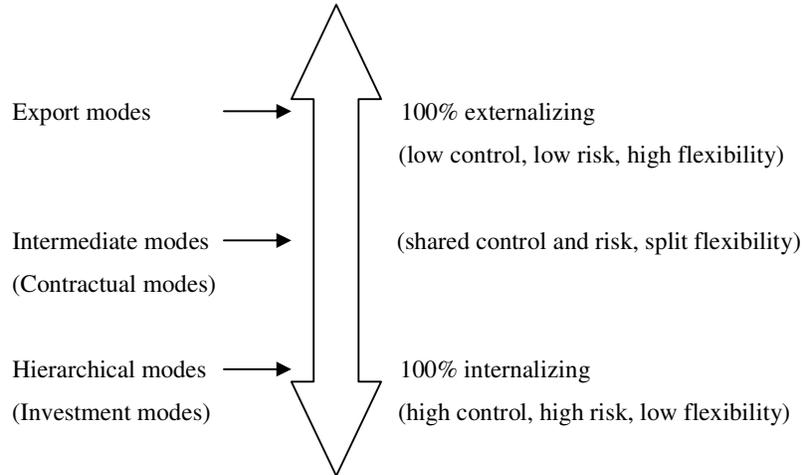


Figure 3: Classification of market entry modes

Source: Hollensen, 2004

It is necessary to adopt appropriate entry modes to overcome trade barriers. Sometimes the foreign market has such high tariff or NTBs that the company's choice of entry modes is limited (Alexandrides & Bowers, 2005). As shown in Figure 4, four groups of factors are believed to influence the entry mode decision: internal factors; external factors; desired mode characteristics; and transaction-specific behavior (Hollensen, 2004).

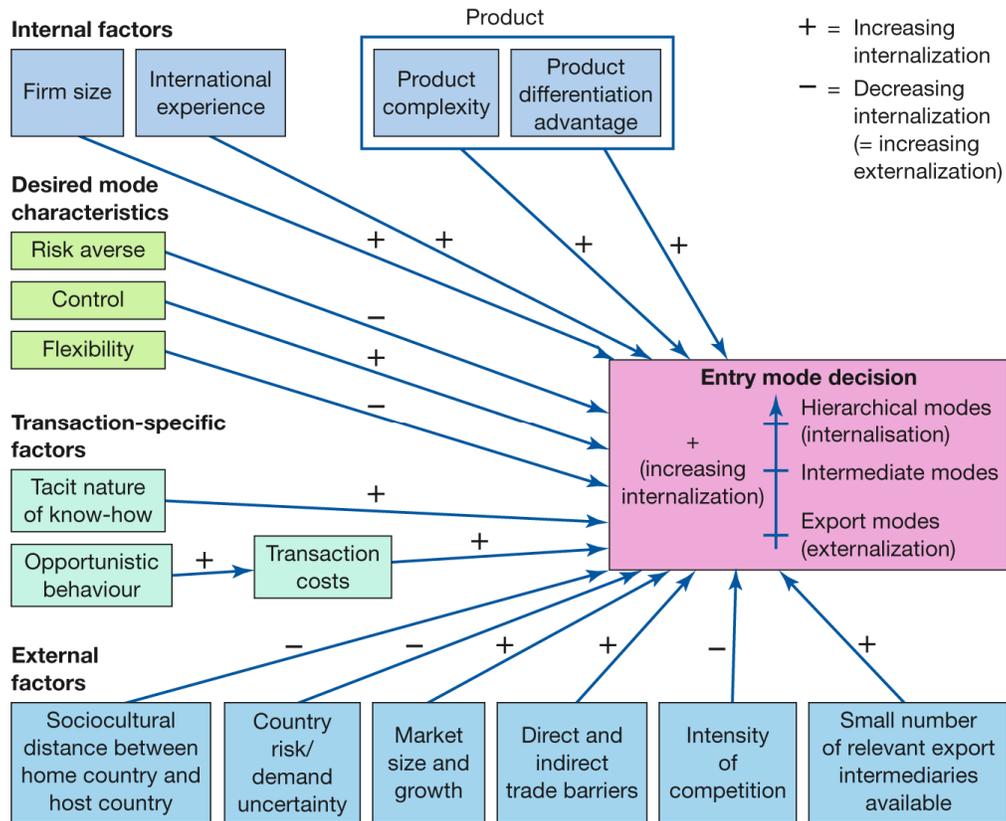


Figure 4: Factors affecting the foreign market entry mode decision

Source: Hollensen, 2004

Hollensen (2004) indicated that product or trade regulations and standards, as well as preferences for local suppliers, also had an impact on mode of entry and operation decisions. Preferences for local suppliers or tendencies to “buy national” often encourage a company to consider a joint venture or other contractual arrangements with a local company (intermediate modes). The local partner helps in developing local contacts, negotiating sales and establishing distribution channels, as well as in diffusing the foreign image. At the same time, Product and trade regulations and customs formalities similarly encourage modes involving local companies, which can provide information about and contacts in local markets, and can ease access. In some instances, where product regulations and standards necessitate significant adaptation and modification, the firm may establish local production, assembly or finishing facilities (Hierarchical modes).

Chapter III Research Methodology

3.1 Introduction

Potter (1996) stated that methodology was a strategy or plan for achieving some goal and provides the blueprints that prescribe how the tools should be used. Research methodologies directly affected the validity and generalizability of a study (McGrath & Brinberg, 1983). The step-by-step scientific methodology proposed here was largely inspired by the work of Yin (2003), Eisenhardt (1989), Miles & Huberman (1994) and several others (Stake, 1995; Devers, 1999; Crabtree & Miller, 2000; Patton, 2002) who are strong proponents and possess extensive experience in this research approach and qualitative methods in general (Paré, 2004).

Undoubtedly, appropriate methodology will help researcher to make valuable conclusion. In this chapter, the research methodologies undertaken in this thesis will be discussed and justified. In addition, the research methodologies chosen here will afford useful guidelines for how the needed data should be collected and further how to process it.

3.2 Research Approach

According to Guba and Lincoln (1994), two approaches (quantitative and qualitative) are available to researchers. “Qualitative” is often used interchangeably with “naturalistic”, and “quantitative” with “experimental” (Lynch, 1983). Quantitative data exist in the form of numbers, and represent concepts that may take on greater or lesser values. Qualitative data exist in the form of words, and might consist of “detailed descriptions of situations, events, people, interactions, and observed behaviors; direct quotations from people about their experiences, attitudes, beliefs, and thoughts; and excerpts or entire passages from documents, correspondence, records, and case histories” (Patton, 1980). Qualitative research usually achieves a greater level of depth and detail than quantitative techniques. Qualitative methods not only create openness between all parties and can help generate new theories, but also allow for a broader study, involving a greater number of subjects, and enhancing the generalization of the results. In contrast, quantitative methods are designed to provide summaries of data that support generalizations about the phenomenon under study and collect a much narrower and sometimes superficial dataset (O’Neill, 2006).

As stated in Chapter I, the purpose of this study is to address the following research question: how do ETBs affect exporters from developing countries and how correspondingly managerial behavior interference and decision-making is affected. My aim is to present an understanding and description of a phenomenon that has not been yet well developed and cannot be quantified or measured in numbers. Therefore the qualitative method is much more suitable than quantitative way to do this investigation. Moreover, the qualitative approach makes it possible to gain a deeper understanding than would be gained from the quantitative approach.

3.3 Research strategy

Marshall and Rossman (1999) concluded that the strategy was a road map, an overall plan for undertaking a systematic exploration of the phenomenon of interest. Yin (2003) had identified five strategies: experiments, survey, histories, analysis of archival information, and case studies, each of which is a different way of collecting and analyzing empirical evidence. He distinguished strategies on the basis of three conditions: the type of research questions posed, the extent of control an investigator has over actual behavioral events, and the degree of focus on contemporary as opposed to historical events (Table 1).

Table 1: Relevant situations for different researches

Strategy	Form of research question	Requires control over behavioral events?	Focuses on contemporary events?
Experiment	How, why	Yes	Yes
Survey	Who, what, where, how many, how much	No	Yes
Archival analysis	Who, what, where, how many, how much	No	Yes/No
History	How, why	No	No
Case study	How, why	No	Yes

Source: Yin, 2003

The research question that will be addressed in this study is focusing on the contemporary events and empirical data, and thus leads to that historical strategy and archival analysis are not appropriate. Due to the fact we cannot and need not control over behavioural events, experiment would be omits. Case study is an ideal methodology when a phenomenon is broad and complex, when a holistic, in-depth investigation is needed, and when a phenomenon cannot be studied outside the context in which it occurs. Yin (2003) maintained that case study research strategy

was most likely to be appropriate for “how” and “why” research questions because they deal with operational links needing to be traced over time, rather than mere frequencies or incidence. Case study is chosen as the current research strategy to carry out a comprehensive description and analysis of a single situation (Bonoma, 1985; Feagin *et al.*, 1991; Yin, 2003).

Yin (1993) identified some specific types of case studies: exploratory, explanatory, and descriptive. Exploratory cases are sometimes considered as a prelude to social research. Explanatory cases may be used for doing causal investigations. Descriptive cases require a descriptive theory to be developed before starting the project.

This research adopts the descriptive case study research design, as defined by Kumar (1999): a case study classified as descriptive research attempts to systematically describe a situation, problem, or provides information about the living conditions of a community, or describes attitudes towards an issue. The reasons for this choice are mainly based on the following considerations. Firstly, literature on this topic is scarce. In particular, apart from the stream of research on the impact of ETBs on exporters from developing countries, the adoption of corresponding strategies by the managers is at such an early stage of development that the descriptive case study research seems to be the most appropriate approach to this research question. In fact, Yin (2003) suggested that use of descriptive case studies was typical in the first theory development stages, when investigating events or phenomena that had little or no theoretical background and no a priori theory could be identified to select case studies and the constructs to be examined. The methodology follows the recommendations of Yin (2003) and involves four distinct stages, shown in Figure 5.

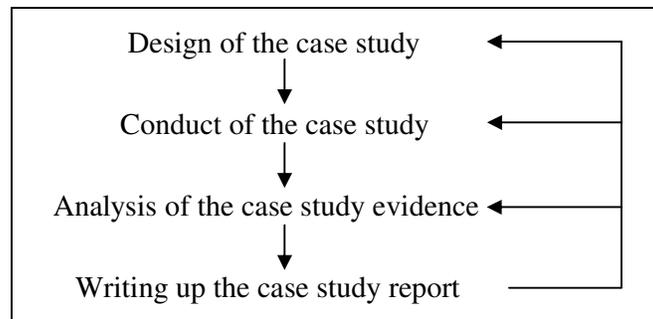


Figure 5: Scientific approach for conducting a case study research

Source: Yin, 2003

3.4 Case Selection

A central issue in case study design is the decision to include one or more cases in the research project. Selection of cases represents another important but difficult aspect of case study research (Yin, 2003; Eisenhardt, 1989). Selecting a single case or multiple ones must be done so as to maximize what can be learned, in the period of time available for the study. A single case design is appropriate when it represents a unique, revelatory, or critical case in testing a well-formulated theory. A frequent criticism of case study research is that its dependence on a single case renders it incapable of providing a generalizable conclusion. When adopting a multiple-case design, the number of cases should be necessary or sufficient for their study, and the number of replications is basically a matter of discretionary and judgmental choice and depends upon the certainty a researcher wants to have about the multiple-case results (Yin, 2003). Based on this purpose of this study, a multiple-case design is appropriate.

Case selection follows the procedure suggested by Yin (2003) and McCutcheon and Meredith (1993), who maintained that the researcher may select one or more exemplar cases in a descriptive study. According to them, an exemplar case study is characterized by extreme or unique circumstances that provide an ideal setting for studying the phenomenon under investigation. Organic food sector intuitively seems to provide a context particularly suitable to identify exemplar case studies, as in the last few years some important changes have forced companies in this sector to seek some strategies to overcome the impact of ETBs on their exports. Case selection began with the identification of the thirty-one organic exporters in China listed in ITC website. It is deemed that these exporters have the market dominance and demand to actively overcome the impact of ETBs on their exports of organic foods. Initial contact with each of the thirty-one exporters was made via e-mail with a written explanation of the research to the managers responsible for ETBs relevant to organic exports, which aims to ensure that the selected firms could represent exemplar case studies as defined above. In fact, the respondents were asked whether they agreed to participate in this research. Eight firms returned the e-mails and were willing to be interviewed. These firms are identified as exemplars, and therefore selected.

3.5 Data Collection Methods

Data collection methods affected a test’s reliability and validity (Pedhazur & Schmelkin, 1991). Yin (2003) identified six sources of qualitative evidence in case study research: documentation, archival records, interviews, direct observation, participant observation, physical artifacts. Case study research typically combines multiple methods of data collection to overcome single method bias. Collecting different types of data by different methods from different sources produces a wider scope of coverage and may result in a fuller picture of the phenomena under study (Bonoma, 1985; Yin, 1999). Each data collection method has its advantages and disadvantages, and Table 2 enumerates the main types of evidence and their strengths and weaknesses (Yin, 2003).

Table 2: Sources of evidence in case research: strengths and weaknesses

Source of evidence	Strengths	Weaknesses
Documentation	Stable-can be reviewed repeatedly Unobtrusive-not created as a result of the case study Exact-contains exact names, references, and details of an event Broad coverage-long span of time, many events, and many settings	Retrievability-can be low Biased selectivity, if collection is incomplete Reporting bias-reflects (unknown) bias of author Access-may be deliberately blocked
Archival records	(Same as above for documentation) Precise and quantitative	(Same as above for documentation) Accessibility due to privacy concerns
Interviews	Targeted-focuses directly on case study topic Insightful-provides perceived causal inferences	Bias due to poorly constructed questions Response bias Inaccuracies due to poor recall Reflexivity-interviewee gives what interviewer wants to hear
Direct observations	Reality-covers events in real time Contextual-covers context of event	Time consuming Selectivity-unless broad coverage Reflexivity-event may proceed differently because it is being observed
Participant observation	(Same as above for direct observations) Insightful into interpersonal behavior and motives	(Same as above for direct observations) Bias due to investigator’s manipulation of events
Physical artifacts	Insightful into cultural features Insightful into technical operations	Selectivity Availability

Source: Yin, 2003

Due to the fact that this case study is qualitative, two sources of evidence like interview and documentation will be adopted. Yin (2003) maintained that interviews were an essential source of case study evidence. As stressed by Kaplan and Maxwell (1994), the primary goal of interviews is to elicit the respondents’ views and

experiences in their own terms, rather than to collect data that are simply a choice among pre-established response categories. To collect the primary data, telephone interview with the eight senior managers or executives who participate in the decision of strategies will be adopted. In selecting interviewees, case researchers must ensure that the sampling strategy is consistent with the purpose of the inquiry. Table 3 shows some of the most common informants sampling strategies suggested by Patton (2002).

Table 3: Sampling strategies for selecting informants

Informant sampling strategy	Purpose
Maximum variation	Documents diverse variations and identifies important common patterns.
Homogeneous	Focuses, reduces, simplifies; facilitates group interviewing.
Snowball or chain	Identifies cases of interest from people who know people who know what cases are information-rich.
Purposeful	Select information-rich cases strategically and purposefully; selected type and number of cases selected depends on study purpose and resources.
Opportunistic or emergent	Following new leads during fieldwork; taking advantage of the unexpected; flexibility.

Source: Patton, 2002

To overcome the problems of bias, poor recall and poor or inaccurate articulation, Yin (2003) suggested it was important to corroborate interview data with information from other sources. Systematic searches for relevant documents are important in any data collection plan. For case studies, the most important use of documents is to corroborate and augment evidence from other sources, because documents are helpful in verifying the correct spellings and titles or name of organizations, providing other specific details to corroborate information from other sources, and obtaining some inferences (Yin, 2003). Therefore, secondary data will be collected from documentations, which are relevant to the case study and include the background of sample firms.

3.6 Data analysis

Case studies tend to produce large amounts of data that are not readily amenable to mechanical manipulation, analysis, and data reduction. Data analysis consists of examining, categorizing, tabulating, or otherwise recombining the evidence to address the initial propositions of a study (Yin, 2003). The analysis of case study is one of the least developed and most difficult aspects of doing case studies. Yin (2003) suggested that every investigation should have a general analytic strategy, so as to

guide the decision regarding what will be analyzed and for what reason. The ultimate goal was to treat the evidence fairly, to produce compelling analytic conclusions, and to rule out alternative interpretation. He maintained that two analytic strategies: relying on theoretical propositions and developing a case description.

Within such a strategy, three dominant analytic techniques should be used: pattern-matching, explanation-building, and time-series analysis (Yin, 2003). Trochim (1989) considered pattern-matching as one of the most desirable strategies for analysis. This technique compares an empirically based pattern with a predicted one. If the patterns match, the internal reliability of the study is enhanced. The actual comparison between the predicted and actual pattern might not have any quantitative criteria. Explanation-building is considered a form of pattern-matching, in which the analysis of the case study is carried out by building an explanation of the case. Explanation-building is an iterative process that begins with a theoretical statement, refines it, revises the proposition, and repeating this process from the beginning. Time-series analysis is a well-known technique in experimental and quasi-experimental analysis (Tellis, 1997). In this study, the analytic strategy is to follow developing a case description that led to the case study and the pattern-matching analytic technique is adopted.

Chapter IV Case Study

4.1 Status of the Organic Food Industry

4.1.1 Organic Agriculture

In recent years, the world has seen a growing awareness of health and environmental issues, and sustainability has become a keyword in discussions on economic development, in particular in relation to the developing countries (ITC, 2004). A constantly growing number of concerned consumers, mainly in the industrialized countries, have generated this awareness and begun actively seeking out products that advertise lower levels of fat, sugar, salt, pesticide residues or a lack of genetically modified ingredients. Organic products provide the ultimate healthy alternative for health-conscious consumers (Xie *et al.*, 2005). Indeed, the international communities are more conscious of these issues, and government policies in industrialized as well as developing countries are increasingly formulated to encourage organic and other forms of sustainable agriculture.

Organic agriculture emerged in the 1920s, first in England and Germany (Dimitri & Oberholtzer, 2005). According to the IFOAM, organic agriculture is an agricultural system that promotes environmentally, socially and economically sound production of food, fibre, and timber etc. Organic agriculture significantly reduces external inputs by avoiding the use of chemosynthetic fertilisers, pesticides and pharmaceuticals. Instead it works with nature to increase both agricultural yields and disease resistance. Moreover, organic agriculture includes social considerations in its holistic approach, recognising that people are as important as the organic system (IFOAM, 1996). In summary, organic agriculture can yield a range of benefits as following (UNCTAD, 2003):

1) Income effects

- Reduced on external inputs expenditures
- Saleability of product
- Price premiums

2) Environmental and health effects

- Enhanced bio-diversity (due to crop rotations and non-use of synthetic pesticides)
- Reduced nutrient leakage (that can threaten drinking water, lakes, rivers and the sea)

- Reduced soil erosion
- Reduced water consumption
- Long-term maintenance of soil fertility
- Safer working conditions for farmers
- Reduced food contamination by pesticides

3) Social effects

- Rural employment generation (labour-intensive practices)
- Improved household nutrition and local food security
- Higher self-reliance
- Lower urban migration

4.1.2 Global Organic Food Market

Organic foods are grown with a commitment to respect biological and ecological processes and are viewed to be healthier, safer, better tasting and of a higher quality than conventionally-grown foods. Surveys indicate that growing health and food safety concerns are the primary reason that consumers choose organic foods. Consequently, demand for organic products has grown rapidly (Hughner, 2007).

The global organic food market has exhibited strong growth in value over the last few years. It generated total revenues of \$36.7 billion in 2006, this representing a CAGR of 13.7% for the five-year period spanning 2002-2006 (Table 4, Figure 6). In 2011, the global organic food market is forecast to have a value of \$67.1 billion, an increase of 83% since 2006 (Datamonitor^a, 2006).

Table 4: Global organic food market value

Year	\$ billion	% Growth
2002	21.9	
2003	25.1	14.20%
2004	28.5	13.90%
2005	32.3	13.20%
2006	36.7	13.60%
CAGR, 2002-2006		13.70%

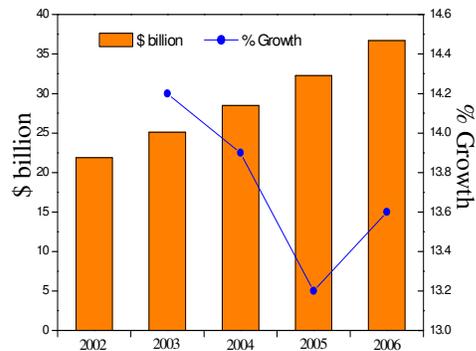


Figure 6: Global organic food market value

Source: Datamonitor^a, 2006

The global market consists of the Europe, Asia-Pacific, and the Americas. Here, Europe is deemed to consist of Germany, the UK, Italy, France, Denmark, the Netherlands, Sweden, Belgium, Spain, Poland, Russia, the Czech Republic, Hungary and Norway. Asia-Pacific comprises Japan, Australia, Taiwan, South Korea, Singapore, China, and India. The Americas comprises the US, Canada, Brazil, and Mexico. The largest organic food market is the Americas, which accounts for 49.7% of the global market's value, and the Europe generates a further 39.8% of the global market's revenues (Figure 7) (Datamonitor^a, 2006).

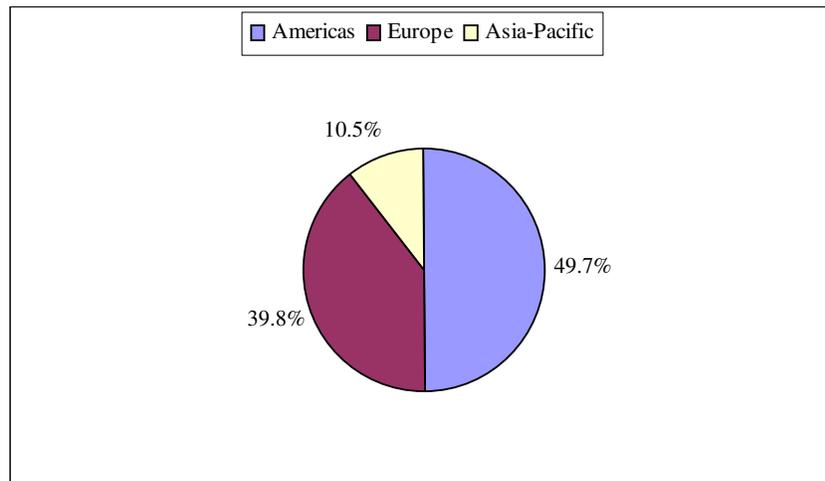


Figure 7: Global organic food market segmentation: % share, by value, 2006

Source: Datamonitor^a, 2006

The main markets for organic products are the EU, the US and Japan. Increased demand for organic products in developed countries provides opportunities for imports from developing countries. A review by the ITC (1999) indicates that in most developed countries the market share for organic products is between 1 and 2.5 per cent, but rising rapidly. As of May 2000, over 130 countries were producing certified organic food and beverages. These include at least 90 developing countries, of which about 15 are least developed countries (UNCTAD, 2003).

4.1.3 European Organic Food Market

The European organic food market has enjoyed rapid expansion since the mid-1990s. It grew strongly throughout 2002-2006 and is forecast to grow at a faster pace in the forthcoming five-year period. The European interest in organic products is growing.

The European organic food market generated total revenues of \$14.6 billion in 2006, this representing a CAGR of 11.9% for the five-year period spanning 2002-2006 (Table 5, Figure 8). The performance of the market is forecast to accelerate, with an anticipated CAGR of 13.7% for the period 2006-2011 expected to drive the market to a value of \$27.8 billion by the end of 2011 (Datamonitor^b, 2006).

Table 5: Europe organic food market value

Year	\$ billion	% Growth
2002	9.3	
2003	10.2	10.00%
2004	11.4	11.70%
2005	12.6	10.60%
2006	14.6	15.60%
CAGR, 2002-2006		11.90%

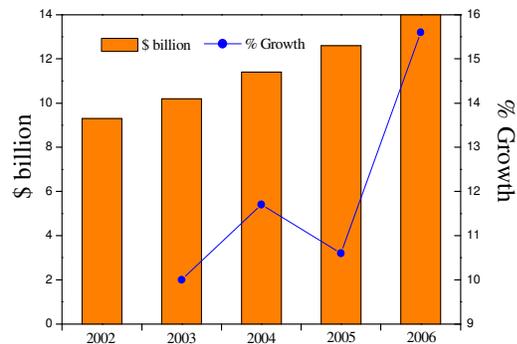


Figure 8: Europe organic food market value

Source: Datamonitor^b, 2006

Currently Germany, France, the UK and Italy are the main European markets for organic products (Xie *et al.*, 2005). With the high growth rate and local supply unable to satisfy increasing domestic demand, imports of organic products in Europe account, on average, for 45% of total sales (ITC, 1999). For instance, although the UK domestic supply of organic food grew by 25% in 1999, it could not meet the increasing demand. As a result, 70% of organic foods sold in the UK were imported (Soil Association, 1999). Most imports of organic food into the UK come from other European countries. However, many certified organic fresh fruits, vegetables and herbs, rice and the raw materials for beverages originate from countries outside Europe, with developing countries supplying much of this demand (Harris *et al.*, 2001). This supply is dominated by a number of leading producers including Argentina, China, Mexico and South Africa (CBI, 2005). In 2000 the EU listed current import authorizations for the import of organic food from over 60 developing countries, such as Bolivia, Brazil, China, Egypt and Nicaragua (European Commission, 2000).

4.1.4 Organic Food in China

Organic agriculture and the organic movement in China started in 1990 when the Zhejiang Provincial Tea Import & Export Corporation first developed organic green tea for export to Europe, and underwent rapid development in recent years. Chinese organic food market continues to perform well, with exports still accounting for a large proportion of their overall market volumes. China has established 110,369 acres of land dedicated to the growing of organic food since the OFDC of the SEPA was set up in 1994. This land produces over 100 types of organic food, and organic soybeans, rice, peanuts, tea, fruit, honey and herbal medicines are already being exported to the EU with great results (Datamonitor^c, 2004).

According to the OFDC survey statistics, the value of trade in exports of organic products was \$0.3 million in 1995, \$8 million in 1997, \$10 million in 1998, \$20 million in 2000 and \$120 million in 2003 (Figure 9) (OFDC, 2003). It is estimated that the future average annual increase in production acreage and export volume will not be less than 30% (Xie *et al.*, 2005).

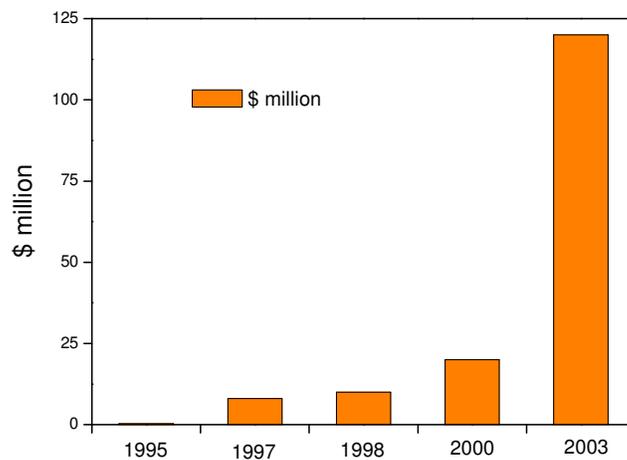


Figure 9: The value of trade in exports of Chinese organic products

Source: Author’s calculations on the basis of the OFDC data (2003)

In fact, the major barrier for the development of the domestic organic market is the lack of consumer knowledge on organic product attributes and the potential benefits of organic farming together with the high price premiums (Xie & Wang, 2003). Moreover, the lack of a national logo for organics is expected to frustrate efforts to establish a domestic organic market (FAO/ITC/CTA, 2001). As a result, China’s

commercial organic production is export-orientated, and thereby subject to increasing demands on organic-products standards from foreign customers. The EU, the US and Japan are the main destinations for Chinese organic products, accounting for almost 80% of all fresh organic produce exports. Indeed, China's marked progress in the manufacture of organic foods has been recognized worldwide (Datamonitor^c, 2004).

4.2 ETB in the Organic Food Industry

4.2.1 Trade Barriers in the Organic Food Industry

The organic food market has been a prominent agricultural sector in international trade, with a significant number of developing economies involved (Dolan *et al.*, 1999). However, there are many trade barriers in the industry. In 2000 Fuchshofen listed the main trade barriers below which they gleaned from numerous interviews with trade sources of the industry, with representatives of internationally operating certifiers and with representatives of government authorities.

- Foreign government regulations and national organic standards or procedures regarding the import of organic products;
- Cultural differences;
- Language problems;
- Market transparency of foreign markets;
- Pricing as information problem;
- Problems of the mutual acceptance of certification procedures and documentation between certifiers from different countries;
- A perceived lack of support by home country's government and industry organizations;
- Subsidies and foreign government support;
- Competitiveness of certain host country products;
- High currency exchange rate;
- Customs tariff structure, especially for exports of processed products;
- Amount of work for export operations.

4.2.2 ETB in the Organic Food Industry — Organic Certification

Among these trade barriers mentioned above, national differences in standards, certification and accreditation systems can act as a major NTB for exporting countries, particularly developing countries, which could eventually fail to benefit from the

increasing market opportunities for organic foods in developed countries (Xie *et al.*, 2005). Rudy (1998) had just completed a global market survey on organic foods and emphasized that the organic trade faced a number of challenges such as organic certification that was a guarantee of organic origin.

Organic certification is a process providing third-party assurance that a product is raised, processed, and distributed appropriately, and meets the official organic standards (Dimitri & Oberholtzer, 2006). Certification of organic foods serves three functions. First, it assures consumers that a product is grown, processed, and packaged according to rules that limit or ban synthetic inputs and that protect the environment. Second, it assures producers that unscrupulous use of the term organic does not defraud them of price premiums and market share that can be earned from certified foods. Third, it makes the market more efficient by reducing information asymmetry along the marketing channel from producer to consumer (Lohr, 1998). However, organic certification has resulted in important access barriers for many developing countries. Agricultural products imported from third countries can only be marketed as organic if their production, processing, documentation, inspection and certification systems are considered as “equivalent” to those in the EU, the US and Japan (Xie *et al.*, 2005). Organic certification is likely now to be the most significant ETB in the organic food industry, impacting on international trade in this area.

4.2.3 Regulations for Importing Organic Production

World demand for organic products is dominated by the EU, US and Japan, so it is important for the exporters from developing countries to know about their organic rules and regulations. The publication on the Conference on International Harmonization and Equivalence in Organic Agriculture edited by Westermayer and Geier (2003) discussed the mechanisms of the three major organic importing government authorities.

The EU regulations on organic production are set out in Council Regulation (EEC) No. 2092/91 and its amendments. This regulation was introduced in 1991 to provide protection for both the consumer and producer, by harmonising the definition of “organic” production among the EU member states and by providing a legal framework for accrediting private sector certification bodies (Willer & Yussefi, 2001). Article 11 of Regulation 2092/91, as amended, specifies requirements for importing

products from countries outside the EU. The EU regulations apply to all processed and unprocessed food products from plants or animals and to wild products. Currently there are three methods for meeting the requirements for importing organic foods into the EU: approval of third countries (Article 11.1); member state authorisation of products — the importer derogation (Article 11.6); commission approval of a third country's inspection body (Article 11.7). The general principle applied is that of equivalence, agricultural production, processing, documentation, inspection and certification are required to be of equivalent standard to the EU Regulations. However, member states cannot agree on what constitutes equivalence, and tend to apply their own national standards. This flexibility allows third countries (see Appendix C) to develop their own organic food production and certification systems (Barrett *et al.*, 2002).

The US regulations on organic production are set out in the OFPA of 1990 and the NOP; Final Rule, 7 CFR Part 205. OFPA and the Final Rule apply to all operations that sell processed and unprocessed organic products, including cultivated crops, wild crops, livestock, livestock feeds, and handling operations. According to Section 205.300.c of the Final Rule, products produced in a foreign country and exported for sale as “organic” in the US must be certified and labeled in accordance with the US Rule. Currently there are three official methods for meeting the requirements for importing organic products into the US: direct accreditation by the USDA; accreditation by a foreign government; equivalency.

In Japan, the MAFF issued organic regulations in early 2000 (Notifications No.59 and 60). On 1 April 2001, new organic regulations took effect in Japan, requiring all produce and processed foods (crops only) labelled as organic in Japan to carry the JAS mark. In general, the regulation requires the registration of certification organisations, as well as certification (inspecting and judging) of production process managers, manufacturers and sub-dividers (including foreign ones) and importers by RCOs based on the respective Technical Criteria for Certification. There currently are three ways for agricultural products to get the Organic JAS mark: certification by a MAFF-RCO in Japan; certification by a MAFF-FRCO in the exporting country; recertification.

4.2.4 Status of Organic Certification in the EU

In fact, only the EU has legislation in place for organic standards. The EU organic certification legislation has resulted in important access barriers for organic food exporters from many developing countries.

It is illegal in the EU to sell any organic food that has not been properly certified, and goods that are imported from third countries must meet strict production and procedural standards, as well as specific import rules that are outlined in Article 11 of Regulation (EEC) 2092/91 (Harris *et al.*, 2001).

There are three routes by which imported organic produce can enter the EU market under Article 11 of Regulation 2092/91 (European Commission, 1999). The first route is Article 11(1), under which countries become “listed”. At the moment the only developing country to be awarded this status is Argentina, and other five listed countries are all in the developed world. However, both EU member states and exporters to the EU found that the first route was ineffective and inhibited trade. Therefore, a second route was opened in 1992, Article 11(6), referred to as the “back door”. Most producers in the developing countries commonly use this route, and each consignment of produce is given import authorization. Finally, there is a third route under Article 11(7), but producers in the developing countries are unlikely to be able to make use of this regulation.

On 21 December 2005, the European Commission adopted a proposal for a new regulation on organic production. The new rules are intended to be simpler, and to allow a certain amount of flexibility that will take account of regional differences in climate and conditions. The import regime will now be amended to allow certification bodies outside the EU to be recognized by the Commission (Rundgren, 2006). Certification of organic products within the EU, whether domestically produced or imported, is regulated by Council Regulation No 2092/91 and the European Norms EN 45011, 45010, or their international equivalents ISO 65 and ISO 61 respectively (European Commission, 1999). In addition, the EU recognizes as equivalent a number of international voluntary standards established by the IFOAM, although they do not have any legal status in the EU (Barrett *et al.*, 2002). The EU certification system is based on the following procedure (Figure 10).

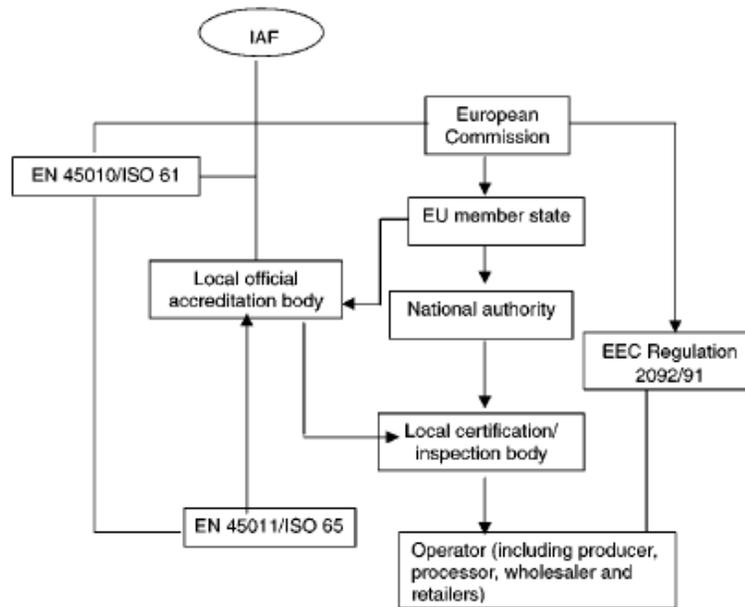


Figure 10: The EU organic-farming certification procedure

Source: Xie *et al.*, 2005

Exporters from developing countries wishing to penetrate the EU need to be aware of many requirements of their trading partners and the EU governments. Standards that are being developed through legislation, codes, markings, labels and certificates with respect to environment, safety, health, labour conditions and business ethics are gaining importance. Exporters need to comply with legislation in the EU and also have to be aware of many market requirements (CBI, 2005).

4.2.5 Organic Certification in China

China's first attempt to establish national organic-food production legislation was in 1995, as a response to environmental protection and food safety. Whilst the Chinese central government has not passed any specific legislation for organic foods, the Organic Food Labelling Management Regulation and Organic Food Production and Processing Technical Norm were formulated in China in 1995, taking into account the IFOAM Basic Standards, EU Regulation 2092/91 and its amendments. Both of these have been approved by SEPA and implemented (Xie & Wang, 2003). On 10 August 2003, the CNAB issued the "Organic Production and Processing Certification Norm", and all organic-certification bodies are to follow this Norm. On 9 September 2003, Chinese Premier Mr Wen Jiabao signed Decree No 390 of China's State Council and

officially issued the “National Regulation on Certification and Accreditation”, which came into effect on 1 November 2003 (Xie *et al.*, 2005).

The certification process is complex and involves the connected, yet legally separated, processes of certification and annual re-inspection. For producers interested in exporting their goods to Europe, organic certification in their countries is not enough to gain access to the market. Would-be exporters must comply with the EU organic regulation, EEC 2092/91. Though the standards are similar, there is currently no equivalency between the developing countries and the EU regulations. Hence, the lack of an EU-approved national certification system implies that Chinese exports of organic products can only enter the EU under Article 11(6) (“granted imports”); that is, with a special import permit issued by an individual EU member state.

From the first organic tea certified for export in 1990, more than 200 kinds of organic agricultural foods have been certified in China. Currently, there are several domestic certifiers active in China (including OFDC). However, their certification systems are not recognized by the EU, so there is a preference among Chinese organic producers to work with the certification bodies from the EU operating in China, such as the German certifiers BCS and Ecocert, the Swiss certifier IMO, since their certification systems are EU-equivalent (Xie *et al.*, 2005).

4.4 Interview Results

In this section the contemporary events and empirical evidence from the case study is examined to explain how ETBs affect exporters from developing countries and the relevant strategies adopted by managers and executives when they want to enter foreign markets.

4.4.1 Company and personal data

All organic exporters in China chosen are listed on the ITC website. It is deemed that these exporters have dominant market occupancy in the Chinese organic market. Over 50% of their turnover is generated by export. According to the representative principle, eight exporters are chosen for result analysis, which should be representative and their opinions on organic certification can appropriately reflect the mainstream of organic exporters in China. The eight individuals interviewed are the

CHAPTER IV CASE STUDY

managers or executives of these eight major firms (Table 6). All interviews are conducted by phone and give four to the following results and conclusions.

Table 6: Basic information of companies

Company	City	Certification	Market entry mode	Strategies	Export country
Company A established in 1992	Dalian	BIO	Foreign sales branch	Strict management to preserve cleanliness and maintain organic paper trail	Germany Holland Spain Sweden UK
Company B established in 1995	Dalian	ISO9001, EU2092/91, JAS, NOP	Direct exporting	High quality and low cost	Germany Holland
Company C established in 1996	Nanjing	ECOCERT and OCIA	Direct exporting	Protection of clients' interests, frankness and credibility; Raising the local farmers' social welfare, improving bio-environment, promoting mankind health	France Germany Holland Italy Spain
Company D established in 1997	Rizhao	ISO9001, HACCP, OCIA, and ECOCERT	Indirect exporting	Considering problems from the customers' point of view; Providing customers with agricultural products of high quality and reasonable price to meet different needs of all customers; Providing quick, just-in-time and reliable services	France Germany Hungary Italy
Company E established in 1999	Ha'erbin	ISO9001, EU2092/91, HACCP, IMO, ECOCERT	Direct exporting	High quality and good reputation	Austria Germany Holland UK
Company F established in 2000	Dalian	ISO9001, EU2092/91, NOP, JAS, OFDC, OCIA, BCS, BAC, ECOCERT	Direct exporting	Devoted to food safety, human health and environmental protection; Using special containers for sea transportation to prevent from pollution; Adopting profession, promptness, thoughtfulness and passion as the tenet	France Germany Holland Italy Spain
Company G established in 2001	Dalian	EU2092/91, NOP, JAS, BIO SUISSE	Direct exporting	Sustainable development (ecological agriculture, the standardized agricultural and brand agriculture); Adopting talents' training, standard management and improving products quality	Germany Holland UK
Company H established in 2006	Xi'an	EU9002/01, NOP, JAS, CERES	Direct exporting	Health, green, environmental protection as the theme	France Germany Luxemburg UK

4.4.2 Interview results

4.2.2.1 Is organic certification a primary ETB for organic exporters in China?

As the beginning of the interview, all the interviewees were asked one completely open-ended question: what are main ETBs when you are deciding whether or not to export organic foods to a particular country in the EU. Of all the eight interviewees who answered this question, all interviewees mentioned organic certification. Next, a further question was asked, whether organic certification belongs to primary ETBs for organic exports? Most interviewees gave a positive answer and considered organic certification as a primary ETB that they must meet when they decide to export organic foods to one or several countries in the EU, while the remaining two interviewees thought that organic certification was not more important compared with other ETBs.

4.2.2.2 Does organic certification play a main role in making go/no-go decision?

When all the interviewees were asked if organic certification played a main role in the process of making a go/no-go decision, they each expressed that they would consider organic certification as one of several factors they should evaluate in making the decision whether to enter a new host country. Among them, two managers thought that organic certification was similar to other NTBs that would affect their decision, so they would consider all the possible NTBs at the same time. In their opinion, organic certification, like all other ETBs, was given equal weight. On the other hand, the other six managers said that organic certification as one ETB definitely played a dominant role in making a go/no-go decision. Therefore, their companies would first consider the influence of organic certification at the early stage of decision-making process. Among them, one manager discussed how his company once gave up exporting organic products to the EU just because of organic certification. In addition, one manager expressed his consideration that if organic certification in host country cost significant much time and money, and was difficult to obtain, his company would not enter this country. Other managers considered that although organic certification was a primary ETB for their exporting, they decided to enter and also adopted various strategies to overcome it.

4.2.2.3 Is organic certification a demand of environmental protection or a trade barrier?

Faced with this question, one interviewee said that organic certification was definitely a demand of environmental protection. He considered that organic certification

implemented standards for organic foods, and was necessary and favourable to environmental protection, especially when sustainable development is now such a central issue. Against this opinion, another interviewee said that organic certification was really one particular kind of trade barrier in the host country. Particularly, organic certification was an obstacle faced by organic exporters from developing countries due to the lack of the technologies and capital and is increasingly used as a new kind of protectionism of the host country. The other six managers considered that it was difficult to estimate the nature of organic certification and they thought that organic certification could be argued both ways: environmental protection and trade barrier. However, five managers of them agreed that the original intention of organic certification for organic exports in the early years was beneficial for environmental protection and over time it tended towards protectionist.

When they were further asked whether organic certification should be abolished, the answers were not consistent, and three standpoints emerged. One of the eight interviewees, who is a strong supporter of international free trade, thought that organic certification should be abolished as this could further free trade. Another of the interviewees, who advocates environmental protection, considered that if organic certification were abolished, it would be a setback to environmental protection. The other six interviewees agreed that although organic certification was necessary for environmental protection, the process of standardization should be under host government control.

4.2.2.4 How should organic certification be overcome?

For these Chinese organic food exporters, results of interviews showed that firms had taken some strategic actions to overcome the effects of organic certification. They expressed how firms must react positively to organic certification if they want to export organic foods to the EU. Some managers mentioned that in order to meet the process of organic certification, their firms had made some changes to the production process to improve quality. Three managers said that based on improving product quality, they further developed their own international branding, which seemed to be advantageous to their success in obtaining organic certification. Some managers suggested that Chinese government should do something to help the organic exporters, for instance, negotiations between the Chinese government and host country's

government should be used as a better way to eliminate, or at least reduce, the impact of organic certification. In order to reduce the costs of international organic certification, some managers said that they would like to cooperate with some international certifiers whose certifications are equal to the EU. In addition, they considered that forming a producer group and applying for certification as a group could reduce the high costs of international certification.

Once the Chinese organic exporters decide to engage in international trade of organic foods, they must decide how they are going to enter foreign markets, *i.e.* what kind of market entry strategies to adopt. Results from the interviews indicated that there were some common market entry strategies adopted by the Chinese organic exporters. Most managers mentioned that their firms currently had decided upon direct exporting, having considered issues such as finance and technique. Only one firm had adopted foreign sales branch to evade organic certification, and the manager thought that hierarchical mode was an easier approach to enter the EU market, reinforcing Hollensen's theory.

Chapter V Implications

Based on this case study, it is found that ETBs have very significant impact on the exporters from developing countries. As the international trade related to the environment has increased dramatically, ETBs also expanded due to a growing awareness of environmental protection and sustainable development. Undoubtedly, the world has become a single market due to globalization. Understanding trade rules, especially ETBs, is extremely significant for exporters from developing countries. The developing countries may have to adjust their agricultural structure, develop their rural economy, and promote foreign trade. Obviously, it is necessary for exporters from developing countries to positively deal with ETBs. In reality, it is not always easy for them to overcome ETBs due to their lack of technical and financial ability to comply with environmental regulations of industrialized nations, so the first and most important implication from this study is that high-level managers, governments and the WTO need to cooperate to overcome the negative impact of ETBs.

5.1 Managerial Implications

As the international export trade between the developed and developing countries has increased dramatically, ETBs have been diffusely concerned. Managers should establish their own approaches to analyze macro and market factors unique to their business but also look at barriers both to entry and operations as part of this process. A country may appear to be an attractive and potential market, and relatively open to entry but a manager may find the business, once established, strangled by operational barriers. These barriers vary in type and intensity by industry, so managers considering international efforts must closely examine potential barriers at the early stage of market entry analysis and strive to find some effective approaches to overcome them (Zimmerman, 1999). In the following section, implications for senior managers as extrapolated from the case study are discussed.

5.1.1 To improve product quality

The primary motive for the consumers to buy organic foods, particularly in the developed countries, is for health consideration and environmental awareness, reflecting higher awareness of food safety. Consumers are very concerned about

residual toxic substances when they purchase animal products, vegetables or fruit, and therefore non-polluting green (organic) foods are usually preferred.

For exporters from developing countries, it is of fundamental importance to enhance product quality, which is one of the best ways to evade the negative implications of ETBs. To ensure that products comply with environmental standards and improve the quality of their exports, enterprises should strive to seriously implement environmental standards and improve product quality. Only exports of products with good quality that meet international quality standards in the world can win a higher market share and thus increase export capacity.

5.1.2 To produce specialist traditional products and build international brand reputation

Brand is the sign of quality and credibility, and a well-known brand represents that the product has high market share, efficiency and credibility. Brand is an important intangible asset, so enterprises can become bigger and stronger in the fierce market competition through the implementation of brand strategy. According to a recent survey from AC Nielsen, British consumers are in favour of brand-name consumer goods, especially health-related products. Moreover, in developed countries, sophisticated consumers like specialist indigenous products. For example, people of Chinese descent in developed countries favour traditional Chinese foods, especially health-giving and green (organic) foods. Therefore exporters from developing countries should intensify their efforts to produce specialist traditional products and by so doing build their own international brand.

5.1.3 To expand transnational operations

In the face of ETBs, exporters from developing countries should positively expand transnational operations through direct investments or indirect investment, thereby shifting exports into local production. Through joint ventures, investment, wholly owned subsidiaries, takeovers, mergers, cooperation and other means to develop transnational operations, exporters can produce and sell products in the host countries, thereby bypassing international trade barriers. Recently, foreign direct investment has rapidly increased, as a means to bypass increasing NTBs.

5.1.4 To cooperate with international certifiers and develop group certification

Obviously, cooperation with international certification organizations is an effective way for developing countries to simplify certification processes and improve the possibility of obtaining organic certification. In addition, the establishment of producer groups or cooperative organizations is also an effective method to reduce certification costs. Group certification need only pay certification fee costs. Exports through group authentication now have many successful cases, especially in coffee and cotton exports, which indicate that group certification operates efficiently.

5.1.5 To introduce green packaging

Packaging is equivalent to the façade of the product and shows consumers the first product image. To implement green packaging demands development of new green materials. These low consumption materials should be reused, recycled and biodegradable. Moreover, enterprises in developing countries should implement green channel and green marketing strategies, using non-polluting means of transport, rationalizing supply and distribution centres and distribution links, and choosing good environmental agencies, resulting in an improved green image. Dedicated environmental investment to develop green products, green marketing and green management enables enterprises to win environmental advantage.

5.1.6 To be familiar with regulations, collect information and grasp the latest trend

Many information systems are imperfect, so exporters from developing countries have insufficient understanding of various restrictions and regulations of importation in exporting countries, resulting in frustrated transactions. Exporters from developing countries should strengthen understanding of regulations in exporting countries, and meet these requirements in product design, production, processing, packaging, transportation and marketing to ensure that exports are carried out smoothly.

For this aim, exporters from developing countries should pay attention to gathering information related to ETBs and treat this work as integral to their daily workload. In addition, they should also collect information about relevant laws, regulations and industry standards on import, foreign investment and trade, establish a corresponding database, with knowledge of local measures and policies adopted for commodities in the exporting market and problems involved in the implementation of these standards.

An ETB information database can become the foundation of a barriers warning system for foreign trade and investment in the future, and provide support for investigation of foreign trade barriers. If an effective early warning mechanism is established, exporters can follow the trends of certain foreign ETBs and ensure that ETBs in every case can be immediately flagged prior to a required adjustment of exporting strategy, so ETBs' impact can be reduced.

Importantly, exporters from developing countries can choose a trusted foreign agent in the host country, because they not only know the local market and the latest industry development, but also fully grasp the latest demand of consumers.

5.1.7 To increase technological content of products

Exporters from developing countries should increase the technological content of products through technological transformation, and continue to develop new products and improve product quality and product-related environmental quality and standards. The imposition or upgrading of a technical regulation or standard by exporters can be seen as an external shock or discontinuity or innovation. New technologies may lead to new product designs, production methods and marketing with higher standards. Enterprises should react positively and quickly to the changes in market conditions, including internal technological capability. Of these, however, investments in technological capability – conscious efforts by exporters to use imported technologies efficiently – are particularly critical to sustaining enterprise-level competitive advantage (Mytelka, 1999; Lall, 2001). Enterprise-level capability building is best seen as a type of active technological learning process that is incremental and cumulative.

5.2 Governmental implications

5.2.1 To set up a professional forum and information advisory centre

It is likely that with increasing trade, developed countries will create more new ETBs and thus awareness of other existing ETBs will also grow. It would be advisable to have a constant intra-regional forum to address ETB-related concerns on a bilateral level.

Furthermore, each developing country should consider establishing and publicising a domestic, central reference point to which both their own industries and partner

countries in the region can refer concerns about ETBs. These reference points should provide a reliable channel for clarifying the facts and discussing possible solutions. In addition, respective intra-governmental institutions or forums should be created. Because ETBs often touch on various spheres of governmental competences, intra-governmental consultation is important. Governments should ensure that officials dealing with these issues have the necessary expertise. Intra-governmental coordination can have the positive side effect of increasing such expertise in ministries not primarily responsible for trade policy.

Through collecting and tracking ETBs, governments of the developing countries should establish a national centre, web site, newspapers and news flashes, and timely dissemination of services related to ETBs' information for relevant departments and enterprises, so they can carry out some preventive work. It is also necessary for governments to summarize the experience and lessons from domestic and foreign enterprises to break through ETBs.

5.2.2 To exert the role of Import and Export Chamber of Commerce and Industry Associations

Import and Export Chamber of Commerce and Industry Associations that are the industry's self-regulatory bodies have a more in-depth knowledge than the government itself, so they can create tremendous efficiency for the development of foreign trade. In addition, they should learn from other regions or countries' associations, be familiar with the state's relevant laws and regulations, further strengthen trade information services, and promote joint venture development. In this way, they can provide enterprises with various marketing, consulting and training services, to guide and help enterprises to consolidate, expand and develop the market, to provide enterprises with the relevant law services, and to actively help their members to solve import and export trade disputes.

5.2.3 To promote agriculture environmental protection

Rural township enterprises are the main source of agricultural environment pollution in developing countries. Considering the current situation about township enterprises, such as the large numbers, small sizes, outdated facilities and lack of technologies for clean production, local government or departments with responsibility of environmental protection should implement the return system of payment in advance.

Regulators of environmental pollution have the potential to request advance payment of the levy, if the products after use are less than the collection points and avoid pollution, the levy will be returned to the enterprises, otherwise it is not returned. According to the objectives for environmental protection and the needs of economic development, payment in advance is transferred to other economic entities through the trading auction. This measure will help the enterprises to realize the relationship between protecting environment and their own economic benefits and effectively prevent township enterprises from blind development disregarding for environmental protection.

5.2.4 To promote environmental standards and certification system

Governments of developing countries should promote the environmental standards and certification systems. For instance, ISO14000 system is a standard system of environmental management issued by the ISO, and its purpose is to standardize the enterprises and other organizations in production, services and environmental protection behaviour during their activities. Largely based on the experience of environmental protection in developed countries, ISO14000 standards have gained agreement from most countries and regions over the world and exert extensive effects. The series of standards have a dual role in environmental protection and eliminating ETBs, so the achievement of ISO14000 certification means that products and processes meet the demand of environmental protection and allows the enterprises to easily enter the international market. Therefore, governments should transfer international standards into domestic standards through the legislative process.

5.2.5 To strengthen international certification work

Governments should strengthen international certification and establish mutual recognition mechanisms with foreign authorities. Since certification based on international practices is an important condition for export trade, governments should actively promote the ISO, ICE and other international certification standards and help enterprises to expand international certification coverage. Secondly, they should strengthen exchange and cooperation with international authoritative certification bodies, authorise certification protocol and achieve bilateral authentication. Lastly, governments should enhance the examination and management of certification bodies

according to the requirements of international standards and obtain certification abroad, particularly the developed countries' recognition and authorization.

5.2.6 To participate in international negotiation about the standards and regulations of ETBs

On their own behalf, governments should maintain close contact and strengthen international cooperation in international affairs to enhance their strength. Governments should actively participate in the establishment of international environmental treaties and enhance international cooperation in the environment and trade areas to find preferential treatment in the environment and trade and safeguard their legitimate rights and interests. Through multilateral cooperation, developing countries should strive to allow developed countries shoulder the responsibility to provide developing countries with technical and financial assistance in environmental protection. Developing countries should actively participate in international negotiations about environmental conventions and multilateral environment agreements to expand their effects on international environment and trade legislation, and prevent the abuse of environmental regulations and trade agreements from trade protectionism. To fully utilize the provisions of international environmental agreements about special conditions of developing countries, governments should actively use bilateral, multilateral, private aid or preferential loans to introduce the latest and advanced environmental technology, improve environmental management levels, and fight against pollution transfer activities.

5.2.7 To insist on the principles and actively face

Whether the unilateral measures of domestic legislation are used to restrict international trade and whether trade measures based on multilateral environmental treaties are against the WTO's free trade principles are still controversial issues. When developed countries violate the non-discrimination principle and set up some ETBs, developing countries should argue against them on the basis of the principle of national treatment and most-favoured-nation established by bilateral or multilateral trade agreements, and special care on environmental treaties and agreements, through bilateral negotiations. In addition, governments should also make full use of the principle of special and differential treatment for developing countries on TBT and the WTO dispute settlement mechanism to relieve unfair treatment during the

international trade. When importing countries use environmental protection as an excuse to unilaterally set up ETBs, or implement their domestic environmental laws and regulations overseas, or adopt covert forms of discrimination in trade, governments should negotiate with the importing countries through diplomatic channels or appeal to the WTO dispute settlement body.

5.2.8 To promote cleaner production through policy guidance

In order to overcome ETBs and protect the environment, governments should promote clean production through policy guidance. For this objective, there are some specific measures:

- i) To charge for permits for sewage emission and impose environmental taxes, and thus gradually enable the internalization of environmental costs.
- ii) To support products with less pollution or free pollution through economic policies.
- iii) To ensure enterprises with good environmental behaviour easier access to credit through the credit policy guidance.
- iv) To promote clean production through tax relief.

Governments should carry out extensive environmental protection, increase environmental awareness, strengthen environmental legislation and enforcement, control and reduce environmental pollution by environmental protection laws, and make greater efforts to fight against all the environmental pollution behaviours.

5.2.9 To accelerate the development of professional marketing channels

Governments should actively create professional marketing channels. With this specialized channel maturing in the importing countries, it will certainly drive international trade. Governments should actively invite vendors to participate in international trade fairs, and the manufacturers should also take the initiative to join various international trade fairs in developed countries.

5.3 WTO's implications

5.3.1 To exert the WTO's coordination and supervision role

The WTO should establish a corresponding mechanism to restrict national implementation of environmental policies, and supervise and prevent the misuse of international environmental standards. The WTO should demand both the developed and developing countries in the formulation and implementation of environmental policies and regulations to increase transparency and openness. Transparency should include ecological signs, packaging and waste disposal, environment-related measures, and domestic measures for implement of multilateral environmental agreements. As a result of these policies and provisions, developing countries can understand and study them, and then take corresponding export countermeasures in advance. If these provisions are unreasonable or discriminatory, contrary to the WTO's basic principles, such as the non-discrimination principles of most-favoured-nation and national treatment, and the general exceptions to the GATT rule, developing countries will appeal to the WTO, and call for the repeal of unreasonable provisions. Developing countries can rely on these basic treatment principles, and strive for dispute settlement in the WTO through negotiations or arbitration of the WTO Appellate Body.

5.3.2 To modify the existing WTO principles

There are a number of GATT/WTO provisions and agreements (such as: Article XX of GATT 1994, TBT agreement, SPS agreement, Agreement on agriculture) directly relevant to trade-related environmental issues. However, because of the vague language used in these provisions and narrow interpretation of these grounds by the Panel and the Appellate Body, some countries use environmental protection as an excuse to unilaterally set up ETBs, so it becomes very difficult for a country to use it as safeguard to maintain their benefit. A protectionist measure has presumably been imposed (Xia, 2003). Some \$900 billion imports in 1999 are potentially affected by environmental protectionism, of which only one percent of world trade manage to reach the requested standards. If one relaxes this tight criterion and draws the boundary between environmental concern and protectionism using the "up to five countries" criterion, half of world trade is potentially affected by environmental protectionism. It is necessary for WTO to devise a new rule to deal with the relationship between environmental measures and market access of developing countries (Xia, 2003).

In fact, international standards are mostly approved and judged by the developed countries. When controversies between the developed and developing members arise, and these standards obviously go against the benefits of developing countries' export trade, the WTO should find ways to develop some fair international standards in international trade, which are recognized by most countries. The WTO should play a greater role in trade-related environmental issues and set up unified environmental standards, implement uniform policies, and correctly handle the relationship between free trade and environment to achieve sustainable development strategies.

5.3.3 To improve the WTO Dispute Settlement mechanism

Dispute settlement is the central pillar of the multilateral trading system, but some shortcomings existing in this system. The WTO should improve this system in the following manners:

- (i) Reduce the period for the dispute settlement procedure. The total time for the dispute settlement procedure is now 27 months, which is too long for the appellant and appellee, because the opportunity for international trade is transient and has immense impact on the countries whose economy relies deeply on export trade.
- (ii) Reduce the average cost for dispute settlement or provide financial support. The cost of litigation to exporters for a market access case is likely to be \$500,000.
- (iii) To provide technological support. The WTO dispute settlement mechanism involves a lot of very complex and highly technical issues, and for developing countries it is difficult to find legal experts. This kind of financial and human resource constraint existing in this mechanism poses serious "soft constraints". These problems cause clear asymmetry in the choices by developed and developing countries to seek relief in the WTO.

5.3.4 To improve operational efficiency and absorb improvement measure from developing members

The WTO should improve operational efficiency, and reduce unfair treatment. Developing members have made significant improvements and also recommendations: extending reasonable implementation time for developing members and shortening the implementation time for developed members; establishing monitoring

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organizations to safeguard the implementation of terms; improving technical assistance systems. However, developed members consider their own interests and do not have interest in promoting these reform measures, while the strength of developing members remains weak, so these measures have been pending at the state level and are difficult to pass.

Chapter VI Conclusion and future research

This paper first investigated the trend of international trade and especially globalization, and found that trade liberalization is the best way for an economy to realize its comparative advantage and is to the mutual advantage of all participants. However, there are many reasons why many countries and regions institute trade barriers, such as raising money, protecting domestic industry from foreign competition, and tools of foreign policy. As a result, these barriers impose some restriction on free international trade. Importantly, the trend of environmental protection in international communities is becoming greater and greater, and environmental protection is used as an important condition in regulating international trade and is likely to form a new kind of ETB. In fact, ETBs are increasingly acting as the significant inhibitive factor in international trade.

Based on reviewing the origin and roles of ETBs in international trade and world exports, this paper tried to explore the impact of ETBs on the exporters from developing countries and their corresponding strategies. In order to reveal the essence and impact of ETBs, this study chose the organic food industry as a case study to investigate how organic certification as one kind of ETB affects organic exporters from developing countries to the EU. Insights from eight organic food exporters in China were adopted to explore the phenomenon under investigation.

Results revealed that organic certification is one main ETB when exporters are deciding whether or not to export organic foods to a particular country in the EU. The majority of interviewees thought that organic certification played a more significant role in making a go/no-go decision than other ETBs. No consensus emerged on whether organic certification is a necessary demand of environmental protection or an actual trade barrier. One side supported for environmental protection, while the other was for free trade. The same situation appeared in the question of whether organic certification should be abolished. Some interviewees, keeping an adiaphorous position, suggested that organic certification is necessary for environmental protection, but its process and standards in host countries should be well controlled and are not used for protectionism. Finally, results of the case study showed that firms often adopted some strategic actions to overcome trade barriers like organic certification,

including improving product quality, developing their own international branding, governmental negotiation to eliminate the impact of organic certification on organic exports, cooperating with international certifiers, and developing group certification to reduce the costs of certification. In addition, there were some market entry strategies usually adopted by organic exporters on basis of their own conditions to overcome trade barriers, such as direct exporting, and joint ventures *etc.*

Based on fully considering these results from the case study, this paper also gave some recommendations to overcome the impact of ETBs on the exporters from developing countries. The first and most important implication from this study was that high-level managers, governments and the WTO need to cooperate and make great efforts to overcome ETBs for international free trade. In order to successfully export their products to the host countries with some ETBs, it is necessary for high-level managers to improve product quality under green product and environmental banners, to produce specialist traditional products and build an international brand reputation, to expand transnational operation, to cooperate with international certifiers and develop group certification, to introduce green packaging, to be familiar with regulations, to collect relevant information and grasp the latest trend of ETBs, and to increase technological content of products. Governments of developing countries should set up professional fora and information advisory centres, exert the role of Import and Export Chamber of Commerce and Industry Associations, promote agricultural environmental protection, promote environmental standards and certification systems, strengthen international certification work, participate in international negotiation on standards and regulations of ETBs, insist on right principles and actively fight, promote cleaner production through policy guidance, and accelerate the development of professional marketing channels. Lastly, the WTO should exert its coordination and supervision roles, modify the existing WTO principles, and improve the WTO Dispute Settlement mechanism to prevent the misuse of international environmental standards for protectionism.

In conclusion, in the era of globalization, international free trade is the main direction for international communities, which is an unavoidable historical trend. Unfortunately, it is also true that countries have exerted some trade tariffs for various different reasons, which deeply restricts or distorts international trade. This study

successfully revealed that ETBs had been playing a crucial role in international trade, especially for the exporters from the developing countries. Based on the fact that ETBs may increase when the environmental protection and other considerations are dominant, this study insisted on that all sides involved in international trade should make mutual efforts to eliminate and overcome these tariffs and obtain a win-win outcome.

However, this study also had its limitations because of the author's limited knowledge. Firstly, in order to study the influence of ETBs on exporters from developing countries, this study did not investigate many industries like manufacturing and service industries involved in export trade, and only focuses on a specific industry, *i.e.* organic industry, so further research should be conducted on more industries to obtain more abundant data. Secondly, this study only chose the EU as the study sample, which was limited, so further study should include more countries or regions that have exerted ETBs and whose policies of ETBs have affected exporters from developing countries. Also some market strategies like foreign direct investment adopted by some firms to overcome the impact of ETBs should be studied in future, because these strategies will exert more important role in the export trade under a mass of ETBs and other tariffs.

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<http://www.wto.org/>

Appendix A

Appendix Table 1: World merchandise exports, production and GDP, 1950-05

(Annual percentage change)

	Value						Volume						World GDP
	Exports Fuels and Agricultural mining			Exports Fuels and Agricultural mining			Production			World GDP			
	Total	products	Manufactures	Total	products	Manufactures	Total	Agriculture	Mining		Manufacturing		
1950-63	7.4	3.7	8.5	10.1	7.7	4.5	7.2	8.6	5.2	2.9	4.8	6.6	4.7
1964	11.8	6.9	11.8	15.0	10.9	5.4	8.8	14.9	9.1	4.8	8.6	10.0	7.2
1965	8.3	4.3	7.1	10.9	6.6	5.1	3.2	7.4	5.6	0.0	3.9	9.1	4.1
1966	9.2	4.1	9.8	10.8	7.7	3.7	6.2	10.3	6.6	3.4	5.1	8.3	6.5
1967	5.2	-0.2	5.7	7.7	5.7	2.4	10.3	4.7	4.9	3.3	2.4	5.1	3.7
1968	11.0	4.1	14.2	14.9	10.8	5.7	12.0	17.9	5.9	3.2	7.1	7.3	5.9
1969	14.2	6.9	9.2	16.5	12.2	5.4	6.0	16.5	5.6	0.0	2.2	8.0	6.7
1970	14.6	10.6	13.6	15.4	8.7	3.1	12.4	8.7	5.3	3.1	7.5	5.3	5.1
1971	11.7	7.4	11.3	13.7	7.0	2.0	1.0	9.0	5.0	3.0	4.0	5.0	4.4
1972	18.3	20.3	14.1	19.4	8.4	6.9	6.9	10.1	4.8	0.0	2.9	6.7	5.6
1973	38.4	45.5	47.4	34.1	12.1	0.9	10.2	14.2	8.2	4.9	6.5	9.8	6.9
1974	44.9	21.7	122.9	31.3	5.4	-4.5	-1.7	8.8	2.5	1.9	1.8	3.3	2.1
1975	4.3	1.0	-4.0	8.8	-7.3	1.0	-12.0	-4.0	-1.6	3.6	-6.0	-3.9	1.4
1976	13.1	10.5	16.3	12.8	11.8	7.5	6.8	12.6	6.7	0.9	8.3	8.2	5.1
1977	13.7	13.5	10.6	14.7	4.2	3.5	2.7	5.0	3.9	2.6	3.4	4.5	4.2
1978	15.8	13.3	3.7	21.6	4.7	6.8	5.3	5.9	4.5	3.4	0.8	5.1	4.6
1979	27.0	24.4	47.0	21.3	5.2	4.8	5.9	5.0	3.6	0.8	8.9	4.1	4.0
1980	22.6	13.8	41.8	15.9	2.9	6.8	-6.3	5.9	-0.7	0.9	-2.6	0.7	2.9
1981	-1.2	-1.9	-3.2	-0.7	-0.6	5.0	-9.9	4.0	0.1	3.6	-7.9	0.2	2.0
1982	-6.4	-7.5	-10.6	-3.6	-2.2	-2.0	-5.8	-2.1	-1.0	3.2	-6.9	-1.4	0.8
1983	-2.0	-1.4	-8.0	0.5	2.7	0.2	-0.9	5.1	2.2	0.1	-0.9	3.1	2.9
1984	5.9	5.3	-0.9	8.1	8.5	2.8	4.8	10.8	6.5	5.3	3.8	7.2	4.6
1985	-0.3	-5.7	-3.2	3.8	2.6	-1.2	-1.2	4.8	2.8	2.4	-1.1	3.4	3.5
1986	9.4	11.1	-23.8	20.3	4.0	-1.7	9.1	4.1	2.8	1.8	3.0	3.1	3.4
1987	17.5	14.9	11.0	19.7	5.5	5.6	1.7	6.3	3.5	1.0	1.3	4.4	3.7
1988	13.7	13.1	0.9	16.1	8.5	2.7	5.6	9.5	4.9	1.7	5.3	5.7	4.5
1989	7.8	4.3	15.5	6.9	6.4	3.1	4.4	7.8	3.5	3.4	4.5	3.4	3.8
1990	12.9	4.7	15.3	14.7	3.8	1.0	3.2	6.1	1.3	2.5	1.0	1.0	2.5
1991	1.5	0.8	-6.2	3.3	3.7	3.3	3.4	3.6	-0.4	0.4	-0.5	-0.6	0.8
1992	6.7	7.1	-0.9	8.0	4.8	6.0	4.4	4.7	0.1	2.3	0.8	-0.5	1.1
1993	-0.2	-4.1	-3.5	0.0	4.2	1.0	3.7	4.1	-0.1	0.6	2.0	-0.6	0.9
1994	13.6	15.8	5.1	15.6	9.2	8.7	6.8	11.1	2.8	2.9	1.6	2.9	2.2
1995	19.3	17.3	15.5	20.0	7.3	4.4	4.1	9.0	4.6	2.1	2.2	5.5	2.3
1996	4.6	2.9	13.6	3.5	5.1	4.4	3.4	5.3	3.5	4.3	2.7	3.5	3.3
1997	3.4	-1.3	2.7	4.6	10.0	5.7	7.4	11.0	4.9	2.4	3.3	5.7	3.4
1998	-1.3	-4.7	-20.5	2.3	4.8	1.7	2.9	4.8	2.2	1.6	1.1	2.4	2.1
1999	3.9	-3.7	15.6	3.3	4.6	1.0	-0.5	5.1	3.1	3.3	-1.3	3.6	2.9
2000	12.8	0.9	47.9	10.1	10.4	3.6	4.5	13.0	5.2	1.9	3.7	6.2	3.8
2001	-4.1	0.1	-9.3	-3.8	-0.6	1.5	-0.7	-1.2	-0.8	1.5	-0.1	-1.4	1.5
2002	4.8	6.1	-0.5	5.4	3.5	3.7	0.6	4.0	1.3	1.8	0.1	1.4	1.9
2003	16.9	16.3	24.1	15.8	5.2	3.4	5.8	5.1	4.3	2.7	3.6	4.8	2.7
2004	21.6	15.3	33.1	20.5	9.5	3.7	5.5	10.9	3.9	4.2	4.2	3.8	3.9
2005	13.4	8.1	36.2	9.9	6.0	5.6	2.4	6.9	2.6	0.5	1.2	3.3	3.3

a Includes unspecified products.

Note: See the Technical Notes for the estimation of world aggregates of merchandise exports, production and GDP.

Source: WTO, 2006

Appendix B

Appendix Table 2: UNCTAD classification of trade control measures

Code	Category of Measure	Type
1100 1200 1300 1400 1500 1600 1700 1800	Tariff measures	Statutory customs duties MFN duties GATT ceiling duties Tariff quota duties Seasonal duties Temporary reduced duties Temporary increased duties Preferential duties under trade agreements
2100 2200 2300 2400	Para-tariff measures	Customs surcharges Additional charges Internal taxes and charges levied on imports Decreed customs valuation
3100 3200 3300 3400 3410 3420 3430 3500 3510 3520 3530	Price control measures	Administrative price fixing Voluntary export price restraint Variable charges Anti-dumping measures Anti-dumping investigations Anti-dumping duties Anti-dumping price undertakings Countervailing measures Countervailing investigations Countervailing duties Countervailing undertakings
4100 4110 4120 4130 4170 4200 4300 4500 4600	Financial measures	Advance payment requirements Advance import deposits Cash margin requirement Advance payment of customs duties Refundable deposits for sensitive product categories Multiple exchange rates Restrictive official foreign exchange allocation Regulations concerning terms of payment for imports Transfer delays/queuing
5100 5200	Automatic licensing measures	Automatic licence Import monitoring
6100 6110 6120 6130 6140 6141 6142 6143 6150 6160 6170	Quantity control measures	Non-automatic licensing Licence with no specific <i>ex-ante</i> criteria Licence for selected purchasers Licence for specific use Licence linked with local production Purchase of local goods Local content requirement Barter or counter trade Licence linked with non-official foreign exchange Licence with or replaced by special import authorization Prior authorisation for sensitive product categories

6180		Licence for political reasons
6200		Quotas
6210		Global quotas
6220		Bilateral quotas
6230		Seasonal quotas
6240		Quotas linked with export performance
6250		Quotas linked with the purchase of local goods
6270		Quotas for sensitive product categories
6280		Quotas for political reasons
6300		Prohibitions
6310		Total prohibition
6320		Suspension of issuance of licences
6330		Seasonal prohibition
6340		Temporary prohibition
6350		Import diversification
6360		Prohibition on the basis of origin (embargo)
6370		Prohibition for sensitive product characteristics
6600		Export restraint arrangements
6700		Enterprise-specific restrictions
7100	Monopolistic measures	Single channel for imports
7200		Compulsory national services
8100	Technical measures	Technical regulations
8110		Product characteristic requirements
8120		Marking requirements
8130		Labelling requirements
8140		Packaging requirements
8150		Testing, inspection and quarantine requirements
8160		Information requirements
8200		Pre-shipment inspection
8300		Special customs formalities
8400		Obligation to return used products
8500		Obligation of recycling or reuse
9100	Miscellaneous measures	Marketable permits
9200		Public procurement
9300		Voluntary instruments
9310		Technical standards
9320		Voluntary agreements or covenants
9400		Product liability
9500		Subsidies

Source: UNCTAD, 1994

Appendix Table 3: Major Categories of Non-Tariff Barriers

Deardorff and Stern (1997)	OECD (2003)
<p>Quantitative restrictions and similar specific limitations</p> <ul style="list-style-type: none"> Import quotas Export limitations Licensing Voluntary export constraints Exchange and other financial controls Prohibitions Domestic content and mixing requirements Discriminatory bilateral agreements Countertrade <p>Non-tariff charges and related policies affecting imports</p> <ul style="list-style-type: none"> Variable levies Advance deposit requirement Antidumping duties Countervailing duties Border tax adjustments <p>Government participation in trade, restrictive practices, and more general government policies</p> <ul style="list-style-type: none"> Subsidies and other aids Government procurement policies State trading, government monopolies, and exclusive franchises Government industrial policy and regional development Government financed research and development and other Technology policies National systems of taxation and social insurance Macroeconomic policies Competition policies Foreign investment policies Foreign corruption policies Immigration policies <p>Customs procedures and administrative practices</p> <ul style="list-style-type: none"> Customs valuation procedures Customs classification procedures Customs clearance procedures <p>Technical barriers to trade</p> <ul style="list-style-type: none"> Health and sanitary regulations and quality standards Safety and industrial standards and regulations Packaging and labeling regulations, including trademarks Advertising and media regulations 	<p>Technical measures</p> <ul style="list-style-type: none"> Food safety and health requirements Sanitary and phytosanitary requirements Labeling regulations Quarantines Certification and testing requirements <p>Customs rules and procedures</p> <ul style="list-style-type: none"> Excessive documentation required Unpredictability Slow customs clearance Complex regulations Arbitrary enforcement of rules Lack of harmonization <p>Internal taxes or charges</p> <p>Competition-related restrictions on market access</p> <p>Quantitative import restrictions</p> <p>Procedures and administration (general)</p> <p>Public procurement practices</p> <p>Subsidies and related government supports</p> <p>Investment restrictions or requirements</p> <p>Transport regulations or costs</p> <p>Restrictions of services (general)</p> <p>Restrictions on mobility of business people or labor</p> <p>Trade defense instruments</p> <ul style="list-style-type: none"> Antidumping duties Countervailing duties Safeguards <p>Local marketing regulations</p>
	<p>USTR (2006)</p> <p>Import policies (including quantitative restrictions, import licensing, customs barriers)</p> <p>Standards, testing, labeling, and certification</p> <p>Government procurement</p> <p>Export subsidies</p> <p>Lack of intellectual property protection</p> <p>Service barriers</p> <p>Investment barriers</p> <p>Anticompetitive practices with trade effects tolerated by foreign governments</p> <p>Trade restrictions affecting electronic commerce</p> <p>Others</p>
<p>Jovanovic (1997)</p> <p>Government involvement in international trade</p> <ul style="list-style-type: none"> Subsidies (production, exports, credit, R&D, cheap government services), Public Procurement, Embargoes, Tied Aid, State monopoly trading, Exchange rate restrict <p>Customs and administrative entry procedures</p> <ul style="list-style-type: none"> Customs Classification, Customs valuation, Antidumping and countervailing duties, Rules of origin, Consular formalities, Deposits, Trade licensing, Calendar of import, Administrative controls <p>Standards</p> <ul style="list-style-type: none"> Technical, Health, Environment, Testing and certification, Packing, labelling, weight <p>Others</p> <ul style="list-style-type: none"> Quotas, Tax remission rules, Variable levies, Bilateral agreements, Buy domestic campaigns, Voluntary export restrictions, Self-limitation agreements, Cartel practices, Permission to advertise, Ambiguous laws, Orderly marketing agreements 	<p>Gupta (1997)</p> <p>Import Policy Barriers</p> <p>Standards, Testing, Labelling and Certification requirements</p> <p>Anti-dumping & Countervailing Measures</p> <p>Export Subsidies and Domestic Support</p> <p>Government procurement</p> <p>Services barriers</p> <p>Lack of adequate protection to Intellectual Property Rights</p> <p>Other barriers</p>

Source: Deardorff and Stern, 1997; Gupta, 1997; Jovanovic, 1997; USTR, 2006; and OECD, 2003.

Appendix C

Appendix Table 4: List of third countries whose organic agricultural products are imported into the EU

Article 11(1) Procedure	Article 11(6) Procedure		
Argentina	Belize	Gabon	Philippines
Australia	Bolivia	Ghana	Poland
Czech Republic	Bosnia Herzegovina	Guatemala	Romania
Hungary	Brazil	Guinea	Russia
Israel	Bulgaria	Guyana	Saudi Arabia
Switzerland	Burkina Faso	Honduras	Serbia
	Burma	India	Seychelles
	Cameroon	Indonesia	Slovakia
	Canada	Jamaica	South Africa
	Cape Verde	Japan	Sri Lanka
	Chile	Kenya	Thailand
	China	Madagascar	The Gambia
	Colombia	Malawi	Togo
	Comoros	Mauritius	Tonga
	Costa Rica	Mayotte	Tunisia
	Côte d'Ivoire	Mexico	Turkey
	Croatia	Morocco	Uganda
	Cuba	Namibia	Ukraine
	Cyprus	Nepal	United States
	Czech Republic	New Zealand	Uruguay
	Dominican Republic	Nicaragua	Vanuatu
	Egypt	Pakistan	Vietnam
	El Salvador	Papua-New Guinea	Yugoslavia
	Ecuador	Paraguay	Zambia
	Ethiopia	Peru	Zimbabwe

Source: Guillou and Scharpé, 2001

Appendix D

The letter was sent to organic food exporters from china listed at the ITC website:

My name is Yan Yang. I am studying MSc. in International Business in Portobello College Dublin. Currently, I am conducting research of organic food companies exporting to the EU countries. The goal of the study is to evaluate how environmentally-related non-tariff barriers affect managerial decision-making of exports from China to the EU and how managers develop their managerial behavior to deal with them. The interview is anonymous; results of the interview will be aggregated and presented in my thesis. The length of the interview is between 30-60 minutes. Would you agree to answer the following questions?

Summary of the interview questions:

Part I: Information on the company

1. What EU countries do you export to?
2. What types of organic products do you export?
3. What is your market entry mode to the EU countries?
4. How many years has your company been operating?
5. How many years have you been exporting your products to the EU?
6. Which certification does your company obtain?

Part II: Information on the environmentally related non-tariff barrier

1. What are the major non-tariff barriers you have faced?
2. What is the general trend in non-tariff barriers?
3. Do you think that organic certification is the major environmentally related non-tariff barrier in the organic food industry?
4. Do you feel that organic certification is acting as a barrier rather than a genuine requirement? Why?
5. Do you feel that organic certification of your product should be completely done away with in the EU countries? Why?
6. In your opinion, is the organic certification is a significant factor influencing your market entry into the EU countries?
7. Have you stopped exporting to the EU due to intensification of the organic certification?
8. How have you dealt with or overcome the organic certification?