

**COMPETITIVENESS AND TRADE POLICY PROBLEMS IN
AGRICULTURAL EXPORTS:
A PERSPECTIVE OF PRODUCING/EXPORTING COUNTRIES IN
THE CASE OF BANANA TRADE TO THE EUROPEAN UNION**

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ZUSAMMENFASSUNG

Die Wettbewerbsfähigkeit ist von einigen Wirtschaftswissenschaftlern lediglich als ein Schlagwort betrachtet worden, weil es keinen Konsens darüber gibt, wie dieses Allerweltswort zu definieren ist. Jedoch wird es häufig von Politikern und Geschäftsleuten benutzt, um die Position von Ländern, Sektoren, Firmen und/oder Produkten im internationalen Handel zu beschreiben. Aus diesem Grund befürwortet eine weitere Gruppe von Wirtschaftswissenschaftlern eine Verwendung des Begriffs mit der Absicht, dadurch die Defizite der klassischen Außenhandelstheorie und der Theorie des Komparativen Vorteils aufzufangen. Diese Dissertation unterstützt diese zweite Gruppe, indem die Theorie der Wettbewerbsfähigkeit auf eine bestimmte Fallstudie angewendet wird: die Wettbewerbsfähigkeit des Bananenexports ausgewählter Hersteller- bzw. Exportländer in die Europäische Union.

Die vorliegende Studie ist des weiteren ein Beitrag zur Debatte über die Auswirkungen der Handelspolitik auf den Agrarsektor, insbesondere in Entwicklungsländern. Sie besteht aus zwei Teilen und vier Kapiteln. Im ersten Teil (die ersten beiden Kapitel) wird der theoretische Rahmen für die Theorie der Wettbewerbsfähigkeit und die Handelspolitik dargestellt. Im zweiten Teil (das dritte und vierte Kapitel) wird eine empirische Studie über den Bananenhandel durchgeführt, wobei mit dem „cluster-value chain Modell“ die Bedingungen der Wettbewerbsfähigkeit analysiert werden. Des weiteren werden anhand eines „partial equilibrium Modells“ die Auswirkungen der Handelspolitik auf die Marktanteile von Hersteller- bzw. Exportländern analysiert.

Die theoretische und empirische Analyse der Wettbewerbsfähigkeit stützten folgende Hypothese: Die Handelspolitik ist lediglich einer von zahlreichen Faktoren, die bei der Analyse der Wettbewerbsfähigkeit von Bananenexporten in Betracht gezogen werden müssen.

OVERVIEW

Competitiveness has been considered merely a buzzword by some scholars because of the lack of consensus over its seemingly catch-all definition. However, policy makers and business people frequently use it to defend economic performance in international trade of countries, sectors, firms and/or products. For this reason, another group of scholars defends its use to capture the failures of the classical trade theory of comparative advantage. This paper supports the “defenders” by analytically applying the competitiveness theory to a specific case study: the competitiveness of banana exports from selected producing/exporting countries to the European Union.

This research is also a contribution to the debate on the effects of trade policies in the agricultural sector, particularly in developing countries. It consists of four chapters divided into two analytical parts. The first part (the first and second chapters) includes the theoretical fundamentals of the competitiveness theory and trade policies. In the second part (the third and fourth chapters), the empirical study of the banana case is carried out by using the model of the cluster-value chain to analyze the determinants of competitiveness. A partial equilibrium model is used to specifically analyze trade policies’ effects on the market share of producing/exporting countries.

As a consequence of the theoretical and empirical analysis of competitiveness, the following hypothesis is supported: trade policies are only one of many determinants that should be taken into account in order to analyze the competitiveness of banana exports.

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ABBREVIATIONS AND ACRONYMS

ACP:	Africa, Caribbean and Pacific countries signatories of the Lomé and Cotonou Conventions with the EU.
AEBE	Asociación de Exportadores Bananeros del Ecuador
AGREEM	Asociación Grupo de Estudios Europeos y Mediterráneos
ANAPROBAN	Asociación Nacional de Productores de Banano (Costa Rica)
AoA	Agreement on Agriculture in the GATT's Uruguay Round
ASBAMA	Asociación de Bananeros del Magdalena (Colombia)
ASPROCAN	Asociación de Productores de Plátano de Canarias (Spain)
ASSOBACAM	Association of Banana Exporters of Cameroon
AUGURA	Asociación de Bananeros de Colombia
CAF	Corporación Andina de Fomento
CANABA	Cámara Nacional de Bananeros (Costa Rica)
CAP	Common Agricultural Policy of the EU
CBGA	Caribbean Banana Growers Association (former Commonwealth Banana Growers Association)
CDC	Cameroon Development Corporation
CIF	Cost, Insurance & Float
CIR	Cost-Income Ratio
COM – Bananas	Common Organization of the Market in Bananas for the EU
CORBANA	Corporación Bananera Nacional de Costa Rica
COSIBA	Coordinadora de Sindicatos Bananeros (Costa Rica)
DOM	Departments d'Outre Mer (France)
DRC	Domestic Resource Cost
DSP	Dispute Settlement Body of the WTO
ECBTA	European Community Banana Trade Association
EST or EU10	Eastern European countries integrated to the EU in May 2004
EU	The European Union
EU15	The European Union of the fifteen
EU25	The European Union of the fifteen after the enlargement in May 2004
EUREP–GAP	Euro-Retailer Produce Working Group – Good Agricultural Practices
EUROBAN	European Banana Action Network
ECDPM	European Centre for Development Policy Management
FAO	Food and Agricultural Organization of the United Nations
FDI	Foreign Direct Investment
FENACLE	Federación Nacional de Campesinos e Indígenas Libres del Ecuador
FOB	Free on Board
GAMS	General Algebraic Modeling System
GATT	General Agreement on Tariffs and Trade
GDI	German Development Institute
GDP	Gross Domestic Product
IAIC	Inter-American Institute for Cooperation on Agriculture
ILO	International Labor Organization
IMD	International Institute for Management and Development (Switzerland)
INRA	Institut National de la Recherche Agronomique
ISC	Institute for Strategy and Competitiveness at Harvard Business School (USA)
ISO	International Organization for Standardization
LP	Labor Productivity
MFN	Most Favoured Nation

NAFTA	North American Free Trade Agreement
NERA	National Economic Research Associations (United Kingdom)
NTA	Non-Traditional ACP countries
NTT	The New Trade Theory
OCAB	Organisation Centrale des Producteurs Exportateurs d'Ananas et de Banane (Ivory Coast)
OECD	Organization for Economic Cooperation & Development
OPM	Oxford Policy Management (United Kingdom)
OTA	Office of Technology Assessment (United States)
R&D	Research and Development
RCA	Revealed Comparative Advantage
RER	Real Exchange Rate
RULC	Relative Unit Labor Cost
SCB	Société pour le Développement de la Culture de la Banane (Ivory Coast)
SCM	Systemic Competitiveness Model
SENA	Servicio Nacional de Aprendizaje (Colombia)
SINTRAINAGRO	Sindicato de Trabajadores Agrícolas de Colombia
TFP	Total Factor Productivity
TNC	Transnational Company
TRQ	Tariff Rate Quotas
UFCo	United Fruit Company
UK	The United Kingdom
UNCTAD	United Nations for the Cooperation on Trade and Development
UNEP	United Nations Environment Programme
UPEB	Unión de Países Exportadores de Banano
UROCAL	Unión Regional de Organizaciones Campesinas del Litoral (Ecuador)
USA or US	The United States of America
USP	Unique Selling Proposition
WEF	World Economic Forum
WIBDECO	Windward Islands Banana Development and Exporting Company (former Windward Islands Banana Growers' Association)
WINFA	Windward Islands Farmers' Association
WTO	World Trade Organization

INTRODUCTION

The markets of industrialized countries constitute the most important destination for agricultural exports of developing countries; at the same time these countries have the strictest trade constraints. The purpose of this study is to show that competitiveness is not only a function of domestic/internal determinants such as poor institutions, low technological capability, availability of capital, human capital, and labor, but also of external determinants such as market access. Therefore, this study projects the possible scenarios of trade for selected developing countries by investigating the elimination of trade restrictions. As a specific case study, the current and potential competitiveness of banana exports of developing countries to the market of the European Union is explored. The central hypothesis of this work is that the elimination of trade restrictions in the EU might have a positive impact on the competitiveness of some developing countries, even though it cannot guarantee an increase of exports in the short term without first curing some domestic problems.

The thesis is divided in two analytical parts, of which the first (the first and second chapters) corresponds to the theoretical framework of the research and the second (the third and fourth chapters) is the empirical application.

The implicit dialog between disciplines (such as business administration, economics, and political theory), discussed in the first chapter, is included in the analysis of competitiveness in order to look for the concept that best suits the main objective of this research. Various measurements of competitiveness have been used by different disciplines to answer specific research questions. This paper attempts to explain, by means of these competitiveness measurements, the effect of trade policies on banana exports of developing countries from an economic perspective.

The traditional theories of international trade that explain trade flows (inter-industry trade) rely on the concept of comparative advantage. This theory dates back to David Ricardo and Heckscher-Ohlin and stresses the idea of specialization. Countries export goods and services in order to guarantee more efficient use of resources, and import those goods and services that are more expensive due to higher resource costs. According to traditional trade theory, this efficient use of resources and/or the availability of the factors of production are the main determinants of trade. In this sense, comparative advantage is the primary paradigm necessary for understanding trade

flows, but is not a comprehensive one. Other determinants (such as trade policy and exchange rate policy) must also be included. The competitiveness theory includes the determinants that classical comparative advantage theory neglects. However, a theory of competitiveness is still being developed in debates concerning the definition itself, as well as the scope and the models to be applied.

Definitions of competitiveness can be divided between traditional and modern perspectives, at macro- and micro-levels of analysis, respectively. The traditional approach is framed at the macro-level and borrows definitions from the classical concept of comparative advantage. Relative costs, trade performance, and market share are some of its most common measurements. The traditional approach of competitiveness questions the assumptions of perfect competition (such as homogeneous products, free entry and exit of firms in response to profits, and perfect information). In the end, the macro-level perspective defines the environment of competitiveness where sectors, firms, and/or products can create competitive advantage. Thus, competitive advantage should be a dynamic concept in which determinants of imperfect competition are also analyzed.

The modern approach of competitiveness is framed at the micro-level¹ and improves the traditional measurements, providing a more comprehensive interpretation of competitiveness. The set of quantitative cost and price-based measurements should be complemented with qualitative ones—for instance, with the profitability of marketing practices and strategies, as well as the outcomes of relative research and development activity. These qualitative measurements come mainly from the business administration discipline, which includes innovation, technology, and management practices as relevant factors of competitive advantage.

As will be seen in the first and second sections of the first chapter, there is no general consensus on a single definition of competitiveness. The decision depends on the level and unit of analysis of the study's theoretical framework. The objective of the third section in the first chapter is to make clear the importance of the concept of

¹ The meso-level also should be included in the modern approach, but for analytical purposes it is broadly presented in the second chapter with the introduction of the systemic competitiveness model. The meso-level links the macro and micro levels. It refers to the policies and institutions created for the improvement of the competitiveness of a specific sector, firm, and/or product.

competitiveness, both for developing countries and the agricultural sector. While most studies on comparative advantage and recently on competitiveness concentrate on the manufacturing and service sectors (Goldin 1990; Austin Associates 2002), this study deals with the agricultural sector. The agricultural sector is not only important for the economies of developing countries, but also for political and social issues. Many political and social problems in rural regions related to violence and social differences need to be treated from a more comprehensive perspective.

With these perspectives for the explanation of competitiveness, the first important problem is to select a comprehensive and functional concept of competitiveness at either the macro- or the micro -level of the specific case study. Furthermore, for the purpose of this research, it is necessary to select a product that has two characteristics:

- a. it must be representative in terms of production and trade for developing countries
- b. it must be confronted with trade restrictions, making it possible to study the trade policy problems which developing countries confront when they export.

The banana is a product that has these characteristics. The discussion in the first chapter therefore introduces a concept of competitiveness that will be the framework for understanding the case study of banana exports.

In order to best suit theory to the case study and research objective, the definition of competitiveness must be based at the microeconomic level, with the product and the firm as the unit of analysis, and supported by a stable macroeconomic environment. The Inter-American Institute for Cooperation on Agriculture (IAIC) delineates some agreements among scholars on the definition of competitiveness in the agricultural sector, and it is included as the basic definition in this research:

“Competitiveness is a comparative concept based on the dynamic capacity of a specially-located agro-alimentary chain that keeps, expands, and enhances the market share continuously and in a sustainable manner domestically and overseas. It does so by means of the production, distribution and sale of goods and services on time, in suitable place and appearance, for society’s general welfare.

That capacity depends on economic as well as non-economic elements at the macro, meso and micro-levels². The macro-level concerns the economic aggregates and the country's relations with the rest of the world. The meso-level includes factors such as: distance, supporting infrastructure (physical and financial resources), natural resources, and social infrastructure (institutional links with the system). Finally, at the micro-level, factors include prices, quality, and spatial factors that can influence the firm's behavior" (Rojas & Sepúlveda 1999b, p. 18)³.

The determinants of competitiveness are classified in order to make the concept functional for the analysis. This classification is based on the geographical location of the determinant: if it is located in a country's boundaries it is internal; otherwise it is external. Internal and external determinants play a role in the configuration of a comprehensive definition of competitiveness. In many cases the external dimension, i.e., the policies of trading partners and their strategies to impede market access, is the only one stressed by developing countries. Although most developing countries enjoy trade preferences, they do not have the necessary market access to developed countries. To be fair, one has to concede that trade impediments still play an important role in international trade, especially for agricultural exports, but one also has to keep in mind that developing countries should not neglect the internal dimensions of competitiveness. Therefore, the next step is to look at the external dimension of competitiveness, foreign buyers' (importers) trade policy environment. The fourth section of the first chapter emphasizes the theoretical framework of trade policies. Tariff rate quotas (TRQs) are highlighted as a policy measure accepted by the WTO to simplify the liberalization of non-trade barriers. TRQs were applied to the banana regime even before it was accepted by the WTO. Since TRQs are so important for the purpose of this research, they are discussed from the theoretical point of view and are the basis for the evaluation of the competitiveness of producing/exporting countries, measured as market share in the empirical part of this thesis.

² See Section 3.3 for details of the classification of the determinants of competitiveness from Rojas & Sepúlveda (1999a p. 16)

³ Author's translation

The concept of competitiveness needs a structure linking determinants in order to become operational. Therefore, the purpose of the second chapter is to expand a model consistent with the concepts of the first chapter. The first section debates the mainstream model. This discussion results in some conclusions. One concerns the recent discussions of models of competitiveness pointing to the cluster at the meso-level as the most comprehensive and functional with respect to the analysis of the agricultural sector in developing countries. Therefore, a theoretical analysis of the cluster is carried out as a basis for the model of this research. Finally, some determinants forgotten by the mainstream (for example, the role of transnational companies, government intervention, and a different interpretation of the value chain analysis) are included in the thesis' model, a "cluster-value chain model of competitiveness".

After the first part of the study has established the theoretical framework of competitiveness, the second part (the third and fourth chapters) deals with the empirical application of the concepts and models of competitiveness under trade policy restrictions, using the banana regime of the European Union as a case study.

The role of homemade factors (internal determinants) is evaluated by means of an analysis of the environment in which exports take place. Due to the lack and poor reliability of statistical data, only trade policy, as an external determinant of competitiveness, can be tested by means of an econometric study.

A twofold analytical division of competitiveness between internal and external determinants is presented in the empirical section. First, the cluster methodology is used to analyze the internal determinants of banana production from a comparative perspective among competing countries (e.g., Colombia, Ecuador, Costa Rica, African, Caribbean, and Pacific (ACP) countries, and EU producers). One of the main contributions of this study is the better understanding of potential export competitiveness of banana producing countries based on the analysis of their determinants. The cluster analysis has been broadly used by mainstream competitiveness theory⁴ to explain the microeconomic fundamentals of a nation's competitiveness. This makes it possible to study the horizontal integration of banana

⁴ Michael Porter at Harvard University leads the mainstream theory of competitiveness.

production, which has been investigated less than its vertical integration, economies of scale and the last stages of the value chain (including marketing, importing, and retail).

Secondly, the links between internal and external determinants are analyzed by means of a description of the banana value chain. Scale and inter-firm linkages are the criteria used to choose the domestic firms and transnational companies (TNCs) to be included in the study. Next, their market strategies and vertical integration are analyzed in order to link the element of competitiveness described within the cluster with the trading firm's external determinants. It is important to notice the way some companies, particularly TNCs, participate in all the stages of the value chain. Taking this into account, it is possible to link the supply side (internal determinants and producer/exporting firms) with the demand side (external determinants and importing firms) in the analysis. Thus, we analyze the importing firms in EU countries and their value chains with exporting firms. Finally, with all the operators and their connections understood, it is possible to draw what is called "the map of the banana value chain to the EU". This is a graphical representation of the trade flows of both countries and firms and of the links between internal and external determinants of competitiveness in the cluster-value chain model.

The fourth chapter is the empirical evaluation of trade policies (the Common Organization of the Market in Bananas in the European Union) in the competitiveness of banana producer/exporting countries. The analysis of the determinants in the third chapter and the economic assessment of the banana trade flows to the EU clearly confirms the superior performance of the Latin American banana producers/exporters; however, the preferential access of ACP countries to the EU banana market presents a challenge to the success of the Latin American situation.

The EU banana regime, officially named the Common Organization of the Market in Bananas (COM Bananas) is the framework of what is known as the "*banana wars*". These "wars" (or perhaps just one of many battles) appear to be coming to an end. There have been many problems in the interpretation of the last agreement (the conversion to a tariff-only regime) and a new battle has taken place. To better understand the banana wars, this and previous disputes are described and discussed in the first section of this chapter.

This over ten-year trade conflict was originated from a policy arrangement within the EU which included a tariff rate quota (TRQ) with preferential access for ACP countries and EU producers (one hundred percent preference on in-quota tariffs). The TRQ has been administered according to a very complex system of historic-operator assignation of licenses, including compensatory aids for less competitive countries. This agreement was denounced several times by affected countries and declared illegal by the World Trade Organization (WTO). Finally, in April 2001 the EU agreed with the United States (and later with Ecuador, in July 2001) to change the current COM Bananas to a “simplified” system of tariff-only regulation (“tariffication”), maintaining a sufficient gap between Latin American bananas and protected producers (ACP and EU). In doing so, the regime attempts to compensate their higher costs of production.

Besides the many changes of the COM-bananas since its creation, one of the major problems in the empirical research of banana trade is the lack and poor reliability of statistical data. Therefore, economic and statistical assumptions have been necessary in order to configure a partial representation of the real trade flows in the banana market. Taking into account these practical and methodological problems, the rest of this chapter provides an econometric study of the banana trade policy changes in the banana wars. Concerning the external determinants of competitiveness, there is abundant empirical literature dealing with the implications of trade policies in the banana market shares of exporting and importing countries. The most common analysis uses partial equilibrium models assuming perfect competition; the most-elaborate models include imperfect competition and, in some rare cases, general equilibrium (multi-sector, multi-country).

The most recent versions of the models have dealt with projections of the tariffication agreement between the EU, Ecuador, and the USA. There are several studies regarding the evaluation of banana trade policies in general, and tariffication in particular. This research uses the updated version of the INRA partial static equilibrium model (Guyomard et al. 1997, 2001), including the incorporated Eastern European countries (resulting from the enlargement of the EU in May 2004), an explanation of the developments of the model, and a sensitivity analysis of the expected tariffication process.

In the final chapter, the main conclusions of the thesis are summarized and some policy suggestions are given. This study is a first step toward better decision-making and a more comprehensive formulation of meso- and micro-economic and social policies. Regarding efficiency and market share as policy outcomes, there are different points of view and mixed results on the benefits of free trade for specific countries (for example, ACP countries in the Caribbean and West Africa have had the same protection for banana trade but different outcomes).

The evaluation of the effects of trade policies on market share makes possible to understand and analyze the implications for developing countries of one external determinant of competitiveness. In addition, projections of internal and external factors create a framework for comparing the status quo and the possible new scenarios of trade. Finally, policy recommendations will depend not only on conclusions derived from research like this paper, but also on trials and lobbying among policy makers, social groups, and governmental authorities. Thus, the imperative is not only to achieve a consensus about the theoretical framework for analyzing the problems, but also to develop practical (and creative) solutions for those affected most by the policies in order to reduce the gap of development.

**I CONCEPTS AND MEASUREMENTS OF
COMPETITIVENESS: A THEORETICAL FRAMEWORK TO
ANALYZE TRADE POLICIES IN AGRICULTURAL EXPORTS
OF DEVELOPING COUNTRIES**

Introduction

Most recent economic studies have focused on competitiveness in technology-based economies. This chapter, however, builds concepts and determinants of competitiveness that can be applied to agricultural exports of developing countries. In anticipation of the case study, trade policy receives special emphasis among the determinants of competitiveness.

Since the end of the 1980s, scholars have been trying to develop a concept of competitiveness as a “trademark” for development; however, they have not yet reached consensus on either the concept of competitiveness or its measurement. Yet there is a mainstream view, led by Michael Porter, which dominates some centers of decision-making in the United States and Europe. Porter’s book, “The Competitive Advantage of Nations” (1990), is a comprehensive study that sets the foundations of a theory on competitiveness. Porter states that competitiveness is an engine of trade, and in a broader sense, an engine of development, not just a “trademark”. Critics of his concept mainly come from developed countries such as Canada and Japan and newly industrialized countries like South Korea and Singapore. They criticize his interpretation of competitiveness as being too general and in some cases not applicable to every country. For example, in Porter’s (1990) study there are no comments on the application of the theory to developing countries, though studies have applied his theoretical framework to Latin American countries⁵.

The state of the research is too broad to fully investigate, and there are many questions (What is competitiveness? At what levels does it exist? Who competes? What are its determinants?) that have no definitive answer. With this understanding, the purpose of this chapter is to identify a theoretical framework applicable to agricultural exports in developing countries. The chapter is divided in five sections. The first analyzes modern research on competitiveness and the reasons for the change from the static classical theory of comparative advantage to a “new” dynamic theory of competitive advantage. The second section reviews the debate on competitiveness as a concept, in light of its history, units and levels of analysis⁶, determinants, and possible measurements. The

⁵Programa Andino de Competitividad CAF-Harvard - BID <http://www.caf.com>

⁶ In many works, scholars do not distinguish between units of analysis and levels of analysis. For the purpose of this paper I would like to emphasize that *unit* of analysis is the major entity used to analyze a study (nation, sector,

third section presents some special features of competitiveness when applied to agricultural exports. These issues are discussed by means of a two-part debate, of which the first looks at theory and the second focuses on empirical applications, setting the framework for agricultural economists to put their concepts into practice. Finally, a definition of competitiveness applicable to agricultural exports of developing countries is selected.

The fourth section concerns trade policies, as the focal determinant of competitiveness in the empirical part of this research. A theoretical framework for trade policies is presented, but only tariff rate quotas (TRQs) are detailed, since they are the one quantitative restriction provisionally accepted by the World Trade Organization (WTO). Finally, a summary of the chapter in the fifth section unifies the discussions of competitiveness modeling, making operational the definition arrived at in this chapter.

I.1 From Comparative to Competitive Advantage

This section consists of two parts: first, the classical trade theory based on absolute and comparative advantage is presented, and second, classical trade theory is criticized by means of the competitive advantage using the new trade theory (NTT) approach. The conclusions of this section are the basis for the following research and for the selection of the functional concepts of competitiveness to be found in the second section.

I.1.1 The Classical Approach

Traditional theories, which redefine the mercantilist ideas of international trade of the fifteenth through seventeenth centuries, are based on the concepts of absolute and comparative advantage developed by Adam Smith (1776) and David Ricardo (1817), respectively. Efficiency, availability, and specialization are the fundamentals of these concepts.

In “An Inquiry into the Nature and Causes of the Wealth of Nations” (1776), Adam Smith describes the benefits of trade. This book can be regarded as a step forward from

industry, and product are “units”) and *level* of analysis is where the units are situated (at macro and micro-levels). A most detailed explanation will be given in Section 2.2.

mercantilist ideas. These earlier ideas support the accumulation of wealth by encouragement of domestic production and strong government intervention, which restricts imports and subsidizes exports in order to achieve growth and wealth.

Smith developed the idea of benefits of trade based on the idea of absolute advantage. Simplistically, absolute advantage is the export of the lowest cost goods and services (in absolute terms) to partner countries and the import of goods with high domestic cost. The increasing returns of economies of scale based on the idea of specialization, free exchange, and division of labor have been the most important contributions of Smith to classical theory. The basis of classical theory is free trade, which maximizes the benefit not only to those who trade, but also to the common welfare. According to this point of view, the state's role is to guarantee access to basic utilities and ensure public security.

David Ricardo expanded on Smith's ideas, creating a theory of comparative advantage. This is broader than Smith's theory of absolute advantage because it reveals the benefits of trade if the relative costs of production (labor) differ among countries. Countries export goods and services when doing so guarantees a relatively more efficient use of resources, and they import goods and services that are relatively more expensive due to higher resource costs. The traditional theories of international trade rely on the concept of comparative advantage. This concept stresses the idea of specialization, which goes back to David Ricardo and was later developed further by the theories of Heckscher-Ohlin in 1920.

The basic Heckscher-Ohlin (H-O) model assumes two countries (with identical tastes and technologies), two commodities and two factors (capital and labor). It states that if one country is relatively wealthy in one factor—capital, for instance—compared with the other, it will produce the capital-intensive good relatively cheaply, and will export it without necessarily reaching complete specialization under free trade.

According to classical trade theory, the main determinants of trade are the efficient use of resources and/or availability of the factors of production. In this sense, comparative advantage is the first and necessary approach to the understanding of trade flows, but not the ultimate one. Other determinants (such as trade policy and exchange rate policy) must be included to understand the patterns of trade.

Some improvements in the classical theory analyze the causes of trade based on comparative advantage in different ways. Raymond Vernon (1966), for example, explains comparative advantage in relation to the product cycle (introduction, growth, maturity, and decline). Thus, the comparative advantage changes from one country to another depending on the stage of development of each product. It should be mentioned that he includes innovation and technology as two additional factors. Later in this study, it will be seen that these factors are strongly related to the new model of competitiveness theory.

On the demand side, a good explanation of trade is found in Steffan Linder's (1961) *Country Similarity Theory*. He focuses on the trade of the manufacturing sector and bases his theory on two assumptions. First, he supposes that a country exports products with significant local demand in order to utilize the existent economies of scale and to improve new products with the already known local customers. Linder's theory will be taken into account again in the second chapter, when the local market's setting of the standard for international competition is mentioned as an additional determinant of competitive advantage in the mainstream model. His second assumption is that demanding countries have similar tastes and income levels, one of the main criticisms of the comparative advantage model and the key variable for explaining intra-industry trade (Cho and Moon 2000).

In light of the above reformulations and criticisms of the comparative advantage theory, a new theoretical framework will be presented in the next section explaining international trade.

I.1.2 The New Economics of Competitiveness

The concept of comparative advantage ceases to be useful when intra-industry trade has to be explained. Similar income levels and diverse tastes influence the demand side, while in a monopolistic market structure, economies of scale and special production knowledge might have an effect on the supply side.

Competitive advantage, as explained below, determines market success by means of price or differentiation (via quality, design, origin, etc.). However, price

competitiveness might not be decisive for intra-industry trade. Competitiveness with respect to quality, design and the like could be more important. Furthermore, overall success in trade (both inter- and intra-industry) is determined by competitive advantage. In order to be successful in the world market, one has to supply products that are of better quality and design and lower price than competitors' products. Thus, there is consensus in the concept of competitive advantage over the importance of asserting oneself against many competitors by having a unique selling position (USP).

However, the concept remains elusive and difficult to understand without a theoretical framework. Therefore, the introduction of the dimensions of competitive advantage is a step forward. First, competitiveness exists on both microeconomic and macroeconomic levels of analysis. This influences the unit of analysis, whether nations, firms, sectors, or products. Secondly, competitiveness can have price and quality aspects. Studies should present different ways these aspects could be measured. Thirdly, external forces, such as trade policies of importing countries, can have a direct and indirect influence on exchange. And fourthly, competitive advantage is a rather dynamic concept.

A major strength of the comparative advantage model is that it can be empirically estimated by using the domestic resource cost (DRC) criterion⁷. However, this is just one of the variables to take into account when the complex dynamics of trade are analyzed. These dynamics need a broader theoretical background to explain changes of trade in a globalizing world.

Comparative advantage is related to factor endowments where firms share the same advantages (low utility costs, good climatic conditions, government policies, and availability of human capital and natural resources). These assumptions of comparative advantage are not sufficient to explain high value-added and knowledge-based economies (as found in developed countries) but they are enough to explain factor costs and endowment-based economies (typical in developing countries).

As explained in the models in the second chapter, the assumptions of competitive advantage will not only be useful for explaining value-added and knowledge-based economies, but also factor-endowment-based economies. Competitive advantage

⁷ Domestic resource cost (DRC): based on a total factor productivity approach. It incorporates the relative scarcity of factors of production through the use of shadow prices.

assumes the creation of production factors (by technological advances) and the recognition of already existent factors (land, capital, and labor). It also assumes that firms have control over their specific costs, economies of scale, marketing strategies, and technological advances (Mahmood 2000).

A fundamental difference between comparative and competitive advantage is the “visibility of the hand”. The government, in comparative advantage, is only responsible for maintaining security, minimum standards of welfare, and some specific public utilities and infrastructure. Government policies do not have any effect on prices in a comparative advantage scheme, and the opportunity costs are as they “ought” to be under free trade. On the other hand, in competitive advantage, there is general agreement that the dynamics of governmental distortions affect prices, despite a lack of consensus on a single concept or theory explaining how this happens.

In the short run, resource endowments of comparative advantage stay fixed while governmental policies, exchange rates, and random effects of competitive advantage change prices. Both competitive and comparative advantages allow for changes in resource endowments in the long run. In the case of comparative advantage this is due to the natural movements of the market, while in the case of competitive advantage one has to add governmental policies and private strategies. Thus, contrary to the assumption of the comparative advantage theory, a relatively strong “visible hand” does exist in competitive advantage.

The assumptions of comparative advantage theory are based on free trade under static equilibrium, that is to say, neither trade barriers nor instabilities exist. Obviously, this is far from real conditions of world trade. For example, changes in the markets of developing countries are less responsive than those of developed countries because of structural rigidities and larger imperfections (Mahmood 2000). Some of the differences between northern, developed and southern, developing countries can be seen in the goods they trade internationally. Manufacturing, services and high technology sectors are dominated by developed countries of the north by taking raw materials (subtracting value-added activities) from developing southern countries.

Mahmood (2000) concludes that favorable terms of trade for developed countries are, in part, a consequence of restrictions and obstacles to development and trade of developing

countries. These issues are particularly important in the competitive advantage theory, though comparative advantage theory does not deal with them. When policies are included (as a source of competitive advantage), it is complementary to comparative advantage theory.

There is a sub-system in traditional (neoclassical) trade theory: the comparative advantage theory according to which trade policies are defined as allocation-distorting, and therefore are not considered part of classical theory. When these “distortions” are included, the result is competitive advantage theory, which rather than being a substitute, should be considered a complementary theory. (Reinert 1994, p. 4). The explanation of trade flows under the concept of competitive advantage moves away from purely economic reasoning and includes more firm- and policy-oriented reasoning. New trade theory⁸ recognizes that competitive advantage can be shaped by product differentiation, business strategies, and specialization, leading to quasi-monopolies in international markets⁹ and smart policy interventions such as exchange rate and strategic trade policies. Mahmood (2000, p. 245) best summarizes the idea behind the conflict between comparative and competitive advantage when he states:

“The notion of comparative advantage is based on a country’s factor endowments position where no participating firm in an industry has an advantage over another on the basis of factor endowment (public good characteristics). Unlike comparative advantage, competitive advantage is created and owned by individual firms (private good characteristics)... Clearly, one does not have to choose between one of the two paradigms, for neither are they mutually exclusive nor explicitly separable. Therefore, we argue that it is inappropriate to present competitive advantage as an alternative (substitute) to comparative advantage. The two theories should

⁸ Competitive advantage theory should be enclosed to the new trade theory according to the interpretation of research of industrial economists. See Krugman (1992, 1995, 1996), Reinert (1994) and Sachwald (1995).

⁹ Ezeala-Harrison (1999, p. 23) explains how specialization could lead to quasi-monopolies: “the existence of economies of scale, or massive technological leadership advantages for firms in any country could result in those firms emerging as world monopolists in the world market. But then the rapid diffusion of technologies could cause firms in other countries to quickly copy the leading firms and emerge as competing rivals in the world market. The scenario then becomes analogous to the standard case of oligopolistic rivals engaged in strategic game settings in the world market stage, in which case the relative gains from trade accruing to a country would depend more on the successes of the trade 'strategies' adopted than on the comparative advantage (which depends on competitiveness)”.

be properly viewed as complements rather than competitors in formulation of national trade and industry policies.”

From the above discussion, some preliminary conclusions can be extracted concerning the concepts of competitiveness and competitive advantage. Firstly, a more sophisticated trade theory includes additional determinants to explain the complexities of a globalizing market in a comprehensive way. Secondly, more recent theories of trade start with the theory of comparative advantage, as a basis to explain their principles. Thirdly, the traditional theory described above is not able to sufficiently explain all possible situations of trade. Finally, comparative advantage theory explains, in detail, trade between primary sector-based economies, but recent theories deal more with the manufacturing sector. Looking for new comprehensive theories for developing countries, therefore, becomes problematic, as these are mostly primary-sector-based economies.

I.2 Defining Competitive Advantage and Competitiveness

There are several definitions of competitiveness that have emerged in a debate that has spanned a very long time. As early as 1968, McGeehan had published a historical survey of literature cataloging different measurements used by authors for competitiveness. The main measurements included relative prices, trade performance, and cost structures among competing countries. Other measurements dealt with qualitative characteristics, such as design and marketing. As shown in the following sub-sections, these measurements are still being used, but the debate is far from finished and, to use the words of Krugman (1994), has even escalated to the point of “a dangerous obsession”. It is necessary to review the academic literature in order to find points of agreement, and to begin to make sense of this controversial concept. The importance of the study, however, can be read from Petit and Gnaegy’s (1995, p. 60) statement, “...in spite of the fact that competitiveness is elusive, not only as a concept but also as a practical objective, nations and governments must not ignore it is imperative”.

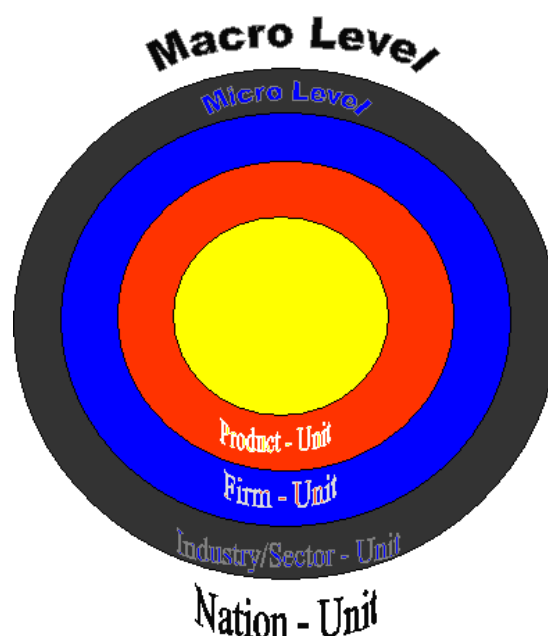
The lack of inter-disciplinary agreement (among the disciplines of political science, sociology, business administration, and economics) makes it impossible to arrive at a

single definition for competitiveness. However, the limited fields of consensus between disciplines are discussed here in order to build a theoretical framework for a more general definition. Particular emphasis is placed on finding a specific definition of competitiveness that is applicable to agriculture-based economies.

I.2.1 Theoretical Framework of the Competitiveness Concept

Competitiveness as a concept can be divided into different levels of analysis. Economics divides it according to the level of aggregation between macro and micro-levels. As will be seen in the second chapter, from the systemic model of competitiveness sociology and economics include two additional levels, the meta-level, which links social relations to the macro-level, and the meso-level, which links the macro- and micro-levels. The meso-level suggests policies targeted to enhance the competitiveness of certain sectors at the micro-level, given a stable macroeconomic environment. Definitions of competitiveness, then, are found through different levels of analysis, and the selected definition is the result of the necessities of the research.

Graph I.1. Levels and Units of Analysis of the Competitiveness Concept



Source: Author's elaboration.

Also, it is important to clarify the different units of analysis within every level. Units of analysis, such as nations, sectors/industries, firms, and products, are spatial locations of

competitiveness levels. Graph I.1 shows the location of the units of analysis within their respective levels of analysis.

The unit of analysis for the most aggregated level must be the nation, and for that reason it is located at the macro-level. The micro-level shows units of analysis at successively lower aggregated units of specification, from sector/industry to firm and then to product. Therefore, the analysis of a country is located in the circle including the macro-level and the nation unit. On the other hand, analysis of a particular product would be located at the micro-level and the product unit, *ceteris paribus* at the surrounding level (macro) and units of analysis (firm, sector/industry, and nation). As Momaya (2001, p. 9) suggests, “understanding linkages among different levels/units is essential for enhancing competitiveness at any level/unit”. In addition, Frohberg & Hartmann (1997) emphasize that the analysis of competitiveness may differ with respect to the level of investigation. They use a combination of product aggregation (entire economy, single industry, and single commodity) with spatial extension (firms, regions within a country, and countries) similar to that of this research.¹⁰

In conclusion, with these different perspectives, the first important step will be to select a comprehensive and functional concept of competitiveness at macro and micro-levels in order to explain competitiveness in developing countries. In the section II.1.4 the meta- and (more specifically) meso-levels are introduced from the systemic model of competitive advantage (Altenburg et al. 1998).

I.2.2 Traditional Approach: Macro-Level, with the Nation as the Unit of Analysis

The idea that nations compete in the sense that companies do forms the basis for this level of analysis, an approach that has been widely used since the concept’s initial introduction. It can be referred to as the “traditional approach of competitiveness”.

Competitive advantage involves a potential that may or may not be transformed into competitiveness. At the macroeconomic level, if a nation employs this advantage, competitiveness is dynamic and leads to economic growth. The sequence that would occur is the following. First, the nation achieves a competitive advantage that, second,

¹⁰ For a more complete study of levels and units of analysis, see Kedia et al. (1995), Momaya (2001), and Frohberg & Hartmann (1997).

becomes competitiveness, which serves as a fuel to, third, ignite the engine of economic growth (Ezeala-Harrison 1999, p. 20).

Paul Krugman, a mainstream representative of the NTT, is very reluctant to use the term “competitiveness”, particularly at the nation unit. For the NTT what could be called competitiveness should include analysis of market intervention or imperfect market structures (including monopoly) as a source of competitive advantage. However, Ezeala-Harrison (1999, p. 55-56) provides a critical framework for competitiveness at the macro-level, basing the concept on government non-intervention. He asserts that the influence of two factors, economic liberalization and the support of institutional structures, are relevant for considering the competitiveness of a country at the macro-level. He mentions two basic policy guidelines when explaining economic liberalization. First, the government should not intervene, but should be aware of “uncompetitive” practices and have central regulatory control so that it can enhance the private sector and the free trade, market-based system. The second policy recommendation is the establishment of a stable but free exchange interest rate system.

These conditions work together with a supportive structure of institutions and infrastructure to achieve national competitiveness. Necessary features of this stable structure include: an internationally-oriented economy; a stable debt structure; a controlled budget deficit; diversification of exports; a low level of protectionism; stability of the financial sector; and quality of infrastructure and utilities.

Fulfillment of these two factors and their parameters should guarantee a suitable environment for national competitiveness at the macro-level. By themselves, the parameters can be considered measurements of competitiveness. But as presented next, the concepts complement each other, and a comprehensive definition of competitiveness should be more useful.

I.2.2.1 Concepts and Measurements

Traditional concepts of competitiveness at the macro-level deal with quantifiable indicators such as trade performance, trends of the balance of payments, and adjustments of exchange rates. These are useful when the nation is the unit of analysis

and a stable institutional framework exists. In addition, indicators from surveys and soft data deserve to be included as qualitative measurements (such as research and development indicators and institutional participation). Institutions such as the World Economic Forum (WEF) and the International Institute for Management and Development (IIMD) periodically release a ranking of countries consisting of quantitative and qualitative variables for comparison of competitiveness between countries. However, as Ezeala-Harrison (1999, p. 56) states, “conclusions about relative competitiveness of countries based solely on the macro-level parameters are clearly inadequate, as the ranking criteria employed in such studies are not objective indicators of competitiveness”. Table I.1 summarizes the main indicators of competitiveness at the macro-level.

I.2.2.2 A Critical View of the Competitiveness Concept at the Macro-Level

Criticism of the macro-interpretation comes first from those who do not believe that countries compete in the same sense as firms. From the theoretical point of view, Paul Krugman (1994) criticizes a general definition of competitiveness regardless of the unit of analysis, but especially when the term uses nations as the unit of analysis at the macro-level. He says that the term “productivity” was already used to compare countries’ performance, and that “competitiveness” is just an odd way of restating this.

The debate of the competitiveness concept at the macro-level began in the mid 1990s with a series of discussions on the meaning of competitiveness, with the nation as the unit of analysis. Foreign Affairs Magazine (1994) published a series about the competitiveness debate in which Paul Krugman published “Competitiveness: A Dangerous Obsession”, one of the most-quoted essays on the meaning of competitiveness. The same series included essays from Prestowitz, Thurow, and Cohen against Krugman supporting some of the fundamentals of the traditional competitiveness approach. The debate described below considers these divergent positions.

Table I.1. Measurements of Competitiveness at the Macro-Level

Measurement	Conceptual Background	Author's Contribution	Author's Criticism
<i>Quantitative Indicators</i>			
Balance of Payments	“An economy’s ability to grow and to raise the general living standards of its population in a reasonably open trading environment without being constrained by balance of payments difficulties” Haque (1995, p. 17-18). ^a	Note “... <u>reasonably</u> open trading environment...”: there is a slight emphasis on the possibility of achieving competitive advantage without necessarily a free trade environment.	There are additional internal determinants (e.g., quality standards) that can affect competitiveness and are not recognized by balance of payments measurements.
Trade Performance	“Competitiveness... is the degree to which a country can, under free and fair market conditions, produce goods and services which meet the test of international markets, while simultaneously maintaining and expanding the real incomes of its people over the long term... Competitiveness at the national level ^b is based on superior productivity performance” U.S. Presidential Commission on Industrial Competitiveness (1985, p. 1) ^c .	Demand-based measurement. As will be shown in the second chapter, demand is one of the main determinants to take into account in models of competitiveness.	-Fair and free trade can have contradictory effects on competitiveness. -According to this definition, competitiveness and productivity seem to be synonymous at the <i>nation unit</i> . -Trade surplus does not necessarily mean a strong economy if, for example, the surplus is used to pay the interest on a country’s foreign debt.
Real Exchange Rate (RER) ^d	“According to foreign trade theory, improvements in the balance of current account will <i>ceteris paribus</i> result in an appreciation of the domestic currency in nominal and real terms... The degree of appreciation of the domestic currency in the RER indicates to what extent international competitiveness has increased” Frohberg & Hartman (1997, p. 9-10).	The availability of RER indicators among countries eases international comparison. Any measurement that implies comparison between countries must be converted to a common value by means of the RER .	RER changes in recent decades are the result of capital movements rather than changes in the basic conditions of the real economy. Price controls and other distortions can cause “noise” in the performance of the indicator.
<i>Qualitative Indicators</i>			
Relative Research and Development Activity	“A country is internationally competitive when it devotes relatively more resources measured by expenditures or personnel to R&D activity compared with other countries. It lacks international competitiveness compared with foreign countries to the extent that its R&D efforts falls behind other countries” (Bloch &	As a qualitative indicator, R&D is by itself a contribution to a comprehensive definition of competitive advantage. Expenditure on R&D should deal with strategic trade policy, according to recent competitiveness theory literature.	No data on expenditures can provide an accurate measure of the effectiveness of R&D efforts. Some countries focus most R&D resources on defense, which do not necessarily contribute to competitiveness (Cohen 1995, p. 25).

	Kenyon 2001, p. 26)		In addition, comparisons among countries are limited to the availability and methodology of dealing with statistics.
Institutions and Productivity as Environment of Competitiveness	<p>The factors that determine the competitiveness of a country are, for the WEF, (2002, p. 2) “the set of institutions, policies and regulations that support high levels of productivity and drive productivity growth and sustained increases in output. Competitive countries can be expected to return to a sustained growth path faster and earlier than those that are less competitive.”</p> <p>This definition is emphasized by the International Institute of Management and Development (IMD): “Nations compete because world markets are open”, the IMD competitiveness indicators “analyzes and ranks the ability of nations to provide an environment that sustains the competitiveness of enterprises” (IMD 2002, http://www02.imd.ch/wcy/fundamentals)</p>	<p>This is not a definition of competitiveness by itself but of the macroeconomic environment that influences competitive advantage. There is an emphasis on the role of institutions as an engine for competitiveness.</p>	<p>Both WEF and IMD indicators are based on relatively recent surveys, so it is not possible to have a long-period study of the trends of competitiveness environment. In particular, the WEF indicators lack a constant methodology, and change almost every year.</p>
<p>^a See also Fanelli & Meldhora (2002, p. 10) and Fagerberg (1988, p. 355)</p> <p>^b Note the distinction between <i>unit</i> and <i>level</i> of analysis. For this case, “unit”, rather than “level”, would be preferable, but I did not change the original definition.</p> <p>^c Ronald Reagan established the President’s Commission on Industrial Competitiveness on June 28, 1983. Reagan designated John A. Young, former president of Hewlett-Packard Co., chairman of the commission. One of the members of that commission was Michael E. Porter. See: Statement on Establishment of the President’s Commission on Industrial Competitiveness, August 4, 1983. http://www.reagan.utexas.edu/resource/speeches/1983/80483c.htm</p> <p>^d The RER is defined as the ratio of the price of tradable commodities to that of non-tradable ones. The costs of producing a tradable good differ between countries, mainly because of the varying prices of non-tradable inputs used in producing the commodity, and to a lesser extent, due to tradable inputs. Due to the lack of statistics on prices for non-tradables, the RER is usually approximated by some ratio of foreign to domestic price indexes (e.g., purchasing power parity, consumer price index, implicit GDP deflator, export unit values, unit labor costs). See also: Wignaraja (2003, p. 16-17); Marsh & Tokarick (1996, p. 700-721); Stanton (1986, p. 15-18) and Dunmore (1986, p. 31-32)</p>			

Krugman, as the main critic of the competitiveness concept, states: “competitiveness would turn out to be a funny way of saying productivity” (Krugman 1994, p. 32); “we would like to believe that if famed intellectuals and powerful politicians talk about competitiveness, they must have something meaningful in mind. It seems far too cynical to suggest that the debate over competitiveness is simply a matter of time-honoured fallacies about international trade being dressed up in new and pretentious rhetoric. But it is” (Krugman 1996, p. 24). He explicitly argues that the concept is a consequence of political rhetoric quoting two politicians. The first was Jaques Delors, former President of the European Commission, who stated in June 1993 that “the root cause of European unemployment was a lack of competitiveness with the United States and Japan and that the solution was a program of investment in infrastructure and high technology” (Krugman 1994, p. 28). Second, US President Bill Clinton said “each nation is like a big corporation competing in the global market” (Krugman 1994, p. 28). According to these statements competitiveness is possible for countries as well as companies, and with regard to the classification of Section I.2.1, would be classified at the macro-level. But Krugman (1994) strongly criticizes this position, arguing that countries do not compete because they “do not go out of business. They may be happy or unhappy with their economic performance, but they have no well-defined bottom line. As a result, the concept of national competitiveness is elusive” (Krugman 1994, p. 30).

Krugman’s second criticism is that politicians “naively” define a national economy’s competitiveness as its trade balance (see Table I.1). A surplus in the trade balance is not necessarily sign of an economy’s strength, for example, if it a country has to run trade surpluses in order to pay for its foreign debt. Krugman quotes authors that realize this problem and add other measurements in an attempt to repair the definition. For instance, Tyson (1992)¹¹ includes an increasing standard of living: “competitiveness is our ability to produce goods and services that meet the test of international competition while our citizens enjoy a standard of living that is both rising and sustainable”, and Magaziner and Reich (1982)¹² includes factors of productivity: “our standard of living can only rise if (i) capital and labor increasingly flow to industries with high value-added per worker

¹¹ Quoted in Krugman (1994 p. 31) This definition was included in the First Report of the Competitiveness Policy Council during the administration of Bill Clinton. “Building a Competitive America”, First Annual Report to the President and Congress, March 1, 1992.

¹² Quoted in Krugman (1994:36) from Ira Magaziner and Robert Reich’s “Minding America’s Business” (1982).

and (ii) we maintain a position in those industries that is superior to that of our competitors”.

Krugman challenges both criteria. First, against Tyson’s definition, he argues that this competitiveness concept could only be useful if trade is meaningful as a measure of the GDP. If not, domestic productivity should be enough to define it. Furthermore, he asks, if it is accepted that trade is representative, what would be the result of a permanent devaluation leading to cheaper goods and services. Effectively, this would increase exports while possibly lowering the standard of living, which depends on the purchasing power of imports and domestically produced goods. Thus, Krugman states, “domestic growth might be outweighed by deteriorating terms of trade. So 'competitiveness' could turn out really to be about international competition after all” (1994, p. 32-33).

Regarding the Magaziner and Reich statement, Krugman questions the selection of the sector from which the productive factors would be measured. Krugman states that value-added industries are generally capital intensive and must earn normal returns on large investments. However, these returns do not necessarily transfer into increased living standards, but may also be used for new investments in capital. If one accepts Magaziner and Reich’s definition, there is no reason to address productive factors in capital-intensive industries. Krugman suggests that perhaps Magaziner and Reich should have proposed high-technology instead of value-added industries.

In conclusion, to Krugman, the competitiveness concept does not make any sense at all, and even seems “dangerous” if advocated with the nation as unit of analysis in order to support trade policies.

I.2.2.3 Counter-Critics

Prestowitz (1994) challenges Krugman’s point of view. He points out that if the economy grows, the status of larger countries could affect the future living standards of partner countries. Larger countries will produce in the most profitable sectors, which will limit the entrance of new, competitor countries. In this sense, countries would compete as companies do.

Thurow (1994) reinforces Prestowitz's criticism. Thurow argues that living standards are a function of productivity, measured as the size of domestic investments in plants and equipment, of research and development, of skills and public infrastructure, and the quality of private management and public administration. International trade should also be part of this productivity function, although not the most important one, as Krugman also states. Thurow differs from Krugman in his emphasis on the comparative advantage theory, according to which natural resource endowments and factor proportions (capital and labor ratios) determine what a country has to produce. For Thurow, this statement is correct in a static world, but when one replaces natural resources with capital flows and technology, comparative advantage stops being useful, and other aspects, such as quality standards, trade policy effects, and/or management strategies, must be included (Thurow 1994).

The last criticism of Krugman's comments comes from Cohen (1994), who advocates the definition of competitiveness from the Report of the President's Commission on Competitiveness in the 1984 Regan administration.¹³ It is clear according to this definition that there is no single concept of competitiveness among units of analysis, so companies should compete for markets, and nations should compete for productivity performance.

Competitiveness is not just the trade-performance-based theory portrayed in traditional theory, but includes a broader analysis of the different determinants of competitiveness. As Fanelli & Medhora argue, "although some academic economists are reluctant to apply the concept of competitiveness because they consider it to be redundant, we believe that even if it is not strictly necessary as a 'primitive' concept in economic theory, it is still very useful. For one thing, it summarizes in a single concept the problems of growth, openness and productivity which are at the heart of policy-makers' concern" (2002, p. 11). The debate above also shows the lack of consensus regarding the unit of analysis at which the model should be applied. Thus, a more comprehensive

¹³"Competitiveness has different meanings for the firm and for the national economy... A nation's competitiveness is the degree to which it can, under free and fair market conditions, produce goods and services that meet the test of international markets while simultaneously expanding the real incomes of its citizens. Competitiveness at the national level is based on superior productivity performance."

model including qualitative determinants and more specific units of analysis is necessary¹⁴.

Those authors who define competitiveness as trade performance, trend of balance of payments, or productivity indeed use the term “dangerously”, rendering the concept useless and necessitating a more specific definition. Government intervention (such as trade policies) is still present in the definitions, and this is regarded as one of the main differences with the comparative advantage concept. The IMD, the OECD, the Reagan administration, and even Porter and the WEF agree on the multifaceted concept of competitiveness. As mainstream trade economists, Porter and his peers are very careful about using the term competitiveness when using nations as the unit of analysis, but even they define it as productivity: “the only meaningful concept of competitiveness at the national level is national productivity” (Porter 1990, p. 6)¹⁵. Competitiveness seems to be very controversial at the macro-level even within the mainstream. Therefore it is necessary to study the concept at the micro-level, with its greater specificity.

I.2.3 Modern Approach: The Micro-Level

The micro-level is useful for detailed treatments of specific aspects of economic behavior. This is especially important in the branch of competitiveness theory because, as shown in the macro-level debate, there is a tendency to only consider the competitiveness of firms. Although concepts at the micro-level tend to leave out interactions with the rest of the economy, a micro-level definition of competitiveness provides a better approach for finding a definition functional for developing countries agricultural exports, the objective of this chapter¹⁶.

Absolute and comparative advantages are the first steps of looking for a modern concept of competitiveness with sector/industry, firm or product units of analysis. As explained in section I.1, competitiveness theory includes the micro-level factor endowments of the absolute and comparative advantage theories, and adds other relevant determinants which will be included later in the analysis.

¹⁴ The definition of competitiveness for this research is featured in section I.3.2

¹⁵ Porter uses the terms “unit” and “level” indistinctly, but according to the explanation on Section I.2.1, his use of the “level” here clearly refers to a “unit” of analysis.

¹⁶ This section is based mainly on the concepts and classifications of Bloch & Kenyon (2001), Ezeala-Harrison (2000), Durand et al. (1992), and WEF (2000-2002).

I.2.3.1 Unit of Analysis: Sector-Based Measurements

In the academic literature, competitiveness is divided into sector units according to quantitative and qualitative indicators. The quantitative group includes cost, productivity, and trade-based concepts. Particularly with respect to the trade-based concepts, market share is a measurement easily standardized among sectors of different countries; for this reason it is broadly used in the traditional approach to measure competitiveness. The second group consists of the qualitative concepts, including research and development expenditure and strategic policy expenditure.

It is common knowledge that measuring competitiveness at the sector-level is highly difficult due to the lack of statistics, particularly in developing countries. Furthermore, the only real contributions of sector-based measurements to the competitiveness concept are the non-price factors (including R&D and strategic policy expenditure) of the qualitative approach. Conversely, quantitative indicators' usefulness is basically limited to price-based, free trade conditions. In summary, a sector-unit, comprehensive, and more useful concept of competitiveness could be the result of combining quantitative and qualitative measurements¹⁷.

¹⁷ See Table I.2

Table I.2. Measurements of Competitiveness at the Micro-Level – Sector Unit

<i>Measurement</i>	<i>Conceptual Background</i>	<i>Author's Contribution</i>	<i>Author's Criticism</i>
<i>Quantitative Indicators</i>			
<i>Labor Productivity (LP)</i>	“Labor productivity indicates the extent to which an industry ^a can be a competitive, low-cost producer while maintaining high wages” (Dollar & Wolff 1993, p. 3).	- Productivity measurements (LP & TFP) are applied to both the sector and the nation as units of analysis. - They are efficiency-based definitions normally linked to trade performance measurements.	LP is only functional if labor is the predominant factor in the industry.
<i>Total Factor Productivity (TFP)</i> ^b	“An industry is competitive if it has a level of total factor productivity equal to or higher than that of its foreign competitors... this definition focuses on technology and scale, relating physical outputs to inputs”(Markusen 1992, p. 8) ^c . “High TFP indicates a high level of technology and means that both capital and labor can earn large returns while the cost of production remains low” (Dollar & Wolff 1993, p. 3).	- They are, in essence, measurements of comparative advantage, since they are based on factor endowments.	- Some industries are productive and efficient, but if there is not demand to be filled, the measurement becomes useless. (Reinert 1994, p. 3) -TFP depends heavily on the reliability of data (not all factor costs are available -for instance, land costs).
<i>Cost Indicators</i> ^d	“An industry is competitive if it has a level of unit (average) costs equal to or lower than that of its foreign competitors... this definition focuses on costs, adding factor prices to the relationship between inputs and outputs” (Markusen 1992, p. 8)	It is a measurement commonly used in developed countries, where cost information is available.	Labor cost is no longer an important component of total cost. Industries with higher relative unit labor cost - RULC (e.g., Germany and Japan) increased world market share while remaining competitive (the Kaldor Paradox).
<i>Trade and International Market Share Indicators</i> ^e	“An industry loses competitiveness if it has a declining share of total domestic exports or a rising share of total domestic imports deflated by the share of that good in total domestic production or consumption” (Markusen 1992, p. 8). “An industry loses competitiveness if it has a declining share of total world exports or a rising share of total world imports of that good divided by the country's share of world trade” (Markusen 1992, p. 8).	Increasing market share suggests an increase in competitive advantage. It gives an international character to the term competitiveness. Contrary to cost and productivity measurements, trade-based measurements are taken in the last stages of the value chain, where all costs of inputs are included.	Measurement of market share supposes a perfect competition situation (assumptions of a free-trade environment and small countries that do not affect international trade). Static character does not allow evaluation of structural changes. Time series of market share indicators could be more useful.

Qualitative Indicators

<p><i>Relative Research and Development (R&D) Intensity</i></p>	<p>“A country is internationally competitive in those sectors/products with higher R&D activity, measured by expenditure or personnel, than for competing sectors/ products from foreign countries. It lacks international competitiveness in sectors/products with lower R&D activity than for competing sectors/products from foreign countries” (Bloch & Kenyon 2001, p. 25).</p>	<ul style="list-style-type: none"> - The definition originally for products is also applicable to sectors. - Includes the variable “technology & innovation”, which is the basis of the mainstream theory of competitiveness. - Developments in economic growth theory suggest that spending in human capital and technological advance enables faster economic growth.^f 	<ul style="list-style-type: none"> - This raises the question of how to allocate resources to the right sector. - R&D can be imported (by importing technology), and not be the result of internal competitiveness. If this is the case, how is the internal component of R&D calculated? - It is difficult to find reliable statistics in developing countries.
<p><i>Relative Strategic Industry Policy Expenditure</i></p>	<p>“A country will be internationally competitive in those sectors/products that it supports more strongly than its trading partners through strategic industry policy expenditure, including expenditure on industry-specific physical and human capital enhancing infrastructure, export subsidies, R&D expenditure and the like. A country that does not pursue strategic industry policy will lose international competitiveness” (Bloch & Kenyon 2001, p. 27).</p>	<ul style="list-style-type: none"> - It is broader than the R&D intensity measurement because of the inclusion of strategic policies. - Governments invest in human capital and physical infrastructure in sectors with actual or potential competitive advantage which are then used to enable countries (from the sector perspective) to guide economic growth. 	<ul style="list-style-type: none"> - There is a zero-sum game where “less competitive” sectors receive less investment than others, raising the question of how to allocate resources to the right sector. - If subsidies are the determinant of competitiveness, the term loses its analytical value. Every sector can artificially be made to appear competitive by the application of subsidies. - There is a dilemma concerning using public resources. They can be used to promote the “right” private sectors or they can motivate rent-seeking behaviors of lobbyists to specific sectors.

^a Dollar & Wolff discuss the appropriate unit of analysis. They choose the nation, but in a sense that would be classified as “sector/industry” according to Section I.2.1 of this paper.

^b TFP defines how efficient a firm is in converting the entire set of inputs required for production into output. At the firm level, TFP could be measured by labor productivity, but it depends on the predominant factor of production and the data availability.

^c The increasing productivity of foreign competitors causes loss of market share and subsequently (under a productivity-based definition) loss of competitiveness.

^d The unit labor cost (ULC) is a proxy of the total cost if labor cost constitutes a large fraction of total cost.

Index of labor cost competitiveness for industry i in country j in period t can be defined as:

$$ULC_{ijt} = \frac{W_{ijt} XR_{jt}}{(Q/L)_{ijt}} \text{ where :}$$

W_{ijt}	is the wage rate per hour
XR_{jt}	is the price in US dollars of the domestic currency j
$(Q/L)_{ijt}$	is the output per hour of labor

Therefore, comparing industry i in country j relative to country k at time t can be expressed as: $RULC_{ijkt} = ULC_{ijt} / ULC_{ikt}$.

Country j 's ULC increases with respect to other countries for three reasons: faster increases in wage rates, slower increases in labor productivity, and appreciation of local currency. Indicators in these three conditions determine a country's relative industrial competitiveness. (McFetridge 1995, p. 4; also see Unit of Analysis: Product/Firm - Average Cost).

^e A useful measurement of share of exports is Balassa's revealed comparative advantage (RCA). RCA is a measure of relative export performance by country and industry, defined as a country's share of world exports of a good divided by its share of total world exports. The index for country i good j is $RCA_{ij} = 100(X_{ij}/X_{wj})/(X_{it}/X_{wt})$ where X_{ij} is exports by country i (w =world) of good j (t =total for all goods). If the $RCA > 1$, the country has a comparative advantage. (McFetridge 1995, p. 4)

^f Bloch & Kenyon (2001) quote the works of Lucas (1988) “On the Mechanics of Economic Development”, Romer (1986) “Increasing returns and Long-run Growth”, and Aghion & Howitt (1998) “Endogenous Growth Theory”.

I.2.3.2 Unit of Analysis: Firm-Based Measurements

Firm competitiveness is the most commonly used unit of analysis in specialized literature. However, the lack of consistency in the usage of the term calls into question the meaning of “competitiveness”. Firms take the following aspects into account when analyzing competitiveness, regardless of the word’s meaning: price, quality of competing products, production cost, and market demand.

As for the sector unit, measurements such as productivity, costs, and trade-based concepts can be applied for firm units. However, a firm is also concerned with profitability, so several indicators are useful to show the firm’s viability, including the ratio of the firm’s assets to debts¹⁸, the amount of its sales, its benefits after taxes, and its ultimate profitability. Once firm feasibility is proven, a comparison with competing countries’ firms uses the traditional measurements: productivity, costs, trade-based concepts, and/or profitability. As a result, following McFetridge (1995, p. 3):

“In an homogeneous-product industry, a firm may be unprofitable because its average cost is higher than the average costs of its competitors.

In profit-maximizing equilibrium in a homogenous-product industry, the lower a firm’s marginal or incremental cost is relative to those of its competitors, the larger is its market share, and other things being equal, the more profitable it is.

In a differentiated-product industry, a firm may be unprofitable for the same reasons as above, but an additional reason is that its product offering may be less attractive than that of its competitors”.

The last statement recognizes that in addition to other units of analysis, firm competitiveness has a qualitative component. Thus, product quality characteristics should be taken into account. For the firm to be competitive, however, management practices may be an even more important qualitative factor. Every firm requires different strategies and practices to reach its business objectives, and no single management practice is uniformly successful. Although the literature of business

¹⁸ Tobin (1968) uses the ratio of the market value of the firm’s debt divided by the replacement cost of the firm’s assets. If the result is less than one, it is better for the company to go out of the business.

administration suggests some corporate strategies used fashionably to improve management practices, the success of those practices, as stated by McFetridge, should be evaluated in relation to the firm's profitability by means of its financial and sales results.

There is a consensus that the competitiveness concept is more valid at the firm unit (Porter 1990; Krugman 1994). Although trade distorting conditions (inclusion of which is a requirement for applying the competitiveness theory) are still not explicitly included in the measurements, the inclusion of profitability and the "traditional" measurements (productivity, costs, and trade based concepts) prompts analysis of the environmental conditions of the market, including management practices and trade policies. In words of McFetridge, "it is possible for a firm to be profitable and have a large domestic market share and still be internationally uncompetitive. This can occur if the domestic market is protected by barriers to international trade" (1995, p. 5). Future profits depend on the expectation that current investments will improve productivity (via R&D and patenting activity) and reduce input costs. A criticism of these measurements is that they are typically used in isolated, different manners rather than uniformly and cohesively, as might be preferred.

I.2.3.3 Unit of Analysis: Product-Based Measurements

The most commonly used measures of the product unit are cost-based and price-based indicators. Usually these are combined with trade performance measurements for a more complete picture of a product's competitiveness. The main determinant of which measurement is chosen is the availability and reliability of statistical data. Furthermore, a qualitative component is also necessary (such as quality, post-sales service, and strategy of management). Although most explanations of competitiveness emphasize the qualitative measurements, for the product unit these measurements do not exist (perhaps because of the difficulty in measuring factors like quality or management strategies). Thus further research in this direction is required.

Table I.3 Measurements of Competitiveness at the Micro-Level – Product Unit

<i>Measurement</i>	<i>Conceptual Background</i>	<i>Author’s Contribution</i>	<i>Author’s Criticism</i>
<i>Cost-Based Measurements</i>			
<i>Cost-Income Ratio (CIR)</i>	“The CIR presents a measure of profitability through the ratio of production costs per unit of income ^a . When production costs exceed income, CIR>1, signifying a loss to the enterprise. Conversely, when production costs are less than income, CIR<1, signifying a profit to the enterprise” (Kennedy 1998, p. 2).	These figures are easily found at the commodity level for single countries.	Dunmore (1987: 26) lists criticisms of costs measurements: <ul style="list-style-type: none"> - Market distortions of costs are not taken into account, which can bias the results. - Very often comparisons between countries’ products are difficult due to different calculation methodologies and availability of data. - Single cost of a commodity is taken by average cost and not by marginal cost (the cost that adjusts to changing prices). - Exchange rates affect the international comparisons of costs.
<i>Domestic Resource Cost (DRC) ^b</i>	“A commodity has a competitive advantage when at prevailing market prices its DRC is equal to or lower than the prevailing official exchange rate” (Odhiambo et al. 1996, p. 53). “If the domestic value added is greater than the opportunity costs of the used domestic resources (DRC<1), the considered alternative will lead to growth. Otherwise (DRC>1) the policy is an inefficient alternative.” (Frohberg & Hartman 1997, p. 12).	<ul style="list-style-type: none"> - DRC is calculated to measure the comparative advantage of different policy options for specific commodities. - If disaggregated it could give a good picture of the factors involved in the production of a good, which are intended to reflect true economic values. - It is a measure of economic efficiency. - It is a widely-used measurement when associated with market share ^c. 	<ul style="list-style-type: none"> - Its static character captures existing differences of production but does not capture the effects of technical change, limiting its implementation in a dynamic sense. - It is difficult to separate between tradable and non-tradable inputs, and the bias is more pronounced if the combination of tradable and non-tradable is very divergent (Frohberg & Hartman 1997, p. 13). - There is a lack of statistical data.

<p><i>Gross Margins Analysis</i></p>	<p>“Gross margins are compared to indicate which enterprise has a competitive advantage. They are obtained by subtracting costs of variable inputs from gross revenue... To allow for easier comparison, it is common to normalize gross margins, e.g., with the value of sales or labor costs” (Frohberg & Hartman 1997, p. 11).</p>	<ul style="list-style-type: none"> - The index is based on a detailed breakdown of the various costs of items of production. - It is an accounting method easy to implement. 	<ul style="list-style-type: none"> - Similar quality data is required, but this condition is rarely met. - According to Frohberg & Hartman (1997, p. 11), “one major limitation is that gross margins do not offer any insight into whether quasi-fixed factors could be paid in accordance to what they would earn were they used in the production of other commodities”. - International comparisons should also include distribution and marketing costs.
<p><i>Price-based Measurements</i></p>			
<p><i>Relative Product Price adjusted for exchange rate</i></p>	<p>“A country is internationally competitive in those products with prices lower than for identical products from foreign countries. It lacks international competitiveness in products with prices higher than for identical products from foreign countries” (Bloch & Kenyon 2000, p. 23)^d.</p>	<ul style="list-style-type: none"> - As the last stage of the value chain, the price reflects all the costs involved (including distorting costs). - The differential between both prices can justify changes in the productive process or the marketing involved to achieve the price of the contending product. 	<ul style="list-style-type: none"> - It is not possible to determine how productive factors (labor, capital) affect final prices. - Given the difficulty of finding comparable data among countries, Durand (1986) proposes instead of using prices (or even costs), using indices of prices or costs, which are in fact homogenous - Qualitative factors should be included for a complete analysis of product competitiveness.
<p><i>Relative Prices and Market Share</i></p>	<p>“Price competitiveness measures a country’s ability to increase its share in world markets by selling at a lower price than its competitors” (Fanelli & Medhora 2002., p. 11) “The measures of competitiveness are explicitly defined as price (or cost) differentials based on weighted averages whose weighting patterns vary according to the notion of competitiveness and the particular aspect of trade performance under study” (Durand et al. 1992, p. 7)^e.</p>	<p>This is one of the most broadly used quantitative measurements. If data are available, this can show the dynamics of competitiveness according to the behavior of trends of a time series in prices <i>vis á vis</i> market share.</p>	<p>See the Kaldor paradox: countries with higher priced products do not necessarily have lower market shares. Non-price competitiveness should also be included (product differentiation, technological innovation, logistic capacity, etc.).</p>

^a For Kennedy income includes the cost of production and the profits for the sale of a commodity.

^b DRC: “This indicator equals the real domestic resource cost required to save or earn a unit of foreign exchange. It can be interpreted as the shadow value of domestic non-tradable factors necessary in producing a traded good per unit of tradable value added” (Frohberg & Hartman 1997, p. 12).

DRC can be represented mathematically by:

$$DRC = \frac{\sum_{j=k+1}^n a_{ij} P_j^D}{P_j^B - \sum_{j=1}^n a_{ij} P_j^B}$$

where:

a_{ij} : quantity of the j -th traded (if $j \leq k$) or non-traded (if $j > k$) input ($j=1,2, \dots, n$) used to produce one unit of output i ;

P_j^D : domestic (shadow) price of input j

P_i^B : border price of output i

P_j^B : border price of input j .

^c Gorton and Davidova (2001, p. 186-187) quotes a widely-used definition from the European Commission which defines competitiveness based on costs as “the ability of a country to increase its share of domestic and export markets where a country has a comparative advantage in a product when it can produce at a lower opportunity cost than other countries”.

^d A simple way to measure this is suggested by Roldan (2000, p. 34). “If the ratio between the price of the importing product (opportunity cost for the national consumer) and the internal producer price (adjusted by a common currency) is superior than 1, the national product is not competitive respect to the importing product”.

^e A detailed methodology of the measurements is found in Durand et al. 1992.

Regarding definitions of cost, how to measure labor, capital, land, and, more recently, technology, becomes a critical issue. Available data, when existent, is only available for labor and capital costs. When these are unavailable, final prices and market share indicators can be used as proxies of cost variables. However, the static nature of these proxy measurements is still problematic, so time series would also be necessary for the analysis. Finally, the inclusion of qualitative factors should be required for a comprehensive definition of competitiveness, but as said above, research in this direction is still incomplete.

The product, as a unit of analysis, is highly important for the purpose of this research. However, the choice of a measurement depends on the availability and reliability of statistical data, rather than the desire for feasible conclusions.

I.3 Competitiveness in Agricultural Exports

Definitions and measurements of competitiveness abound, the field of application is broad, but the amount of agreement regarding the concept is still low. Likewise, a review of the literature about agricultural competitiveness yields multiple definitions. In the last section, there were descriptions of several economics-based definitions and applications of competitiveness, but theoretical definitions of competitiveness have also been offered by other disciplines (e.g., political science and sociology). Within the scientific field that frames the research, in order to select the appropriate definition of competitiveness for empirical work, the researcher must select the levels and units of analysis to investigate and collect the data before choosing the definition of competitiveness that best fits with his or her interests and study objectives.

This research is trans-disciplinary¹⁹, mainly relying upon analysis from business administration and economics. It is located at the micro level, with firms and products as units of analysis, according to the levels and units of analysis discussed previously.²⁰

Lack of data and a weak theoretical basis could be obstacles for the usage of a particular definition. Some models deal with how to implement the competitiveness theory;

¹⁹ In the empirical part it is seen that political science also plays also an important role in the definition of competitiveness.

²⁰ See section I.2. This preliminary analytical focus of the research will be augmented when the meso-level and the cluster analysis are introduced in the second chapter.

scholars assume a definition and build a theoretical model. Modeling issues are discussed in the second chapter, while this section attempts to analyze and select the concept of competitiveness and its determinants within a narrower framework: the specific application for agricultural exports.

The agricultural sector is one of the most important economic sources of developing countries' welfare. Surprisingly, competitiveness literature, as shown by the survey of concepts, mainly concentrates on industrial-based and technology-based economies. Furthermore, rural development is linked to the structural social problems in the agricultural sector of developing countries. Therefore, a theoretical framework needs to be developed for analyzing the competitiveness of agricultural exports, as a first step towards a better understanding of these social difficulties. The purpose of this section is to find that theoretical framework. To fulfill this purpose, first, the importance of the agricultural sector as a field of study in the competitiveness framework is recognized. Secondly, the concept of competitiveness to be used is selected. Finally, there is a classification of determinants of agricultural competitiveness taking into account the objectives of this research.

I.3.1 Evolution of the Agricultural Competitiveness Concept

This section deals with the importance of agricultural competitiveness and its functional definition for this research. Therefore, the first sub-section is a brief examination of the importance of competitiveness, first in terms of the theory of trade, and second in terms of the application of the concepts to developed and developing countries.

Within the theoretical debate, neoclassical trade theory uses a notion of comparative advantage that fits the factor endowments of agriculture relatively well. The colonialist pattern of importing commodities from developing countries led late-developing countries to promote agricultural exports as a tool for development. This may be possible in a world market free of distortions, but highly protectionist policies (particularly those of developed countries) have made agricultural exports highly unstable, politically influenced, and associated with pervasive effects for developing countries (for instance, concentration on exporting products with low added value)

(Petit and Gnaegy 1995, p. 45). The theoretical framework of competitive advantage attempts to make up for these analytical failures.

The Ricardian concept of fixed national factor endowments is obsolete due to the internationalization of labor and financial markets. The only fixed factor endowment in agriculture should be land, in theory, but in fact even this is questionable, since transnational corporations can invest in land in different countries based on the advantageousness of national policies. National factor endowments are the only determinants of comparative advantage, but they are only one aspect of competitive advantage.

The world free of distortions assumed by classical theory is contrary to the real world, where developed countries' policies of self-sufficiency, inefficient protection, and costly rural sectors complicate trade and affect developing countries' agriculture (see the US Farm Bill and the EU Common Agricultural Policy, or CAP). Competitiveness theory relaxes the assumption of a world free of distortion and instead considers strategies where single agents compete for competitive advantage in spite of technological gaps and trade restrictions (both tariff and non-tariff constraints). Actually, policies can also be a source of competitive advantage. For instance, private and public sectors tend to work together in the early stages of development by establishing temporary trade protection policies, channeling resources to specific and competitive sectors (clusters), and guaranteeing support against some financial or institutional risks. These kinds of policies are unacceptable under free market conditions according to classical theory, but in competitiveness theory they are real-world distortions that should be analyzed as determinants of competitive advantage.

When some of the assumptions of the classical theory are eliminated, a debate about the implications of competitiveness concepts develops. Historically, the study of an application of the competitiveness concept to the agricultural sector began when some developed countries felt an agricultural decline, particularly in the share of their exports. For instance, the United States had a "boom" in agricultural exports in the 1970s due to supply side national policies of protectionist exchange rates, subsidies, taxes, and credit conditions. In addition, on the demand side, the United States benefited from favorable import policies from China and the USSR, while developing countries grew

economically. However, in the 1980s the United States and Western European countries suffered sharp declines in their agricultural exports caused by a global recession, developing countries' debt burdens, growing domestic production in developing countries, and developed countries' self-subsidization (such as the "variable levy" of the former European Economic Community and the CAP)(OTA 1986, p. 4).

Developing countries began to subsidize their domestic products and to tax imports. Production rose, and the surplus in commodities resulted in strong supply-side pressure that lowered prices. Technology, innovation, quality, and differentiation of products began to be important factors of competitiveness. But economists only recognized the importance of the competitiveness concept when they observed the decline in developed countries' agricultural exports. For the first time, agricultural competition became a popular topic of economic study (OTA 1986; Dunmore 1987; Stanton 1986), and it remains a crucial topic on international negotiation agendas today. Moreover, questions about the agricultural menace from developing countries were advanced, and doubts about developed countries' aid policies emerged: "US markets could be further eroded by developing nations that continue to absorb agricultural innovations and transfer them to local producers. Crop productivity in these nations may grow more rapidly, aided by US technologies, many of which boost the productivity of both US agricultural exports and those of our export competitors" (OTA 1986, p. 9). Thus, developing countries also began to be a part of the discourse of competitiveness, first as rivals; nowadays as the incentive.

I.3.2 Adoption of a Definition of Competitiveness for Agricultural Exports

Section I.2 dealt extensively with the definitions of competitiveness. Definitions depend on the research objectives, and agricultural competitiveness is not an exception. Here, complementary elements will be included in a definition applicable to agricultural exports. The theory of competitive advantage incorporates elements from organizational economics (such as agency theory and transaction cost) in micro-level analysis. Therefore, this paper's enhanced theory should include variables such as knowledge, information technologies, intangible assets (brand and market position), decision-making processes, and coordination systems.

From the multiple concepts detailed in section I.2 there are some elements that must be included in a definition of competitiveness. The emphasis of the mainstream on the macro level, as the environment of competitiveness, is the starting point of any comprehensive definition. The determinants from the micro level are extracted according to the unit of analysis selected for a research. Thus, if the sector is selected as the unit of analysis, qualitative aspects are added to the traditionally used quantitative indicators (productivity and cost-based indicators) of the comparative advantage. Additionally, market share is a standardized measurement among scholars to justify the differences among sectors' competitiveness. If the firm is the unit of analysis the concept of profitability is highlighted. It is recognized among scholars that trade policies and management practices can affect the competitiveness of firms. Finally, if the product is the selected unit of analysis, measurements of trade performance are combined with the basic measurements of the comparative advantage theory (cost- and price-based indicators) to give a comprehensive definition of competitiveness.

The failure to find a consensus poses the question of competitiveness as a zero-sum game where some units of analysis are positively affected by the determinants while at the same time others are negatively affected. However, Porter (2005)²¹ argues that competitiveness is not a zero-sum game: "There's not a fixed pool of demand in the world that countries are competing to serve. There is almost an unlimited amount human needs for health care, for goods, for services, for entertainment. If productivity goes up, you can serve more of those needs at the same cost. As productivity goes up, people's wages can go up and then they can afford to buy more goods and services to meet their needs. So we must think of competitiveness not as a fixed pie that you're trying to fight over, but really a pie that expands."

The Inter-American Institute for Cooperation on Agriculture (IAIC) (Rojas et al. 1999a, 1999b, 2000; Romero et al. 1999) uses an approach based on the systemic model of competitiveness (Althenburg et al. 1998). The virtue of its analysis is that its definition includes some of the agreements among scholars on the definition of competitiveness in agriculture.

²¹ Extracted from an interview with Michael Porter "Defining Competitiveness – a Zero-Sum Game?" at the World Economic Forum presentation of the Global Competitiveness Report 2005-2006.

- a. Technology and innovation must be included in the definition of comparative advantage to incorporate, in a resource-based economy, the dynamic effect of competitive advantage.
- b. Firms are responsible for creating competitive advantage. The state's role is to secure favorable conditions and stable macroeconomic policies.
- c. Competitiveness, no matter the level or unit of analysis, refers to participation in the international economy and the sustainability and improvement in time of the relative position against others.

These points of agreement resulted in the following definition of competitiveness:

“Competitiveness is a comparative concept based on the dynamic capacity of a specially-located agro-alimentary chain that keeps, expands, and enhances the market share continuously and in a sustainable manner domestically and overseas. It does so by means of the production, distribution and sale of goods and services on time, in suitable place and appearance, for society's general welfare.

That capacity depends on economic as well as non-economic elements at the macro, meso and micro-levels²². The macro-level concerns the economic aggregates and the country's relations with the rest of the world. The meso-level includes factors such as: distance, supporting infrastructure (physical and financial resources), natural resources, and social infrastructure (institutional links with the system). Finally, at the micro-level, factors include prices, quality, and spatial factors that can influence the firm's behavior” (Rojas and Sepúlveda 1999b, p. 18).²³

The concept of competitiveness from the IAIC embraces the objectives of this research. First, it is very useful when applied to developing countries' agricultural exports. Second, it uses the product as an explicit unit of analysis. And third, it can be thoroughly broken down according to levels of analysis, with the macro-level as the

²² See Section 3.3 for details of the classification of the determinants of competitiveness from Rojas & Sepúlveda (1999a p. 16)

²³ Author's translation

environment of competitiveness, the micro-level explaining its determinants, and the meso-level analytically linking the levels of analysis.

Since this definition constitutes the conceptual framework for competitiveness in this study, it deserves a more complete explanation. First of all, it does not oppose comparative advantage theory, but complements it. For instance, competitive advantage is not static, but dynamic in nature: it borrows from comparative advantage the analysis of production (endowed factors), as well as of distribution and sales. Second, it is evolving, because it is defined as a process that continuously promotes increasing market shares. Third, it is socially oriented, because it aims for society's general welfare. Fourth, the agroalimentary chain is the object of study, facilitating focus on the levels and units of analysis of interest in this research (micro-level, firm/product unit). It is comprehensive in this respect, because it recognizes the necessity of attention to all levels of analysis (macro, micro, and meso). Fifth, it is interdisciplinary because it suggests complementing the analysis of economic determinants with an analysis of non-economic determinants of competitiveness (e.g., political), meaning that qualitative indicators are also necessary. Finally, this definition is structured by the systemic competitiveness model, broadly investigated in the 1990s and 2000s, which includes meso-level trade policies as a determinant in empirical research²⁴. In this respect, it solves one of the main failures of the concepts of competitive and comparative advantage defined by the inclusion of trade policies as determinant of competitiveness. The effects of trade policies on competitiveness are explained more in detail in section I.4. However, it should be emphasized that trade policy is only one of the determinants of competitiveness to take into account. The following section constructs a classification of determinants of competitiveness, a starting point in terms of emphasis on trade policy and the modeling of competitiveness.

I.3.3 Determinants of Competitiveness

Once the discussion about the application of competitiveness concepts in the agricultural sector gained momentum in the academic world, it raised a wealth of

²⁴ See also the determinants of competitiveness in Sub-Section I.3.3, and the emphasis on trade policies in Section I.4.

further questions. One of the most relevant questions for this study is the importance of the determinants affecting competitiveness.

The influence and possible distortions of determinants on competitiveness depend on the temporary character to use them in each stage of development. A recent approach of the mainstream to their critics²⁵ shows that developing countries should in a first stage develop rationality, stability and viability at the macro level, in a second stage they should develop a physical infrastructure and in a third stage an enhanced business environment. Middle-income countries' priorities should be addressed to the quality and sophistication of the management, particularly in sectors recognized as leaders of development. Finally, high-income countries have to deal with innovation and how to operate firms internationally (Porter 2006). Particularly for developing countries, policies of stabilization and enhancement of physical infrastructure should be of temporary character. Once the environment of competitiveness at the macro level is strengthened the firms are able to enhance other determinants of competitiveness by themselves such as quality (in middle-income countries) or innovation (in high-income countries). If countries artificially maintain a favorable environment of competitiveness, for example with exchange or interest rates, the firms would not be able to compete under free competition conditions and would exit the market²⁶.

Dunmore (1987, p. 31) and Ul Haque (1991)²⁷ mention a number of determinants of competitiveness in the agricultural sector: macroeconomic policies; domestic farm policies, including technological development, improvement and innovation of products; and foreign trade policies, including marketing strategies, infrastructure, post harvest, packaging, and sanitation-improving policies. Petit and Gnaegy (1995, p. 47) add the most important determinant from comparative advantage theory, one with major implications in the agricultural sector: natural endowments.

From the debate between Porter (1990) and Krugman (1994), one point of agreement emerges: that countries do not compete. Instead, as Murphy (1999, p. 1-2) states, "they provide national platforms upon which producers, firms and industry clusters compete. In this context, competitiveness focuses on the sustained increase in productivity in the

²⁵ See approach of Cho in section II.1.3.

²⁶ See section I.4 for a more specific approach on trade policies affecting competitiveness.

²⁷ Cited in Petit & Gnaegy (1995, p. 47).

agribusiness sector as the result of better business strategies and improved microeconomic and macroeconomic conditions”. As national platforms, Murphy refers to country conditions that form the foundations (or determinants) for competitiveness of national firms, such as political stability, macroeconomic policy, openness to trade and investment, finance, infrastructure, human resources, and legal and institutional environment.

At the macro-level of analysis, interest and exchange rates are commonly used measurements for evaluating competitiveness, and they are also functional as determinants of sectors’ competitive behavior. For example, studies such as those by Kennedy et al. (1997) and Lee et al. (1997) attempt to explain the agricultural sector’s response to structural adjustment by analyzing producer prices and changing interest and exchange rates. Further analysis at the micro-level of competitiveness should recognize the empirical results of the behavior in product units of analysis using changes in aggregate variables (such as exchange rates and price reforms).

Using these determinants, Table I.4 attempts a classification taking into account the levels of analysis and the control capacities of governments and firms. However, for the purpose of analyzing the effects of the determinants on the competitiveness of agricultural exports, it is more useful to divide the determinants according to their geographical locations. Thus, a determinant located inside the national boundaries is called internal; otherwise, it is classified as an external determinant²⁸.

All the determinants located at the macro-level and controlled by the government are classified as internal²⁹. Particularly, national policies affect the business environment of the most disaggregated units of analysis. Moreover, all the determinants controlled by the government and firms at the meso³⁰ and micro-levels are also internal.

There is a special category for determinants that can be either internal or external determinants of competitiveness. For example, from the quasi-controlled factors, related and supporting industries (and/or services) are internal if these industries (and/or services) are inside the national boundaries. The same happens with demand conditions:

²⁸ Notice that this classification is important for deciding the model of competitiveness to be used in the case study.

²⁹ A cluster analysis would give a better explanation of these determinants at the micro-level for the firm/product unit of analysis. This is explained theoretically in more detail in the 2nd chapter and empirically in the 3rd chapter.

if the object of study is local demand, the conditions are an internal determinant; otherwise, they should be classified as external. Finally, chance is the only uncontrollable determinant that cannot be classified as exclusively internal or external.

Table I.4. Determinants of Competitiveness

Level	Controlled by the Government	Controlled by the Firm	Quasi-Controlled		Uncontrollable	
Macro	Business environment: - Taxation - Interest Rates - Exchange Rate		Demand Conditions	International agreements	Chance*: Wars, natural disasters	Market environment of foreign countries
				Related & supporting industries and services		Policies supporting competing firms and/or countries (investment, trade, tariffs, and taxation)
Meso	- Agro-ecological conditions - Strategic alliances - Physical & financial infrastructure - Commercial policy - R&D policy - Education & training policy - Cultural openness	- Training - Internal R&D investments				
Micro		- Production costs - Managerial practices - Quality control - Product technology		- International prices - Import prices of inputs and raw material		Competing firms in foreign countries

Source: Author's elaboration based on Rojas & Sepúlveda (1999a, p. 16) Van Duren et al. (1994, p. 49)

External³¹ determinants are related to the conditions in competing countries. At the macro-level, national policies of competing countries affect the environment of domestic firms. The strategies of foreign firms (producer, importer, retailer, and/or wholesaler), transnational corporations, and the firm's linkages with related and supporting industries (and/or services) are classified as external micro-level determinants. Lastly, unilateral and multilateral trade policies of foreign countries are usually included in the demand conditions determinant, but scholars from the systemic model classify these as meso-level policies. As these are of major interest for this

³⁰ Sector-specific policies and institutions are explained as *meso*-policies and *meso*-institutions under the systemic competitiveness model to be explained in the 2nd chapter.

³¹ Value chain and market share analysis link methodologically internal with external determinants, respectively, and can be used to look at the effects of trade policies on the competitiveness of banana exporting countries.

research, the following section concentrates on a theoretical framework for analyzing trade policies.

I.4 Trade Policy: A Determinant of Competitiveness

Trade policies are, then, the determinant that will be investigated in the case study of this research. The main purpose of this section is to build a theoretical framework of trade policies that will be suitable for explaining their effects on the competitiveness of developing countries' agricultural exports. To achieve this purpose, the first subsection discusses how trade policies can be defined, taking into account the trade theories and definitions of competitiveness from previous sections. The second subsection deals with the mechanisms of implementation, specifically tariff rate quotas (TRQs), which are the transitional measurement accepted by the WTO.

I.4.1 Defining Trade Policies within a Framework of Competitiveness

A neoclassical orientation of trade policy is summarized by Thomson (2001, p. 258): "With the failure of Marxist socialism, policy has only one main role in regard to economic efficiency: to reduce market failure, whether by correcting externalities or by providing public goods (or preventing public bads). It can attempt this by executive means (government itself providing the public good), or by regulation (enforcement or prohibition), or market intervention (taxes and/or subsidies, i.e., price manipulation), or exhortation (education, propaganda)" This statement retains the "invisible hand" of Adam Smith, where the government has only a marginal role in a free-trade-oriented market. In contrast with the NTT, Krugman argues: "it (new trade theory) was not originally policy-oriented at all. The new trade theorists were at first primarily positive rather than normative, we were motivated by an effort to explain the pattern of trade, and to fill a logical gap in standard trade theory, rather than by the desire to find a justification for neo-mercantilist trade policies" (1992, p. 424). According to this argument, the predominant reason for trade policies is the redistribution of welfare among producers, consumers, and the government (Tweeten 1992). Some problems exist with the mechanism of redistribution: particularly in the agricultural sector, the government can commandeer a significant portion of the gains from consumers and

producers by collecting tax revenue (Reed 2001, p. 38). Although additional reasons for applying trade barriers abound, the following are the most frequently mentioned, particularly in the agricultural sector:

- Self-sufficiency of production: countries should guarantee the supply of food for domestic consumers, preventing the risk of dependency on external markets and instability of domestic production.
- Countering competing countries' policies against domestic industries: if a country is disadvantaged by a policy of a competing country, the harmed country could impose temporary protection measures (for example, anti-dumping regulations).
- Protection of newly-established businesses or infant industries: temporary protectionism may be imposed to protect sectors/firms which are still emerging and are not strong enough to bear foreign competition.

Trade policies are therefore often accepted by economic (both government and private) agents depending on their objectives and potentially under the expectation that such policies will improve competitiveness. For instance, in a market share definition of competitiveness, Reed argues "that an only economic reason to apply trade restrictions is if the importing country is large enough that it can use its market power to extract welfare from the rest of the world" (2001, p. 39). McCorrison and Sheldon discuss that a market share increase of a particular sector can occur at the expense of wasting resources from other sectors and, in consequence, reduce the country's growth. Therefore they use a performance definition instead: "policy intervention may be justifiable in particular sectors if the aim is to increase growth, though the welfare implications can be ambiguous" (McCorrison and Sheldon 1994, p. 142).

Clearly, justifications for applying trade policies can be as abundant as definitions of competitiveness in economics. On one hand, in the political field interest groups (farmers in the agricultural sector) are very active in lobbying government policy-makers to both support the producers' incomes and reduce prices for consumers. On the other hand, free trade oriented economic agents argue that regulatory structures are costly in comparison with the resulting improvements in general welfare. The WTO tries to conciliate economic and political positions in order to meet social objectives. As

they say, “the debate in the negotiations is whether these objectives can be met without distorting trade” (WTO 2005a)³².

A trade policy definition needs to be applicable to both a theory of trade and to the definition of competitiveness chosen in the Section I.3.2. In this research, trade policies’ effects are analyzed in the context of a market share definition of competitiveness, where a national economic policy exists at the macro-level, and the meso-level is concerned with supporting structures, including sector-specific policies (meso-level policies) which encourage, supplement, and increase the efforts at the company and product micro-level. Critically, meso-level policies could have pervasive effects on the competitiveness of different agents, as NTT suggests. This is a matter of discussion in the empirical part of this research, when trade policies are tested as a determinant of competitiveness.

The following section introduces some of the mechanisms of trade policy that are emphasized in the case study, noting the frame of analysis and the commitments of the country members at the WTO³³.

I.4.2 Tariff Rate Quotas as an Instrument of Trade Policy

As can be seen from Table I.5, if there were not already enough trade barriers, particularly in the agricultural sector, governments are becoming more creative in developing new ones. The influence of these measures on competitiveness can be classified based on the theoretical framework of section I.2, making a distinction between policies affecting competitiveness permanently (long-term) and artificially (short-term).

³² Visited in September 2005. http://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm3_e.htm.

³³ The WTO classifies the negotiations of agriculture in three pillars: A) market access, B) domestic support and, C) export subsidies. A) Under market access non-tariff restrictions (likely to distort the market) where changed by temporary tariffs (more controllable and less distorting than non-tariff restrictions,). They are supposed to be reduced gradually (tariff-only and TRQs). B) Domestic support has a classification of measures according to the distortion in the market: a) Green box: the measures do not distort trade or at most cause minimal distortion (e.g. direct income supports for farmers which are not related to current production levels or prices). b) Blue box: likely to distort the market (e.g. direct payments under production limiting programmes are excluded from negotiations (reduction) if such payments are made on fixed areas and yield or a fixed number of livestock). c) Amber box (de minimis): all domestic support measures considered to distort production and trade (e.g. measures to support prices, or subsidies directly related to production quantities). C) Export subsidies are likely to distort the market and only allowed in very specific cases. In this research the analysis mainly concentrates on market access issues.

For a more detailed analysis see: http://www.wto.org/english/tratop_e/agric_e/ag_intro00_contents_e.htm (visited in July 2006)

<i>Table I.5. Policies Affecting Competitiveness in the Agricultural Sector</i>	
Policies with Artificial (Short Term) Effects	
Direct Trade Intervention	<ul style="list-style-type: none"> - Tariffs and taxes - Imports and export quotas - Export subsidies
Controlled Exchange Rates	<ul style="list-style-type: none"> - Fixed rates - Differential rates - Crawling-peg rates - Exchange controls, licenses
Other Distorting Macroeconomic Variables	<ul style="list-style-type: none"> - Interest rates - Wage rates - Inflation rates
Market Price Supports	<ul style="list-style-type: none"> - Domestic price supports linked with border measures (quotas, permits, tariffs, variable levies, and export restitutions) - Two-price systems and home consumption schemes - Price premiums - Domestic price supports linked with production quotas - Government inventory and commodity loan activities - Marketing board price stabilization policies - State trading operations
Commodity Programs	<ul style="list-style-type: none"> - Direct payments: emergency temporary payments - Producer co-responsibility levies (taxes on commodities to pay for disposal of surpluses) - Supply control (marketing quota, acreage diversion, land retirement) - Storage programs
Programs Affecting Marketing of Commodities	<ul style="list-style-type: none"> - Transportation subsidies - Marketing and promotion programs - Inspection services
Programs Affecting Variable Costs of Production	<ul style="list-style-type: none"> - Fertilizer subsidies - Fuel tax exemptions - Concessional domestic credit for production loans - Irrigation subsidies - Crop insurance
Policies with Permanent (Long Term) Effects	
	<ul style="list-style-type: none"> - Research and development services - Conservation, environmental, and natural resource programs - Structural programs to adjust numbers and sizes of farms - Infrastructure (roads, ports, etc.)
Source: Author's elaboration based on Tweeten, Luther. (1992, p. 50)	

Microeconomics textbooks explain the effects of trade barriers with simple comparative static models. This section concentrates exclusively on tariff rate quotas (TRQs), the only transitional measure (apart from post-transitional tariff-only regimes) formally

accepted by the WTO, as a measure that could potentially, albeit gradually, liberalize agricultural international trade.

Some of the policy mechanisms listed in Table I.5 are irrelevant to this study because they focus on the macro-level or are no longer legal under WTO regulations. In fact, one of the most important achievements of the Agreement on Agriculture (AoA) during the Uruguay Round was the prohibition of non-tariff barriers (which consists of the majority of the policies listed in Table I.5). Instead, the AoA suggested of the use of tariffs to achieve equivalent import quantities³⁴ or the setting of ceiling bindings³⁵. Although most developing countries opted for the latter, “dirtier” alternative (FAO 2000), the “clean” tariffication process remains a lively topic of discussion.

I.4.2.1 Theoretical Basis of TRQ: “Equivalence” between Tariffs and Quotas

The selection of a method for converting non-tariff barriers (particularly quotas) into tariffs has frequently been analyzed in academic literature (Bhagwati 1965; McCulloch 1973; Deardorff and Stern 1997; Guldager and Schröder 2002; Furusawa et al. 2004). According to Bhagwati (1965), it is not only a matter of evening the discrepancy between foreign and domestic prices. He notes that an element is persistently forgotten in static analysis—monopolies can create market failures, whether in (domestic) production or in the maintenance of quotas. Thus, Bhagwati establishes that it is only possible for tariffs and quotas to be equivalent in their effects under three assumptions: “(a) competitive foreign supply, (b) perfect competition in domestic production, and (c) quotas are allocated so as to ensure perfect competition among the quota-holders” (1965, p. 54). The analysis of McCulloch (1973) argued that policy makers are interested in the use of tariffs and quotas not only to keep imports from overwhelming domestic markets, but also to make profits, whether in outputs or prices.

The motive for trade protection grounds both the importance of tariffs and of finding tariff equivalents to non-tariff protections. Most studies have focused on whether tariff and non-tariff measures have been able to achieve equal levels of imports; more recent

³⁴ With “equivalent” defined as “tariffs that are set such as to result in the original trade volume” (Guldager & Schröder 2002, p. 3)

³⁵ The use of ceiling bindings became known as “dirty tariffication” because the highest tariff levels were even more restrictive than non-tariff measures.

studies have analyzed the effects on imperfect competition (Furusama et al., 2004; Guldager and Schröder 2002). These find that at the same import levels (due either to tariffs or to quotas), the effects on consumer prices and social welfare are different according to the trade policy. An additional problem is that for the government to achieve even this “equivalence” of import levels, it must have full information about the economic environment, including the positive externalities involved in imposing either a tariff or a quota. This is never the case. Therefore, the discussion is not only about the possibility of equivalence, but also which policy is better for everyone involved. Despite the theoretical difficulties previous research has encountered in this area, Annex 5 of the AoA suggests a method for converting non-tariffs into tariff equivalents³⁶.

I.4.2.2 A Basic Approach to the Economics of TRQs

The more noteworthy discussions during the negotiations of agriculture at the WTO have been related to the tariffication methods and the effects of the utilization and administration of tariff rate quotas (TRQs)³⁷ to expand market access. In theory, the TRQ is not a quantitative restriction, since one can import as much as one wants, as long as one is disposed to pay the over-quota tariff. Thus, it is theoretically less restrictive than a quota-only system, in which exporting countries are not allowed to export more than the quota amount, but less transparent than a tariff-only system because of the quota rents involved.

TRQs were selected by the Uruguay Round as the transitional mechanism to simplify the process of deregulation to a tariff-only regime (WTO 2005a). Its main objective is to convert all non-tariff barriers into tariffs³⁸ in order to open at least minimum market

³⁶ Annex 5, Par. 1 of the AoA: “The calculation of the tariff equivalents, whether expressed as ad valorem or specific rates, shall be made using the actual difference between internal and external prices in a transparent manner”.

³⁷“A TRQ is a hybrid of a simple tariff and a simple quota. An in-quota tariff (t) is applied up to a given quantity (Q). All subsequent imports are then taxed with the higher over-quota tariff (T)” (Jörin & Lengwiller 2003, p. 2). See Graph I.2. Skully (2001) differentiates between tariff quotas, which are specific tariffs, and tariff rate quotas, which consist of ad valorem tariffs. However, in this analysis this distinction is not taken into account.

³⁸Paragraph 2 of Article 4 of the Uruguay Round Agreement on Agriculture: states that “members shall not maintain, resort to, or revert to any measures of the kind which have been required to be converted into ordinary customs duties.” A footnote to the Agreement expands on this statement: “These measures include quantitative import restrictions, variable import levies, minimum import prices, discretionary import licensing, non-tariff measures maintained through state-trading enterprises, voluntary export restraints, and similar border measures other than ordinary customs duties, whether or not the measures are maintained under country specific derogations from the provisions of GATT 1947, but not measures maintained under balance-of-payments provisions or under other

access for formerly prohibited products and to avoid a disproportional increase in tariffs for products that were already traded. However, a closer analysis of the economics of the TRQ and recent empirical results (Abbot 2002; Carter and Li 2005; Gorter and Sheldon 2000; Mönnich 2003; Matthews and Laroche 2002) confirm that TRQs have not been as successful as expected.

Regarding the economics of a TRQ, a simple analysis supposes that the market is competitive and the importing country is small. As Graph I.2 shows, the effective supply curve is a horizontal line between the in-quota imports (at the price $1+t$) and the outbound quota (at the price $1+T$).

Graph I.2 shows four representative levels of import-demands. At the level $M1$ there is no trade; even the world price is below the in-quota tariff. At the level $M2$ the quota is not binding and works as a normal tariff. The failure of quotas to be binding because they do not match market access expectations is called “underfill” in WTO jargon.

Graph I.2 TRQs: Small Importing Country and Perfect Competition



Source: Skully 2001

Level $M3$ corresponds to a binding quota when the over-quota tariff (T) is prohibitive. At this demand level, if a tariff-only system were in operation the level of imports

general, non-agriculture-specific provisions of GATT 1994 or of the other Multilateral Trade Agreements in Annex 1A to the WTO Agreement.”

would be Q_3 , but because imports are bound, they only reach Q , and the system operates as a pure quota system. In consequence, the difference between the binding price P and the in-quota tariff $(I+t)$ is the rent that producers gain in a constrained market with no risk of falling above the tariff quota threshold. These rents must be divided³⁹ between sellers, which is one of the main problems with this policy instrument. Finally, the level M_4 —the “true TRQ”—is when the quota is no longer binding, but operators must pay the over-quota tariff T for imports beyond the tariff quota threshold. There is an advantage for those who trade quantities under the in-quota tariff limits.

I.4.2.3 Administration Methods of TRQs

In theory, a tariffication process simply aims to find the difference between the binding price P (internal) and the world price W (external). However, in practice, in order to know P , one must know the quota fill rates, the administration of rents, the elasticities of excess demand and supply, and the continuous changes of market conditions.

Regarding the quota fill rates, Mönnich (2003, p. 2) lists the following reasons for quota underfill: consistently low demand; excessively high in-quota tariffs; and failures in quota administration because of bad bureaucracy or high transaction costs. Thus, administration methods are important for underfill situations (M_2), as well as when the quota is effective (M_3 and M_4). In the latter cases, TRQs are expected to generate rents, act as a pure quota, and must be administrated in a transparent and efficient way. However, the methods and effectiveness of TRQ administration are still under debate. They are subject to political influence and still involve quantitative restrictions, and therefore are often blamed for being one of the reasons for policies’ failure to increase market access.

³⁹ See Table I.6

Table I.6. TRQ Administration: Methods and Impacts According to the Principle of Non-discrimination (GATT Art. XIII)

WTO Method Classification		Description	Impacts according to	
			Theoretical	Empirical
Market Allocation Methods	Applied tariff	Unlimited imports are allowed at or below the in-quota tariff rate.	Non-discriminatory because the quota is not enforced.	Low effects on trade distortions (only applicable if the quota is underfilled).
	Auction	The right to import at the in-quota tariff is auctioned.	Non-discriminatory, particularly if the market is sufficiently competitive and there is a large volume of trade.	Possibly the most negative effect on market access because there are additional restrictions to the auctioning.
Quasi-Market Methods	License on demand	Licenses are required to import at the in-quota tariff. If the demand for licenses is less than the quota, Q, the system operates like a first-come, first served system. Usually, if the demand exceeds Q, the import volume requested is reduced proportionally among all applicants (in pro-rata reduction). This is the most common administration method in agriculture.	Risk of quota underfill and of biased distribution of trade	Pro-rata reduction leads to inefficiencies and quota underfill. Usually additional conditions are used (see bottom of this table).
	First-come, first-served	The first Q units of imports to clear customs are charged the in-quota tariff; all subsequent imports are charged the over-quota tariff.	Risk of quota underfill and of biased distribution of trade	Low market access. It gives advantage to geographically closer countries.
	Historical	The right to import at the in-quota tariff is allocated in proportion to import market shares in a base period decided by the importing country.	High likelihood of being discriminatory.	Static trade shares. If costs are increasing, quota is underfilled, but normally this is not the case.
	Country-specific allocations	The importing country reserves different quota shares for specific countries. Usually used in combination with the historical method and export certificates. It is necessary (GATT, Art.XIII 2d) to seek agreement with all contracting parties having substantial interest in supplying the product concerned.	High likelihood of being discriminatory.	Highly discriminatory, and quota fill results are mixed among participants.

Discretionary	State trader, producer group	The right to import at the in-quota tariff is granted wholly or primarily to a state trading organization or an organization representing domestic producers of the controlled product.	High risk of being discriminatory	The state has been shown to be highly efficient in distribution of the quota. Organized agents are even more efficient.
	Mixed	A combination of two or more of the methods above.	n.c.	n.c.
	Other or not specified	Methods that do not correspond to the methods above or are not specified in WTO regulations.	n.c.	n.c.
Additional Constraints				
Domestic purchase requirement		A condition requiring the purchase of domestic production of the product in order to be eligible.		
Limits on tariff quota shares		Limits the maximum share or quantity of the quota allowed.		
Export certificates		Requires an export certificate administered by the exporting country.		
Past trading performance		Limits eligibility to established importers of the product concerned.		
Sources: definitions and theoretical analysis according to Skully (2001) and WTO (2001). Empirical analysis according to Carter & Li (2005), Mönnich (2003), and Abbot (2002). Gorter et al. (2003) specifically study the “license on demand” method, and Jörin & Lengwiler emphasize the “auctioning” method. n.c. Non-classified.				

Table I.6 summarizes the methods of administration of TRQs and divides them according to the principle of non-discrimination (GATT Art. XIII), which defines the effectiveness of TRQs as a function of three criteria: transparency, quota fill, and distribution of trade (market access) (Gorter and Sheldon 2000)⁴⁰. Two significant analyses are presented here: first, that of Skully (2001), who classified the methods theoretically, taking into account the GATT's criteria, and second, Mönlich's (2003) and Carter and Li's (2005) empirical studies, which include several commodities and countries in a single model⁴¹.

Discrimination is of central concern in the analysis of the empirical study. As it will be seen in the fourth chapter, the artificial competitiveness created by the TRQ can be temporarily helpful for beneficiary countries, but can also be influential in the long term, if other determinants are taken into account. TRQs can have pervasive effects against the countries who receive them⁴². The method of distributing rents also plays an important role in the discriminatory effects (and competitiveness) of exporting countries⁴³.

Discretionary methods have been empirically demonstrated to be likely to fill quotas. When domestic prices exceed world prices under a quota situation profits are available and producers engage in rent-seeking behavior. Only applied tariffs and auctioning (under very specific conditions) are likely to be as efficient in trade distribution as a free trade situation, where low-cost firms are likely to enter the market and high-cost ones to exit. Empirical findings from Bhagwati (1965), McCulloch (1973) and Furusawa et al.

⁴⁰ Barichello (2000: 103-105) disputes the GATT's definition of efficiency and includes a private component, TRQ's allocation of market share to firms that make best use of it. In addition, Gorter et al. (2003, p. 3) call attention to the fact that low quota fill does not mean inefficiency, since other reasons such as unavailable supply or insufficient demand can be more important. The market could be inefficient even if the quota is filled. A discussion of the definition of effectiveness is possible, but is beyond the scope of the current study.

⁴¹The majority of studies evaluating methods of administration empirically are made on specific country and commodity bases.

⁴² Unilateral preferences have often used TRQs to differentiate beneficiary countries from most favored nations (MFN). Some preferential countries could concentrate on production structures that are non-sustainable in the long-term and should not be competitive if trade liberalization is completed. If unilateral preferences are eroded and further overall liberalization is carried out, the likely result is a general increase of welfare with differential results for specific countries, of which some are negative particularly for the poorest where the preferential schemes are likely to be addressed (Boüet et al 2004).

⁴³ TRQs were intended as a "temporary" measure to give a minimum access to formerly prohibited products. If the out of quota tariff is low enough, the so-called "real TRQ" could expand the market access from the MFN to the importer country or region. However, empirical studies show that TRQs do not improve their beneficiaries' competitiveness, and under the situation of free trade they are easily overstepped by competitors with a more solid competitive basis. In chapter 3 the competitive basis, referred to as internal determinants of competitiveness, is

(2004) confirm that although the quantity of trade should be equal under tariff-only and non-tariff restrictions, the distribution is likely to be different. This is confirmed by the welfare effects found by Skully (2001), Mönnich (2003), and Carter and Li (2005). Finally, transaction costs are often excluded from TRQ analysis, additional restrictions not taken into account by the GATT (Mönnich 2003, p. 3-4).

There was little concern about the implications of TRQs when the negotiations of the Uruguay Round concluded (Abbot and Morse 2000, p. 115), and there are still problems in the interpretation of the GATT's meaning of effective use of TRQs. The WTO definition only deals with trade distribution and quota fill matters. The distribution of rents generated by TRQs is neglected, as well as transaction cost issues and the efficient distribution of trade. The WTO criticizes most strongly the distribution of rents, which is not important to the effectiveness of the TRQ (Skully 2001, p. 20).

Politically, TRQs have been a step forward for non-tariff restrictions. Perhaps this "success" is because of its allowance of managed trade regimes and/or preferential arrangements. It is possible that TRQ policies became more discriminatory than non-trade barriers, but this is analyzed surprisingly seldom⁴⁴. Empirical studies mainly focus on quota fill or discrimination matters rather than the openness of markets due to TRQ policies. Furthermore, new "technical" barriers (such as environmental regulations, sanitary and phytosanitary regulations, quality standards, labelling and packaging, etc.) are making policy effects even more difficult to measure in terms of trade access.

Different interpretations of the conversion of non-tariff barriers to tariffs are only the first step in clarifying technical barriers in trade disputes. The recognition of this issue is imperative for policy recommendations and to evaluate the elimination of new and traditional trade policies. Another important issue to deal with in the measuring of barriers is the effect on factor markets (e.g., labor and capital), and including the subsequent impacts on patterns of trade and competitiveness. This particular problem will be covered as a part of the fourth chapter, determining empirically the effects of trade policies in the market share of bananas.

explained in detail. In addition, chapter 4 evaluates how the temporary TRQs can result in pervasive effects on the competitiveness of the countries.

⁴⁴ Only Abbot & Morse (2000) analyze this for developing countries. They found that since TRQs were accepted in 1994, trade has increased, but doubt that it was directly due to TRQs.

I.5 A Summary: Conceptual Framework for Analysis of Competitiveness of Developing Countries' Agricultural Exports

The debate on competitiveness has been intense, but consensus on specific issues is still low. What can be considered a definition of competitiveness was born from the classical theory of comparative advantage and developed with the NTT recognition of trade distortions in world markets. However, some authors claim that the concept is meaningless (Krugman 1994) and others claim it is an independent theoretical framework (Porter 1990). Thus, even within the existing theoretical framework, there is no consensus, although authors such as Ezeala-Harrison (1999), Mahmood and Ezeala-Harrison (2000), and Bloch and Kenyon (2001) have made generous attempts to achieve consensus. These authors have classified concepts from the academic literature according to levels and units of analysis, a method that will be followed in this research. The main conclusion of the first and second sections is that a general consensus on a single competitiveness definition does not exist, and that definitions' appropriateness depend on the level and unit of analysis needed.

Accordingly, this research selects a concept of competitiveness applicable to agricultural exports of developing countries. The definition of the IAIC is selected for this purpose because it is broad (including links between levels of analysis), is specifically suited to the agricultural sector, and most importantly, emphasizes the determinants of competitiveness, making it easier to use in an empirical study.

As competitiveness is based on comparative advantage theory, the first determinants are factor endowments. However, to be comprehensive, it is necessary to include and classify determinants from different levels of analysis and decide how much control different economic agents have of them. Once again, the researcher must define the policy impacts of the analysis. The emphasis of this thesis is on trade policies; therefore these deserved a specific section in this chapter. Other determinants will be evaluated using static analysis in Chapter 3. Since the only dynamic determinant in this research are trade policy changes, they are investigated separately in Chapter 4.

In order to proceed to the empirical case study and the implications of trade policies, the following chapter concentrates on the modeling methodologies of competitiveness,

I. CONCEPTS AND MEASUREMENTS OF COMPETITIVENESS

presenting a discussion of different methodologies (including the system from which the IAIC definition is derived) and building toward a model of competitiveness.

II THE MODELS OF COMPETITIVENESS: MAKING A “BUZZ-CONCEPT” OPERATIONAL

Introduction

Studies of economics and business have not only offered abundant definitions of competitiveness, but also models of competitiveness applying these concepts. As a result, the purpose of this chapter is to elaborate a model adapted both to the needs of evaluating trade competitiveness of agricultural products and to the definition selected in the first chapter.

This chapter is divided into four parts; the first is a review of the most noteworthy models of competitiveness. Following Cho and Moon's (2000) methodology, the discussion about models of competitiveness begins with the mainstream view, led by Michael Porter. Some scholars criticize Porter's view for its lack of alternate determinants. For instance, Rugman et al. (1992, 1998) include international factors in their model, and Cho et al. (2000) emphasize the role of transnational corporations (TNCs) and governments⁴⁵. Finally, the systemic competitiveness model (SCM) developed by the German Development Institute (GDI), with an even broader approach, is introduced, which takes into account two additional levels of analysis (meta and meso). All these models incorporate sectors, firms and products as units of analysis.

Second, from the SCM, cluster analysis is highlighted as the analytical tool for agricultural products in developing countries. As in the mainstream model, cluster analysis is contested here and reformulated to the objectives of this research. In the third section, additional assumptions and the value chain (as a tool for analyzing competitiveness) are included. These are necessary to develop a model that is appropriate to specific determinants of the case study (e.g., involvement of TNCs and actors from outside the cluster analysis). Finally, the theoretical chapters are summarized in order to introduce the empirical analysis of the case study.

II.1 Debates about the Models of Competitiveness

No single model is sufficient to explain international trade; today's world is much more complex than the nineteenth century in which Adam Smith wrote *The Wealth of*

⁴⁵ The alternative model of the International Institute of Management and Development (IMD) is not presented here because its approach addresses the competitiveness of countries. This research addresses competitiveness at the micro-level of analysis. For more details on the IMD approach, see: <http://www02.imd.ch/wcy/>.

Nations. To develop a model of competitiveness that is as similar as possible to the real world, the researcher must recognize the most important determinant or determinants of the topic. This means simplifying the competitiveness phenomenon at the level and unit chosen for study. Thus, the aim of this section is to put some of the economics and business models into a perspective that can be applied to agricultural exports of developing countries. This should support the construction of a comprehensive interpretation adaptable to this case study, especially referring to trade policies

II.1.1 Mainstream: Diamond of Competitive Advantage (Porter)

Michael Porter's study *The Competitive Advantage of Nations* (1990) is considered the basis and the "handbook" of the mainstream model of competitiveness. However, as stated in the first chapter, no one can argue that the competitive advantage theory is already a consolidated paradigm; there are still major differences in how competitiveness is defined and measured.

This section will describe Porter's model and relevant contributions by other authors to his theory. Developments of the theory divide the analysis into macro- and micro-levels (the SMC adds meta- and meso-levels as well). These levels are implicit definitions of competitiveness at different units of analysis (nation, sector/ industry, firm, and product). The hypothesis is: *there is not a single comprehensive definition of competitiveness, but a variety of different definitions can be employed in any given model, according to the researcher's interest.*

Premises of the Model

Porter offers the following premises as the backbone of his theory. (Porter 1980 and 1990 p.19-21)

- Firms can and do choose strategies that differ from condition to condition.

Every company has different objectives and sets its strategies from different starting points. Extending the analogy to countries, strategies for development applied to Asian countries work differently from those applied to Latin American countries.

- Successful international competitors often compete using global strategies.

Strategies that consider factor-based advantages (including the theory of comparative advantage) do not necessarily gain competitive advantage in the international market. Competitive advantage includes the following determinants: segmented markets (to specialized customers), differentiation of products and technology, economies of scale, and the recognition that international trade and foreign investments are integrated and non-exclusive to the firms.

- Competition is dynamic and evolving.

Competitiveness is a continuous process that must incorporate both internal developments (innovations, new products, new processes, etc.) and external developments (innovations, etc. from competitors).

Improvement and innovation in methods and technology are thus central elements. Investment in innovation should go in three directions: research, physical capital, and human resources.

These premises carry the main criticism of the comparative advantage theory: national prosperity is created, not inherited. This model is dynamic and more comprehensive, including factor conditions and other variables simultaneously. (Cho and Moon 2000, p. 55-56)

Porter's research uses ten nations (eight developed countries and two newly industrialized economies)⁴⁶. It concentrates on relatively sophisticated industries and industry segments and explicitly avoids sectors based on natural resources (Porter 1990, p. 28).

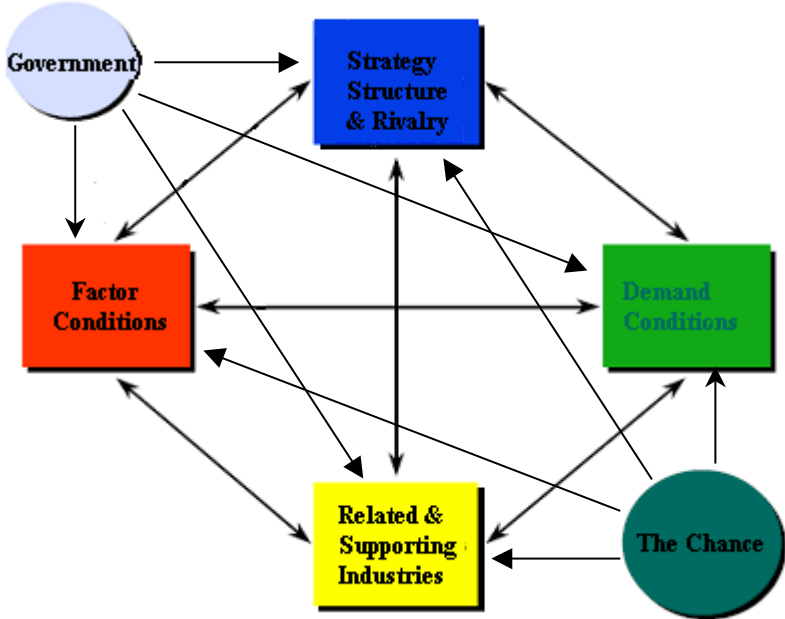
How does the model work? Porter's Diamond Model

The capacity to innovate and upgrade processes or products is one of the bases of competitiveness according to Porter. Some companies are more successful than others in improving and overcoming barriers to achieve competitive advantage. Porter uses a

⁴⁶ Developing countries were not included in the first stage of Porter's research.

diamond-shaped model to illustrate international success⁴⁷. The “diamond” of national advantage consists of four determinants that are inter-related and two exogenous variables that Porter named chance (random effects) and government. Graph II.1 shows the interactions between determinants and the “external effects” of government and chance.

Graph II.1 Porter’s Diamond of Competitiveness



Source: Author’s elaboration based on Micheal Porter and CLACDS-INCAE

The Determinants

- Factor conditions

Competitive industries constantly upgrade their factors of production (land, labor, and capital), which derive from the comparative advantage theory, and create or acquire factors (innovation and technology) related to their product. A nation need not possess all the productive factors of the comparative advantage theory to be successful. Some

⁴⁷ The selection of the industries was based on a concept of international success defined “as possessing competitive advantage relative to the worldwide competitors...” measured by “(1) the presence of substantial and sustained exports to a wide array of other nations and/or (2) significant outbound foreign investment based on skills and assets created in the home country”(Porter, 1990: 25).

countries can develop, innovate, and create specialized factors to replace the lack of factor endowments in a specific industry (for example, land in Japan).

- Strategy, structure, and rivalry

International competitiveness results from the presence of capable, committed, and fierce rivalry among local firms. The firm's local environment determines the creation, organization, and management of the industry or firm, which determine its ability to become a world-class competitor. No single strategy or structure can be applied to all countries because national environments are different.

- Related and supporting industries

Groups of supporting and related businesses competing, cooperating, and collectively upgrading their industries result in competitive advantage. Supportive industries can provide inputs faster and more cheaply than if they were produced within the industry. Also, improvements in some segments of the industry upgrade the industry as a whole. This mechanism of transfer and exchange is clearly presented for competitive advantage theory in a cluster model.

- Demand conditions

In addition to local rivalry between firms, strong local demand conditions depend on the sophistication of the local customer base. In this context, consumer expectations in terms of quality standards are also important. Thus, if local demand coincides with changes in the behavior of consumers in the rest of the world, industries will be able to apply this knowledge to innovate, upgrade, or create new products or services that should be competitive worldwide.

The four determinants influence one another and, as a system, create the national environment where the firms compete. Therefore, firms gain competitive advantage when: the national environment supports the accumulation of specialized factors, allows a quick flow of consumer demand information, strengthens the links between suppliers and related industries, and pressures companies to invest and innovate.

The External Factors

- a) The role of chance refers to events out of the domain of firms and/or countries which influence their competitive advantage in a non-certain way. Chance can create advantages for particular groups of countries but also nullify them by altering the predominant conditions with no predictable results (e.g., oil price shocks, financial shocks, wars, natural phenomena).
- b) The government, according to Porter, plays a fundamental role in the configuration of the whole system of competitive advantage. Although governmental decisions affect the four determinants, their decisions are not affected by the system. According to Porter's diamond, the government's role is to facilitate, support, promote, and challenge firms to become more competitive through specific policy approaches, including: the focus on specialized factor creation; the avoidance of intervention in factor and currency markets; the strict enforcement of quality, safety, and environmental standards; the sharp limitation of direct cooperation between industry rivals; the promotion of goals that lead to sustained investment; the deregulation of competition; the strong enforcement of domestic antitrust policies; and the rejection of managed trade.

Porter states that chance and governments influence the whole system but are not influenced by it, and for that reason are classified as external. As will be shown later, a criticism of Porter's view is that he does not include the government as the fifth determinant, as it can also be affected by the system⁴⁸.

The objective of the model is to determine the environment of competitiveness⁴⁹. The more developed the determinants and their interactions are, the more favorable the environment of competitiveness is. Porter identifies two sources of value for products, cost and product differentiation advantages. The choice between these two strategies is crucial to the firm's ability to achieve competitive advantage.

⁴⁸ See Rugman and Cho's criticisms in Sections II.4.2 and II.4.3

⁴⁹ Porter and his followers use this approach to define competitiveness at the national unit and macro-level of analysis, as described in the first chapter.

II.1.2 First Debate: Double Diamond Approach (Rugman et al.)

Criticism of the new model began with scholars in industrialized countries such as Canada and Japan and newly industrialized countries such as South Korea and Singapore. These countries had been included in studies of the Harvard Institute for Strategy and Competitiveness led by Michael Porter. However, no theoretical, and only a few empirical studies had focused on competitiveness in developing countries. Subsequent criticism derived from this lack of research.

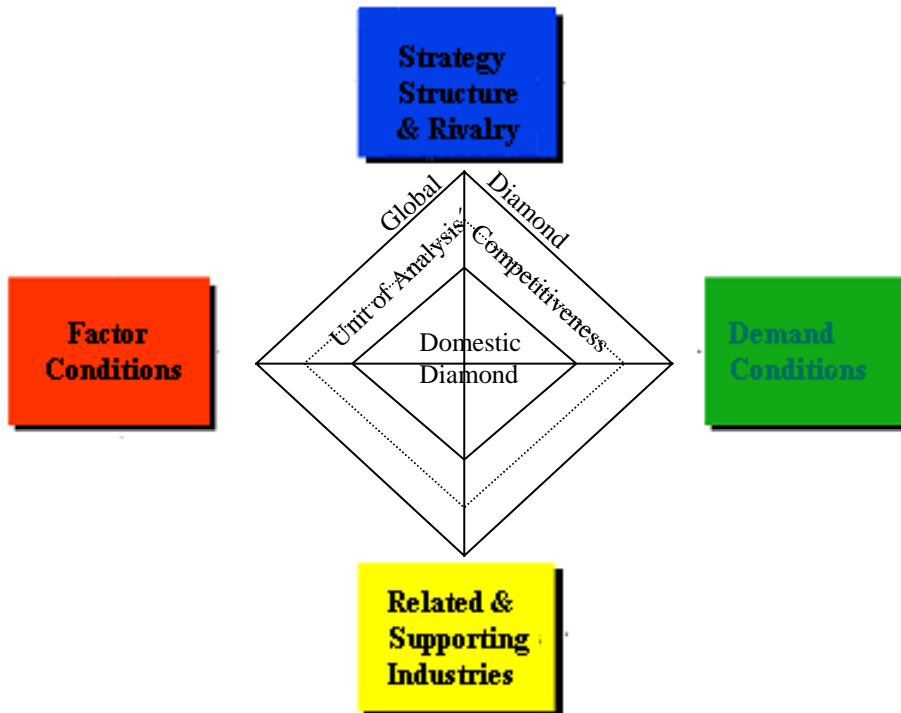
For instance, Porter's report on Canada's competitiveness in 1991 aroused criticism by Alan Rugman, in "Diamond in the Rough Casts Doubt on Porter's Theory". The main argument against Porter's view is the role of transnational companies' activity and the government.

According to Rugman, the diamond is influenced by a "rough" criterion, the geographical scope of competitiveness. He mentions Canada's dependence on the USA, which cannot be analyzed using only the domestic diamond. Rugman argues that Canada's diamond is strongly linked with the USA's diamond for two reasons: first, the confirmation of the North American Free Trade Agreement (NAFTA), and second, the large share Canada based transnational companies have in the American market. In response to Rugman's criticism, Porter distinguishes between the geographical scope of competition (global) and the geographic locus of competitive advantage (nation, sector, or firm).

The model that Rugman recommends to resolve this difference is an analysis with two diamonds in Porter's sense. The first diamond is the same as Porter's model, while a second, interrelated diamond includes the same four determinants at an international level.

Rugman's second diamond can be interpreted in one of two ways: first, as a domestic diamond compared with competitor countries' diamonds, or second, as in Graph II.2, a domestic diamond surrounded by a global diamond in which foreign direct investment and multinational activities are included. The difference between the diamonds (the dotted lines in Graph II.2) defines the competitive advantage for the unit of analysis. Therefore, the scholars' analyses diverge with regard to the role of the international sphere.

Graph II.2. Rugman's Double Diamond



Source: Author's elaboration based on Rugman et al. (2000)

Two arguments that are not discussed at length, but that are also important for this study, rest on Porter's interpretation of the stages of development and the role of government (Rugman 1998). Although Porter expresses that a natural-resource-based economy (first stage of development) does not lead necessarily to development, Canada is an example where even transnational firms take advantage of natural resources and become competitive in international markets. Porter also fails when he argues that the government is not affected by the other four factors and therefore is not included in the diamond. As seen at the micro level, if the determinants are well developed, the government does not need to intervene, but if the environment of competitiveness is insufficient, the government must respond. Thus, governmental policies are affected by Porter's four determinants and should be included as a fifth determinant of competitive advantage.

II.1.3 Second Debate: Nine-Factor Approach (Cho)

Between 1994 and 2000, Korean⁵⁰ scholars led by Dong-Sung Cho created the nine-factor approach. They criticize the limited application of Porter's theory to developing countries because of the structural failures of most of the "diamond" determinants in those countries.

For Cho, international competitiveness can be measured neither by trade balances and share of world markets, as the traditional approach proposes (a country can have a positive trade balance at the expense of prices that are non-sustainable in the long term), nor by plentiful supply of labor, capital resources and natural resources, as in Porter's model (possession of resources does not determine competitiveness *per se*). Instead, competitiveness should include other factors more comprehensively. The division between price (measured as exchange rates, wages, or labor productivity) and non-price (quality, marketing, service, and market differentiation) competitiveness could also be inadequate, according to Cho. The price-based measurements that create competitiveness can be artificially modified (for example, by policies or market strategies) but not sustained in the long run. Meanwhile, non-price-based factors are difficult to test empirically. For these reasons, Cho argues that competitiveness at the sector/industry unit of analysis can be defined "by its (the domestic industry's) having a superior market position through high profits and constant growth when compared to competitors" (2000, p. 140). The nine-factor model is useful for linking sector/industry competitiveness with macroeconomic factors, which is regarded as one of the major failures of the mainstream model. Cho proceeds, "a nation...is internationally competitive when it has many industries with competitive advantage based on common domestic sources of competitiveness" (2000:140). This seems to be a contradiction with the objective to find a model applicable at the micro-level (which excludes the nation unit), but when Cho evaluates the nine-factor model, he does so using Korean industries. Therefore, as presented in the introduction of this chapter, his definition is in agreement with "the stable 'environment' at the macro-level necessary to develop competitiveness for the units of analysis at the micro-level".

⁵⁰ Porter did specific studies on competitiveness in Canada, Korea, Switzerland, etc. and the sharpest criticisms are raised precisely in these countries.

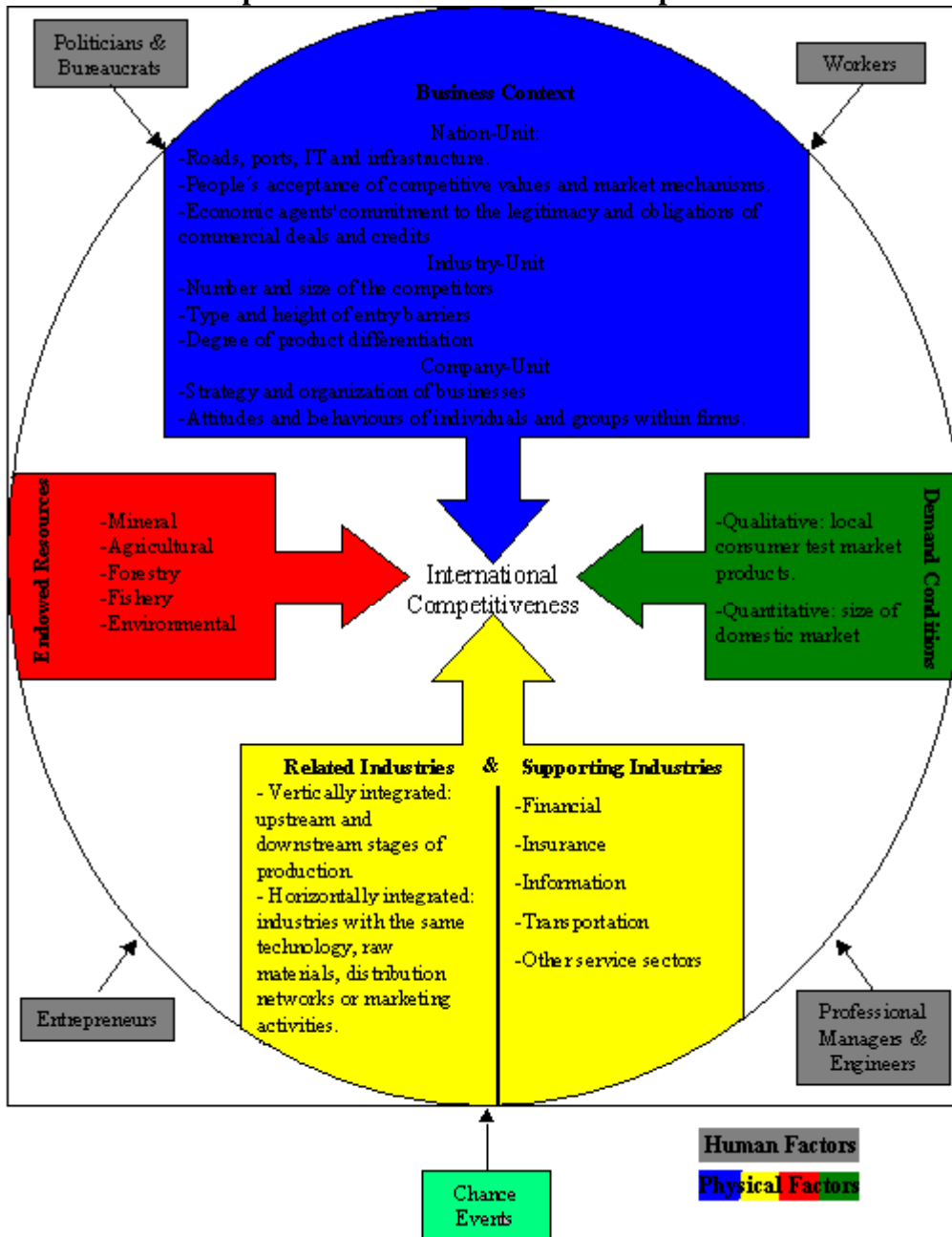
Cho explains competitiveness by dividing the model into two kinds of factors: human and physical. He includes groups of politicians and bureaucrats, entrepreneurs, professionals, and workers as human factors, and endowed resources, domestic demand, related and supporting industries, and business environment as physical factors (see Graph II.3). The human factors mobilize the physical factors in order to achieve competitiveness. Chance is the ninth and only external factor that, according to Cho, can affect the other eight factors.

In contrast to the mainstream model, Cho regroups the diamond determinants (physical and human), adds new determinants (particularly human factors and the business environment), and divides the “factor conditions” determinant into workers, including labor, and endowed resources, including natural resources.

Factor conditions in Cho’s view, have both a human and a physical component. However, this division is not sufficiently clear, particularly in the business context, where subjective determinants predominate. Three of these cases are listed as follows: first, people’s acceptance of competitive values and market mechanisms; second, the commitment to the legitimacy and obligations of commercial deals and credit of economic agents; and finally, attitudes and behaviors of individuals and/or groups within firms. It seems more useful to link these determinants with the human factors, perhaps to a tenth factor of competitiveness named “perceptions and attitudes of business agents”. As shown in the systemic model, this latter factor is included at the meta-level of competitiveness.

In spite of this criticism, the fact that different levels of development exist makes this model an advance in the application of competitiveness concepts for developing countries. This means that countries with similar levels of development compete with each other according to their determinants of competitiveness; therefore, any improvement in physical or human factors implies, first, a movement toward better competitiveness at that stage of development and, second, the possibility of changing stages of development altogether.

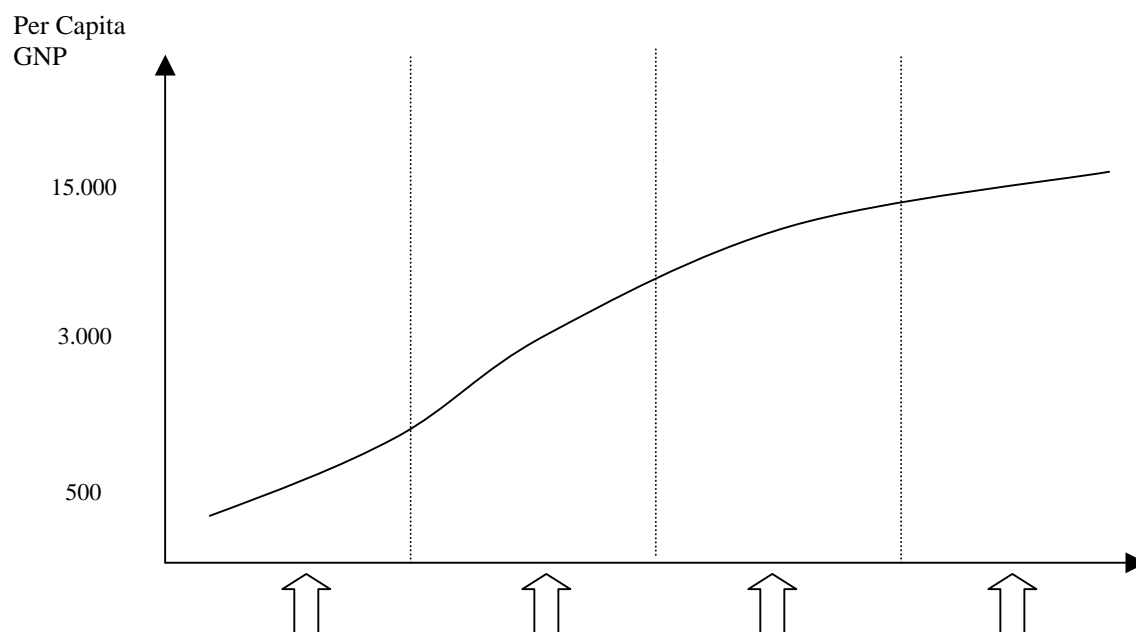
Graph II.3. Cho's Nine-Factor Competitiveness Model



Source: Author's elaboration based on Cho (2000:144-146)

Cho identifies four stages of development (see Graph II.4), which depend on the combination and relative weight of each factor. Whereas for less developed countries endowed resources and low-skilled labor force are important, for developed countries domestic demand and highly skilled labor force matter (professionals, managers, and engineers).

Graph II.4 Evolution of Development According to the Nine Factor Model



Stage of Development	Less-developed	Developing	Semi-developed	Developed
<i>Physical Factor</i>	Endowed Resources	Business environment	Related & supporting industries	Domestic demand
<i>Human Factor</i>	Workers	Politicians & Bureaucrats	Entrepreneurs	Professional Managers & Engineers
<i>Example</i>	Most African countries, some Asian and Latin American countries	Thailand, Philippines, Indonesia	Korea, Hong Kong, Singapore, Taiwan, Brazil, Spain	USA, Japan, and Western European countries

Source: Cho 1994. The Nine-Factor Model.

Cho's approach distributes the factors among the stages of development. He then classifies and ranks countries according to these levels. Since there are different weights for the different factors according to each group, every level of development corresponds to its emphasis on particular determinants of competitiveness. As a result of this methodology, the Korean-based Institute of Industrial Policy Studies uses the nine factor model as a theoretical framework for a more comprehensive ranking of national competitiveness⁵¹.

⁵¹ The Institute of Industrial Policy Studies expands upon the National Competitiveness Report, ranking 64 countries and categorizing them according levels of development: <http://www.ips.or.kr/ncr/index.asp>.

II.1.4 Toward a Comprehensive Understanding: Systemic Competitive Advantage (GDI)

The models featured in the last sections are related to a definition of the environment of competitiveness. However, all of them present some methodological difficulties for developing a comprehensive definition of competitiveness applicable to agricultural products in developing countries. To resolve some of these difficulties, the systemic competitiveness model incorporates other disciplines (particularly political sciences and sociology) in the study of industrial development. They link some crucial aspects in the analysis of specific sectors, taking into account units of analysis not only for nations, but for firms and products as well.

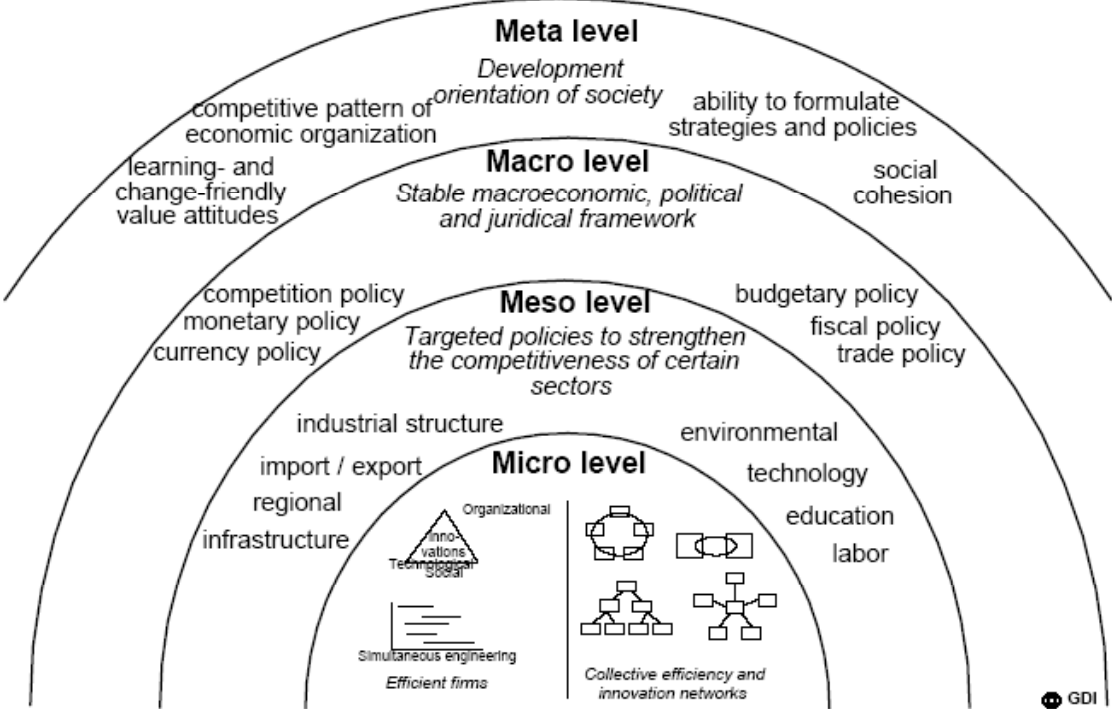
Companies become more competitive if there is sustained pressure to enhance products and processes and if they are supported by a net of externalities, services, and institutions that strengthen their competitive advantage. These aspects are considered in the systemic model, led by the German Development Institute (GDI).

The GDI integrates rules and institutions and defines all four levels of analysis (see Graph II.5). A brief description of the context of the micro- and macro-levels follows. The meta-level belongs to the political science sphere and will not be discussed in detail here. Particular emphasis will be placed on the meso-level.

Whereas macro-level analyses define a stable macroeconomic environment by a stable exchange rate and a national foreign-trade policy that stimulates local industry, micro-level analysis concentrates on firms or networks of firms with strong externalities. The main difference between the GDI and other models of competitiveness is the inclusion of two new levels of analysis, the “meta” and “meso” levels. The meta-level includes socio-cultural values and the capacity of social actors to formulate strategies relevant for economic development. Meso-level analysis defines the specific policies and institutions necessary to shape industries and their environment for competitive advantage. In an orthodox definition of competitiveness, the micro-level would include the meso-level, while the meta-level corresponds more to political science than to the economic sphere. In all, the GDI attempts “to find an appropriate balance between intervention, i.e., the formulation and implementation of targeted policies (meso)

designed to stimulate and shape industrial development and market forces” (Altenburg et al. 1998, p. 2).

Graph II.5 Determinants of Systemic Competitiveness



Source: Altenburg et al. German Development Institute. 1998.

The word “systemic” refers to this model’s intention to embrace all four levels (macro, micro, meta and meso) in a comprehensive manner. According to Porter (1990, 2004), a favorable macroeconomic environment rooted in national policies allows companies to be competitive at the micro-level, if they are supported by suppliers, production-oriented services, and if they have the pressure of local competitors.

The mainstream and the scholars of the systemic model agree on the necessity for deliberate action both by the government (macro) and social actors (micro and meso) to create competitive advantage. However, according to the systemic model, the meta-level points out new modes of governance required for competitiveness. Thus, Altenburg et al. use the World Bank’s definition of governance to explain the context of systemic competitiveness as “...the manner in which power is exercised in the management of a country’s economic and social resources for development”⁵² (1998, p. 3). This presupposes an interaction between social actors and the state. The state again

plays a very important role in this model, not just in the elaboration of policies at the macro-level but also in the cohesion of different social actors at the meta-level and the formulation of specific sector policies at the meso-level.

The meso-level is key in the economic sphere because it links the micro- and macro-levels. At the meso-level, groups of firms and institutions in networks, not companies, compete in clusters⁵³. Institutions support specific services of the firms (meso-level institutions), as well as targeted and selective policies for specific clusters (meso-level policies).

Porter's distinction between development that is based on basic and generalized factors at early development stages (such as natural resources, climate, location, unskilled and semi-skilled labor, and debt capital), and development that is based on advanced and specialized factors at later development stages (modern communications infrastructure, highly educated personnel, and research institutions in particular fields) is important for understanding governmental meso-level policies and the role of meso-level institutions emphasizing on private enterprises.

At early stages of national development, the government assists specific policies through cooperation with universities' research and attempts to improve education. Market failure and infant industries are used to justify selective and specific policies including regulations, financial instruments, and government activities. At more advanced stages of development, private enterprise and, in some cases, non-governmental organizations support selective governmental policies for specific sectors. Overall, meso-level policies should avoid creating market distortions and future losses of competitiveness; they should be temporary and help industries become highly competitive. Meso-level policies have a tendency to become increasingly regionally- and locally-addressed. Therefore, the central government should focus on the preparation of large-scale technology initiatives, the formulation of an overall long-term strategy, and motivating its policies through incentives (for example, tax decentralization) at the local and regional levels. The globalization pressure on companies (especially small- and medium-sized enterprises) is too time-sensitive for the

⁵² World Bank: Governance and Development, Washington, D.C. 1992

⁵³ In Section II.2 of this chapter there is an extensive analysis of the cluster concept.

decision making of a centralized government, meaning that regional and even local governments must be responsible for the creation of a favorable competitive environment and encouraging the formation of clusters.

The systemic model is a comprehensive and interdisciplinary way to analyze competitiveness and to analytically link the macro and micro-levels by means of the meso-level. The meso-level elucidates the institutional variables and policies addressed at specific industries that are not easily described at the macro- or micro-levels. It presents a suitable basis for the general objective of this chapter and to elaborate a functional model of competitiveness for developing countries. The next section emphasizes the cluster concept.

II.2 Clusters as the Functional Competitiveness Tool for the Analysis of Developing Countries

II.2.1 Background and Recent Literature

The cluster analysis originates from neoclassical economics. The industrial district, as defined by Marshall in his “Principles of Economics” (1920), implies the concentration in a limited geographic area of firms dedicated to production in a specialized sector. Location is significant, but it should not be the only determinant. In the industrial district approach, non-economic factors, which Marshall termed the “industrial environment”⁵⁴ (culture, sharing of know-how, political and social links, history, and the like), are the “real” motivation for a group of firms to create horizontal and vertical links. Thus, a group of firms develops a framework to achieve common goals and to avoid cheating among cooperating firms, who are simultaneously competitors. As a result, the industrial environment enjoys easier communication and firms can be more specialized. Therefore, the main explanatory variable for the establishment of a cluster in the industrial district approach is access to information.

Schmitz and Nadvi (1999) classify Marshall’s approach as “incidental”, in that firms with similar or related activities locating near one another generate a variety of external

economies. This lowers costs for the firms involved. In addition to the “incidental” nature of Marshall’s theory, recent theories include “deliberate” policies for clustering. Schmitz and Nadvi (1999, p. 1504) integrate incidental and deliberate policies in a concept of collective efficiency defined as the “competitive advantage derived from external economies (*incidental/passive*) and joint action (*deliberate/active*)”. Thus, different effects of clusters depend on the emphasis on either incidental or deliberate strategies of clustering.

Based on the framework of Marshall, Chavarria et al. (2000b) wrote a thorough survey on the theoretical fundamentals of clusters. The first theory these authors quote is founded on geographical economics and explains why firms have to be located in a specific place (like Marshall’s industrial district). Location is the only determinant in the formation of clusters. However, to explain the prices of the products within a cluster, transport cost should be included as an explanatory variable. Von Thunen⁵⁵, one of the main representatives of this approach, explains that the geographic distance between production and the marketplace determine the location of clusters. Thus, if products are located near markets, their prices (as a function of transport costs) are lower, and more efficient agents will be located near markets. Although Von Thunen assumes the irrelevance of other factors, his view is very superficial and authors such as Butler (1986) includes environmental variables (weather and geological factors) in the decision of where the agents locate their businesses.

Hirschman (1957 and 1977)⁵⁶ develops another approach to the cluster analysis, based on the vertical and horizontal integration of producer firms. If the returns to economic activity are high enough for firms to expand, they should prefer to make linkages backwards (exploitation of raw materials and other inputs) and forwards (processing of new products) across the value chain. Accordingly, a firm has the highest integration incentive when the technology it uses suits the processes of production both backwards and forwards in the value chain. Nonetheless, firms do not have to locate close to one another to create a cluster (location is not necessarily a determinant) due to the

⁵⁴ Industrial environment, defined by Marshall (quoted on Chavarria et al. 2000b p. 17) as: “a set of elements difficult to separate and difficult to describe under the traditional economic variables”, can be integrated into the business context in the nine factor model and to the meta-level in the systemic model.

⁵⁵ Cited in Chavarria et al. (2000b, p. 14)

⁵⁶ Cited on Chavarria et al. (2000b, p. 16)

technological advances in transportation and communication (for instance, electronic transactions and virtual services). Instead, the firm's clustering is dependent on, first, the returns for investment and second, on the similarity of production technologies backwards and forwards in the value chain.

A last approach is based on Porter's model discussed in Section II.1.1. According to the mainstream, the reasons to develop a cluster are the diversity and intensity of links among firms. Porter's most important contributions to the cluster analysis are the determinants from the "diamond" of competitiveness, including the influence of random effects and government actions. However, its emphasis on manufacture and services sectors make agriculture seem unimportant. These scholars also argue that in some industries the importance of distance is replaced by virtual means of transport and communication, such as the Internet, electronic transfers, or delivery.

Surprisingly enough, Porter does not emphasize the cluster concept in his book, *The Competitive Advantage of Nations* (1990). He introduces the cluster merely as a conclusion when he analyzes the determinants of competitive advantage. "Nations succeed not in isolated industries, however, but in clusters of industries connected through vertical and horizontal relationships" (Porter 1990, p. 73). He only links clusters with development concepts in a subtitle in *The Competitive Advantage of Nations*. Porter makes some comments on the development of clusters, but he does not define them; instead, he argues: "the systemic nature of the diamond promotes the clustering of a nation's competitive industries... One competitive industry helps to create another in a mutually reinforcing process. Such an industry is often the most sophisticated buyer of the products and services it depends on. Its presence in a nation becomes important to developing competitive advantage in supplier industries". (Porter 1990, p. 148-149)

A more recent mainstream emphasis on competitiveness, including several case studies, has promoted the cluster concept as the basis of mainstream competitive advantage theory⁵⁷. It has even been used as a framework for governmental policies in developing

⁵⁷See: Harvard Business School, Institute for Strategy and Competitiveness. Competition and Economic Development. <http://www.isc.hbs.edu/econ-clusters.htm> (visited in December 2004)

regions, as in the Andean Community with the Andean Competitiveness Project. According to the mainstream's most recent conception:

“Clusters are geographic concentrations of interconnected companies, specialized suppliers, service providers, and associated institutions in a particular field that are present in a nation or region. Clusters arise because they increase the productivity with which companies can compete. The development and upgrading of clusters is an important agenda for governments, companies, and other institutions. Cluster development initiatives are a new direction in economic policy, building on earlier efforts in macroeconomic stabilization, privatization, market opening, and reducing the costs of doing business”. (ISC 2004)⁵⁸

The mainstream's changing definition of the cluster reflects the evolving aspect of the competitiveness theory. There are two main differences in approach: first, in the earlier conception, the determinants described in the diamond (section II.1.1) promote competitiveness within a cluster, while in later formulations the cluster promotes productivity of the firms in order to compete. In other words, the cluster was initially regarded as the end, and recently became a means. Secondly, perhaps the most important issue for the purpose of this research is the emphasis on vertical integration. Early definitions included this explicitly, but in the most recent definition the mainstream clarifies that for analytical purposes it is better to talk about different clusters at every stage of a productive process (clusters of production, of marketing services, of transport, etc.) and to integrate these clusters vertically. Porter⁵⁹ states: “Clusters represent a kind of new spatial organizational form in between arm's-length markets on the one hand and hierarchies, or vertical integration on the other. A cluster, then is an alternative way of organizing the value chain” (2000, p. 206). Therefore, it is possible to separate the cluster of production from the remaining stages of the productive process. As a result, cluster analysis explains the internal determinants⁶⁰ of

⁵⁸ See: Harvard Business School, Institute for Strategy and Competitiveness. Competition and Economic Development. <http://www.isc.hbs.edu/econ-clusters.htm> (visited in December 2004)

⁵⁹ Porter analyzes the cluster development and its relationship with vertical integration extensively in his collection *On Competition* (1998).

⁶⁰ For a definition of internal and external determinants of competitiveness, see Chapter 1, Section 3.2

competitiveness for this research. Moreover, in order to explain the interrelation between internal and external determinants it will also be necessary to analyze the value chain⁶¹.

Most of the developments in what can be called “cluster theory” are based on the Marshallian idea of industrial districts. According to Maskell & Kebir (2005) the different contributions to the theory depend on the emphases and agreements about the assumptions, which will be the topic of the following section.

II.2.2 Consensuses of the Assumptions for a Cluster Theory

The concept of collective efficiency, broadly used as a theoretical framework⁶² for cluster analysis, includes external economies and joint action as the first two assumptions to take into account in order to understand a model based on the cluster.

External Economies

When social benefits exceed private benefits, external economies develop. McCormick (1999 p. 1533) considers market access the most basic external economy. She quotes Krugman (1991) and Marshall (1890), who define three additional types of external economies in clusters: labor market pooling, intermediate input effects, and technological spillovers.

First, market access deals with the improved access of potential buyers because of agglomeration of firms. Second, labor market pooling refers to the specialized labor skills developed within the cluster as a result of internal needs. Third, intermediate input effects are the generation of specialized providers because of the above-mentioned types of external economies. Finally, technological spillovers result from information linkages among producers, which facilitate the diffusion of technological know-how and ideas.

Joint action

The second component of collective efficiency stresses inter-firm linkages and networks. Firms regard productivity as the purpose of cooperation and competition

⁶¹ A proposal of this framework is featured in Section II.3.

⁶² See “Industrial Clusters in Developing Countries” in: World Development, September 1999, Vol.27, N.9.

within the cluster. Thus, intentional joint action is the main factor in the mainstream thesis of clustering.

Clusters should promote cooperation and competition among their members. For the mainstream, “rivals compete intensely to win and retain customers. Without vigorous competition, a cluster will fail. Yet there is also cooperation, much of it vertical, involving companies in related industries and local institutions. Competition can coexist with cooperation because they occur on different dimensions and among different players” (Porter 2000 p. 206).

Concerning cooperation, if a service or product is not provided by the cluster, there is motivation for a company within it to cover this deficiency. As far as competition is concerned, advances of one company in the cluster are a motivation for other companies to innovate and not to go out of business. However, cooperation and competition need a supportive environment to develop sophisticated products and processes. Macro-level policies can provide this favorable environment by the development of basic infrastructure, stability, and coherent policies promoting clusters⁶³. Meanwhile, micro-level actions develop an environment that increases productivity of companies by driving the direction and celerity of innovation and by stimulating the formation of new businesses (Porter 2000, p. 206-207).

Location is a third determinant of cluster-based models. A company can avoid its natural disadvantages by importing inputs and/or raw materials from other countries. However, the importance of a particular location lies in the vertical (buyer/supplier) and horizontal relationships (common customers, cooperative R&D, channels of sales and distribution, and the like) of the industry. On one hand, proximity with suppliers in vertical relationships makes arrangements easier and lowers transaction costs. On the other hand, the horizontal relationships can benefit all cluster members by means of preferential information or coordination of activities. These relationships normally increase the productivity of production processes and improve marketing strategies. Thus, they can often facilitate the measurement and comparison of productivity

⁶³ Provision of public goods is not exclusively a government responsibility in cluster analysis. As shown at the meso-level, private members of the cluster can also provide public goods such as training, information, and technology pools.

performance (as an indicator of competitiveness) among cluster members and competitors in order to evaluate the benefit of one firm's policies and strategies.

An additional advantage of integration can be seen at early stages of development. Infant industries need to reduce their risks of investment, and the cluster allows the mobilization of financial and human resources due to the specialization of some companies in the cluster. Thus, small- and medium-size enterprises do not have to take these risks directly (Nadvi and Schmitz 1999 p. 1506-1507).

II.2.3 Criticism and Advances to the Mainstream's Approach to Cluster Analysis

The mainstream's analysis of the cluster has the same failures as those already mentioned by some scholars in Section II.1. The role of the government and international aspects are still separated from the analysis. In response to this shortcoming, Rugman and Verbeke (2002) incorporate firm sizes and international aspects in order to partially correct the failures of the mainstream's analysis.

Regarding firm sizes, Rugman and Verbeke claim that it is possible to distinguish within the cluster between core and other firms, developing an "asymmetrical cluster". The core firms lead the formation and exploitation of the cluster; the strongest firm runs the cluster in favor of its own benefits and costs. This can produce pervasive effects. On one hand, the larger power of the core company can improve smaller actors' access to scarce sources, but on the other hand, if the cluster is not sufficiently beneficial to smaller actors, they could begin a new cluster outside the control of the largest firm.

In addition to the asymmetrical cluster, Rugman and Verbeke claim that Porter's mainstream approach includes the possibility of two "symmetrical" cluster types: "identity-based" and "organically growing" clusters. In identity-based clusters, Porter claims that firms inside the cluster are of relatively equal size and have similar aims. In organically growing clusters, firms may be of different sizes but they are tied by strong social relationships of the cluster. Members of organically growing clusters formally assess their collective costs and benefits. The combined interpretation of Porter and Rugman & Verbeke's approaches can be classified according to four scenarios of

analysis and illustrated as in Graph II.6. Combining the type and the geographic locus of the cluster leads to the possibilities:

- a) Symmetrical cluster without international links,
- b) Symmetrical cluster with international links,
- c) Asymmetrical cluster without international links, and
- d) Asymmetrical cluster with international links.

Subsequently, Altenburg and Meyer-Stamer (1999 p. 1695) classify the clusters according to three “ideal” types corresponding to the spectrum between Porter’s and Rugman’s assumptions. This classification is useful for understanding the possible patterns of competitiveness in developing countries and to introduce international aspects.

- Survival clusters of micro and small scale: main characteristics are low-quality outputs, fragile inter-firm links, and lack of specialists in local labor markets.
- More advanced and differentiated mass producers: these are heterogeneous firms, which are more quality-oriented and produce only for the local market. However, they face international competition in the short run, which forces them to improve their cooperation networks.
- Clusters of transnational corporations: they are oriented toward technology-based enterprises and serve local and international markets. They are classified as clusters because of their linkages with other industries (value chain) and the benefits of external economies.

Graph II.6 Classification of Clusters

<i>Cluster</i>		<i>Type</i>	
		Symmetrical	Asymmetrical
<i>Geographic Locus</i>	Domestic	a	c
	Trans-Border	b	d

Source: Rugman & Verbeke (2002)

Clusters of transnational corporations ground the second problem with the mainstream perspective. In 1992, Rugman and Verbeke mentioned the addition of a second diamond to the analysis of the international (external) determinants of competitiveness. In 2002, their conclusions are reaffirmed in the context of a cluster analysis. “It appears that a 'multiple diamond', rather than a 'single diamond' cluster composition may be critical to cluster functioning and success” (Rugman and Verbeke 2002, p. 6) One way they suggest to provide this “foreign” component is the inclusion of trans-national companies (TNCs), which as core firms include assets, skills, and processes useful for local clusters.

There are various ways in which TNCs and their foreign subsidiaries can influence local clusters. They can provide foreign direct investment (FDI) throughout the value chain, promote research and development in foreign locations, or develop new connections within local firms' clusters.

When TNCs provide FDI, higher investments signal success for local clusters. A TNC gives more visibility and credibility to the success of businesses within a cluster, attracting more FDI (McCormick 1999). Regarding research and development, TNCs are especially interested in locations with strong technological activity. Finally, linkages of TNCs with local firms' clusters explain the way the cluster is integrated into international relationships, which is difficult to see in Porter's model. As Handy and Henderson (1994) point out, TNCs participate internationally first by means of the trade process itself—having foreign agents and/or brokers, domestic export offices and co-pack agreements. Further, their capital flows, licensing agreements, joint ventures, and foreign subsidiaries increase international interaction. Financial and trade issues are inseparable, but the emphasis here is placed on trade issues. Some TNCs, particularly in the agricultural sector, merely work at marketing and sales stages in order to avoid taking production risks. An extreme form of vertical integration is the ownership of all stages of the value chain, including traders, intermediaries, and producers (in the case of food production, growers).

TNCs are just one representative example of the role of trans-border elements. Additional aspects such as property rights, market access, norms of origin, and the like

are also part of the international sphere and will have to be taken into account in a broader model.

The problems with firm sizes and international aspects were partially resolved in this section by the advances and classifications suggested. The following section reinforces some of these elements, justifying the use of the cluster analysis as a tool to explain competitiveness of agricultural products in developing countries. The role of the government is, surprisingly enough, neglected by the mainstream and its critics; therefore, a more detailed analysis of its influence is discussed in Section II.3.

II.2.4 Highlights of the Cluster as the Analytical Tool for Modeling Competitiveness of Developing Countries' Agricultural Exports

From the previous sections it is possible to recognize some central points of cluster analysis as an analytical tool for modeling competitiveness of developing countries.

In general, definitions of competitiveness are mainly oriented towards developed countries and are only implicitly used in the case of developing countries (see Chapter 1). In contrast, models of competitiveness including clusters are explicitly used for developing countries: a cluster is not exclusively manufacturing sectors and developed economies. One can already find some case studies in developing and primary resource based economies (see Altenburg et al. 1998, 1999; Ceglie and Dini 1999; Chavarria et al. 2000a; McCormick 1999; Meyer-Stamer 1998). The mainstream perspective has evolved in this respect. At the beginning of the 1990s, mainstream case studies concentrated on developed countries such as Canada, the USA, Western Europe, and Japan. Between the late 1990s and the time of writing, mainstream theory has become more interested in applying the models to developing countries such as the Andean Region⁶⁴ and African countries.

Scholars of the systemic model are the leaders regarding the emphasis on cluster analysis as the basis for competitiveness. They stress that the meso-level forms a functional bridge linking the macro- and the micro-levels and use the cluster as a tool to explain the development of particular economic sectors/industries, firms, and/or

products. Therefore, the cluster is also useful in terms of its comprehensiveness as a unit of analysis for specific case studies.

Regarding the aforementioned main criticisms against the mainstream approach, in a broader analysis the cluster does include relationships with the government, the international sphere, and transnational companies. It even includes a comprehensive analysis of the value chain that can be grouped and measured at different stages, from production to the final consumer⁶⁵.

Finally, methodological aspects also favor cluster analysis. The cooperation of firms in the cluster eases the access and availability of general information and statistical data for research purposes. As remarked regarding the measurements of competitiveness, the lack of and unreliability of information are stumbling blocks in the analysis of developing countries' competitiveness.

To conclude, a passage from Porter's essay "Clusters and the New Economics of Competition" (2000 p. 216-223) summarizes the justifications for using the cluster as a functional tool for the analysis of developing countries' competitiveness:

"Poor countries lack well-developed clusters; they compete in the world market with cheap labor and natural resources. To move beyond this stage, the development of well functioning clusters is essential. Clusters become an especially controlling factor for countries moving from a middle-income to an advanced economy... The aim of the cluster policy is to reinforce the development of all clusters. This means that a traditional cluster such as agriculture should not be abandoned; it should be upgraded..."

The cluster analysis has been recognized as a basic tool in the analysis of developing countries' competitiveness; some critical factors are still controversial, and a complementary analysis has been included in order to resolve these divergences. The next section proposes a model of competitiveness in order to contribute to the debate. This model is applied to the case study in the empirical part of this paper.

⁶⁴ Programa Andino de Competitividad is a cooperation program between the Harvard University and Corporación Andina de Fomento (CAF).

⁶⁵ Differences between cluster and value chain analysis are discussed in the second section of this chapter to differentiate internal and external determinants of competitiveness.

II.3 Beyond the Cluster Analysis: A Model to Specify the Competitiveness of Agricultural Exports from Developing Countries

As the main objective of this research is to investigate the effects of trade policies on the competitiveness of a single product, defining the cluster is an indispensable premise for modeling purposes. In Section II.2.2, the bases of a theory of cluster were analyzed. The following discussion shows the cluster from a broader perspective, adding the following dimensions to the analysis: first, transnational companies (TNCs) interacting with clusters (asymmetrically, according to Rugman and Verbeke); second, economic agents with bargaining power who can analyze their influence on trade policies; third, the value chain model, which links internal and external determinants beyond cluster analysis; and finally, market share analysis, a tool from the traditional competitiveness approach that measures the trade policy effects of a specific product.

II.3.1 Additional Elements of a Model of Competitiveness Based on the Cluster

It is unlikely that the international success⁶⁶ of firms from developing countries has only been the result of the formation of clusters. According to the classification in Section II.2.3, clusters are in the focal point of meso-level analysis, displacing some actors that do not fit the cluster's organizational structure and are perhaps more important for international success. Rugman and Verbeke include TNCs in clusters as part of an "asymmetrical cluster relationship", but TNCs do not need the cluster structure to reach the international market.

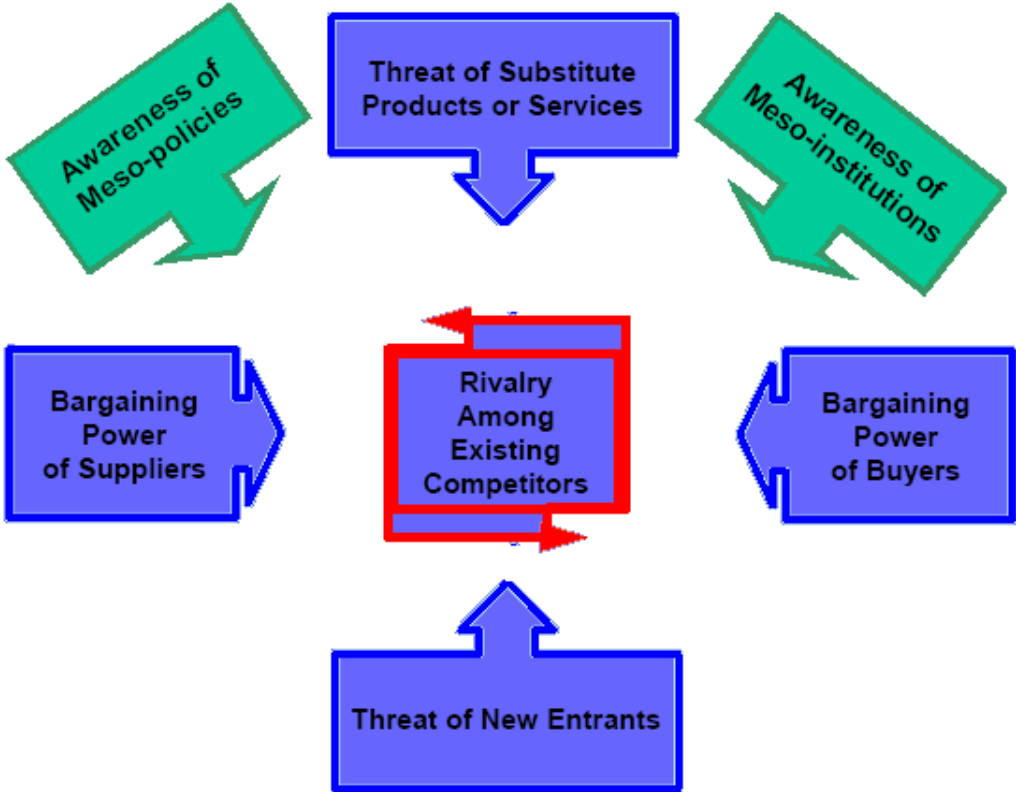
In the absence of a cluster (which may or may not include a TNC), TNCs alone can compete for a prominent position in the market. Therefore, it can be assumed that in addition to symmetrical and asymmetrical clusters, TNCs by themselves create an organizational structure for international success. Thus, the inclusion of TNCs corrects for the lack of analysis of international aspects, which was broadly criticized in the mainstream approach.

A second addition assumes the bargaining power of economic agents, which depends on the size of the firms and their links inside their cluster. Porter (1990) lists five forces

⁶⁶ See Section II.1.1 How does the model work? Porter's Diamond Model

explaining the nature of competition⁶⁷. The existing firms within a cluster have to cooperate and compete with one another (Porter’s “rivalry among existing competitors”), but they also bargain with operators across the value chain (suppliers and buyers) and are encouraged to constantly innovate to avoid the threat of substitute products or services and new (firm) entrants. What Porter’s analysis does not include, but is also influential for firms’ competitiveness, is the role of policies and institutions.

Graph II.7. Nature of Competition: Porter’s Five Competitive Forces and the Two Meso-Level Forces



Source: Author’s elaboration based on Michael Fairbanks, On the Frontier (2001)

Companies have to lobby public and private institutions to receive preferential treatment by means of policies of technical and financial assistance, in the case of public institutions, or recognition by means of certificates of environmental friendliness or respect for labor rights, in the case of private institutions. Therefore, to the five forces of Porter, two meso-level forces can be added, the awareness of meso-policies and the

⁶⁷ Porter’s original five forces are: 1) rivalry among existing competitors; 2) bargaining power of suppliers; 3) bargaining power of buyers; 4) threat of substitute products or services; and 5) threat of new entrants. (See Graph

awareness of meso-institutions. Firms deal with these forces differently according to their sizes, which is key to understand the influence of trade policies on firm behavior or *vice versa*⁶⁸.

The differing natures of competition based on firm size can be seen at three levels. First, TNCs have control or quasi-control over each of Porter's five forces. If the TNC does not control one of them, it is assumed that TNCs have stronger power to negotiate with other economic agents than isolated smaller-scale firms. Second, if the cluster is of the symmetrical type (small/medium firms), its bargaining power is enhanced by its ability for joint action (cooperation). Finally, if a TNC or other large firm is part of an asymmetrical cluster, larger firms can benefit from the specialization of smaller ones, while the smaller firms enjoy enhanced bargaining power with agents outside the cluster due to the power of larger firms.

In the same way firms react to other firms in competition, the awareness of meso-level policies and meso-level institutions is related to the size of the firm and the links inside the cluster. Thus, TNCs and/or larger firms have more power because of their ability to lobby meso-level institutions and get preferential treatment through meso-level policies. Symmetrical clusters depend on joint action for lobbying power, whereas asymmetrical clusters depend on larger firms.

The analysis above demonstrates how different economic agents react to trade policies. For example, it is unlikely that small-scale firms will be able to bargain directly with governmental agents (or institutions); therefore they should join a cluster to enhance their power. On the other hand, TNCs bargain directly, from a strong position with economic agents as well as with policymakers. In either case, ability to bargain for market positions and policies depends greatly on the size of the agents and on how much they are involved in the international market.

Since within cluster analysis, the involvement of economic agents in the international market⁶⁹ has been very controversial, an additional tool is necessary. The cluster is an analytical tool that explains only the context of the internal determinants of

II.7)

⁶⁸ From the analysis of the bargaining power of firms; the strategy, structure and rivalry determinant is enhanced by the addition of meso-level policies and meso-level institutions.

⁶⁹ See Section II.2.3

competitiveness, in terms of horizontal integration at the production stage. As a consequence, the remaining vertical process from marketing to final sale needs value chain analysis to explain the relationships between internal and external determinants of competitiveness.

This is supported by the IAIC definition selected for the case study (see Section I.3.2) and is also relevant for the analysis of trade policies. National, internal policies affect the clusters in the same way as single firms (including TNCs). But when clusters operate in the international market, they have to confront international, external policies with overseas representatives. Thus, the direct linkages with the international market through specialized traders or TNCs become important when directly engaging international trade policies.

The IAIC definition states that it is necessary to include economic as well as non-economic determinants to explain competitiveness at different units of analysis. Lack of information and of statistical data can be a problem for measuring the effects on competitiveness, particularly in the case of non-economic determinants. For this reason, as seen in the first chapter, how to measure competitiveness is a particularly controversial matter.

The effects of trade policies are only one of many determinants of competitiveness to be measured in the empirical part of this thesis. Therefore, these effects should be taken carefully into account within the overall measure of a product's competitiveness for the sake of policy recommendations and conclusions. Market share will be used to measure the effects of trade policies on competitiveness. As broadly discussed in the first chapter, trade performance and market share are measurements supported by the traditional approach; their application to this model asserts the links between traditional and new approaches to competitiveness. Thus, the model is comprehensive in nature and carries out an early-mentioned research objective, "to measure the effects of trade policies on the competitiveness of a single product from developing countries".

II.3.2 The Cluster-Value Chain Model of Competitiveness⁷⁰

As a result of the discussion in the first chapter, the model is analytically located at the meso- and micro-levels and divided between internal and external determinants of competitiveness. Cluster analysis is used to examine the internal determinants, while the value chain analytically links internal and external determinants⁷¹. In other words, the cluster refers only to the production stage; the value chain covers the remaining flow from “harbor of origin” (FOB) to the final consumer.

Regarding the private economic actors in the model, it is useful to separate TNCs from independent agents. TNCs are included in both the cluster and the value chain, but independent private firms are treated as either internal bodies (supply-side firms) or as external bodies (demand-side firms), depending on the geographic location.

Building on Porter’s diamond model, four factors of competitiveness are enhanced with additional elements. These are extracted from the discussions of previous sections.

- Factor conditions

Included in Porter’s approach, the factor endowments that form the basis for comparative advantage also form the basis for competitive advantage. Labor, land, and capital are essential to developing competitiveness; and competitiveness theory adds to these innovation and technology.

- Firm strategy, structure, rivalry, and meso-level institutions

Firms are analyzed according to their presence inside and/or outside national boundaries. This makes firm strategies recognizable through value chain analysis. Many TNCs are vertically integrated and perform all the stages of the value chain, including the production within national boundaries. Domestic companies, meanwhile, cannot perform activities beyond of the production stage of the value chain and should be interested in forming clusters with international activities. Thus, the model uses the structure of TNCs and domestic firms to predict their interactions and strategies (cooperation or/and competition). Furthermore, according to the systemic model, some

⁷⁰ See Graph II.8

⁷¹ In business literature, the value chain is also called a value system or a supply chain.

meso-level institutions can help link and support firms. For this reason, meso-level institutions are included as additional determinants in this analysis.

- Related and supporting industries

Porter uses this determinant exclusively within a firm's national boundaries. However, a broader analysis of international aspects of competitiveness forces the researcher to do as Rugman does and also include related and supporting industries as external determinants of competitiveness.

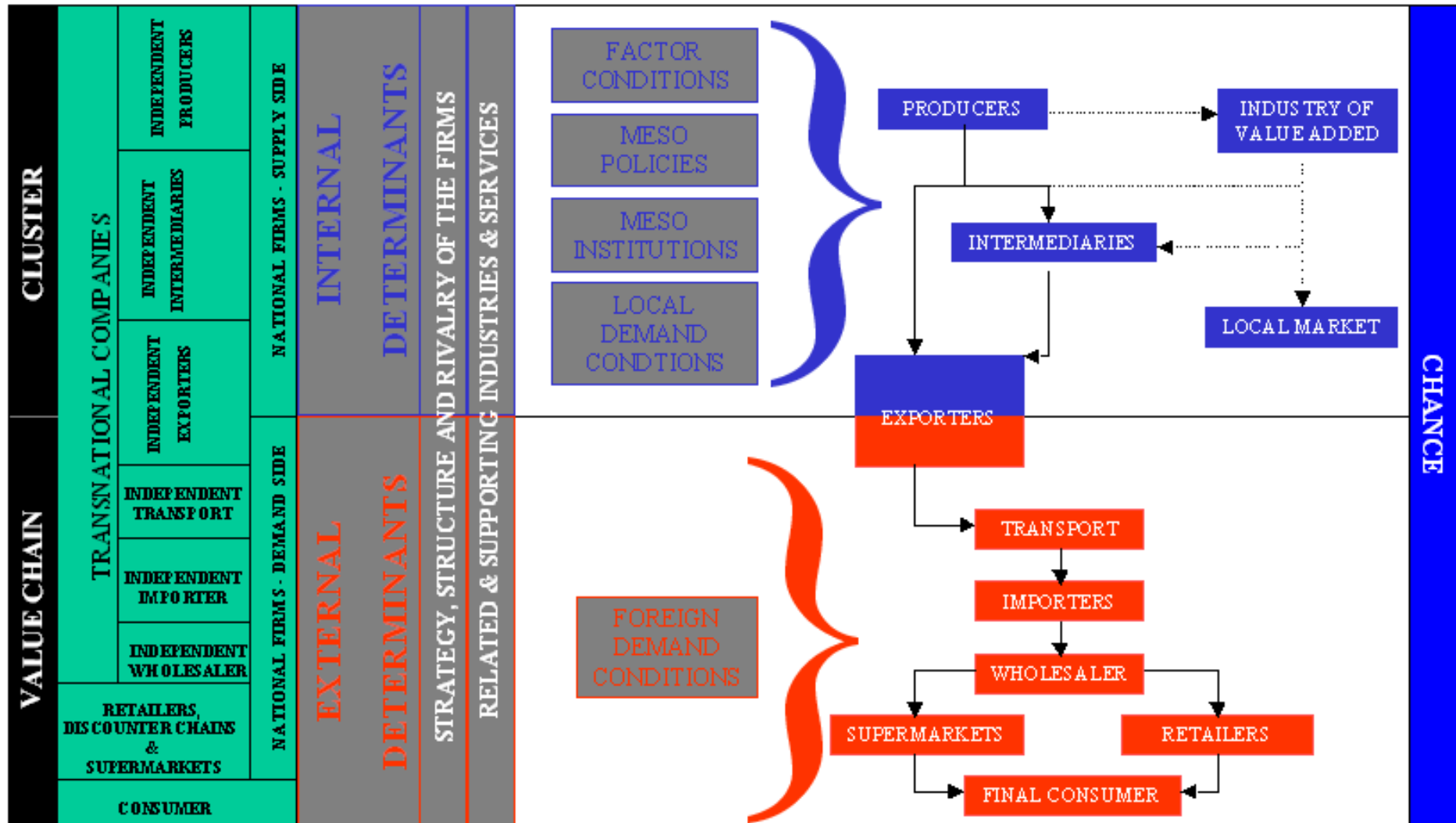
- Demand conditions

As with related industries, demand conditions are exclusively local in Porter's approach—that is to say, they are internal determinants. For the banana case, it is assumed that this product is traded exclusively for export⁷², making demand conditions external determinants of competitiveness⁷³. In order to make the use of the model for other products possible, in graph II.8 local demand conditions are differentiated from foreign demand conditions. The effect of the local demand conditions on competitiveness is defined by Porter (1990) with the sophistication of local customers as a basis to enhance the products which in a later stage of trade development should compete in international markets. On the foreign demand side, the whole process is analyzed by means of a value chain analysis. The standards of quality and prices can affect the producers' decision on which specific markets to achieve. In addition to the governmental standards, there are also particular private labor, environmental and quality certifications (e.g SA 8000, Eurep-Gap) that traders and retailers are often using. According to them, certifications are expected to protect food security for final consumers. On the supply side, producers do not receive premium prices (except for organic production-environmental certifications) and instead think that certifications are only additional trade restrictions (Fruitrop, 2004).

⁷² In fact, the variety of bananas for export (e.g. Cavendish,) are not the same variety as those for the local demand

⁷³ Value added is taken out of the model because the banana is treated as a fresh fruit and no value is added to the product itself.

Graph II.8. Cluster-Value Chain Model of Competitiveness



Source: Author's elaboration

In contrast to Porter's model, this paper accepts governmental intervention as an instrumental factor of competitiveness. It is included as an additional determinant of competitiveness called meso-level policies. Although most government policies are national "blanket" policies (at the macro-level), they are thought to marginally affect the competitiveness of single products. Thus, these policies should only be included marginally in the analysis. It is important to take this seriously. For example, as explained in the first chapter, exchange rates affect the trends of prices and can lead to wrong conclusions.

Meso-level policies can have different effects according to the units of analysis (whether internal or external). Internal, domestic meso-level policies directly influence a specific sector or product, as explained by the systemic model. However, an external perspective includes and absorbs these sector or product-specific policies. They are imposed by foreign governments of competing markets in order to protect their producers (using, for example, subsidies or tariffs) or to promote market access (as in preferential agreements). Meso-level policies are then included as one of the determinants of demand conditions. Of course, trade policies are of central concern in this research, and they are investigated in a separate chapter.

The last determinant in the mainstream view is chance. As in Porter's model, chance cannot be controlled by other determinants and will be included as an exogenous factor.

This whole model is presented in Graph II.8, which shows the determinants of competitiveness according to location and divides them between external and internal determinants. It includes the cluster and the value chain and puts the agents of trade (TNCs or independents) in their appropriate stages of the cluster and value chain.

As shown in this section, many determinants have an influence on competitiveness, but only trade policies are highlighted from a dynamic perspective by means of a partial equilibrium model. Thus, the measurement of market share is used to show trade policies' effects on competitiveness.

In summary, this model is a comprehensive construction that uses traditional and new analytical tools to explain competitiveness. Cluster analysis structures the case study in developing countries. Value chain analysis guarantees the inclusion of external

determinants of competitiveness, and market share analysis allows measurement of the effects of trade policies on the competitiveness of single products.

II.4 Towards an Empirical Study of Competitiveness: The Case of the International Banana Trade

The first chapter dealt intensively with a discussion of the competitiveness concept as a theoretical framework to analyze trade policy problems of agricultural exports of developing countries. Strengths and weaknesses of the various theories and concepts were first discussed then employed and adapted to the purposes of this research.

In the second chapter, the cluster-value chain model is proposed as a tool to analyze competitiveness of agricultural exports in developing countries. The following chapters concentrate on the empirical application of such concepts, the model, and, particularly, the effects of trade policies on international banana trade.

With the increasing outlawing of traditional policies by the WTO, the creativity of policy makers is growing. A case study analyzing all trade policies and their effects on individual countries' competitiveness worldwide would exceed the scope of the present study. Therefore, the European Regime for Import, Sale, and Distribution of Bananas has been chosen to examine the main hypothesis for two reasons. First, the banana case is one of the most typical examples of trade policies in the agricultural sector. And second, the concepts and methodologies introduced in the first and second chapters, which come together in the cluster-value chain model, are useful for investigating the competitiveness of developing countries.

The theoretical framework presented in these chapters acts as the basis for analyzing the complex flows of trade in the EU regime. Although the cluster-value chain model introduced in the second chapter seems very simple, its application to the banana sector involves some difficulties regarding the availability and reliability of information. Particularly, data from ACP countries is insufficient to construct a complete picture of the determinants of competitiveness because governmental and private agencies do not provide detailed studies on this topic. Oddly, data is also lacking for EU producers because of strategic issues, perhaps having to do with the volatile negotiations over the

EU banana regime. Only Latin American countries have been studied broadly and can present a detailed picture of their determinants of competitiveness.

Once the internal and external determinants within the countries have been examined in Chapter 3, trade policies will be used to evaluate the performance of different countries under different simulated situations. The future of the banana regime is highly uncertain, the EU and major interest countries did not agree to fix a tariff-only system that “at least keeps the current distribution of exports in the EU... and ... a level of preference equivalent to the current for European and ACP countries” (European Commission 2001a).

The COM bananas has been a regime with complex and contradictory objectives. Problems regarding this topic are of main concern in Chapter 4. As the Court of Auditors states, “differentiation of the various goals and a clearer definition of the COM bananas’ objectives, with a description of the expected impact, would, firstly, make it possible to measure the costs and benefits (of the regime) and, secondly, facilitate management and control” (2002, p. 15).

The banana policies have been cited as one of the best examples of differences between restrictive trade policies of developed countries and conflicting interests of developing countries. The “banana wars” offer a case study that allows the incorporation of competitiveness’ determinants in developing countries and restrictions from developed countries. They also provide an example of the role of the WTO and its Dispute Settlement Body in settling developing and developed countries’ trade differences. This should be broadly used as a basis of analysis for similar conflicts.

**III DETERMINANTS OF COMPETITIVENESS: A CLUSTER –
VALUE CHAIN ANALYSIS OF BANANA TRADE TO THE
INTERNATIONAL MARKET**

Introduction

Bananas are a commodity traded under contradictory policies that form a unique organizational structure. This structure is characterized by horizontal and vertical integration with a multiplicity of agents, from dominant transnational and/or large national companies to small traders.

The banana trade's vertical integration has been broadly investigated through value chain analysis. However, its horizontal integration, focusing on producing/exporting countries, has been investigated less, and never from a comparative perspective, to the extent of the author's knowledge. Therefore, this chapter uses the cluster-value chain analysis developed in the second chapter to analyze internal and external determinants of the horizontal and vertical integration of firms, respectively⁷⁴.

The countries selected for the comparative study are Ecuador, Colombia, and Costa Rica from Latin America, Cameroon and the Ivory Coast from Western Africa, the Windward Islands from the Caribbean⁷⁵, and the European producers from the French and Spanish overseas territories. This chapter is divided into six sections. In the first section an overview of banana trade flows is presented, emphasizing the supply side. In the second section, the cluster-value chain method is introduced explicitly for the banana sector. In the third section, cluster analysis is applied to the selected countries. In the fourth section, the strategy, structure and rivalry of the firms are presented, which form the analytical link between the internal and external determinants of competitiveness. Moreover, the scale and location of the firms (which constitute the main assumptions of the model) are identified in order to distinguish national from transnational firms. In the fifth section, the value chain is completed by including the demand-side European operators. In the sixth section, conclusions about the determinants of competitiveness and the cluster-value chain model are drawn.

⁷⁴ See Annex III: A Cluster-Value Chain Analysis of the Banana Sector

⁷⁵ There are some references to other countries such as Jamaica, Belize, and the Dominican Republic as well.

III.1 A Brief Assessment of the Banana Trade

Bananas, in the export variety⁷⁶, belong to the top five most traded agricultural products. They are traded more than oranges and apples, making them the most traded fruit on international markets.

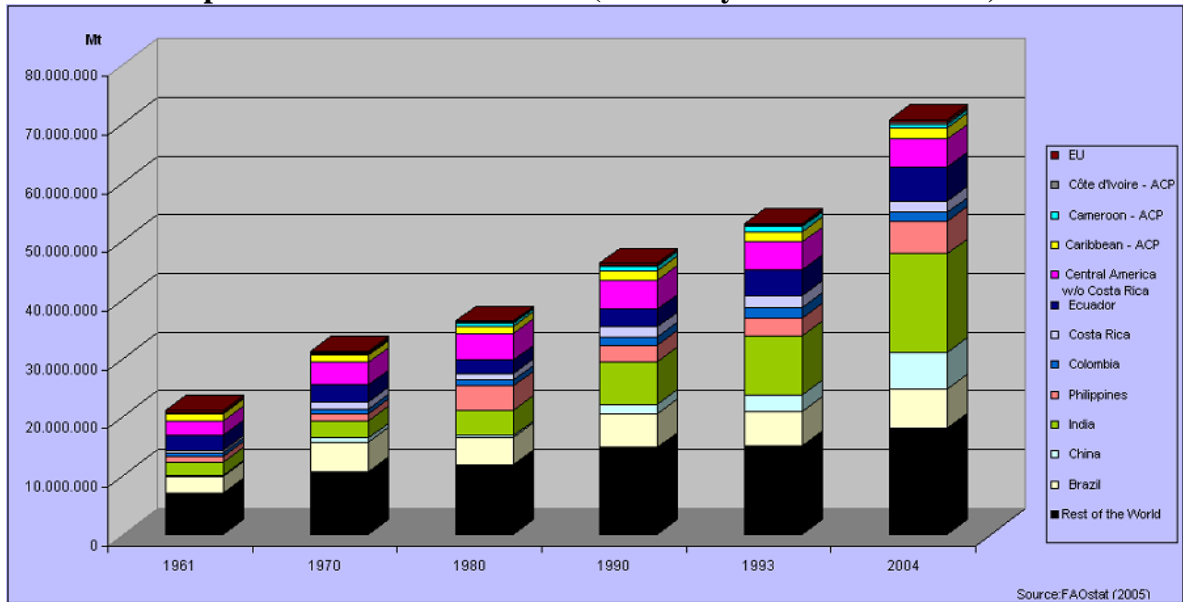
For Latin American countries, bananas are one of the main export products. Ecuador, Costa Rica, and Colombia represented more than the 50 percent of the international supply of bananas in 2003. For some Caribbean and African countries bananas are a subsistence product and a source of export revenues. Some countries' economies depend on them exclusively (or to a high degree). On the demand side, the main consumers are developed countries, particularly the USA, the EU, and Japan. This particular trade relationship of supply from developing and demand from developed countries is described in more detail in the following subsections.

III.1.1 The Supply Side

The largest producers, as observed in Graph III.1, are India, China, Brazil, and Ecuador. They were responsible for more than 60 percent of world production in 2004. Of this group, India and China consume all of their production, while Brazil and Ecuador export some of theirs. Brazil began exporting recently (in 2000) due to TNC interest in its cheaper labor costs (Van de Kastele & Van der Sichele 2005, p. 8). Ecuador, as a traditional net-exporting country, is the primary exporting country worldwide. Ecuador belongs to a group of traditional, exporting producer countries called the "dollar" countries because of the political and economic influence of US TNCs in the region. In addition to Ecuador, this thesis also concentrates on dollar countries Colombia and Costa Rica, which, alongside the Philippines, alternate for second place in banana exports.

⁷⁶ There are more than 1000 varieties of bananas but the only used to be exported are the "Cavendish" and "Gross Michael" varieties.

Graph III.1 Banana Production (Selected years and countries)



Roche (1998) argues that one important distinction between the international banana trade and other commodities is the intensity of its politics. Because of their political implications for the EU banana regime, EU producer nations⁷⁷ and the producer-exporting countries from the ex-European colonies of Africa, the Caribbean, and the Pacific (the ACP countries) must also be included. The heterogeneity of ACP countries almost necessitates a separate analysis for every country. Clearly, this is beyond the scope of this study, so the countries are classified to simplify the analysis. Table III.1 divides the countries first geographically, between Caribbean⁷⁸ and African⁷⁹, then according to their dependence on banana trade. The Caribbean countries break down into two groups, the highly dependent Windward Islands (where cluster study remains important), and the less dependent countries (such as Jamaica, Belize⁸⁰, and the Dominican Republic), which will be referred to as “the other Caribbean countries”.

⁷⁷ According to their production levels, the analysis concentrates on the French overseas territories (Martinique & Guadeloupe) and the Spanish Canary Islands.

⁷⁸ Because of social implications and the availability of information, only the Windward Islands are detailed in this study. It would be worthwhile to examine the implications for other Caribbean countries (including Belize, Jamaica, and the Dominican Republic), but information for them is not available.

⁷⁹ Among the Western African countries, Cameroon and the Ivory Coast are emphasized.

⁸⁰ Belize belongs geographically to Central America, but for historical reasons is defined as a Caribbean ACP beneficiary.

		Banana exports as % of total merchandise exports (1999-2002)	Banana exports as % of total exports (1999-2002)	Banana exports as % of GDP (1999 –2002)	Banana workers as % of working age population (2001)
The Caribbean	Belize	14.7	7.4	3.2	2.3
	Jamaica	1.9	0.7	0.3	0.1
	Suriname	3.4	2.9	2.1	0.8
	Dominican Republic (2003)	n.a.	0.6	0.1	n.a.
	Windward Islands	29.6	6.2	3.2	8.0
	Dominica	23.0	8.3	4.4	9.9
	Grenada	0.8	0.1	0.1	0.6
	St. Lucia	39.5	6.3	3.6	10.8
	St. Vincent	39.3	10.1	5.0	8.4
Western Africa	Ivory Coast (2003)	n.a.	1.7	0.3	n.a.
	Cameroon (2003)	n.a.	2.9	0.2	n.a.

n.a.: not available.
Sources: Rhys & Goate (2003) for the Caribbean; author's calculations for the Dominican Republic and African countries

Among African ACP countries, only nations from Western Africa are important producers in the banana trade, although they are not as highly dependent on the banana as the Windward. Unfortunately, the lack of information precludes a cluster analysis of these countries.

As previously mentioned, Europe is important because its purchasing support has significant political implications for the main exporting countries. Banana producers within the EU include the Canary Islands, Madeira, Crete, the French overseas territories of Guadeloupe and Martinique, and Cyprus (the last only since the May 2004 enlargement). Only the overseas territories of Spain (the Canary Islands) and France (Martinique and Guadeloupe) produce quantities sufficient to compete in international markets. Therefore the analysis is focused on these two regions. Technically the EU producers do not export, since their production is demanded locally by continental Europe; however, transport and marketing costs are included in the import costs and must be taken into account. Thus, the most useful assumption is to regard EU production as “exports” for domestic EU consumption.

This chapter focuses on countries' geographical positions and political relationships with the EU. Thus, the following countries are selected from European producers and dollar and ACP countries.

- Dollar countries: Colombia, Ecuador, and Costa Rica
- ACP countries: the Windward Islands, Jamaica, Cameroon, and the Ivory Coast
- European producers: French Overseas Territories and the Spanish Canary Islands

On the supply side, exporting countries' production levels are based on historical foreign investment in plantations⁸¹ and small- and medium-sized local producers⁸². As a result, different countries can be classified according to their dominant production structures, whether based on foreign or domestic capital. This issue is analyzed more in Section III.4, when firms' strategies are considered.

III.1.2 The Trade Flows: Linking the Supply to the Demand Side

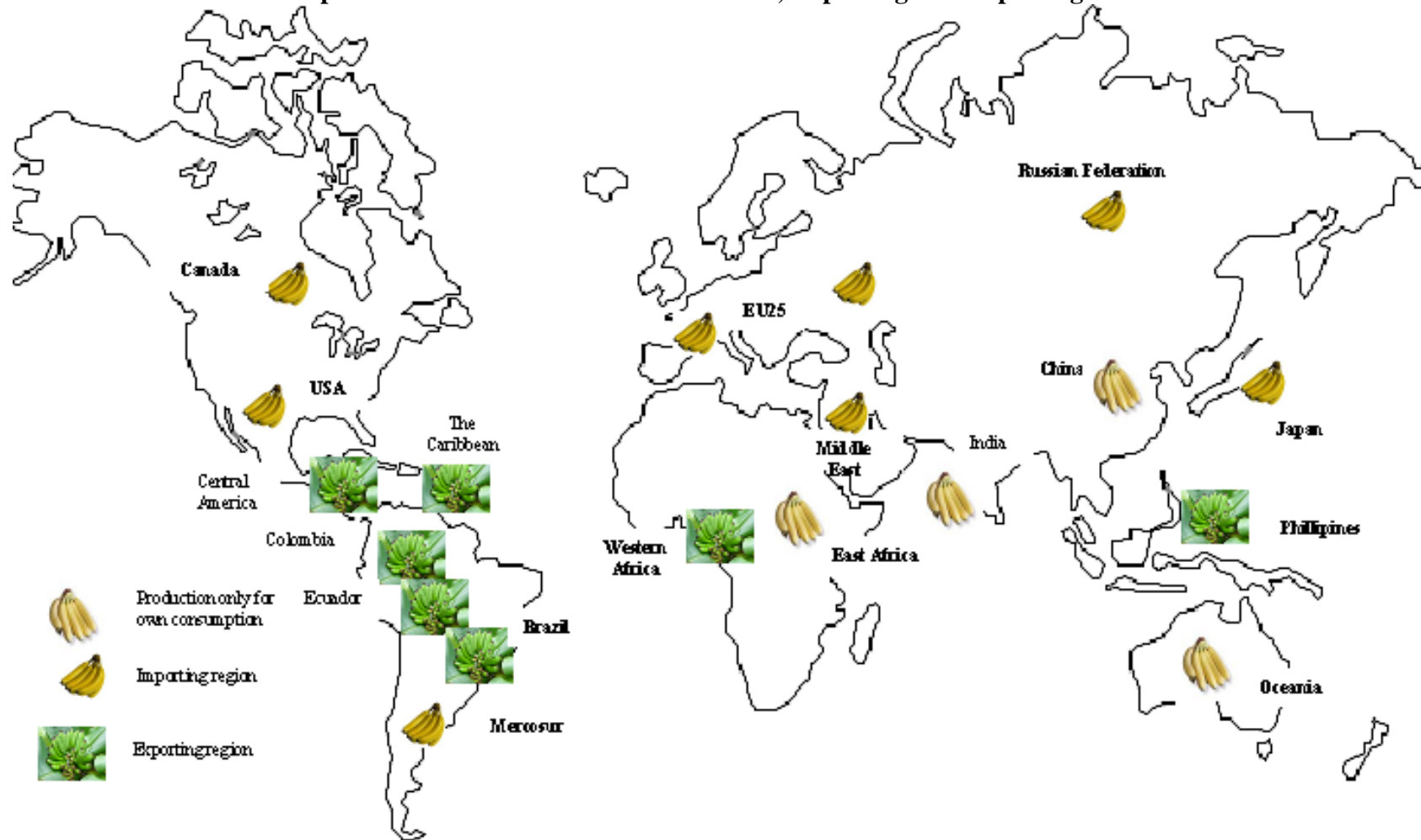
Banana producing/exporting countries need specific quality standards (and more recently environmental and social standards) in order to be successful in international markets. These standards force producers to continually enhance productive processes if they want to reach the highest-demanding, best-paying countries.

Consuming more than 70% of the world's exports, the European Union, North America, and Japan lead banana imports. Other exporting countries with lower quality, environmental, and/or social standards compete at lower prices in less selective markets such as South America, the Near East, the Russian Federation, China, and Eastern Europe.

⁸¹ Plantations are defined as extensive cultivation of approximately 4,000 to 6,000 hectares (Roche 1998, p. 14).

⁸² For a historical perspective of the banana market structures, see, for example: Buchelli (1997), Clegg (2002), Davis (1990), Ellis (1983), Larrea (1987), Striffler (2002) and Striffler & Moberg (2003).

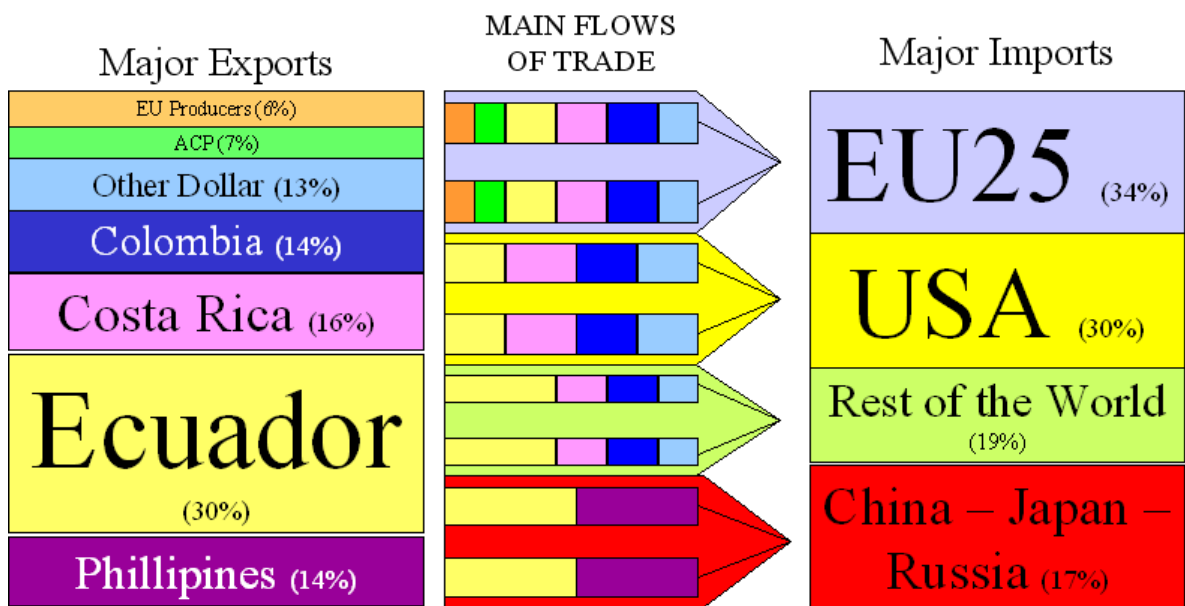
Graph III.2 Locations of Banana Producers, Exporting and Importing Countries



Source: Author's elaboration.

The map in Graph III.2 shows the main producing, exporting, and importing countries⁸³. Graph III.3 takes trade flows into account to show the main exporting and importing countries/regions and their respective market shares. The dependency of regions like the ACP and European producers, which export exclusively to the EU, can be seen here. In contrast, Latin-American countries are more regionally diversified and, because of their high quality standards, more dependent on the most-demanding markets, in the EU, North America, and Japan.

Graph III.3 Banana Trade 2002



*Major exporting and importing countries are distributed according to their trade share in market. Colors of bars within arrows indicate approximate share of exporting countries in importers' consumption.

Source: Author's elaboration based on UN-Comtrade data

As the main exporting regions are dollar zone Latin American, ACP African, ACP Caribbean, Asian⁸⁴ (the Philippines), and European producer countries, how to deal with the USA as a banana “supplier” becomes a problem. The USA neither produces nor exports bananas, but the two main transnational companies (TNCs), Dole and Chiquita, are headquartered in the USA, while a third, Fresh Del Monte has substantial business interests in the American market (though it is a Chilean-Palestinian based

⁸³ For the locations of banana plantations, see Annex B.

⁸⁴ Because the emphasis of this research is addressed to EU trade flows, Philippine exports are not taken into account.

company). Therefore, the role of the USA in the supply side has political rather than economic implications.

At the beginning of the development of the industry, the banana sector was classified as producer-driven because of the TNCs' high involvement in production. However, recently the banana value chain has been transformed into a buyer-driven industry, mainly for two reasons: first, TNCs have withdrawn from production to focus on marketing, transport, ripening, and wholesaling⁸⁵; and second, the market power of retail sales is held by only a few supermarket chains⁸⁶. Compared with the production stage, the last stages of the value chain promise high margins and low risks. Despite the fact that only anecdotal information exists on market concentration, some authors (Van der Kastelee 1998; Read 2002) claim that between marketing and wholesaling more than 70 percent of the market share belongs to TNCs. These relationships of market power and political influence are the confirmation of the competition forces detailed in Section II.3.1. Furthermore, they are one of the explanations for the divergence between companies' strategies and governmental policies developed in the "banana wars"⁸⁷.

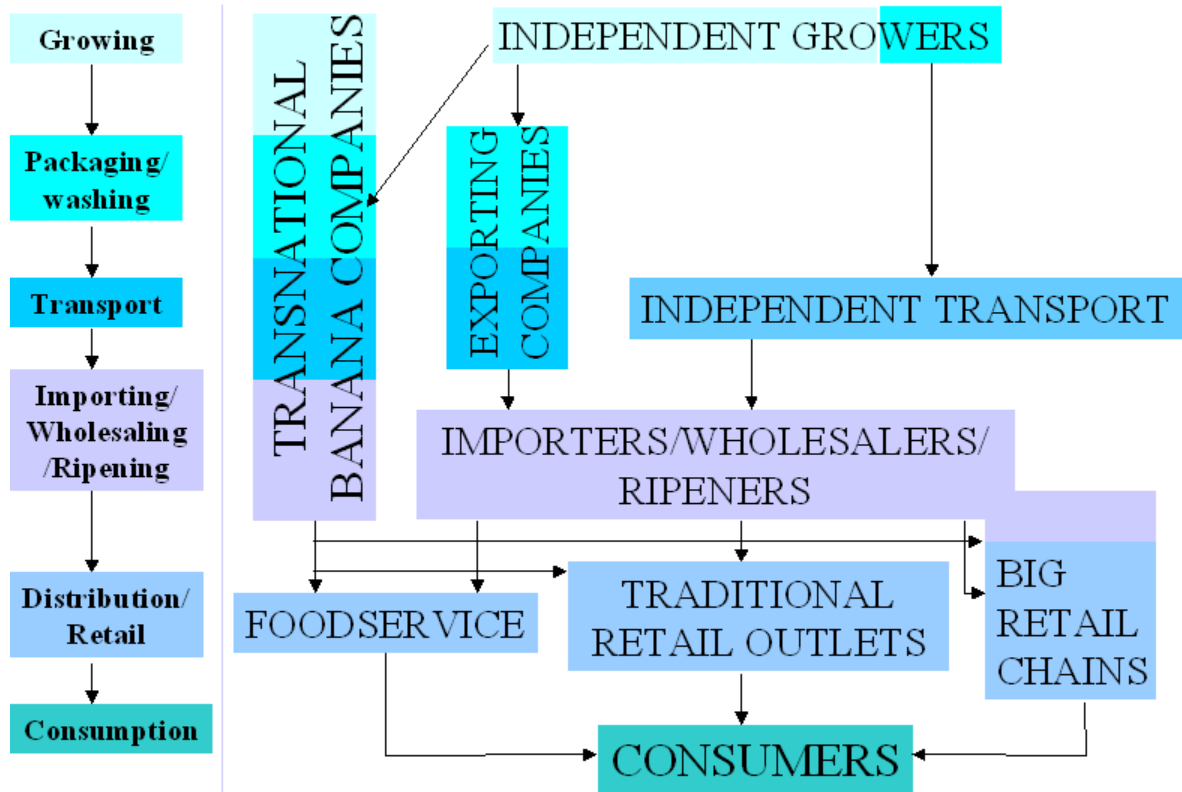
Graph III.4 shows the actors in the value chain, from producers to final consumers. The banana chain is a complex process in which many actors intervene and TNCs compete with independent domestic firms. As will be examined further, these relationships are some of the important external determinants of competitiveness in the analysis of the banana trade value chain.

Foreign dominance and vertical integration are two common characteristics of the trade structures of all countries. The highly perishable banana needs organizational structures that guarantee the final consumer minimum defects, so speed has been the key delivery issue since the beginning of the business (UNCTAD 2005). Few companies can afford the necessary vertical integration, and normally firms from developed countries dominate the market.

⁸⁵ Labor and disease risks in the production stage are quoted as the main reasons to the withdrawal of TNCs from production (Wiley, 1997:71). TNCs, unlike domestic exporters, can diversify risk not only by basing production in different countries, but also by producing a range of fruits in addition to the banana (Cruz, 1996).

⁸⁶ According to the UNCTAD (2003:32), the concentration of market power in retailers is particularly active in Europe. The top 10 grocers increased their market share from 28.8% in 1992 to 41% in 2001. Furthermore, the shares of the top 30 increased from 51.5% to 68.5% during the same period.

Graph III.4 Actors in the Banana Industry Value Chain



Source: UNCTAD, 2003

Control of all stages of the value chain was the rule at the beginning of the business, the 1900s. Transnational companies owned plantations and transportation infrastructure in the producer countries. In Costa Rica and most other Central American countries, the United Fruit Company (UFCo, later Chiquita) was the only company with this capacity. However, antitrust laws in the USA in 1954 changed this structure (Roche 1998:48). Since then Standard Fruit (later Dole) and Del Monte have gained part of the business in Central America.

One of the main profit margin stages in the value chain is transport. According to NERA & OPM (2004), transport costs depend on multiple factors: the shipping distance from the origin country to the destination; port infrastructure, which can reduce time-costs and thus improve shipping; and ship sizes, which can decrease float costs per unit of production. At the ripening stage, facilities on the ships and in importing countries also affect the consumers' price. However, there is little research deal with this topic for

⁸⁷ A more detailed analysis of the banana wars is presented in Section IV.1.

the banana trade. In this research it is assumed that the ripening process at the destination has similar costs in all countries.

The conflicts between countries' policies and firms' strategies complicate the banana trade. The following sections use cluster-value chain analysis to combine the internal determinants of competitiveness within the countries, investigate their effects on firm strategies, and analyze interactions with external determinants.

III.2 Method for Applying the Cluster–Value Chain Model in the Banana Sector

III.2.1 The Determinants of the Banana Sector

The cluster-value chain analysis can be separated analytically between internal and external determinants of competitiveness, as said in the second chapter. Read (1994) lists geographical and climatic characteristics, market proximity, factors of production, and governmental policies as the main internal determinants of banana production. The combination of these factors determines the scales and structures of firms. This is in agreement with the collective efficiency and location characteristic of a cluster⁸⁸.

According to the methodological framework of the first and second chapters and the analysis of Read (1994), Table III.2 summarizes the determinants of competitiveness in the banana trade. They form the foundations for studying the selected countries and firms with the cluster-value chain. The internal determinants of competitiveness are based on Porter's diamond⁸⁹. Exceptions include⁹⁰, first, that demand conditions are treated here as external determinants, since bananas are assumed to exclusively be an export product. Second, government influence is analyzed separately, because it can be treated either as an internal determinant (in the case of meso-level policies) or an external determinant (as in multilateral and unilateral trade policies of importing countries). Finally, the strategies of firms are included as internal and external determinants, making them the analytical bridge between cluster and value chain analyses.

⁸⁸ See Sections II.2.2 and II.2.3

⁸⁹ See Section II.1.1

⁹⁰ See Section II.3.1

<i>Table III.2 Determinants of Competitiveness in the Banana Trade</i> ⁹¹	
Internal	
-	Macroeconomic (interest and exchange rates) and microeconomic stability (producer prices) ⁹²
-	Historical background of the industry (former firms and policies)
-	Factor conditions (labor, land, capital, & technology)
-	Meso-level policies
-	Meso-level institutions
-	Related and supporting industries of local production
External	
-	Foreign demand conditions*
-	Strategies of transnational companies (Chiquita, Dole, Del Monte, and Fyffes)
-	Strategies of foreign companies
-	Policies of competing countries
-	Multilateral trade policies (WTO Agreement on Agriculture, free trade zones)
-	Policies of importing countries (EU-Common Market Organization on Bananas)
Internal or External	
-	Strategies, structure, and rivalry of firms
*See definition of “Demand Conditions” in section II.3.2, Source: Based on Read (1994) and Section I.3.3	

III.2.2 The Model

Graph III.5 presents a representation of the cluster of the banana sector. This scheme allows incorporation of the internal determinants of competitiveness of selected exporting companies. Therefore, based on it this study can proceed from a comparative perspective for selected producing/exporting countries.

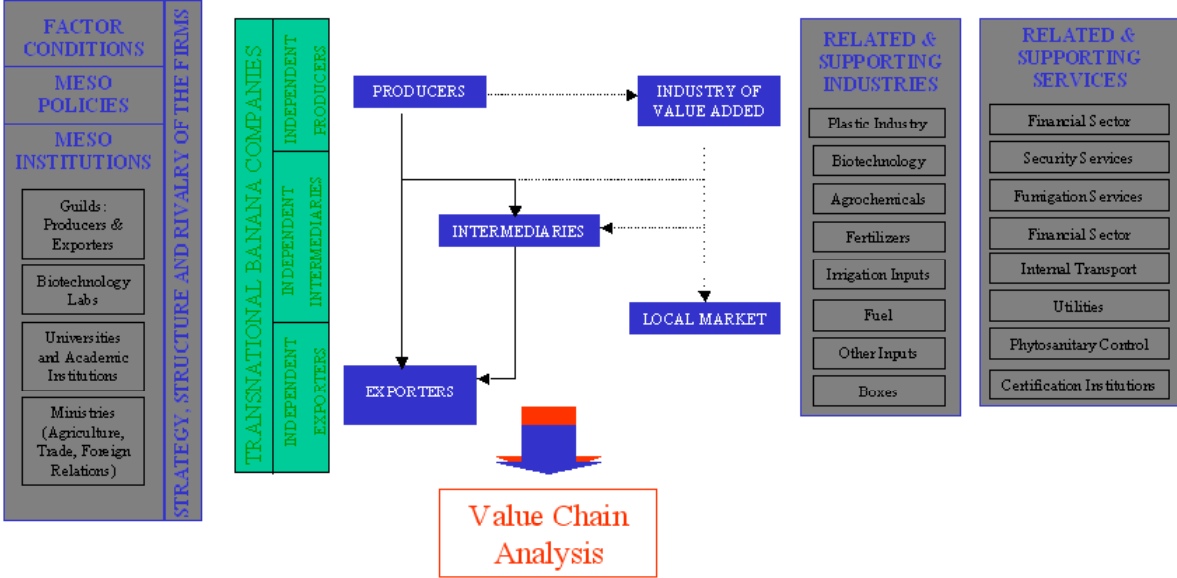
Graph III.6, based on Annex A and the second chapter, shows the connection of the internal and external determinants of competitiveness. It describes the basic stages through which bananas are sold in international markets. According to the specifications of the model in the second chapter, in the value chain there are several external determinants that can affect trade outcomes. Of these, “strategy, structure, and rivalry of firms” and “demand conditions” are analyzed in the case study. The “demand conditions” determinant focuses particularly on the influence of the Common Organization of Bananas of the EU, discussed in the fourth chapter, while “related and

⁹¹ Weather conditions are especially influential in the banana industry but, as explained in the first chapter, random effects (chance) are impossible to evaluate.

⁹² Macroeconomic and microeconomic “stability” are included in the dynamics of the model in Chapter 4, where trade policy changes are evaluated taking into account shifts in macro and micro figures.

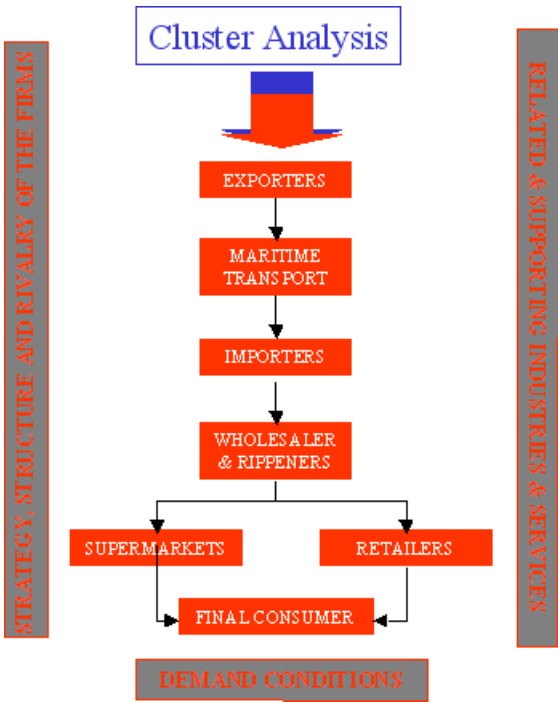
supporting industries and services” is analyzed exclusively in the context of local production in the cluster section.

Graph III.5 The Cluster Analysis of the Banana Sector



Source: Author’s elaboration

Graph III.6 The Value Chain Analysis of the Banana Sector



Source: Author’s elaboration

III.2.3 Parameters to Qualify the Model

The functionality of the cluster-value chain model depends on the qualification of its determinants. This section establishes the parameters for evaluating the environment of competitiveness among the selected producing/exporting countries and the potential for competitive advantage among national and transnational companies.

Factor Conditions

- Land

There is some potential for increasing production by expanding the cultivated area or increasing the productivity of the actual area. Increasing land use also means increasing maintenance costs and reducing the amount of land suitable for cultivation. Therefore productivity is the preferred way to increase production, by means of technological improvements in crop varieties or in production processes.

Costs are minimized when the most productive land is used first, and when land becomes scarce, productivity could decrease. When the maximum productive capacity of land is achieved, investments in new land should be made and productivity could increase.

- Labor

Specialized workers are necessary for the cyclical activities of cultivation, packaging, and delivery. Labor costs need not necessarily be the lowest, but they are the basis for the competitiveness of some countries. Social standards ought to play a larger role in the competitiveness of countries where labor costs are cheaper but workers have precarious labor and/or social rights.

- Capital, Innovation, and Technology

Banana production is usually labor intensive. However, improvement of capital factors has a positive influence on competitiveness (as in improvement of crop varieties, artificial irrigation, and cableways).

Research on disease-resistant and more productive crop varieties, new packaging, and means of transport are advantageous factors for firms' competitiveness.

Meso-Level Policies

There are three policy methods to promote market sectors:

- First, technically with investments in research and development;
- Second, financially by affecting prices with subsidies or direct aid; and
- Third, administratively with temporary measures to affect the market.

Due to the WTO's prohibition of subsidization, motivating competition using technical support generally receives more attention than financial or administrative programs.

Meso-Level Institutions

The more powerful guilds and unions are, the more pressure is put on the government (and international agents) to suggest policies favorable to their specific sector and to bargain for access rights in international forums such as the WTO.

There is a set of research institutions (private and public) dedicated to supporting the sector in technical and marketing issues. This support increases the potential competitiveness of the firms that want to trade in international markets.

Related and Supporting Industries and Services

- The more integrated related and supporting industries and services in a cluster are, the easier it is for the sector to unite its export activities and achieve high quality standards and low prices.
- Not all inputs and raw materials are produced locally; those that are not must be imported at some transaction cost. Clustering of firms can facilitate purchasing at high quantities and can lower these costs.

Firm Strategy, Structure, and Rivalry

The inclusion of strategies and the vertical integration of firms are the analytical bridge between internal and external determinants of competitiveness. Whether determinants

are considered internal or external depends on where the firms are involved in the value chain.

- Firms' strategies show the link between internal and external determinants of competitiveness. Firms develop strategies based on differentiation, costs, or both. The success of these strategies can be evaluated as a measure of their market share in every stage of the value chain.
- Structure of producers and their integration with marketing firms:

The control of production and the links between firms are highly important for reaching international markets. TNCs, large domestic firms, medium- and small-size producers compete for the ownership of land. For some countries, one can argue that TNCs' totally integrated structure is a competitive advantage in the international banana market. However, it can also be that domestic companies (some formed by associations of small/medium sized producers), because of their ownership of production, can help a country preserve its market position.

- Rivalry among firms enhances international competitiveness:

Competition is one of the components of the collective efficiency assumption for the formation of clusters. Moreover, firms compete with one another in every stage of the value chain and attempt to merge or forge joint ventures with other firms in order to strengthen their market power.

On the basis of these parameters and the theoretical framework of the first two chapters, the following sections analyze the determinants for selected countries.

III.3 The Cluster Analysis of the Banana Sector

Heterogeneity between producing/exporting countries complicates the assessment of competitiveness at a regional level. However, some authors do draw conclusions for regions. For instance, NERA (2003 & 2004) and Borrell & Bauer (2004) argue that the decline in ACP Caribbean exports demonstrates the low viability of their banana industry. In this respect only country-based studies give definitive conclusions. Furthermore, socio-economic research could help understand the whole picture of

competitiveness. Unfortunately the lack of these types of research is pronounced in all countries, especially those where the overall economy is highly dependent on the banana trade (such as the Windward Islands)⁹³. Researchers have focused firstly on the economic assessment of trade flows (Valles 1968; Roche 1998; FAO 2003b; UNCTAD 2003) and secondly on the effects of the “banana wars” (Josling and Taylor 2003; Striffler and Moberg 2003; Myers 2004)⁹⁴. The internal determinants of (producing/exporting) country cases are a necessary research topic, and this section approaches these issues.

The comparative perspective in this section follows a twofold procedure. First the competitive basis of the selected producing/exporting countries’ clusters is briefly described, and second, based on the classification of the parameters from the previous section, the determinants of competitiveness are analyzed. A preliminary evaluation of the environment of competitiveness based on these parameters is presented at the end of this chapter in Section III.6, when the cluster-value chain analysis is completed.

III.3.1 Competitive Basis of the Cluster Model in Selected Producing/Exporting Countries

The traditional theories discussed in the second chapter argued that the main forces for development of a cluster are common location among firms and the need to achieve collective efficiency (external economies and joint action)⁹⁵. In addition, modern developments of the theory and the inclusion of the value chain analysis incorporate size of firms, international aspects, and bargaining power of economic agents. This section focuses on the assumptions of location and collective efficiency as applied to the banana sector. The remaining assumptions of the model are discussed in Section III.4, where the strategies, structure, and rivalry of the firms are included.

⁹³ Studies dealing with socio-economic issues of the Caribbean region include ILO (1999), the Commonwealth of Saint Lucia (2002) and the Evaluation of the EU Assistance to ACP Banana Producers by Hubbard et al. (2000 a & b).

⁹⁴ These are only examples of general studies of the banana wars. For more specific approaches of studies related to this topic refer to the fourth chapter.

⁹⁵ In Section II.2.2 the factor conditions determinant is introduced as the basis for comparative and competitive advantage analysis. Additionally in Section II.3.2, the fundamentals (or basis) of the cluster analysis are mentioned.

The banana industry can be considered as a deliberate cluster under the classification of Schmitz and Nadvi (1999)⁹⁶. The special weather and agrological conditions from India and China⁹⁷ were also found in Africa and Latin America where productivity and marketing links with demanding countries were more favourable. Therefore, bananas were gradually moved to these alternative tropical regions in order to achieve the necessary scale for commercial purposes. Thus, the condition of location, responsible for the development of a cluster, was also fulfilled.

Table III.3 Distribution of Banana Production in Selected Countries

Country	Area (1000 hectares)	Share of Production (%)		Region	Cultivated Area (%)
		Independent Producers	TNCs ^a		
Colombia (2003)	45	80	20	Urabá	70.0
				Magdalena	30.0
Costa Rica (2002)	42	50	50	Sarapiquí	14.5
				Pococi	21.7
				Guácimo	7.8
				Siquirres	17.3
				Matina	22.9
				Limón	8.0
				Talamanca	6.8
				Corredores	0.7
Ecuador ^b (2003)	160	75	25	El Oro	34.0
				Los Ríos	28.0
				Guayas	30.0
				Cañar, Cotopaxi & Esmeraldas	8.0
The Windward Islands (1997)	12.2	100	0	Domenica	28.2
				St. Lucia	46.3
				St Vincent	23.2
				Grenada ^c	2.3

^a Ecuador includes Dole and large companies (Noboa, Reybanpac and Palmar).
^b The area and percentage of production varies depending on the source. Anecdotal information shows that there are more than 20,000 hectares of bananas not registered in the agricultural census.
^c Data from 1996
Source: Author's elaboration based on Brenes and Madrigal (2003), FAO (2003b), (Hubbard et al. 2000b), and national agencies (CORBANA and AUGURA)

In addition, the commercial viability of the banana business depends on the potential to develop the necessary infrastructure and industrial integration (vertical and horizontal) to export. Only large companies were able to achieve the necessary scale to make business. The establishment of large companies, in some cases was facilitated by strong

⁹⁶ See section II.2.1

influence of foreign capital from developed countries without any interference from governments' regulations or even with a governmental permission⁹⁸. Table III.3 shows the national share of cultivation of the specific regions where these conditions were fulfilled and the share of the ownership either by TNCs or by independent producers⁹⁹. In spite of the economic interest of large companies, in all producing/exporting countries, banana cultivation for commercial purposes has been linked with colonization problems and local social struggles.

Location matters in the banana sector because production is highly sensitive to risks of diseases and changing weather conditions. For example, production in the Caribbean has been affected by hurricanes, and in these risky regions large companies have been less interested in making investments in production. This has motivated smallholders to cooperate with one another. Once they achieve the necessary scale and obtain the necessary raw materials and inputs, they are able to compete internationally. Furthermore, they have been supported technically, financially, and diplomatically¹⁰⁰ first by colonial links with the UK and later by the EU preferential regime. Only once all these conditions were met did marketing firms become interested in trading Caribbean bananas.

Production in dollar countries includes both smallholders and large companies. Production units are linked horizontally with firms located in neighboring regions to provide specialized raw materials and inputs while reducing transaction costs.

In both regions, the dollar zone and the Caribbean, smallholders are motivated to cooperate in order to achieve access to international markets. Moreover, they compete with larger firms and are forced to develop new strategies to survive in the market. Thus, they are examples of the joint action assumption of the cluster analysis. As it is explained in section III.4.1 the strategy of former smallholders in the past results in the formation of large companies such as UNIBAN in Colombia and WIBDECO in the Windward Islands. They found the necessary scale to compete internationally even against the largest TNCs.

⁹⁷ The agrological origin of the bananas is recorded by historians to India and south of China.

⁹⁸ From this relationship between large firms and governments emerged the well-known term "Banana Republic".

⁹⁹ Annex C shows some figures and trends of the selected producing countries.

¹⁰⁰ For a complete political-economy approach to the Caribbean situation and the colonial relationships with the UK through the banana trade, see Clegg (2002) and Myers (2004).

Development in the banana sector has been driven by the external economies inherent in the business. For example, in Ecuador and Colombia the agglomeration of small producers in specific regions motivates larger national firms to increase their scale of production. Meanwhile, TNCs in other regions, such as Costa Rica, Central America, and more recently Western Africa, have been the most interested in becoming producers. The agglomeration of banana producers has also strengthened interest in participating in the industry among specialized providers of raw materials and inputs. These links with international and specialized firms have provoked technological spillovers that are reflected in increasing productivity, particularly in dollar and West African countries. The specialization of workers is the remaining effect derived from the external economies of clusters. Table III.4 shows the numbers of workers directly involved in the banana industry in selected countries and their share in the active agricultural economic population. The overall labor force dependency on banana cultivation seems to be rather important for countries such as Ecuador and the Windward Islands. However, it should be noted that for other producing countries, the labor force differs by region and that countries differ in size and in their reliance on other sectors (industry, services). Conclusions should therefore be drawn with care.

<i>Table III.4 Workers in the Banana Industry of Selected Producing/Exporting Countries</i>		
	Direct Workers	As % of Agricultural Economic Active Population
Colombia	35,000 (2002)	0.01%
Costa Rica	33,800 (2000)	0.10%
Ecuador	380,000 (2003)	30.42%
Cameroon	10,000 (2001)	0.003%
Windward Islands	7,300 (2001)	16.59%
Source: Author's elaboration based on FAO (2003b), Rhys & Goate (2003), national agencies and FAOstat		

In summary, banana has been a deliberated cluster enhanced with the particular agrological and climate advantages of the producer regions. The location of plantations were based on these criteria in order to improve the cluster by the vertical and horizontal integration with other industries located in the same region of production. However, as explained in the theoretical framework, additional assumptions and a broader methodology are necessary to explain competitiveness. The following section

deals with the determinants of competitiveness of the selected producing/exporting countries from a comparative perspective. Analysis of firms will then confirm the remaining aspects of the cluster-value chain model.

III.3.2 Comparative Perspective of the Internal Determinants of Competitiveness in Selected Producing/Exporting Countries

III.3.2.1 Factor Conditions

- Land¹⁰¹

UNCTAD (2003) asserts that land is still available in Latin America for banana production, even in Ecuador, where the government has been forced to control production in order to avoid oversupply. On the other hand, the Windward Islands' production has been limited by geographical conditions. Further analysis by NERA and OPM (2004, p. 79) suggests that Cameroon and Costa Rica are reaching their limits of land suitable for production.

The scale of the cultivation is also an important determinant of competitiveness. Plantations are more common in Colombia (see cooperative firms in Urabá), Costa Rica (run by TNCs), and to some extent in Ecuador (in large domestic firms). There are also small producers in Colombia (Magdalena) and Ecuador.

The production within Caribbean countries is very diverse. Belize's production is very similar to the standards of plantations in dollar countries. Jamaica has two large plantations for exports and a set of small farmers with less than one hectare producing for the internal market¹⁰². The highest volume of Caribbean exports comes from the Windward Islands, where small family farmers are predominant. The decrease of land use for banana production has been due to the withdrawal of many unproductive units and the development of new alternatives, such as tourism and illegal activities (including drug trafficking).

¹⁰¹ The graphs in Annex C present trends of production and productivity for the period 1960 – 2004.

¹⁰² Jamaican figures are difficult to interpret. According to the FAO production, Jamaica produced approximately 130,000 tons during the 1990s. However, Jamaican officers report between 200,000 and 250,000 tons since 1990 (Rhys & Goate 2003, p. 22).

Western African production consists predominantly of small-scale cultivation and cooperatives of producers. However, TNCs have recently been investing in West African production because of the favorable costs and geographical conditions of the area. The major increase in West African exports indicates that these countries are approaching limits in sustainability and total usage of land for banana cultivation. However, as Rhys & Goate (2003) argue, further investments from large companies indicate the opposite, and there is no technical data on availability of land in the area.

Finally, the EU producers are mainly of small scale and of low productivity. However, in contrast with the dollar countries, they do receive additional financial support from the EU to compensate for their low productivity¹⁰³.

Productivity is strongly related to the scale of cultivation. The best performers are plantations located in Costa Rica and Colombia. Ecuador has lower productivity than the other Latin American countries mainly because of the lower amount of cultivated land. The increasing exports of Ecuador are due to increases in production and suggest that potential to increase productivity remains.

Among ACP countries, only West African countries and Belize have figures similar to the dollar countries. However, the incipient control of plant diseases still threatens future productivity improvements in West African cultivation (Hubbard et al. 2000c). The least productive regions are the Windward Islands and the EU producers, which, according to Hubbard et al. (2000a) and the Court of Auditors (2002), are only sustained by virtue of EU financial assistance.

- Labor

The cluster has led to specialization of workers in regions where plantations are predominant. However, the case of Costa Rica has been particularly worrisome for landholders. This country has the highest labor costs of the dollar region (Brenes and Madrigal 2003, p. 113) and has motivated the migration of temporary workers from poorer neighbor countries, putting social pressure on local Costa Rican workers.

¹⁰³ See Annex D.

For Colombia labor is a main competitive advantage; salaries and social issues have always been successfully negotiated between workers and producers¹⁰⁴. In contrast, Ecuador's labor history of strikes, and social pressure has been one of its most notorious disadvantages. Nonetheless, this country's low salaries are broadly cited as one of its competitive advantages.

Where small-scale production is predominant, labor is the central factor of production. The Windward Islands and European overseas territories have the highest labor costs worldwide in the banana sector. Among small producers in West Africa and dollar countries, salaries are low and social conditions are poor. However, lower labor costs are advantageous for the regions' labor-intensive banana production.

Social standards have become an important issue within countries' competitiveness. The increase of labor standards at the expense of higher labor costs has been recognized internationally as a positive factor of competitiveness. Colombia and Costa Rica are the most advanced countries in this sense. They are opposed by Ecuador, the Windward Islands, and Western Africa, which still fail to meet international standards. However, this is compensated for by their lower labor costs¹⁰⁵.

- Capital, Innovation, and Technology

UNEP (2002) classifies the technology used in cultivated areas by infrastructure and agronomic management. A technology-based (capital-intensive) plantation includes irrigation systems, drainage channels, integrated production processes (cableways, packaging, standardized processes), and disease control. Semi-technological banana cultivators meet some of these requirements, and non-technological growers meet few to none of them.

Plantations from Colombia (in Urabá), Costa Rica, and Ecuador (particularly larger companies) are characterized by high technological development, including artificial irrigation (when necessary) and functional infrastructure. Small-scale producers from

¹⁰⁴ However, this situation has been disrupted by conflicts between the government, paramilitary, and guerrilla groups that have been acting violently in the zones of production. Between 1988 and 1995, in particular, production in Urabá was strongly affected by the social and political conflicts resulting from extreme violence. Banana firms transferred most of their production to the region of Magdalena or to Ecuador and Costa Rica. Since 1996 production in Urabá has revived (Bonet 2000, p. 13).

Colombia (in Magdalena), Ecuador, the Windward Islands, West Africa, and Europe are classified as semi-technological cultivators. Most non-technological cultivation is not of sufficiently high quality to sell in international markets.

With exceptions in Colombia and Costa Rica, few public institutions support significant amounts of research and development (R&D). In most countries, the governments are not involved in R&D, and investments depend predominantly on private marketing and/or exporting firms.

III.3.2.2 Meso-Level Policies

Policies addressed to banana production are diverse and attempt to solve the specific strategic problems of each country. Table III.5 shows the main meso-level policies of selected producing/exporting countries.

Social and environmental standards have been strongly enforced in all countries by the technical assistance of public and private agents. This enforcement has been influenced by four factors: the pressure of social and interest groups (for example, unions in producing/exporting countries and campaigns of NGOs such as BananaLink and BanaFair in importing countries); the national consciousness of producers (seen in projects such as CORBANA in Costa Rica and AUGURA in Colombia); demand-side market pressure (including the Euro-Retailer Produce Working Group—EUREP—certifications of Good Agricultural Practices, EUREP-GAP¹⁰⁶, and the market strategies of TNCs); and finally, the governmental policies of foreign countries (such as the EU institutions' promotion of environmentally friendly production via qualitative aid to ACP producers).

The utilization of financial policies has been also a normal practice in producing/exporting countries. Price supports commonly take the forms of direct payments or tax exemptions. In the dollar countries, this assistance comes from the national governments. In contrast, ACP and EU producers' support comes from the supranational EU. Furthermore, temporary measures (safeguards), independent of

¹⁰⁵ Statistical data on costs are available but their reliability is often questioned. See section IV.2.1

¹⁰⁶ EUREP-GAP is the certification of a set of European supermarkets judged by quality and labor standards of producing countries.

region, are used throughout the banana industry. The main reason given for implementing a safeguard is unfavorable weather conditions. All other subsidization regulations are being increasingly prohibited by the WTO and have to be changed according to the Agreement on Agriculture of the GATT¹⁰⁷.

Administrative support remains the most flexible tool for governmental and institutional support of the banana industry. The role of the private sectors in Colombia and Costa Rica (AUGURA and CORBANA respectively) are considerable. Ecuador depends on governmental decisions to be functional, because of the permanent differences between producers and exporting firms (mainly over the determination of the reference price)¹⁰⁸.

According to the report of ACP country assistance (2000), a complete reform of EU assistance would be necessary to achieve competitiveness. Only Cameroon, Ivory Coast, Belize, and the Dominican Republic have increased in their competitive advantages, not so much because of the EU assistance as because of market circumstances and labor cost advantages (Hubbard et al. 2000a p. xi). Despite many agreements and rules (including the Banana Protocols, Lomé and Cotonou Conventions¹⁰⁹, over 20 years of EU production assistance, and the Windward Islands' agreement between producers, the government, and exporters¹¹⁰), Caribbean exports remain price uncompetitive with Latin American producers¹¹¹.

¹⁰⁷ See Section I.4.2.

¹⁰⁸ In Ecuador there is a reference price that exporters must pay to producers (Baquero et al. 2004). This price is supposed to be set by consensus. However, due to the lack of agreement between producers and exporters, it has always been fixed by government decree.

¹⁰⁹ For a summary of the different conventions and protocols, see the Cotonou Infokit of January 2001.

¹¹⁰ On the 29th of September, 1995, a compromise was signed by the Prime Ministers and the Donor Consortium (EU included) to make the core banana industry capable of competing in liberalized markets by the year 2005. This compromise was written in the Production Recovery Plan of the Windward Islands Banana Industry.

¹¹¹ This is also corroborated by Rhys & Goate (2003, p. 24). They argue that there are three main determinants of producer prices in the Windward Islands: UK price fluctuations, exchange rate movements, and competition from dollar zone and African producers.

Table III.5 Meso-Level Policies of Selected Producing/exporting Countries

Technical	Financial	Administrative
<i>Colombia</i>		
<ul style="list-style-type: none"> - Governmental and guild institutions, particularly research and development support for the region of Urabá. - Program (<i>Banatura</i>) to support environmental and social development by the private guild <i>AUGURA</i>. - Private certifications of quality, environmental, and social issues. 	<ul style="list-style-type: none"> - Elimination of tax support for exports, in line with the WTO agreements. - Plan Vallejo: program to import duty-free raw materials used in the processes of exports. - Fund of Exchange Adjustment: temporary fund to subsidize flower and banana producers who are highly affected by devaluation effects. 	<ul style="list-style-type: none"> - Productive Chains program for bananas: Governmental program to ease interaction between the public and private sectors.
<i>Costa Rica</i>		
<ul style="list-style-type: none"> - Research assistance, sustainable development, market information, marketing campaigns, and credit facilities by the public-private institution <i>CORBANA</i>. - Private certifications of quality, environmental, and social issues. 	<ul style="list-style-type: none"> - Rulings to guarantee a minimum price for products of exporting firms (based on international prices). - Temporary aid to compensate producers' losses to weather conditions or market instabilities. 	<ul style="list-style-type: none"> - <i>CORBANA</i> supports companies through promotion, providing market information, and facilitating interaction between government, producers, and exporters.
<i>Ecuador</i>		
<ul style="list-style-type: none"> - Since 1994, environmental regulations for the process of production and to introduce environmental standards as factors of competitiveness. - Private certifications of quality, environmental, and social issues. 	<p>National Banana Program (1994):</p> <ul style="list-style-type: none"> - Reference price to be paid to producers by exporting firms. - Exemption from financial agreements for producers (temporary measure) - Temporary direct investments when economic shocks or disturbances in weather or market conditions occur. 	<ul style="list-style-type: none"> - Since 1997, creation of the Law to Stimulate and Control the Production and Commercialization of Bananas. - Anti-trust laws force large-scale agents to buy from small producers according to a reference price. - Since 1999, enforcement of environmental regulations. - National Finance Corporation: fund to facilitate the payments of the reference price between producers and exporting firms.

<i>Western Africa & Windward Islands</i>	
<p>- The EU assistance: aid package to support the ACP banana industry technically and financially.^a According to , Regulation (EEC) No. 404/1993, the main objectives of EU assistance have been to establish producers' organizations which meet Community demands (amount and quality) and to develop infrastructure and service capacity for social and environmental standards.^b</p> <p>- Banana Production Recovery Plan: since 1998, public-private initiative increases production volumes in the Windward Islands. It maintains grower prices and provides technical support to the producers.</p>	<p>- The EU system of marketing, distribution, and sale of bananas is the main basis of administrative support for ACP countries.</p> <p>- The government regulates the work of Banana Growers Associations.</p>
<i>European Producers</i>	
<p>There is a mechanism of compensatory payments created as a response to the loss of communitarian companies' competitiveness.^c</p>	<p>- The COM bananas regulates and administrates technical and financial assistance.</p> <p>- Temporary national policies provide support during market instabilities and/or adverse weather conditions.</p>
<p>^a Council Regulation 2686/94, later extended by Council Regulation 2320/96, contains the legal framework of , EU assistance to ACP banana producers.</p> <p>^b The Evaluation Report 2000 defines "current competitiveness" as "the ability to supply the market price without assistance. Producer's revenue at least cover costs at the present time," and "trend competitiveness" is defined as "the ability to innovate technically and organizationally to meet the needs of the market, and thereby maintain or increase profitability relative to alternative uses for the land, capital, labor, and management skills employed in the industry, so that production is maintained or expanded" Although the general terms of the assistance are the same for all ACP beneficiary countries, the amounts and means of delivery are specific to each situation, even at the local level. Oddly, as the country is less competitive, it receives more assistance.</p> <p>^c See Annex D</p>	
<p>Source: Author's elaboration based on SENA (2003), Notifax – Corbana (various issues), UNEP (2002), Baquero (2004), Commonwealth of St. Lucia (1999), & EU Regulations.</p>	

Finally, European producers' dependency on compensatory payments (more than 50 percent of the income of EU growers comes from compensatory aid) also affects the EU's ability to keep competitive producers¹¹². The compensations are seen as unfair by domestic EU producers because of the calculation methodology. Some proposals suggest differential levels of compensation according to the region in order to avoid the current cross-subsidization among EU producers¹¹³.

Meso-level policies seem to be a decisive factor for the enforcement of competitiveness, whether for producing or importing countries. Clearly, it is necessary to measure the implications of policies on the competitiveness of producing/exporting countries.

III.3.2.3 Meso-Level Institutions¹¹⁴

There are few examples of direct involvement by governmental institutions in the banana sector. The governments in ACP countries are rather active lobbying in the EU for financial and technical assistance, while governmental institutions in Latin American are more concerned with the promulgation of temporary laws (meso-level policies) and the facilitating interaction between economic agents (producers and marketing firms).

The role of guilds and unions in the banana industry, and their influence on competitiveness in countries where they exist, has garnered considerable attention. Among guilds, AUGURA in Colombia and CORBANA in Costa Rica are frequently cited. These institutions have technically and administratively supported producer and marketing companies in the cultivation process, in negotiations with the government, and with other companies in the value chain¹¹⁵. As associations of producers, this kind of institution is present in almost all countries but its role is typically only representative (focused on lobbying).

¹¹² Some questions are raised by the huge amount of compensatory payments: first, from the aid to the sector of fruits and vegetables, a fifth of the funds go to banana compensatory aid. Second, compensatory aid is not fairly distributed among all the regions. For example, the Canary Islands enjoy a larger share of aid than the poorer areas of the Antilles. For additional information, see Annex D.

¹¹³ For additional information, see the Fruitrop Issues of June 2002 and May 2003 and the call for propositions of the European Commission (2006)

¹¹⁴ Some of the most representative meso-level institutions are listed in Table III.6.

¹¹⁵ These guilds also have some representation in TNCs located in their respective countries.

Unions have played a major role in countries where TNCs are particularly active (such as Central America), but they are also important when monopolistic national companies emerge (e.g., Noboa in Ecuador). In contrast, unions in ACP countries are less visible and workers' mobilization power is practically inexistent (ILO 1999).

<i>Table III.6 Meso-Level Institutions of Selected Producing/exporting Countries</i>	
Country	Meso-Level Institutions
Colombia	<ul style="list-style-type: none"> - Sintrainagro: union of banana workers - AUGURA: association of banana growers of Colombia - ASBAMA: association of banana growers in Magdalena - Program of the Banana Productive Chain: governmental program to facilitate the dialog among economic agents within the sector
Costa Rica	<ul style="list-style-type: none"> - CORBANA: national banana corporation, public-private institution to technically and administratively support the government, producers, and exporters - ANAPROBAN: association of national producing/exporting firms - CANABA: association of national and foreign producing/exporting firms with interests in Costa Rica production - COSIBA: national body of five unions in Costa Rica
Ecuador	<ul style="list-style-type: none"> - Banana Consultative Council: governmental institution to support legal issues in the sector - Association of Small Banana Producers - FENACLE: union of natives and peasants of Ecuador - UROCAL: union of peasants of the Coastal Region - AEBE: Association of Exporters
Cameroon	<ul style="list-style-type: none"> - ASSOACAM: association of banana exporters of Cameroon
Ivory Coast	<ul style="list-style-type: none"> - OCAB: association of producers and exporters of pineapples and bananas
ACP Caribbean	<ul style="list-style-type: none"> - CBGA: association of producers of the Caribbean countries. In additional, every country has its own banana grower association, strongly linked to its government - Banana Trade Advisory Committee: public-private institution to provide market and statistical information to Caribbean operators - WINFA: Windward Islands Farmers' Association (five-island small farmers' organization from St. Vincent, St. Lucia, Grenada, Martinique and Dominique)
European Producer Countries	<ul style="list-style-type: none"> - Association of European Banana Producers: its affiliates are mainly producers from the Canary Islands and French overseas territories - European Community Banana Trade Association: association of European marketing companies
Source: Author's elaboration	

The involvement of guilds in Colombia and Costa Rica in supporting research institutions is considerable. Furthermore, the TNCs have always taken part in research and development in the countries where they have investments. Recently, technological

spillovers have been particularly important in West African countries. However, technological growth among ACP Caribbean and EU producers is much slower. They are less organized, and depend on marketing companies and the technical and financial support of the EU.

As Samacá (2000) argues, the role of meso-level institutions (guilds and unions) enhances the bargaining position of producers (particularly in Colombia). Indeed, at the regional level, meso-level institutions could have the power to equilibrate the oligopsony power of the marketing firms and TNCs in the form of a cartel.¹¹⁶

The contribution of meso-level institutions to the competitiveness of single countries has not been tested empirically. However, secondary sources support the lobbying activities of European and ACP countries as having been successful. They pressure the decision making of the European institutions to temporarily support them with financial and technical measures. In contrast, Latin American countries have been more involved in permanent policies of support to producers, such as technology and marketing campaigns, and have only participated in lobbying activities when changes in EU policies are announced.

III.3.2.4 Related and Supporting Industries or Services and Local Production

Location of production is the basis of cluster analysis, and banana production is usually regionally classified by geographic and climatic conditions. Hence, the location of banana production links supporting (horizontally integrated) firms are linked to cultivation.

Moreover, interaction between supporting and related firms and the producing firm is related to the scale of production. If large plantations exist, integration with related and supporting firms is guaranteed. This is the case for plantations located in Urabá, Colombia. The producers cooperate and collectively own supporting firms which

¹¹⁶ The same suggestion was made in 1974. Importing countries were challenged by supplying countries when they attempted to organize a cartel of producing/exporting countries. Dollar countries (exc. Ecuador) created the Union of Banana Exporting Countries (UPEB is the abbreviation in Spanish), whose objective is to develop national policies that would enhance the power of national producers and exporters who bargain for market access. In essence, they would attempt to act like a cartel against transnational companies and importing regions (Roche 1998, p. 49). The organization has not proved to be successful in its objective. In general, exporting countries become more organized when they have to lobby for their own interests, as, for example, at the WTO and the EU Commission.

manage packaging (such as plastic and boxes). Further, the scale and proximity of the plantations encourages collective fumigation, sanitary controls, and local transportation. In Ecuador, large companies are less cooperative and each firm owns its related and supporting firms, which provide raw materials, fertilization, fumigation, and packaging services¹¹⁷. Meanwhile, the enclave¹¹⁸ configuration of Costa Rican banana production led by TNCs has been the main enhancer of horizontal integration in the industry of that country. As a result of the enclave, railroads were built and now guarantee internal transport services regionally. Furthermore, the integration of TNCs guarantees that their plantations will be provided with raw materials (such as agrochemicals) and packaging materials.

On the other hand, if the scale is small, the grouping or formation of producer cooperatives makes integration with related and supporting industries possible (as is the case with most of the Caribbean producers and the smallholders in dollar countries). However, usually small, independent producers integrate themselves according to the structures of larger firms. Thus, smallholders receive assistance in exchange for selling according to conditions and specifications favorable to the larger firms.

A common bottleneck of all banana production is the provision of inputs and raw materials, which normally must be imported (including chemical products for fumigation, fertilization, and for packaging). The problem is more severe for Caribbean, African and European producers because they must import the finished product (e.g., boxes and plastic bags). Banana growers' associations, TNCs, and local exporting firms can supply these at lower transaction costs.

The scale of production is important with regard to transportation costs. Higher-scale production enjoys less expensive shipping costs. This is the case for the majority of plantation owners in dollar countries. Port infrastructure is always well developed near plantations, marginally lowering costs. However, small producers are required to cooperate to achieve the scale necessary for a shipment, as do producers in the

¹¹⁷ The Ecuadorian sucre was replaced by the dollar as the official currency of Ecuador in 1999. This has been cited as one of the main reasons for increasing costs of imported raw materials and inputs. See Chang (2000) and Baquero et al. (2003).

¹¹⁸ Enclaves are large monocultural units without links to other regional and national economies. The abandonment of government served as an opportunity for big companies to construct business infrastructure and improve vertical integration with all the phases of industry (exc. retail sales), but at the same time it allowed lower wages to peasants and unrestrained control of the workforce (Ellis 1983, p. 16; Wiley 1997, p. 67)

Caribbean countries and smallholders from Ecuador and Colombia. Countries where TNCs are involved are the exception to this rule, as they already have port and shipment infrastructure. The Ecuador-based company Noboa, whose shipping fleet was subsidized by the government, is an example of this sort of company's power.

So far, the internal determinants of the banana sector have been explained, the following section's objective is to explain the analytical bridge between internal and external determinants of competitiveness¹¹⁹. As a result, international aspects and the bargaining power of economic agents are brought into the analysis.

III.4 The Value Chain Analysis of the Banana Industry: Linking Internal and External Determinants of Competitiveness

In order to link the internal to the external determinants of competitiveness, this section deals with the strategies used by private firms and TNCs to perform on international markets. This section is divided according to firm location. Thus firms established in selected producing/exporting countries are separated from transnational companies established in the main importing countries or regions. Each subsection concentrates on a particular set of firms, and concludes with a comparative perspective of the firms' determinants of competitiveness. The combination of these determinants with the internal determinants of the previous section is the analytical bridge between the cluster and the value chain analysis of the banana sector.

III.4.1 Strategy, Structure, and Rivalry of Domestic Firms

III.4.1.1 Colombia

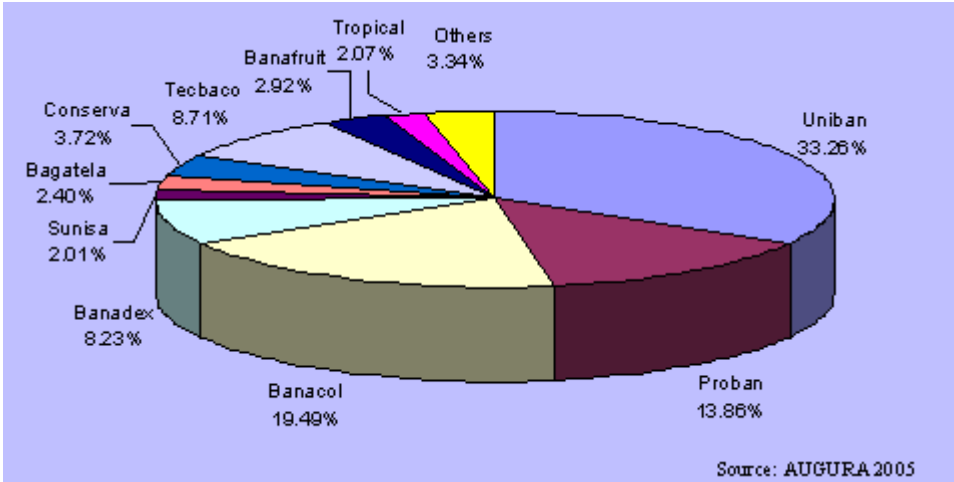
The organizational system in Colombia consists predominantly of domestic producers owning trading and marketing companies. One of the most important aspects for independent producers' success is the relationship with marketing companies, whether national or transnational. In the region of Urabá, producers are proprietaries of trading companies or have long-term contracts with TNCs. In contrast, in Magdalena smallholders, with sometimes-sporadic production, are often too unstable to sell their

fruit in international markets. TNCs are only involved in marketing and receive production from domestic representatives, such as Conserba (60 percent of Del Monte) Tecbaco (Dole Foods), and Chiquita’s representative, Banadex, which was sold to the Colombian company Banacol in 2004.

The export companies are classified as “international marketing companies” in Colombia, most of them associated with the guilds AUGURA or ASBAMA. The major domestic traders sell free-on-board (FOB) to the European Market (a practice followed by Uniban, Banacol, Sunisa, and Bagatela, among others) under long-term contracts with marketing enterprises and/or TNCs. Exporting to the North American market follows a different course, since firms such as Uniban and Proban own marketing companies in their destinations.

Graph III.7 shows the participation of the main FOB exporting companies. The shares of Conserba (Del Monte’s subsidiary) and Banadex (formerly of Chiquita) are minimal in comparison with the domestically owned companies. It is also significant that Uniban, Proban, and Banacol (including Banadex) have more than 80 percent of the Colombian FOB exports. A brief summary of these firms’ strategies and links in the value chain is presented in Table III.7.

Graph III.7 Colombian Banana Exports in 2004 – Market Share by Trading Firm



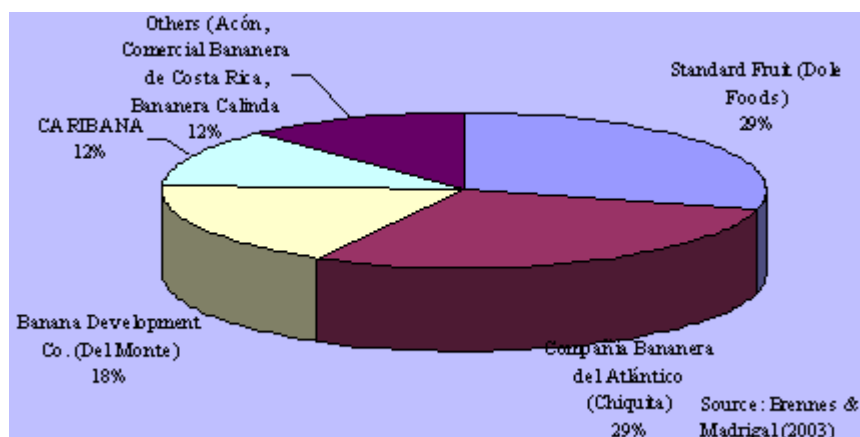
¹¹⁹ An evaluation of the determinants of competitiveness is presented in section III.6.

<i>Table III.7 Colombian Firms</i>	
Value Chain Links	Strategies
<i>UNIBAN</i>	
<ul style="list-style-type: none"> - Operates packaging firms (plastics and boxes) - Imports the raw materials for fertilization and fumigation directly. - Since 1970, it has been vertically integrated with its own marketing company, Turbana, in the USA (in it 2005 formed an association agreement with Fyffes). - Sells through TNCs, especially Fyffes since the purchase of its EU representative Velleman & Tas (formerly Uniban's exclusive representative). - Isabelle Shipping coordinates UNIBAN's shipping to the USA (along with Fyffes, since 2005). Leased boats are used to ship to the EU. 	<ul style="list-style-type: none"> - Produces using its own plantations and independent producers from Colombia, Costa Rica, and Ecuador. - Internal program of integrated quality certification. - External certifications of quality, labor rights, and environmentally friendly production.
<i>BANACOL</i>	
<ul style="list-style-type: none"> - Runs, in cooperation with PROBAN, of a packaging company. - Representative of Chiquita's interests in Colombia since 2004. 	<ul style="list-style-type: none"> - Produces using its own plantations and independent producers from Colombia (Urabá) and Costa Rica. - International certifications of quality, labor, and environmental standards.
<i>PROBAN (since July 2006 part of Uniban)</i>	
<ul style="list-style-type: none"> - Handles their own packaging. - Trade representatives in the USA and EU (Tropical Marketing Associated) 	<ul style="list-style-type: none"> - Produces using its own and independent plantations in Colombia (Urabá and Magdalena). - International certifications of quality, labor, and environmental standards.
<p>Source: Author's elaboration based on corporate reports, Fruitrop, Notifax-Corbana, BananaLink, Peña et al. (2003)</p>	

III.4.1.2 Costa Rica

Because of the enclaved nature of Costa Rican production, domestic firms in Costa Rica are essentially led by TNCs. Thus, the main difference with the companies in Ecuador and Colombia is the relatively high dependence of Costa Rican firms on TNCs in order to sell bananas on the international market. Graph III.8 shows the most representative companies of Costa Rica, and Table III.8 lists the only domestic companies that are exclusive producers, selling FOB to TNCs.

Graph III.8 Costa Rican Banana Exports 2002 – Market Share by Trading Firm



<i>Table III.8 Costa Rican Firms</i>	
Value Chain Links	Strategies
<i>CARIBANA</i>	
Provides bananas to TNCs. Is the major independent Costa Rican producer	High productivity and quality standards; internationally certified
<i>GRUPO ACÓN</i>	
Independent producer, provides to Dole and Chiquita	Changes poor plantations into high-productivity plantations by investing in technology and new management practices.
<i>BANANERA CALINDA S.A.</i>	
Provides bananas to Dole and the UK's JP Fruit	One of the most productive worldwide producers; has the highest standards in social policies and most environmentally-friendly production methods.
Source: Author's elaboration based on corporate reports, Fruittrop, Notifax-Corbana, BananaLink	

III.4.1.3 Ecuador

Normally, TNCs only buy Ecuadorian bananas when their own plantations in Central America are not able to meet the market demand of the USA and the EU, so Ecuador is considered their marginal supplier (Ellis 1983, p. 290). When there is oversupply, producer prices fall worldwide, an effect that is more exaggerated in Ecuador, where costs are lower (Espinel 2003, p. 2). Consequently TNCs attempt to recover their losses on their own plantations by buying cheaper Ecuadorian bananas.

III. DETERMINANTS OF COMPETITIVENESS

<i>Table III.9 Ecuadorian Firms</i>	
Value Chain Links	Strategies
<i>CORPORACION NOBOA</i> ^a	
<ul style="list-style-type: none"> - Noboa owns plantations of around 7,000 hectares and receives addition support from about 600 independent producers (adding approx. 36,600 more hectares). - Noboa runs fumigation, agro-input, box (for their own production of bananas and for other industries), and trucking firms, and even owns banks and financial institutions to support credit and loans. - Shipping is carried out using rented fleets and a shipping company created by state and private investments during the 1970s oil boom that was later ceded to the exclusive use of the Noboa Corporation. 	<ul style="list-style-type: none"> - Diversified into markets to Eastern European countries and Japan to balance out the high instabilities of the North American market, in which Noboa is consistently the second-largest quality supplier. - Noboa buys exclusively from associated producers (a policy adopted from Standard Fruit's strategy in 1976), thereby unifying quality standards, keeping low costs, and maintaining better prices in second-quality markets.
<i>FAVORITA FRUIT GROUP</i>	
<p>Wholly vertically integrated, from production to export (FOB). Favorita owns the firms:</p> <ul style="list-style-type: none"> - Cartonera Andina S.A., located in Machala, to manufacture boxes and labels. - Expoplast, to manufacture plastic materials for harvesting and packaging. - Fertisa, to import and develop fertilizers, port, and services. - Aerovic, for aerial fumigation and technical assistance in the producer regions. - A private port. 	<ul style="list-style-type: none"> - Favorita is Europe's leading independent importer, supplying to independent ripeners and wholesalers across Europe. - The Favorita brand is sold in the Russian Federation, Italy, Poland, Turkey, Saudi Arabia, and Germany. - Favorita concentrates on promoting sustainable production and ecological certification^b for markets such as the United Kingdom and Germany (e.g., ISO 14000, Better Banana Project, ECO-OK).
<i>AGROCOMERCIO PALMAR</i>	
<p>Own 1,300 hectares of plantations in the province of El Oro consisting of 16 farms, but most production is handled by independent producers.</p> <p>AGRIPALMA works in vertical integration with the subsidiary firms:</p> <ul style="list-style-type: none"> - PALMAPLAST, manufacturing plastic and labels - FERTIPALMA, which imports and distributes fertilizers - FULMIPALMA, an aerial fumigation company. - CIPAL and Pretty Liza Fruit S.A., trader companies. <p>Shipping services are outsourced from East Marine France and Neva Shipping Corp.</p>	<ul style="list-style-type: none"> - Its brand Pretty Liza is sold in the European market. - In spite of the Western European brand recognition, its main destination is the Russian Federation (60%), where the company has a representative office. Furthermore, it exports to Italy, Yugoslavia, Poland, Greece, Hungary, Lithuania, Portugal, and the Czech Republic.
<p>^a Information on the Corporación Noboa is very difficult to access. Of the main exporters, it is the only one without web page, they do not make public their activities, and there are many lawsuits in Ecuador on the labor rights of their workers. In July 1999, the government imposed a ban on its exports after it reportedly failed to pay producers the official prices.</p> <p>^b In September 2001 Favorita certified 100% of its Ecuadorian farms under Better Banana Project as an additional strategy to enter to the UK and other European markets.</p>	
<p>Source: Author's elaboration based on corporate reports, Fruitrop, Notifax-Corbana, BananaLink, Larrea et al. 1987, Freedman 2003.</p>	

Ecuadorian independent producers (including a few medium-size companies and many small producers) sell to the big Ecuadorian exporters and to TNCs. Some producers also sell to small domestic exporters, who are sometimes formed by groups of small producers “buying” from themselves (as cooperatives) at the lowest prices and qualities (that is, the fruits rejected by TNCs and big domestic companies). These products are typically sold to nearby and less-exigent markets, such as other Latin American countries. In all, Ecuadorian market power resides with a few exporting companies (a basically oligopsonic market), which forces small, disunited producers to sell bananas in exchange for inputs (such as fertilizers and fumigation services) by quota or price fixation.

Seven large firms represent 52 percent of Ecuadorian exports: Noboa, UBESA (Dole Group), Palmar-CIPAL, PROEXBA, Favorita-Reybanpac, Bandecua (Del Monte), and Oro Banana¹²⁰. Horizontal and vertical integration provide these firms with oligopic power at the expense of small- and medium-size exporters, who have to sell their fruit in second quality markets at lower prices (Baquero et al. 2003, p. 32). Table III.9 characterizes the most representative domestic firms, in terms of 2003-2004 market share.

III.4.1.4 The Caribbean

The Caribbean countries are not a homogenous group. For one, there is a long-term dispute between Jamaica and the Windward Islands started in colonial times over control of the British market (Myers 2004). At the end of the colonial period, the struggle was carried on by private firms, including Geest Co. and Jamaican Producers in Jamaica and Elders & Fyffes in the Windward Islands. Only two transformed enterprises survived: the Windward Islands Banana Development and Exporting Country – WIBDECO (associated with Fyffes) and the Jamaica Producers Group (associated with Dole).

¹²⁰ As Larrea et al. (1987, p. 72) also noticed, official statistics at the firm level are difficult to consolidate because most of the larger firms sell to intermediaries, making the exports by firms only indicative. See, for example the statistics of the Asociación de Exportadores de Banano del Ecuador (AEBE) at <http://www.aebe.com.ec>.

There is a third group of producers who are building a niche market of organic and fair-trade bananas, mainly from the Dominican Republic. The Dominican Republic has been an example of competitive advantage by differentiation, and further research is needed to understand its determinants. Table III.10 summarizes the value chain links and strategies of the two major enterprises of “conventional” bananas in the Caribbean, WIBDECO and the Jamaican Producers Group.

<i>Table III.10 Caribbean Firms</i>	
Value Chain	Strategies
<i>Windward Islands Banana Development and Exporting Company (WIBDECO)^a</i>	
<ul style="list-style-type: none"> - Handles the international exporting and representation activities of domestic producers. - Formed a joint-venture agreement with the Irish-based Fyffes Ltd. in 1994 in order to buy Geest’s banana division and to form the marketing wing of Windward Bananas. - Production is an autonomous division under the control of cooperatives of producers, as are shipping and ripening facilities, which remain under the control of Geest. 	<ul style="list-style-type: none"> - Began a program of restructuring to confront the challenge of external competition and to pay the debts for the acquisition of Geest bananas and marketing divisions. - The main strategic activity has been the concentration on high-productivity producers. For this purpose, the EU agreed to support financially producers’ conversion, removing 5,000 of 10,000 growers from the market. - A second strategy has been the conversion of the structure of the company from public-private to totally private. In fact, the EU could offer additional assistance, helping the efficiency of the company, when it becomes fully private. - Regarding market strategies, the company is based on two pillars: first, the preservation of preferences under the EU banana regime, and second, to create a niche market based on the brand and the origin: “Windward Bananas”.
<i>Jamaica Producers Group</i>	
<ul style="list-style-type: none"> - The firm has three divisions: bananas, processed foods, and administration. The banana division is vertically integrated, from farming to distribution, and is linked with the retail sector, especially in the UK. - Has been supported by investments from Dole since 1994 (35% of JP share in 1994) 	<p>As a consequence of the increase in banana production costs in Jamaica. JP is attempting to make long-term contracts with retailers (reducing intermediary margins). Direct sales to the UK-based Tesco is one example of this strategy.</p>
^a Formerly The Windward Islands Banana Growers’ Association (WINBAN) ..	
Source: Author’s elaboration based on corporate reports, Fruitrop, Notifax-Corbana, BananaLink, and Hubbard et al. (2000b).	

III.4.1.5 Western Africa

Since the 1990s, four kinds of companies have been recognized in Cameroon: parastatal, private, trans-national, and foreign (Fonsah 1995, p. 35-36). Cameroon's main producer firm, with 40 percent of national production, is the state-owned Cameroon Development Corporation (CDC). Three factors have made it possible for CDC to stay in business, despite its bureaucratic structure: first, in 1988, CDC signed an association agreement with Del Monte Fresh to permanently guarantee purchases of fruit; second, Dole subsidiaries Compagnie Frutière and Agrisol invested in new plantations in the region, and finally, the privatization of plantations from the Association de Producteurs de Bananes (ASSOBACAM) to Compagnie Frutière (Dole's subsidiary) raised cost efficiency.

Five private companies divide the remaining 60 percent of production, with some intervention from the CDC:

- Simba, Dole's subsidiary;
- Société des Plantations Nouvelles de Penja (SPNP), local independent producers ;
- Compagnie Frutière, owned by the Family Fabre (60%) and Dole (40%) in 1999;
- Société Bananière du Mounjo (SBM), owned by Simba (25%), Agrisol (25%), and Compagnie Frutière (50%) (internationally represented by Dole); and
- Plantation du Haut Penja.

In the middle of the 1990s, TNCs began to invest in plantations and in long-term contracts with independent producers and the CDC.

Unlike Cameroon, banana production in the Ivory Coast is concentrated in private hands. Marketing and exporting are carried out by family-owned firms of the Organisation Centrale des Producteurs Exportateurs d'Ananas et de Banane (OCAB), with TNCs managing international marketing. According to FAO (2003b), OCAB exports 50 percent of its production through the Dole's subsidiary Société pour le Développement de la Culture de la Banane (SCB), 25 percent through Chiquita's subsidiaries Banador and Dunand Compagnie des Bananes, and 10 percent through the France-based Canavese (which has an association agreement with Fyffes).

As seen in the meso-level policy analysis, EU assistance to ACP producers is a critical factor for this region. Small- and medium-scale producers belonging to the OCAB claim

that they are neglected by EU assistance because the support is mainly addressed to companies with TNC links (SCB and Dunand). Furthermore, the market structure on the supply side has been enhanced by foreign direct investments from TNCs, who saw the market potential of these countries when the EU market gave them preferential treatment in the early 1990s. In consequence, African ACP countries receive twofold benefits, first from EU assistance and second from the expansion-driven TNCs (Rioual 1999, p. 120-123).

III.4.1.6 European Companies

While small- and medium-size producers are numerous, the involvement of marketing and transport firms in the banana business is limited to a few national actors, who in most cases coordinate the whole chain. Small- and medium-size producers used to cooperate by forming producer associations and negotiating with local marketing companies. Unlike other regions, in the EU, TNCs only take part in marketing and distribution matters, as will be seen in Section III.5.

<i>Table III.11 EU Producer Firms</i>
<i>Guadeloupe</i>
Karubana producer group, formed by approximately 700 small producers, controls approximately 75% of the island's production. The remaining 25 percent is produced by the group Banagua.
<i>Martinique</i>
Production is controlled by three producers with a total area of 9,300 hectares (2000): Sicabam (52%), Cobamar (24%), and Gipam (24%). Gipam began production in 1981, and in only one year (from 1995-1996) its production grew from 38,000 to 55,000 tons.
<i>Canary Islands</i>
There is no firm in the Canary Islands that is clearly important for exporting, but the Asociación de Productores de Plátano de Canarias (ASPROCAN) is the most representative group, including organizations of producers.
Source: Author's elaboration based on corporate reports, Fruitrop, Notifax-Corbana, BananaLink and Roche (1998)

For EU producers, taste, environmentally oriented production, brand name, and country of origin are the factors of competitiveness that develop a segmented market. For example, 70 percent of Guadalupe's bananas go to France and 30 percent to Spain, while almost 100 percent of bananas from the Canaries are consumed by the Spanish market. Marketing strategies based on the country of origin (such as "Plátano de

Canarias” and “La Banane de Martinique”) have been very influential on market share in the few years.

In addition to lobbying efforts and strategies of differentiation, both the Canary Islands’ and Overseas French Territories’ producers tend to reduce numbers of banana plantations in order to confront the challenges of the market.

III.4.1.7 Rivalry of National Firms: A Comparative Perspective

It is difficult to find a common strategy among firms of different countries, but within every country there are common characteristics that could be considered marketing strategies for competitive advantage in the value chain in order.

It is important to note that small firms tend to cooperate in two main ways. First, economically, firms create economies of scale by building associations of producers in order to achieve international markets. Second, politically, different agents lobby and put pressure on international institutions together (as with the EU Commission or the WTO). Dollar, and in some senses, African countries predominantly use the economic form of cooperation, while ACP and EU producers have persistently used the political one.

Every firm must achieve some form of vertical integration, from production to at least FOB sales, to achieve the quality standards required by the international market. In addition, consumers’ social and environmental standards are becoming more exacting. Firms have been trying to anticipate these by achieving optimal labor rights and environmental protection before certification becomes a requirement.

Only a few firms have the structure and scale necessary to sell directly in the EU market. Most of them export FOB, relying on independent marketing companies and TNCs for the rest of activities in the value chain (transport, ripening, marketing, and wholesaling)¹²¹. Unfortunately for these firms, the major profit margins are traditionally concentrated in the final stages of the value chain.

¹²¹ The highest profit margins, from retailers, are excluded because the actors in this stage are mostly supermarkets and retail chains, where TNCs are excluded. See also Section III.5.

Table III.12 shows the determinants that represent the internal keys to competitive advantage for each affected country. In the case of TNCs (see Subsection III.4.3), more complex research is needed considering longer-term strategies.

<i>Table III.12 Market Strategies as Determinants of Competitive Advantage in the Value Chain (with emphasis on the EU market)</i>	
Colombia	<ul style="list-style-type: none"> - Producers own their own marketing companies. - Strong links with TNCs in the last stages of the value chain guarantee sales in destination markets.
Ecuador	<ul style="list-style-type: none"> - Oligopsonic organizational structure puts pressure on decreasing growers' prices. - The major producer-exporter (Noboa) can control the whole value chain. - Concentrates on second-quality markets—although prices are lower, volumes are higher.
Costa Rica	<ul style="list-style-type: none"> - High productivity of plantations guarantees sales to TNCs. - High quality guarantees the sale in markets of first-level standards at higher prices.
Caribbean	<ul style="list-style-type: none"> - Association of producers acquired a marketing firm. - EU Banana regime guarantees financial assistance and preferential access to the Caribbean trading companies. - Brand strategy, “Windward Bananas”.
Western Africa	<ul style="list-style-type: none"> - Lower production costs attracts foreign investment from TNCs. - High governmental participation (in the case of Cameroon).
Europe	<ul style="list-style-type: none"> - Niche markets based on brand strategies: “Plátano de Canarias” and “La Banane de Martinique”. - EU regime guarantees assistance and preferential treatment to communitarian production.
Source: Author’s elaboration	

As shown in the second chapter, a comprehensive model of competitiveness requires being aware of internal and external determinants of competitiveness. For this reason, domestic firms must be aware of external determinants. Production strategies depend on the demand conditions (an external determinant) driven by importing firms’ actions, consumer preferences, and trade policies, which will be analyzed in the fourth chapter.

III.4.2 Strategy, Structure, & Rivalry of Transnational Companies

TNCs in banana trade are the rule rather than the exception. Several companies could be analyzed, including Chiquita, Del Monte Fresh, Dole Foods, Fyffes, Corporación Noboa, Reybanpac, Uniban, and Banacol. However, based on the scale of the firms and

the location of their headquarters in developed countries, the analysis in this section will concentrate on the first four companies mentioned above¹²².

The increase in agricultural trade in the last three decades is unprecedented. But the sales growth of TNCs has been even faster (Reed 2001, p. 14). The perishability of the banana forces companies to be very well vertically integrated. Only TNCs are large enough to be able to control the whole value chain, investing in transport, ripening systems, and distribution networks (Roche 1998, p.114). Hence, TNCs and their higher shares of profit margins are consistent with the structure of the industry.

The apparent lack of sophistication in the farming stage of the banana industry contrasts with the involvement of TNCs. The high vulnerability of the product to handling conditions necessitates a high quality of transport control, and only a very concentrated and integrated industry makes this possible. Even economies of scale from plantations are less important than the control of quality.

The ownership of plantations by TNCs in producing/exporting countries is very diverse. The highest concentration of plantation ownership is in Central American countries, where the top three TNCs own around 80 percent of growers in Guatemala, Honduras, and Panama. The percentages decrease in Costa Rica (50 percent), Colombia (less than 30 percent), and Ecuador (1 percent). The only TNC with plantations in Ecuador is Dole (FAO 2003b, p. 64). In regions where TNCs do not own plantations, they attempt to sign long-term contracts with independent producers (whether associated or individuals). The recent tendency seems to be toward reducing ownership of plantations and increasing contracts with producers. As the FAO states, “controlling the downstream end of the marketing chain has become more important than controlling production” (2003b, p. 65).

An additional aspect of TNCs’ strategies is branding. Different qualities of bananas from different origins should be branded differently. Top-quality bananas with recognized brand names and better prices are sold to Western European, North American, and Japanese markets, while the lower-quality, less-recognized brand names

¹²² Annex E shows different authors’ estimations of TNCs’ market shares from 1966 to 2001; some financial results are also featured.

are sent to the rest of the world (South America, China, the Russian Federation, and Eastern Europe).

As mentioned above, the analysis here concentrates on the top four TNCs, Chiquita, Del Monte Fresh, Dole Foods, and Fyffes. These four can be differentiated based on their histories in the banana business. Chiquita and Fyffes started as exclusive banana producing-marketing firms, while Del Monte Fresh and Dole Foods began with a portfolio of fruits and later incorporated banana production/marketing into their businesses. Table III.13 summarizes the history of the four TNCs to the present date.

Table III.13 Background of the Top 4 TNCs

TNC	Origins	Headquarters	Bananas as % of operations
Chiquita	Founded in 1870 as the Boston Fruit Company; renamed United Fruit Company in 1899. Merged with AMK in 1970, becoming the United Brands Company, Chiquita Brands Intl. in 1990.	USA – Cincinnati	60% (2003)
Del Monte Fresh	Founded in 1892 as a division of the Del Monte brand. Separated as an independent brand in 1979 (adding “Fresh” to its name). Became a public company in 1997.	USA – Florida	25 – 30% (2000 – 2002)
Dole Foods	Created in 1851 as the Hawaiian Pineapple Company. Merged with Standard Fruit and Castle & Cook Co. in 1961. Named Dole in 1991 when it separated from Castle & Cook Co.	USA – Florida	35% (2002)
Fyffes	Created by Edward Fyffe in 1882. In 1901 merged with Elder Dempster. Was acquired by United Fruit in 1913 and included as a branded name (Fyffes) in 1929. Became independent again in 1986.	Ireland – Dublin	25 – 30% (2000)

Source: Author’s elaboration based on corporate reports, Chambron (2000), FAO (2003b), Van de Kastele (1998, 2005), and Davis (1990).

As seen from Table III.13, the top TNCs are based in developed countries and have more than a century of history. It is possible to see the strategies of the companies by comparing the lobbying activities of the firms with the share of bananas in the business. Chiquita remains highly concentrated in the banana industry (particularly in plantations in dollar countries), which agrees with its political pressure on the EU regime. In comparison, the other three TNCs are less concentrated in the banana business, and use economic, rather than political strategies (Taylor 2003 p. 83). A broader, company-

specific examination of market strategies, mergers, and acquisitions in the following section illustrates this statement.

III.4.2.1 Chiquita

Since 1990, the market strategy of Chiquita has been complicated by several sources, including EU trade policies and, according to some authors (Clegg 2002), business mistakes in (de)acquisitions (such as the sale of Fyffes in 1986).

Before 1993, Chiquita focused on acquiring plantations from different sources (in Latin America), which allowed it flexibility in supplying fruit. Seventy percent of production came from Chiquita plantations in Costa Rica, Guatemala, Honduras, Panama, and Mexico. All the bananas they acquired from Ecuador were bought by Chiquita-subsidary Favorita (Reybanpac Group), which also purchased bananas from independent producers in Colombia, Costa Rica, the Ivory Coast, Guatemala, Honduras, Martinique, Nicaragua, and Panama. In all these countries the majority of workers have been unionized (except in Ecuador), which is important regarding Chiquita's background (and bad experience) dealing with workers.

The expansion of Chiquita in Ecuador, as an example of backward vertical integration, consisted of buying more free-onboard (FOB) fruit, as opposed to purchasing more plantations. Chiquita's main strategy, then, has been to develop a wide range of sources of fruits. Bananas need not necessarily be purchased at the lowest cost (to be found in Ecuador), but must be of high quality, environmentally friendly, and socially sustainable¹²³.

The restrictive policy of the EU, based on quantities and countries of origin, affected the concentration of Chiquita in Latin American countries; further, EU regulation 404/93 denied Chiquita its historical market share. Since this regulation, Chiquita's struggle for EU market share has taken place in the political and legal rather than economic sphere. According to Chiquita, the EU policies were one of the main causes of its 2000/2001 bankruptcy, which forced the company to restructure its assets and business organization. The financial restructuring included the sale of plantations in Central

¹²³ Jeffrey Zalla, Chiquita's corporate responsibility officer, as quoted by EuroFruit Magazine in October 2002.

America and Ecuador and the sale of non-core businesses (processed fruits and meat). The decision-making process was entirely concentrated in the headquarters in the USA (abandoning older operations in Europe).

In spite of the bankruptcy, Chiquita attributes its success in the banana business to delivering quickly. This advantage is based on its technological advances in transportation and in fruit management over the last two centuries. Among its most important developments were the following (Chiquita 2005)¹²⁴:

- Painting ships white to prevent faster ripening of fruit (1899)
- Using refrigerated vessels (1903)
- The firm perfected an unbroken string of wireless communication from the United States to South America (1904)
- Shipment in cardboard boxes instead of bunches (1961)
- Technology to modify the packing system within the individual boxes (1969)
- Refrigerated containers (1973)
- Refrigerated ships monitored via satellite.

Cooperation with partner firms, common in destination markets, has been also a main strategy of Chiquita. Table III.14 lists Chiquita's largest acquisitions and sales since 1990.

"The freer the market, the less important the price" (EuroFruit Magazine 2002). With this statement, Chiquita Brands explains how the market can be based on quality, pushing the weakest players out if they do not achieve the high standards of importing countries. Chiquita belongs to the group of quality- rather than price-based producers, and the market's tendency toward hard-discount retailers is one of the company's main concerns. Chiquita works with retailers on campaigns for better production practices, in-store promotions, and merchandising to reduce costs and increase banana sales. Their sales-oriented strategies are complemented by the sales of assets in order to reduce debts and increase sales growth in the fresh-produce business.

In the environmental field, the Better Banana Project has been a joint effort with the Rainforest Alliance to protect local wildlife and habitats in accordance with supply and demand. Today, all banana suppliers must be certified by this project in order to keep providing to Chiquita. In 2001, 90 percent of bananas exported to the EU and 60 percent

of exports to the USA were certified. Social standards were added to Chiquita's corporate responsibility programs under the SA8000 certification. There is a profound discussion on the real effects of this certification as a marketing tool "brand *make up*" or as a real environmental protection (BanaFair e.V 2006).

Table III.14 Main Chiquita Asset Movements since 1990

Acquisitions	
1990	16 refrigerated ships.
1992	Banana plantations on the Atlantic coast of Costa Rica. Friday Canning Corporation: vegetable canner.
1993	Purchases 33% of Compagnie des Bananes (total share 82%): producer and marketer of Antilles production.
1994	Eurobrands: Italian fruit juice marketer.
1997	Friday Canning Corp. (Wisconsin), American Fine Foods (Idaho), Owattona Canning Comp. (Minnesota). Acquisition of "Blueberries Farms" in Australia.
1998	World's largest banana processing plant in Costa Rica. Stokely USA Inc.: canning company. Direct Fruit Marketing GmbH: marketer and distributor of fresh produce in Germany.
2002	New plantations on the Pacific coast of Guatemala.
2003	Keelings: importer & distributor of bananas in the UK. Atlanta GmbH: fresh produce distributor.
2005	Fresh Express: packed salads and fruits.
Divestments	
1995	John Morrell: meat business. Pascal Hermanos: Spanish-based distributor of fresh produce to Dole Foods. Numbar Costa Rica: edible oils producer.
2002	Progressive Produce Corporation: onions and potatoes distributor. Closure of four plantations on the Atlantic coast of Guatemala.
2003	50% of the interest in Mundimar Ltd.: palmoil-based products in Honduras. Chiquita Processed Fruits. vegetable canner of Seneca Foods. Assets in Armuelles plantation (PAFCO) in Panamá to the Cooperative of Multiple Services - Puerto Armuelles (COOSEMUPAR).
2004	Assets (plantations and port operations) in Urabá, Colombia to the company Invesmar Ltd.-Group Banacol.
Source: Author's elaboration based on http://www.chiquita.com (visited in January 2005), Van de Kastele (1998 2005), CORBANA-Notifax, and EuroFruit Magazine.	

III.4.2.2 Del Monte Fresh - DMF

Since 1996, Ghazaleh Holding Co. (IAT Group) has bought the majority of shares of Del Monte Fresh. This concentration of stakeholders has promoted a process of vertical integration in the value chain. For example, in the production stage, the company started harvesting bananas from Brazil's northeastern state, Rio Grande do Norte, as well as in

¹²⁴ <http://www.chiquita.com> visited in October 2005

regions of Western African countries (Cameroon and the Ivory Coast). In addition, DMF became the leading banana vendor in Japan when it acquired plantations and distribution firms in the Philippines, surpassing Chiquita and Dole in the region. These acquisitions respond to the needs for plantations with lower labor costs than could be found in the traditional areas where DMF had been concentrated, particularly in Costa Rica, where 40% of its total production had been located.

Regarding transport, DMF has around 40 refrigerated vessels of its own delivering 99 percent of its fresh produce directly to the company's facilities (ripeners and warehouses) or exclusive agents (almost never to independent operators). DMF ports of call in Europe are Hamburg, Germany, Antwerp, Belgium, Dover, United Kingdom, Vendres, France, Vaixy, Italy, Lisbon, Portugal, and Barcelona, Spain.

DMF also has been active in the acquisitions of independent European marketing, ripening, and distribution companies. By buying the companies and changing their names to Del Monte Fresh, the company hopes to strengthen its brand name. By means of this strategy, the acquisition of import licenses within the EU has been guaranteed. Table III.15 shows the main asset movements of Del Monte Fresh since 1993.

The favorable EU situation of DMF contrasts with other TNCs. The constant improvements and acquisitions place DMF in a better position for confronting the EU regime. Their acquisitions and controlled expansion in Africa was based on the new regulations in the EU (concerning newcomers and allocation of quotas in ACP countries) and market share objectives.

By developing products for specific customers, using innovative consumer promotions, and building a broad portfolio of fresh fruit, DMF acquired a freer sector market. Indeed, the maintenance of fair trade is another strategic point of DMF. "Fair trade in a true sense has always been and will continue to remain one of the cornerstone principles of the Del Monte brand. We consider all of our fruit to be grown and sold in fair conditions"¹²⁵. As the first TNC to obtain a Eurep-Gap certification, in September 2003, DMF offers retailers and consumers the guarantee of good social and environmental conditions for the distribution of a healthy product in all of Europe.

¹²⁵ Quoted by EuroFruit Magazine from Lana Van Selman Officer Representative of Del Monte Fresh

<i>Table III.15 Main Del Monte Fresh's Assets Movements since 1993</i>	
Acquisitions	
1994	Joint venture with Interfruit, a Brazilian conglomerate, to produce bananas in Pernambuco. Expansion of non-banana plantations in Mexico.
1996	Control of the Chile-based UTC brand with the acquisition of IAT Group.
1997	Nusatara Tropical Fruit: Indonesian banana producer.
1998	Simba Italy: distributor of fresh produce in Europe. Inter-Weichert: distributor of fresh produce in Germany. Jos van de Berg BV distributor of fresh produce in Belgium. Del Monte Fresh Produce UK, filial DMF: distributor of fresh produce in the UK.
1999	BMB: fresh produce distributor in Belgium.
2000	Expans: fruit marketer in Poland.
2001	Fisher Food Ltd. canned fresh fruit in the UK.
2003	Standard Fruit and Vegetable: fresh produce distribution and repackaging (Dallas, USA). Expans Sp: leading distributor of fruits in Poland. Envases Industriales de Costa Rica (ENVACO): boxes and packing. Country Products Group: onions and potatoes on the east coast of the USA.
2004	New plantation in the Pacific region of Guatemala. Plantations in Rio Grande do Norte Brazil (3,000 has) Del Monte Foods Europe: producer, marketer, and distributor of processed fruits and vegetables, juices, snacks, and desserts.
Divestments	
2002	Inter-Weichert: distributor of fresh produce in Germany to Fyffes.
2003	Compañía Corrugadora Guatemala S.A.: boxes and packing.
2004	Subsidiary Bandegua in Guatemala's Atlantic region.
Source: Author's elaboration based on http://www.delmontefresh.com (visited in January 2005), Van de Kastele (1998, 2005), CORBANA-Notifax, and EuroFruit Magazine.	

III.4.2.3 Dole Foods

Similar to the other TNCs, Dole began (in 1999) a process of financial and organizational restructuring. It consisted of the acquisition of plantations in Western African and Caribbean countries and concentration on core businesses in destination markets. The most favorable results were seen in 2001, when former CEO David Murdock decided to buy the whole firm. His acquisition was completed between September 2002 and April 2003.

Dole's production is perhaps the most diversified of the TNCs. US-based, Dole owns (or has exclusive contracts with) large plantations in Central and South America, West Africa, Asian countries, and even in Europe. The bulk of Dole production comes from Colombia, Costa Rica, Ecuador, Guatemala, and Honduras, with main destinations in North America (where Dole is the largest importer), Europe, and the Mediterranean.

However, special characteristics and trade flows between markets ensure that bananas shipped from Cameroon, Ivory Coast and the Antilles (Martinique and Guadeloupe) go to France; from Jamaica go to the UK; from the Canary Islands go to Spain; and from the Philippines and Indonesia go to the Far East.

Dole ships to the EU market using their own fleets (or in some cases rented boats) from ports in Ecuador (Guayaquil and Bolivar), Colombia (Cartagena and Santa Marta) and from Puerto Rico (San Juan). They deliver principally to Valencia, Spain, Livorno, Italy, Hamburg, Germany, and Rotterdam, the Netherlands.

Dole has a long marketing, ripening, and distribution history within Europe, and has therefore had little interest in acquisitions in the last stages of the value chain. Ripening and importing activities are carried out in Dole's own facilities: nine centers in Sweden, nine in France, five in Spain, four in Italy, one in Belgium, one in Austria, and one in Germany (Dole, 2004). Table III.16 shows the main asset movements of Dole Foods.

<i>Table III.16 Main Dole Asset Movements since 1993</i>	
Acquisitions	
1993	Compagnie Frutiére: joint venture for production in the Ivory Coast and Cameroon. Saman-Micasar: dried French producer.
1994	35% of Jamaica Producers Fruit Distributors Ltd.: producer and marketing company based in Jamaica for the UK market. Agrofruta: Chile-based producer and exporter of fresh produce.
1995	New Zealand operations of Chiquita.
1996	Pascual Hermanos: largest fruit and vegetable producer/marketer in Spain. Acquisition from Chiquita. Bama Group: salad producer in Nordic European countries.
1997	SCB plantations in Ivory Coast through Compagnie Frutiére.
2003	Pineapple farms (1108has) in Costa Rica.
2004	J.R. Wood Inc.: producer and marketer of branded and non-branded frozen fruit products (USA). Coastal Berry Co.: berries producer in California. Saba Trading: marketer and distributor in Sweden, Denmark, Finland, and Germany.
Divestments	
2002	Pascual Hermanos: Spanish distributor to the British group G's.
2003	Fabrica: Honduran palm oil business.
Source: Author's elaboration based on http://www.dole.com (visited in January 2005), Van de Kastele (1998, 2005), CORBANA-Notifax, and EuroFruit Magazine.	

Dole's strategy of diversified countries of origin in Western Africa and the Caribbean before the EU regime became effective in 1993 has benefited Dole since. Even the transitional agreement for the EU regime (in June 2001) between the USA and the EU

avored Dole's license assignment. This positive situation has deepened Dole's investments in fresh produce (particularly bananas) in zones with EU market preference.

III.4.2.4 Fyffes

The only firm based in the EU of Section III.4.2 that can be classified as a TNC is the Ireland-based Fyffes. Fyffes seems to be the most favored TNC of the EU regime, at least in terms of granting of licenses, due to the exclusivity of its European operations.

Founded as an independent company, Fyffes was purchased by the United Fruit Company (later Chiquita) in 1913. It became an independent company again when the UFCo made what is now recognized (Clegg, 2002) as a strategic mistake, selling its interests in Fyffes in 1986. Since then, a trade war between Chiquita and Fyffes has developed for the right to use the "Fyffes" brand name. Finally, in 1992 the final decision gave the right to Fyffes (the company) to use its own brand name worldwide.

Like the other TNCs, at the beginning of 2001 Fyffes started a restructuring process. This consisted centrally of a cost-reduction process that closed a UK ripening center and three operation centers in the UK. Fyffes' disappointing results at the end of 2000 and the beginning of 2001 were due to three facts: a strong dollar against a weak euro, the EU reformed banana regime's decision to cut Fyffes' licenses; and the fall of banana prices which represented 30 percent of the group's business.

Fyffes has pushed to diversify its countries of origin, but has been restricted by the policy changes in the EU. Fyffes is attempting to buy more bananas from Latin American countries because ACP countries cannot satisfy increasing European demand. Because Fyffes does have large stakes in ACP countries, it has pushed for preferential quotas instead of a free market. However, to the extent that the company's interest in dollar country bananas is growing, Fyffes' is experiencing a change of position with respect to the EU policy. Thus, it is not difficult to see that Fyffes is becoming a pro-liberalization company.

The origin of bananas was one of the main worries of Fyffes because in the plantations from Caribbean countries, higher costs showed themselves to be non-sustainable and diversification failed. When its expansion to Central American countries (Honduras and Guatemala) did not succeed, Fyffes made subcontracts with other marketing companies

(including Dole) (Van de Kastele 1998, p. 15). It is becoming the TNC with the fewest operations in producer countries (Fyffes produces only in Belize), but with many alliances with cooperatives of producers and large independent producers.

1993	Euroban Canarias: joint venture with Spain-based growing cooperative Cooplaca. 50% Lembcke A/S: fresh produce distributor in Denmark.
1994	70% of JA Kahl: fresh produce distributor in Germany. Sofiprim: fresh produce distributor in France. Jamaica Banana Holdings (40%): joint venture with Jamaican Producers Group (55%) and Jamaican government (3%).
1994-1997	Velleman en Tas: fresh produce distributor in the Netherlands.
1995	Major interest in Grupo Angel Rey: Spain-based distributor of fresh produce. 50% shares of Swithenbanks: distributor in the UK. 50% of Geest bananas in a joint venture with WIBDECO from the Windward Islands. 50% shares of Peviani: Italy-based distributor.
1996	50% Anaco Intl.: based in the Netherlands, importer from the Canary Islands. 13% of Ahorner GmbH: Austria-based trader.
1997	NAFSA: Chilean fruit exporter.
1999	Capespan Europe/ Capespan RSA: importer of fresh produce.
2000	Close of the internet business worldoffruit.com.
2002	Inter Weichert marketing company bought from Del Monte Fresh Produce. Hortim Intl.: fresh produce distributor in the Czech Republic and Slovakia.
2004	Everfresh Group AB.
2005	Strategic alliance with the Colombia-based company Uniban to sell in the North American market.
Source: Author's elaboration based on http://www.fyffes.com (visited in January 2005), Van de Kastele (1998, 2005), CORBANA-Notifax, and EuroFruit Magazine.	

In contrast to its disinvestments in plantations, Fyffes began a period of expansion in the marketing through the wholesaler stages by acquisitions and joint ventures in Europe (becoming the most active in the region among the top four TNCs). Fyffes plans to become the fresh fruit leader worldwide by 2010 based on a strategy of acquisitions and alliances beginning in 2001 worth €500m. In the 1980s Fyffes was the largest fresh produce company in Ireland and the UK; in the 1990s it became the largest in Europe; and today they are in the top five worldwide. A key focus of Fyffes' is vertical integration with key retailers in Europe, as seen from Table III.17.

III.4.2.5 Rivalry of TNCs: A Comparative Perspective

From the last section, some basic elements of corporate strategy requisite to TNC competitiveness can be described. For a more exhaustive evaluation, it would be necessary to quantify the firms' sales and benefits resulting from their market strategies and vertical integration. However, this is not a fundamental objective of this research. The purpose of this section is to find the similarities between companies and to highlight those strategies (summarized in Table III.18.) that have been particularly effective for acquiring or increasing competitive advantage.

<i>Table III.18 Main Business Strategies of the Top Four TNCs</i>	
Chiquita	
-	Promoting the brand name "Chiquita Banana"
-	Single product concentration (60%)
-	Technological innovation
-	Financial and organizational restructuring (due to bankruptcy)
-	Concentration on plantations from Latin America
-	Few acquisitions in the last stages of the value chain relative to other TNCs
-	Legal struggle for EU market access
-	Certifications of quality, social, and environmental standards
Del Monte Fresh	
-	A broader portfolio of products (not concentrated on bananas)
-	Financial and organizational restructuring (concentrated on market share)
-	Investments in plantations from Brazil and West Africa (for lower labor costs)
-	Acquisition of associated firms in marketing and wholesaling, changing their names to Del Monte Fresh
-	Investments in Eastern Europe
-	Certifications of quality, social, and environmental standards
Dole Foods	
-	A broader portfolio of products (not concentrated on bananas)
-	Financial and organizational restructuring (concentration on market share)
-	Investments in plantations from the Caribbean and West Africa
-	Long presence in Europe. No need for new acquisitions
-	Certifications of quality, social, and environmental standards
Fyffes	
-	A broader portfolio of products (not concentrated on bananas)
-	Financial and organizational restructuring (exchange rate fluctuations)
-	Caribbean countries are its traditional banana source (because of colonial links)
-	Contracts with independent producers from Latin America
-	Major acquisitions in marketing and ripening through Europe from the top four4 TNCs
-	Certifications of quality, social, and environmental standards
Source: Author's elaboration.	

A focus on acquisitions is held in common by all the TNCs. The major acquisitions have been in marketing and distribution, rather than production, although there have

been increasing acquisitions of plantations in West African countries. All the TNCs have undergone restructuring processes, with an emphasis on cost reduction and improvement of key areas of the firm. Finally, formal certification of quality and social and environmental standards became the rule, in response to the demands of the European market. Regarding differences, Chiquita emphasizes their brand name and innovation issues. DMF aims at the acquisitions of associated marketing and wholesalers' firms. Dole Foods has been concentrating on the production stages from Africa and the Caribbean countries. And finally, Fyffes has been the most active in acquisitions within Europe and has secured long-term contracts with independent banana producers from ACP countries, as well as, increasingly, from Latin America.

III.5 European Operators: The Demand Side

Demand conditions are the remaining determinant of competitiveness to be analyzed in this chapter. In the interests of the case study, this section describes the economic agents of demand in the European Union in order to back-link them with the agents of the value chain.

Since 1993, when the Common Market Organization for bananas began, trade flows between exporting and importing countries have not changed significantly, even taking into account the protectionist and liberationist orientations of the EU countries.¹²⁶ Below, the EU countries are classified according to trade flows, geographical locations, and political trade tendencies, which will be used to differentiate the behavior of firms inside their borders.

- Protectionist EU producers: Cyprus¹²⁷, France, Greece, Portugal, and Spain
- Semi-protectionist, with interests in ACP countries: United Kingdom, Ireland, and Italy
- Free-trade oriented countries from Central Europe: Austria, Belgium, Luxemburg, Germany, and the Netherlands

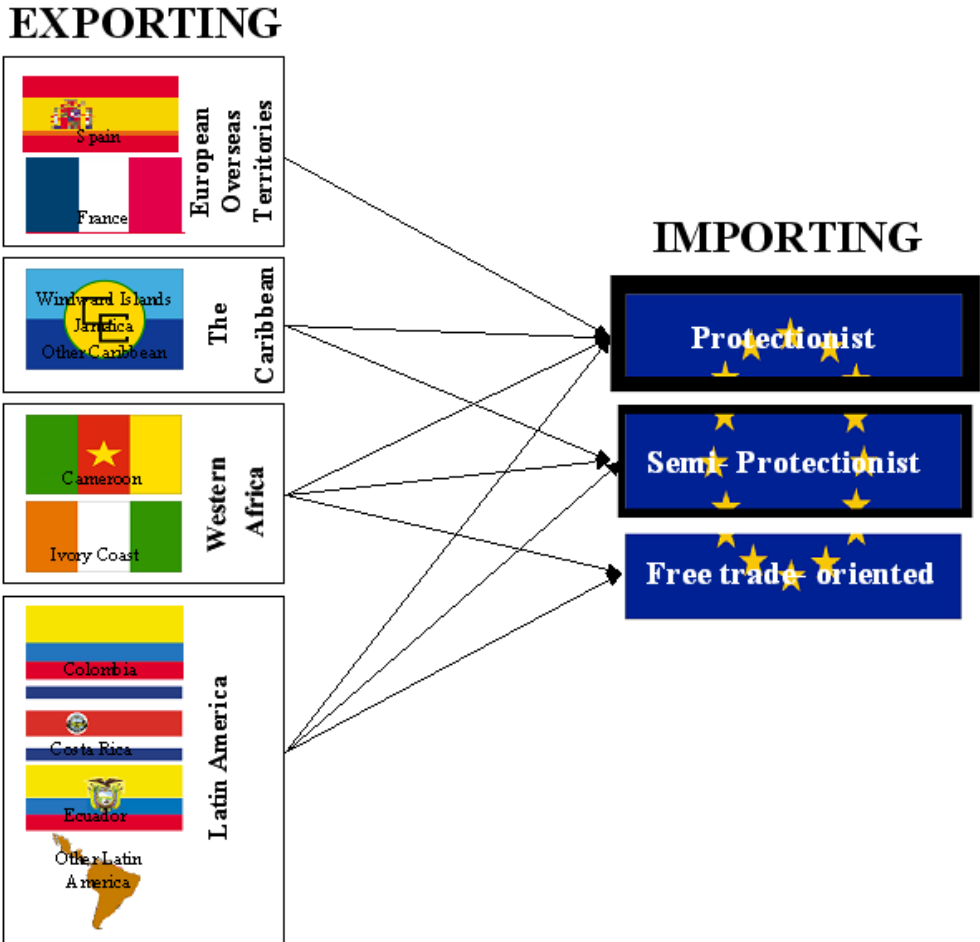
¹²⁶ For additional information on EU trade policy tendencies, see Section IV.1.

¹²⁷ Cyprus is a new member of the EU. It is banana producer, though its production is not significant for international markets.

- Free-trade-oriented countries from Northern Europe: Denmark, Finland, and Sweden
- Free-trade-oriented countries from Eastern Europe (new EU members, as of May 2004): Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia.

The origin of the banana supply of importing firms, based on each of these categories, responds to historic characteristics of access. Thus, it is possible to characterize specific trade flows as in Graph III.9.

Graph III.9 Flows of Trade According to Market Access



Source: Author's elaboration

From this scheme, it can be concluded that only West Africa and Latin America export to all three blocks of importing countries. The protectionists consume all of their own production and, together with the semi-protectionists, buy the bulk of exports from the Caribbean countries.

III.5.1 Protectionist Countries

The protectionist orientation of certain countries (France and Spain being the most representative) is rooted in the protection of traditional local producers. These countries consume basically their own production, based on loyal national demand. However, recently their production has been reduced because of lower productivity and more importantly, business collapses. This situation is consistent with the increasing imports from dollar countries to satisfy growing local demand.

Thus, a system that was historically based on independent national producers cooperating with independent marketing companies is becoming more dependent on dollar-country exports and networks with TNCs. Nonetheless, these countries are still highly dependent on independent domestic marketing companies. For example, French companies were especially privileged in the granting of “newcomer” import licenses in the EU regime of 2001. In contrast, non-protected, traditional operators experience a constant reduction of their profit margins, forcing them to develop commercial strategies (such as brand loyalty) to gain market shares against TNCs. Ripening activities are concentrated among three operators, Dole, Del Monte, and Fruidor, which supply directly to the supermarkets Carrefour, Intermarché, and Leclerc. The concentration of European retailers is notorious, and since 2000 Carrefour and Intermarché have begun to penetrate ripening and importing activities.

In Spain, as in France, there are a considerable number of independent operators in the marketing and ripening stages of the value chain. The dominant firms own the majority of the plantations in the Canary Islands. The leader in market share is Grupo Eurobanan, which has been influenced by a joint venture agreement with Fyffes since 1993. Pascal Hermanos has the second-highest market share, and as the major distributor of fresh produce in Spain, has been a subsidiary of different TNCs: first Chiquita, later Dole,

and since 2004 part of the Group G's from England. The concentration of retailers is also present in Spain.

III.5.2 Semi-Protectionist Countries

In spite of the sharp geographic differences between Ireland and the United Kingdom *vis á vis* Italy, these two regions have very similar trade interests in their former colonies (Caribbean and Somalia, respectively). These two countries have also been, proportionally, the most diversified EU nations in terms of the countries of origin of their imports (purchasing from ACP Africa, ACP Caribbean and Dollar countries, in addition to domestic EU production).

The United Kingdom and Ireland have looked after their demand interests by means of different strategies. The most important of these for the purposes of this research is that they were the creators of the complex regulations to assist ACP countries. They are mainly concerned with strategies benefiting domestic interests (for instance, financial support for Fyffes, and the creation of industry-supporting institutions). Prior to the EU regulation in 1993, the British government created the Banana Advisory Committee, responsible for the assistance and special treatment of imports from the Caribbean. Later, in 1984, this committee was replaced with a more market-oriented institution, the Banana Group, which currently assists promotion and advertising. The United Kingdom may have the most available information regarding retailers. Table III.19 summarizes the market concentration of retailer chains and their links with marketing firms.

Table III.19 UK Retail Chains in 2003

Supermarket	Market share	Supplier
Tesco	25%	JP and Pratts (70%), Keelings (30%)
Asda	12%	Del Monte (100%)
Sainsbury's	12%	Windward Bananas, Mack Multiples, and Del Monte
Safeway	9%	Fyffes

Source: Author's presentation based on EuroFruit Magazine, October 2003

As shown in Table III.19, 48 percent of the banana retail market is concentrated in four supermarkets, in which only Del Monte and Fyffes directly represent TNCs' interests (Dole has a minority interest in the Jamaica-based JP).

Italy, as another representative of semi-protectionist countries, has been successful in combining dependency on bananas from African ex-colonies with dollar countries' imports. In fact, when Somalia stopped exporting exclusively to Italy, the lost bananas were completely made up for by Latin American production. Furthermore, Italy has become the bridge between Latin America and Near East countries and one of the major re-exporting countries of the EU.

A large amount of the trade flow is operated by TNCs, with Chiquita marketing 42 percent of the bananas, while Dole, Del Monte, and Noboa trade the remaining 58 percent. Small operators compete with the TNCs, mainly importing directly from Ecuador. However, two factors inhibit small operators: the vertical integration of TNCs and the July 2001 change in the regulation of 1993 affecting the distribution of licenses to non-traditional importers.

III.5.3 Free Market Oriented Countries

The marketing, wholesaling, and ripening for the free market oriented countries from Central and North Europe is carried out entirely by TNCs. Those firms that achieve high quality, labor, and environmental standards dominate the free market oriented countries. The majority of consumers concerned with fair trade and organic bananas are located in these countries¹²⁸. Premium prices reflect these high standards of quality (and when products are differentiated by seals, labor and environmental standards also count) compared with lower quality markets. However, higher prices are held in check by the pressure of retailers pursuing increased market share by means of price reduction. Thus, they reduce their profit margins and lower prices backwards along the whole value chain.

The new members of the EU have traditionally been free market oriented, but unlike North and Central Europe, lower prices dictate demand in these countries. In fact, they were originally the destination of lower quality bananas from Ecuador and the over-quota bananas from the EU-15. The EU enlargement means that the autonomous quota, created to supply the new members, will cause an increase in prices due to the tariffs

¹²⁸ Analytically, the United Kingdom does not belong to this group, but it is one of the most important consumers of organic and fair trade bananas in Europe.

and quota rents. In this way, the evolution of trade in the new member states depends on two factors, the re-exports from Western Europe and the structure of retailers.

Hypermarkets, supermarkets, and discount retailers are very concentrated, and the same companies as in the EU-15 hold market power in Eastern Europe as well. Traditional Western retailers were already located in the East before the enlargement and remain leaders today (see Table III.20).

<i>Table III.20 Western European Supermarkets with Presence in the New EU Member Countries</i>	
Company's Headquarters	Supermarket
Germany	Metro
United Kingdom	Tesco
France	Casino
The Netherlands	Ahold
Source: Author's elaboration based on Notifax, Fruitrop, and EuroFruit Magazine.	

Hungary is the only country where national retailers still lead in market shares. Expectations of increased rents and wages in Eastern Europe are the first reason for Western retail companies to expand. Low prices have best strategy to increase market share in this region. In light of the fast development of discount supermarkets, lower prices are more effective than quality orientation at present. In Sections III.3 through III.5, different countries and firms are regarded units of analysis to clarify the cluster-value chain model. The next section focuses on the actors, particularly firms, to elaborate the map of the EU banana industry value chain.

III.6 The Competitiveness Environment in the Banana Sector: An Evaluation

III.6.1 An Approach to Countries' Competitiveness Environments according to the Analysis of the Linkages between Production and Marketing Firms

Firms' market strategies and linkages across the value chain have been summarized in previous sections. Firm sizes and the importance of TNCs as agents of trade have been recognized as elements which enhance and ratify the functionality of the cluster-value chain model as a tool of competitiveness analysis. This section characterizes the main

linkages between production and marketing firms of the selected producing/exporting corporations in the banana sector.

Production in Colombia has been dominated by local producers who associated to form the current trading companies. On the other hand, Central American countries have mostly been dominated by TNCs (via enclaves), in both production and marketing. Large Ecuadorian companies dominate their own production and marketing, though smaller independent producers have to sell to marketing companies (national or TNCs). Anecdotal information from dollar countries shows that if producer and marketing companies are highly integrated, as in Costa Rica and Colombia, the market is less unstable and conflicts on prices among operators (as occur in Ecuador) are less frequent. ACP countries also have diverse structures. In the case of the Windward Islands, producers are tightly linked to the marketing companies through the Windward Islands Banana Development Exporting Company (WIBDECO)¹²⁹. However, organizational inefficiencies are recognized in this system, and conflicts between producers and traders recur (Hubbard et al. 2000b). Western African production is becoming dominated by the organizationally-efficient TNCs. This has been the result of lower costs of production via long-term contracts with producers and ownership of plantations. Finally, EU producers are linked with independent marketing companies mainly due to the favorable conditions of the COM-bananas TRQ license distribution scheme.

Thus, based on the linkages with production and marketing, it is possible to typify three kinds of production structures:

- a) Several producers trading with oligopsonic exporting companies (e.g., Ecuador).
- b) Monopolist producers trading with oligopsonic exporting companies: usually, a unique operator handles production and marketing. (e.g., TNCs in Central American and, recently, West African countries)
- c) Several producers that, as cooperatives, own their marketing and exporting companies (e.g., Colombian and Caribbean countries).

These structures are representative of the “bargaining power of economic agents” element of the cluster-value chain model, expanded upon in Section II.3.1. Thus, the

¹²⁹ See Section III.4.1.4

nature of competition is based on market power and relationships between economic and political agents. For example, on one hand, Chiquita and the Corporación Noboa have used their market power to be recognized by their governments (and to encourage the promulgation of meso-level policies). Furthermore, they have a preferential position relative to smaller providers (typically small, independent producers) and competing firms. On the other hand, smaller agents (such as Caribbean and EU producers) have to join or cooperate with larger firms in order to be recognized politically and economically (for instance, in UK and EU assistance). Thus, the role of competitive and meso-level forces should be recognized as an important factor in the competitive advantage of firms. The parameters used to qualify the model in section III.2.3 and the description and comparison of the internal determinants of competitiveness are summarized in Table III.21. Countries are selected as the unit of analysis to describe the environment where firms compete.

The classification of high, medium or low relative positions of competitiveness merits discussion, but this goes beyond the objectives of the present study. Instead, Table III.21 is expected to be indicative of the relative position of a firm's competitiveness with respect to their competitors in other countries.

The traditional theory of competitiveness and the theory of comparative advantage argue that countries with the lowest labor costs should offer a higher (H) advantage to their domestic companies relative than to companies located in foreign countries, meaning that Ecuador and Western African countries should have the most competitive environments. This might be true in the very short-term, excluding the rest of determinants of competitiveness. However, the new approach to competitiveness goes beyond this. It is more aware of consumer demands (regarding social and environmental issues, particularly in the EU) and pays more attention to sustainable determinants of competitiveness. These include support through technological assistance rather than through direct subsidies, cooperation between public and private sector in meso-level institutions, strong relationships among related and supporting firms in the sector, and strategies of firms in order to confront the competitiveness environment. From this perspective, Table III.21 shows that the firms located in Colombia-Urabá and Costa Rica seem to have the most favorable competitiveness environments.

Table III.21 Relative Position of the Determinants of Competitiveness in Selected Producing/Exporting Countries

	Colombia- Urabá	Costa Rica	Ecuador	Windward Islands	Western Africa	European Producers
Factor Conditions						
Land availability	M	L	H	L	U	L
Land productivity	M	H	L	L	M	L
Economies of scale	H	H	L	L	H	L
Labor costs	M	L	H	L	H	L
Labor rights protection	H	H	L	M	L	H
Capital intensity	H	H	M	L	M	M
R&D activity	H	H	L	L	U	M
Meso-policies						
Technological support to increase quality and/or productivity	H	H	L	H	H	H
Support by subsidization	M	M	H	H	H	H
Frequency of administrative measurements	L	L	H	H	H	H
Meso-Institutions						
Ease of interaction between economic agents	H	M	L	M	U	L
Visibility of guilds, associations	H	H	L	H	L	M
Supporting activity of unions	H	H	L	L	U	U
Influence of research institutions	H	H	L	L	U	L
Related and Supporting Industries and Services						
Existence of supporting firms near production	H	H	H	L	M	M
Propensity to be integrated horizontally	H	H	M	M	M	M
Local availability of raw materials and inputs for production	L	L	L	L	L	L
Quality of local infrastructure	H	H	M	L	M	H
Firm Strategy Structure & Rivalry						
Variety of market strategies	M	H	M	M	H	M
Propensity to be integrated vertically	H	H	H	H	H	H
Market power of domestic exporting firms	H	L	H	M	M	H
Market power of TNCs	M	H	L	L	H	L

H: high; M: medium; L: low; U: uncertain

It is not surprising that the position of Ecuador is not advantageous, taking into account the overall determinants. Nevertheless, in the economic assessment and the projections of the banana market (chapter four) the position of Ecuador is still outstanding in terms of market share. This is due to the privileged factor conditions and lower costs of production that enable this country to achieve comparative advantage in the short and medium terms¹³⁰. The question that remains is that if it may be possible for the firms in lower cost based countries (Ecuador and Western Africa) to sustain this short-term comparative advantage in the long term¹³¹. With the information collected here, is not possible to measure competitiveness in the long term, which would require evaluating the list of determinants from Table III.21 in a dynamic perspective. Unfortunately, that is not possible because of some gaps in the data. This list is intended only as a starting point for such study. This paper's only "dynamic" approach is presented in the fourth chapter, where trade policies are evaluated in a medium-term perspective of four years.

III.6.2 Mapping the Banana Value Chain of the EU

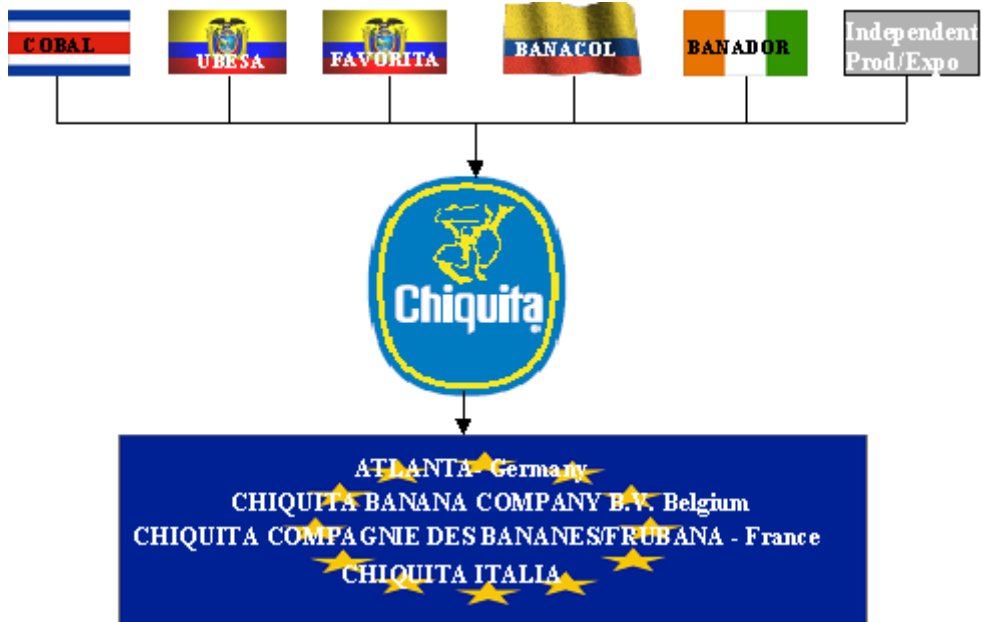
Trade flows are presented in this chapter, based on the firms involved in the value chain. In order to show how the cluster-value chain becomes operational in banana trade, three general examples are outlined. Firstly, as explained in Section II.3.1, TNCs as a rule do not need additional organizational structures in order to export. Secondly, domestic companies develop clusters in order to achieve a basis for exporting. They depend heavily on TNCs, exporting as an asymmetrical cluster, but some can directly export to international markets. And thirdly, small- and medium-size firms in cooperatives (formed by deliberate joint action) combine efforts to produce a standardized product (via externalities such as innovation and technological spillovers) and to negotiate with larger firms (using the forces of competition) in order to export.

¹³⁰ See section III.3.1.

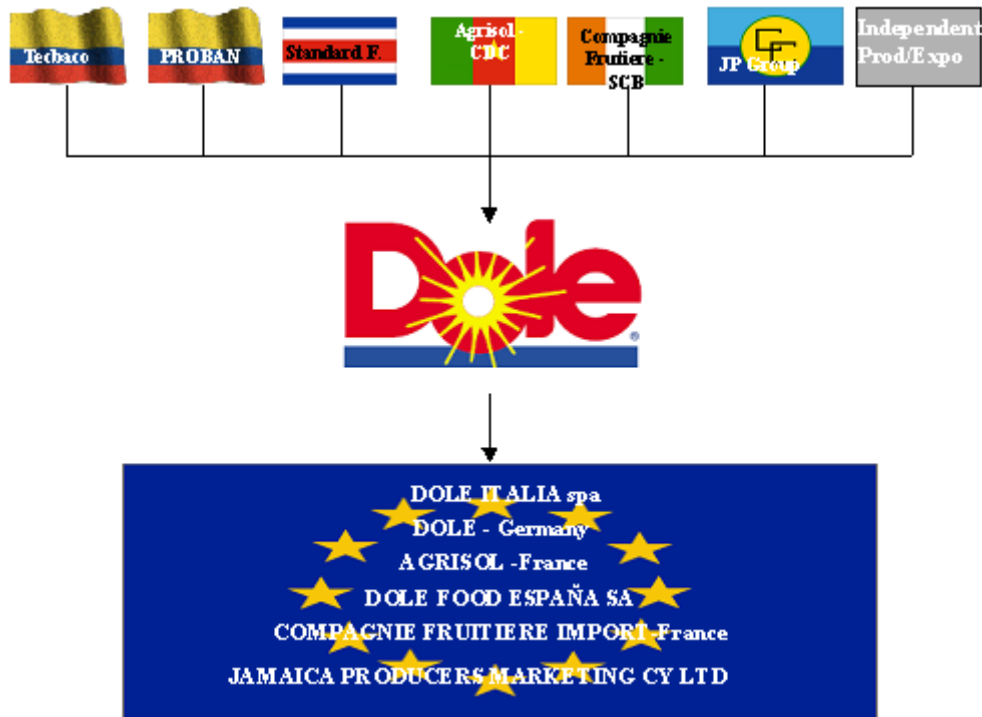
¹³¹The supply elasticities of major studies of the banana market are taken as a constant and do not privilege overall competitiveness. Instead, they are based on export unit values projections (as proxy of costs) and in very few cases on production costs which reliability and availability is often questioned. See Borrell & Haslow (2004) and FAO (2004b)

Graph III.10 Maps of the Value Chain of Banana Trade

Chiquita's Value Chain



Dole's Value Chain



Del Monte's Value Chain



Fyffes' Value Chain



Source: Author's elaboration

Although TNCs are not the only operators on the value chain, through them more than 60 percent of the trade volume moves. They form the axis linking firms of producer-exporting countries with firms of consumer-importing countries in the Map of the Banana Value Chain to the European Union.

Graph III.10 does not attempt to show the exclusive providers/traders of the TNCs (whether exporting firms from supplying countries and marketing-distributor firms from the EU) but to show the TNCs' most relevant market links. Some independent (exporting/importing) agents form a different value chain. Ecuadorian exporters, for example, attempt to use this channel to reach Eastern European markets, even though their infrastructure is not as vertically integrated as in Western Europe.

Because of the lack of statistics, it is difficult to analyze the market power of the agents involved in the banana value chain, but the presence of TNCs in most of its stages is clear. However, growing has been gradually abandoned to local firms/producers, and given that TNCs' portfolios are restricted to fresh, canned, or/and frozen fruits and vegetables, the retail sector is banned to them. The attempt to incorporate the retail stage into their activities is limited to forming exclusive contracts with supermarkets¹³².

Producer firms from the dollar zone have been trying to preserve their strong links with TNCs to guarantee their sales, regardless of trade policies. Such exclusive contracts guarantee quality standards and scale of production. In some cases, producers tied to TNCs must buy from competitors to meet these standards and fulfill their contracts. Independent producers have more flexibility when selling to TNCs or independent marketing firms; but these producers are normally small-scale and would be better off finding cooperative structures with marketing firms and achieving the required scale.

The map of the value chain also shows the diversification of country origins pursued by Dole, Del Monte, and to a less extent, Fyffes. Chiquita has been highly concentrated in dollar countries, but it also has interests in Western African countries. Fyffes' concentration in ACP countries has been gradually decreasing, with some recent investments in dollar countries.

¹³² Del Monte has an exclusive contract with the world's largest supermarket, the US based Wal-Mart. For a complete list of hyper- and supermarkets in Europe, see <http://www.euapart.com/hyperlist.html> (visited in February 2005).

In the last stages of the map (marketing, ripening, and/or wholesaling) the dependency on independent firms is less than in production. Forward process integration has been the common strategy of all TNCs. Particularly, the favorable terms of trade from the EU COM bananas for Fyffes made it stronger in acquisitions throughout Europe. The remaining three TNCs attempt to catch up in acquisitions and concentrate on their core business.

In contrast to the desire for flexibility of independent producers, independent marketing, ripening and/or wholesaling companies attempt to guarantee strong links with regular providers (TNCs or independents), because the maintenance of standards is the main customer requirement (consumers being retail markets, supermarkets, hypermarkets, etc.).

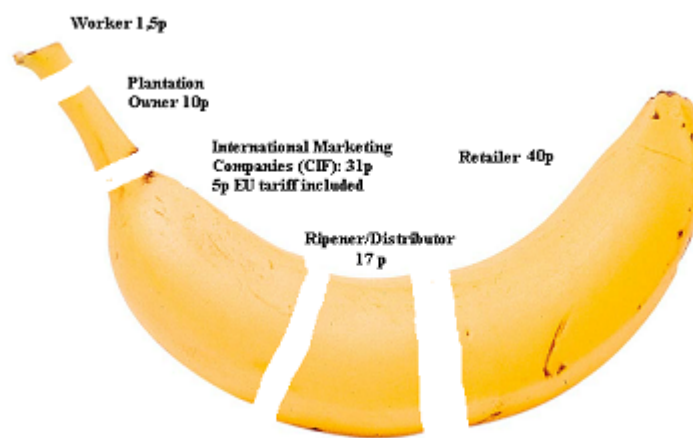
III.6.3 Demand Conditions: Do Policy Reforms in the EU Affect the Environment of Competitiveness and the Competitive Advantage of Firms?

So far, the internal determinants have been linked to the external determinants by means of cluster-value chain analysis. The combination of the countries' environments of competitiveness with the firms' competitive advantage potential give a general overview of their possible reactions to changing trade policies of importing countries. The purpose of this section is to link the analysis of the determinants of competitiveness with the trade policies of the COM bananas. In section II.3.2, demand conditions were defined as an external determinant of competitiveness for the banana industry and trade policies were highlighted as the demand condition to be used to test the hypothesis of this study. Therefore this section summarizes the prospective reactions of the different agents within the cluster-value chain analysis based on their determinants of competitiveness.

Producer agents should be aware that the opening of markets should be more thoroughly analyzed in the last stages of the value chain to be more certain of demand-side development. Despite the pressure for price reduction, producers must always be aware of quality, labor, and environmental standards, which are compulsory during importing but do not offer any rewards in terms of income. Producers and workers are at the beginning of the value chain, which receives only 11.5 percent of the original retail

price (as seen in Graph III.11). The highest proportions go to TNCs and retailers. The effects of the openness of trade policies by the EU could positively affect the demand side by reducing prices to consumers and increasing operators' profit margins (given their market power), but what benefit will seep down to workers and producers is an open question. Specialization in niche markets (organic and fair trade bananas) have been an initial reaction to the foreign market pressures.

Graph III.11 Distribution of the Price on the Banana Value Chain*



*Distribution of a pound on the price of an Ecuadorian banana (costs and margins included), according to the prices on June 2003.

Source: Banana Link (2005) 2nd International Banana Conference. Bruselas, Belgica.

Producers are constrained by the requirements of intermediaries or agents ahead of them in the value chain. The current market share of the countries is, to a great extent, the result of the intermediary firms' marketing and integration strategies in reaction to the COM bananas. Countries (particularly from the dollar zone) with high influence with TNCs or large local firms have been able to maintain their market positions throughout the EU regime. For example, the major TNCs attempted to diversify their sources in accordance with the availability of import licenses¹³³. The tendency toward liberalization opens up a new set of possibilities for intermediaries. One initial reaction has been the increasing of its investments in low-cost plantations by signing agreements with producers from Western Africa, Brazil, and, to a smaller extent, Ecuador. These decisions are certainly based only on comparative advantage, but a long-term analysis should be aware of the other determinants of competitiveness. Consumers, particularly

¹³³ See Section I.4.2.3 for a theoretical analysis of the administration of licenses and Section IV.1.2 to see its application in the banana regime.

in Europe, ask for environmentally friendly production, respect for labor rights, traceability of the product, and high quality standards. The transformation of production to achieve these standards is costly and time consuming. The question about which firm is more competitive and, as a result, the potential winner of market share can only be answered in the long term. The analysis of this chapter suggests that only countries such as Colombia-Urabá, Costa Rica, and the Dominican Republic have a sufficiently favorable competitive environment for firms. The adjustments in the short term tend to favor low-cost producers such as Ecuador and Western African countries, but the current savings might be reverted when investments to achieve international competitive standards become more demanding for consumers, thereby increasing firms' costs of production.

In the final steps of the value chain, the COM bananas has made demand more stable in the EU, but concentration of retailers is increasing their market power and making it possible for the retailers to drive the market (EuroFruit Magazine Oct. 98, p. 44). The big change has been the aggressive price campaign in discount supermarkets. This is advantageous for consumers but reduces the profit margins of the value chain backwards. The number of retailers, as well as the number of intermediaries from imports to retailers, has been reduced: retailers have even begun to negotiate directly with producers. In consequence, in order to add value to their normal activities wholesalers are reducing their market share, and demand conditions are forcing them to become more specialized in logistics and marketing.

As it was said in the first chapter, a definition of competitiveness should be more applicable to firms. However, lack of statistical data for firms limits research to making conclusions based only on descriptive analysis of their strategies and their countries' competitive environments. This problem is also presented in the analysis of trade policies. The following chapter concentrates on the effects on producer countries of changes in the trade policies of the EU. The information on firms is not enough to draw definitive conclusions, but the effects on countries give a clearer picture of what happens with the strategies of the firms if the overall determinants of the cluster-value chain analysis are considered.

IV MODELING TRADE POLICIES EFFECTS ON THE INTERNATIONAL BANANA MARKET

Introduction

Most of the determinants of competitiveness relevant to the banana trade have been analyzed in the previous chapter. However, one specific objective of this research has been reserved until now. Trade policy is a significant determinant for identifying the commercial perspectives of the agents in the “banana wars”. The objective of this chapter is to construct a static partial equilibrium model that can explain, in terms of market share and trade performance, the behavior of producing-exporting countries as a consequence of changes of trade policies from the EU Common Organization of the Market in Bananas (COM bananas).

In order to achieve this objective, the chapter is divided into four parts. In the first part the background and recent developments of the EU banana regime are presented. Furthermore, as an introduction to the empirical analysis, an economic assessment of the regime to date is made. In the second part, a step is taken toward evaluation of banana trade policies. For this reason, the background of some of the statistical problems is analyzed, and general aspects of the partial equilibrium perspective are introduced in order to model banana trade policies. In the third part, the model is formulated according to the policy changes of the COM bananas. Finally, in the fourth part, changes under different scenarios of trade policies are simulated in order to arrive at some conclusions regarding policy implications especially for producing-exporting countries.

IV.1 The Banana Wars: The EU Common Organization of the Market in Bananas (COM Bananas)

Tariff rate quotas (TRQs) have been emphasized as the main temporary mechanism supported by the WTO for enhancing the free market in the agricultural sector. Particularly for the banana trade, they are critical for the competitiveness of economic agents from developing countries. In the EU banana regime, TRQs had existed even before the Uruguay Round accepted them as a transitional mechanism towards tariffication. The EU used them to continue preferential trade arrangements with its former colonies (ACP countries) and their own producers, but today TRQs legitimize quantitative restrictions (Matthews and Laroche 2002). The main point of contention in

the banana disputes has concerned the complexities of their administration¹³⁴. Methods have included preferential in-quota tariffs, historical allocation of quotas, licensing arrangements (by specific allocations of quotas to countries and/or operators), limits on tariff-quota shares, and export certificates. These methods are discriminatory according to the WTO's "most favored nation" (MFN) principle (Abbot 2002, p. 123), but have been supported by "the enabling clause" (differential and more favorable treatment, reciprocity, and fuller participation of developing countries) (Matthews and Laroche 2001, p. 100-101). In consequence, the EU banana regime has been contested and modified several times in order to be in concordance with the WTO's regulations and members' interests, which always seem to be contradictory.

Since the European Union's beginning in 1957 (with the Treaty of Rome), trade policies have been used to protect bananas from ACP countries (ex-colonies in Africa, the Caribbean, and the Pacific) and Europe¹³⁵. The banana was the last product to be included in the European Trade Union under the Common Market Organizations in 1993. Compromises with former colonies and domestic European requirements made reforming the old, non-unified banana trade essential to a cohesive trade union. As a result, the most harmed countries have been the "dollar" countries¹³⁶, which export free of restrictions to the rest of the world but are heavily regulated within the EU.

The agreement of 2001 (EU 2001a and 2001b) regarding the tariffication within the COM bananas has been very controversial among the main parties involved in the "banana wars". Producers, national exporters, transnational companies, traders, and governments have different views on the final decision. Conflicting agreements by the EU with trade partners have been the main cause of these divergent positions. This variety, however, means that the banana case fulfils the main purpose of this research, which is "to explain the effect of trade policy problems in the competitiveness of a particular product".

Thus the actors in the "banana wars" started perhaps one of its most important battles: the tariff-only regime. Economic and political agents have taken part in this conflict for

¹³⁴ Administration methods of TRQ are analyzed in Section I.4.2.3.

¹³⁵ See "The Banana Protocol" in the Treaty of Rome.

¹³⁶ "Dollar countries" is the name given during the banana wars to the Latin American countries, to different degrees, have been strongly influenced by US based TNCs and subsequently trade in dollars.

more than a decade. This section summarizes the main policies that caused the initial and subsequent developments in the differences among actors in the banana trade.

IV.1.1 Regime I: Before 1993 – Different Importing Regimes within the EU

Prior to the unification of trade policies under the COM bananas in 1993, national trade policies were widely different within EU countries. For instance, Germany was a free-market-oriented importer of bananas, while France (and its former colonies Martinique and Guadeloupe), Greece (and Crete), Portugal (and Madeira) and Spain (and the Canary Islands) were community producers and very protectionist. Some countries had exclusive exchange with ex-colonies, such as France with African countries; similarly, Italy and the United Kingdom had favourable treaties with former colonies from ACP countries while applying tariff quotas and licences to other nations. The Benelux countries did likewise, applying tariffs to third-party countries and giving preference to ACP bananas. New EU member countries (Sweden, Finland, and Austria) were free trade markets before their EU membership in 1995.

Importing Countries	Policy	Preferred Countries
France, Greece, Portugal, and Spain	Fixed prices and quotas to favored countries.	EU producers and ACP.
Italy and the United Kingdom	Preferred access for favored countries. Quotas and 20% tariffs for non-preferred.	Somalia, Belize, Jamaica, Surinam, and the Windward Islands.
Benelux, Denmark, and Ireland.	Tariff of 20% to non-preferred countries.	ACP.
Germany, Austria, Finland, and Sweden.	Free of duty	World market.
Source: Author's elaboration based on EU regulations		

IV.1.2 Regime II: 1993 - 1998 – The Original COM Bananas

Regulation 404/1993 defined the COM-Bananas as a two-tiered TRQ system including preferences for EU producers and former colonies from ACP countries. Thus, EU producers—from France, the Departments d'Outre Mer—DOM Martinique and Guadeloupe; from Spain, the Canary Islands; from Portugal, Madeira; and from Greece, Crete and Lakonia—were guaranteed access through a tariff-free quota of up to 854,000

tons (combined) and a complex system of compensatory aids according to a reference price.

Canary Islands	420,000
Guadeloupe	150,000
Martinique	219,000
Madeira, Azores, Algarve	50,000
Crete, Laconia	15,000
Total	854,000
Source: European Council (1993, Article 12)	

In additional, the COM bananas assigned specific-country quotas to traditional¹³⁷ ACP countries with a global quota of 857,000 tons. The twelve traditional exporting countries that received 100 percent preference (the equivalent of their cumulative highest annual exports before 1992) are listed in Table IV.3.

Ivory Coast	155,000
Cameroon	155,000
Surinam	38,000
Somalia	60,000
Jamaica	105,000
St. Lucia	127,000
St. Vincent & The Grenadines	82,000
Dominica	71,000
Belize	40,000
Cape Verde	4,800
Grenade	14,000
Madagascar	5,900
Total	857,700
Source: European Council (1993) and European Commission (1993a, 1993b)	

¹³⁷ Traditional ACP countries were defined in Article 15 and in the annex of Regulation 404/1993.

In contrast, dollar countries paid tariffs of 100 ECU per ton and competed with non-traditional ACP countries (who received 100 percent preference) for a fixed quota of 2 million tons¹³⁸.

The allocation of quotas was also regulated according to a complex system of licenses based on the export levels from a period of reference. The administration of the quotas depended on both the country of origin and the position of the operator in the value chain (EU Regulation No. 1443/93).

		Category			
		A. Third countries & Non-Traditional ACP	B. Traditional ACP & EU	C. New Operators	Total
Activities	a. Primary Importer (production)	Aa 37.9%	Ba 17.1%	Ca 2%	57%
	b. Secondary Importer (marketing)	Ab 4.5%	Bb 4.5%	Cb 0.5%	15%
	c. Ripening	Ac 18.6%	Bc 8.4%	Cc 1.0%	28%
Total		66.5%	30%	3.5%	100%
*The percentage in the different cases is the result of the multiplication of the categories (A, B, & C) with the activities (a, b, & c) An exception is column C, where the percentage is only indicative and is not included in the regulations.					
Source: Guyomard et al. (1997) based on EU Commission and Council regulations (1993)					

This particular method of administration of licenses is intended to, first, give certainty to ACP countries' market access, and second, cross-subsidize ACP exporting companies with the dollar countries' banana quota rents. The licenses attached to the quotas should be related to the difference between the world market prices and the internal EU market price. However, the trade of licenses was allowed, and owners could use or resell licenses to other interested parties. Thus, transferring a quota rent to ACP/EU operators compensated for their higher production costs and made banana production viable commercially (Douglas 1998, p. 3). Therefore, dollar companies were forced to invest in ACP countries just to be able to trade (Van de Kastelee 1998, p. 11).

¹³⁸ Article 15 defines non-traditional ACP export levels as the quantities of bananas exported by each ACP country in excess of the quantity defined as "traditional imports from ACP states". The last category includes the dollar

In 1995, when Austria, Finland, and Sweden joined the EU, this complex system was challenged and “simplified” according to a classification with three categories of country allocations. Category A included third-party countries and non-traditional ACP countries; category B was the autonomous quota for the three new members; and category C was the exclusive quota for traditional ACP countries. As before, the ACP countries received 100 percent preference and third-party countries were required to pay €75 per ton within the quota allocation. (Economic and Social Committee of the EU 977/95).

In addition to the COM bananas, four Latin American countries (Colombia, Costa Rica, Honduras, and Venezuela) signed the Framework Agreement with the EU, valid from the January 1, 1995 until the December 31, 2001. This agreement assigned specific country quotas¹³⁹ and export licenses to the signers (EU Regulation 3224/94). In exchange, these dollar countries promised not to file disputes against the EU before the WTO. However, Guatemala did not accept the terms of the agreement, and the transnational company Chiquita denounced the agreement in the USA filing a section 301 petition¹⁴⁰ with the U.S. Trade Representative (USTR). Thus, the US government was forced to make a claim before the WTO (at that time still the GATT). Countries where Chiquita had larger interests, such as Mexico, Guatemala, and Panama, joined in.

<i>Table IV.5 Specific Quotas for Third Countries According to the Framework Agreement (Dec. 1994)</i>	
Third-Party Countries' Quotas	2.2 million tons*
Costa Rica	23.4%
Colombia	21.0%
Nicaragua	3.0%
Venezuela	2.0%
Other dollar countries	46.5%
Non-traditional ACP**	90,000 tons
*Quota for third countries increased by 200,000 tons, and the tariff was reduced to ECU75/ton. The beyond-quota tariff was 850 ECU for dollar countries and 750 ECU for ACP countries.	
**Excluded from the tariff (e.g., Dominican Republic and Ghana)	
Source: EU regulation 3224/94	

countries, the “third country bananas”.

¹³⁹ See Table IV.5

¹⁴⁰ Section 301 is a provision of the Trade Act of 1974, as amended, which empowers the President to take all appropriate action, including retaliation, to obtain the removal of any act, policy, or practice of a foreign government which violates an international agreement or is unjustified, unreasonable, or discriminatory, and which burdens or restricts U.S. commerce. (http://ncseonline.org/nle/crsreports/economics/econ-39.cfm#N_1 visited in July 2006)

In April 1995, an autonomous quota of 353,000 tons was assigned to third-party and non-traditional ACP countries when Austria, Finland, and Sweden completed the enlargement of the EU15.

The first formal demand made by the USA (and other Latin American countries) on the European Union regime took place after the WTO had been signed, even though a waiver for the EU's preferential treatment of the ACP was accepted under the Lomé Convention. Simultaneously, the USA signed an Understanding Agreement with Colombia and Costa Rica to revise the Framework Agreement, giving the EU more time to look for a more favorable position. As a result, the EU assigned a regional quota for dollar country bananas and a new reference period for the assignation of licenses. This was considered insufficient by both the prosecuting countries and the WTO. In 1996 a second moment of crisis exploded with Ecuador's membership in the WTO. Ecuador made another demand of the European Regime. In addition, the American TNCs (particularly Chiquita) pressured their government into requesting a panel to solve the conflict at the WTO. The ultimate objecting countries were the USA, supported by Ecuador, Guatemala, Honduras, and Mexico. In May 1996 the decision was announced in favour of the complainants. Afterwards the EU filed an appeal and the judge confirmed the first decision. In response, the EU reformed its regime on January 1, 1999, though unfortunately for the complainant countries it remained incompatible with the regulations of the WTO.

Table IV.6 General Summary of the COM Banana Measures between 1993 and 1999

a) Compensatory aid to put EU producers at the same level as of third-party countries.
b) Single premium (per hectare) diversification aid to producers who ceased to produce bananas.
c) Tariff rate quotas for the marketing of ACP and third-party countries' bananas.
d) Temporary aid for start-up of producer or marketing organizations.
e) Aid for operational programs in order to improve producer competitiveness.
Other temporary financial measures were included to support producers penalized by the introduction of the COM.
Source: Court of Auditors, 2002: C294/5

IV.1.3 Regime III: Since January 1999 – Trade War and New COM

The main terms the WTO condemned were the assignation of licenses and the quota specific system for non-traditional ACP countries. Therefore, the terms of the new EU regulation that attempted to solve the WTO's complaints can be summarized as follows:

- Nearly 90 percent of the dollar countries' quotas were assigned to the main Latin American suppliers (Ecuador 26.17%, Costa Rica 25.61%, Colombia 23.03%, and Panama 9.43%). The remaining 10 percent was allocated to "others", including the non-traditional ACP countries (such as the Dominican Republic and Ghana).
- In addition, the WTO forced the EU to eliminate export certificates and to simplify the allocation system for import licenses. Therefore the EU ruled that 92 percent of licenses would be assigned to traditional operators according to a historic reference (1994 –1996), and the remaining 8 percent would be assigned to newcomers.
- Within the ACP quota, the country-specific quota was eliminated; each ACP country had to compete for its share of the 857,000 permitted tons.
- Tariffs exceeding the quota were set at €737 per ton for third-party countries and €537 per ton for non-traditional ACP countries.

Nonetheless, some parties were still unsatisfied with the new EU regime. Ecuador would only be content with over 30 percent of the dollar countries' quota under the modified EU TRQ system. In addition, TNCs disagreed with the changes, prompting the US government to support the Ecuadorian suit before the WTO. Accordingly, in January 1999 US trade representative Rita Hayes supported the Ecuadorian request for compensation and a new assignment of quotas, challenging the new regime.

The grievances of the complainants were not consistent with one another. Ecuador filed its complaint concerning the European regime before the WTO, while the USA threatened to unilaterally impose a sanction of US\$500 million for damages to its "home-based" enterprises (e.g., Chiquita). In order to achieve an agreement, the EU proposed different reference periods and alternate methods of TRQ administration (such as the first-come, first-served scheme instead of the historical reference period-based quota license system). These schemes were meant to be temporary, such that the EU would dispose of all measures for a tariff-only system by 2006 at the latest. All of these

proposals were rejected, and the Dispute Settlement Body (DSB) of the WTO accepted the US sanctions on the EU. However, because of the complex system of consensus (Dominica and St. Lucia blocked), a definitive decision was delayed in the WTO. Finally, in April 1999, at the same time that a DSB panel recognized some incompatibilities with the WTO's General Agreement, another panel accepted imposition of annual compensations (total US\$191.4 million) to the US economy.

The United States threatened the European Union with the application of new measures and forced it to consult interested countries (within the Union and third countries). However, favorable results were not obtained. For Ecuador, it was only an excuse to delay the application of sanctions. As a result, this country also asked for compensation for an amount of US\$450 million. The WTO accepted the claim, though only for US\$201.6 million. Nevertheless, the sanctions by Ecuador never took effect, while the sanctions by the United States worked "favorably" for dollar countries' interests.

IV.1.4 Regime IV: 2001 - 2005 – Transitional Period to the Tariff-Only System

In June 2001, a bilateral agreement between the EU and the USA ratified a new two-step regime. The first period would have a transitional regime similar that of 1999, with a historic reference period favorable to US-based TNCs. From 2006 onwards, a tariff-only system would be applied to all exporting countries, with the exception of ACP countries.

The "final" agreement between the EU and the USA in April 2001 harmed the interests of Ecuador according to the reference average of exports between 1994 and 1996. However, Ecuador accepted it because they benefited from being partially included (17 percent) in the "newcomer" countries' total exports. In addition, the increase of the global quota in 2001 compensated for the Ecuadorian reduction of exports. Ecuador supported the transitional and the tariff-only regimes because they were regarded as solutions. The transitional measures were supposed to be a period of adjustment to achieve competitiveness for all the countries with a single tariff. In exchange, the EU obtained an additional waiver (valid November 2001) for ACP countries to import bananas duty-free until December 31, 2007.

In the transitional phase, the agreement unified quotas A and B, opening them to any exporting country. On January 1, 2002, the A/B quotas were increased by 100,000 tons, with a tariff of €75 per ton for third-party countries and a 100 percent preference for ACP countries. The operators in this category were divided, with 83 percent remaining traditional countries and 17 percent belonging to newcomers. Furthermore, a decrease of 100,000 tons was stipulated for category C (exclusively traditional ACP countries), and the operators were again divided into traditional and newcomers, here at 89 and 11 percents, respectively.

After the transitional period, the move to a tariff-only system took place in 2006, as agreed by the EU Council of Ministers in 2001. To ensure this, the European Commission (EC) negotiated the import tariff for bananas with the relevant producer countries for the Council (on June 2, 2004). But squaring the circle was not an easy task, as the EC sought to safeguard the often-conflicting interests of domestic consumers, European producers, and trading partners. In this context, the EU paid particular attention to the situation of ACP countries. In the course of these negotiations, the EC sought “to maintain a level of preference to the ACP countries equivalent to that offered by the enlarged EU of 25” (EC 2004). But the interests and agreements of the political sphere have been quite different from those of the economic sphere.

IV.1.5 Challenging Regime IV

The first challenge was in May 2004, with the enlargement of the EU by ten new state-members (forming the EU25). The EU initiated a new autonomous quota (460,000 tons in 2005) free of tariffs for ACP countries and a tariff of €75 per ton for third-party countries. The distribution of licenses followed the scheme of the A/B quota (83% traditional, 17% non-traditional ACP) (European Commission 2004b).

The second challenge is the discussion on the amount of the tariff equivalent of the old EU system. The European Commission officially opened discussions about this issue in June 2004. The commissioners of agriculture and trade, Franz Fischler and Pascal Lamy, respectively, agreed to regard this as the final phase of the banana wars and to attend to consumers’, producers’, and trading operators’ needs in agreement with WTO commitments (European Commission 2004a). With the notification to the WTO on the

January 31, 2005, of a tariff of €230 per ton, the EC proposed an amount that, in their assessment, preserves the level of protection of the ACP countries and maintains the market access of third-party countries. However, the incompatible differences between interested parties lead to a process of arbitration concerning whether the tariff amount truly preserves the market access of third-party countries, particularly those of the dollar zone. In the first round of arbitration, the dollar zone interests were favored because the arbiters recognized the waiver text: “if the arbitrator determines that the rebinding would not result in at least maintaining total market access for MFN suppliers, the EC shall rectify the matter... if the EC has failed to rectify the matter, this waiver shall cease to apply to bananas upon entry into force of the new EC tariff regime” (WTO 2005b, p. 28). In the second arbitration round, the EC lowered the tariff amount to €185 per ton, which was also found incompatible with the 2001 agreement (WTO 2005c). The final decision by the EU commission was the implementation of a tariff level of €176 per ton, keeping a preferential quota of 775,000 tons per year open to traditional ACP countries. This decision was also considered unacceptable by the dollar countries.

IV.1.6 Economic Assessment of the EU COM Bananas¹⁴¹

This section briefly analyzes the implications of the COM bananas in market share and prices. During the pre-COM era (before 1993) reliable bilateral trade flow statistics were difficult to find, but Tables IV.7 and IV.8 show an approach to the evolution of exports for the dollar zone and selected countries to the EU12.

The dramatic increase between 1990 and 1991 is explained by the expectations of an open EU market after 1993¹⁴². Unfortunately, the more restrictive market in fact caused a banana surplus and a subsequent reduction in importing prices for free-market-oriented exporting countries. From the point of view of importing countries, the dominance of free market destinations such as Germany and Benelux countries is clear, particularly with respect to the most restrictive markets, such as France and Spain. Finally, the behavior of the UK, Ireland, and Italy, although very protective, responded

¹⁴¹ Annex F shows the exports to the EU for the period 1990 – 2003.

¹⁴² Empirical and anecdotal analysis shows that operators expecting the COM changes increased exports abnormally to receive more benefits from the licenses system at the beginning of 1993.

to an increase in demand that could not be satisfied by their ex-colonies in Africa and the Caribbean, and led to a slight increase in dollar countries' imports during that time.

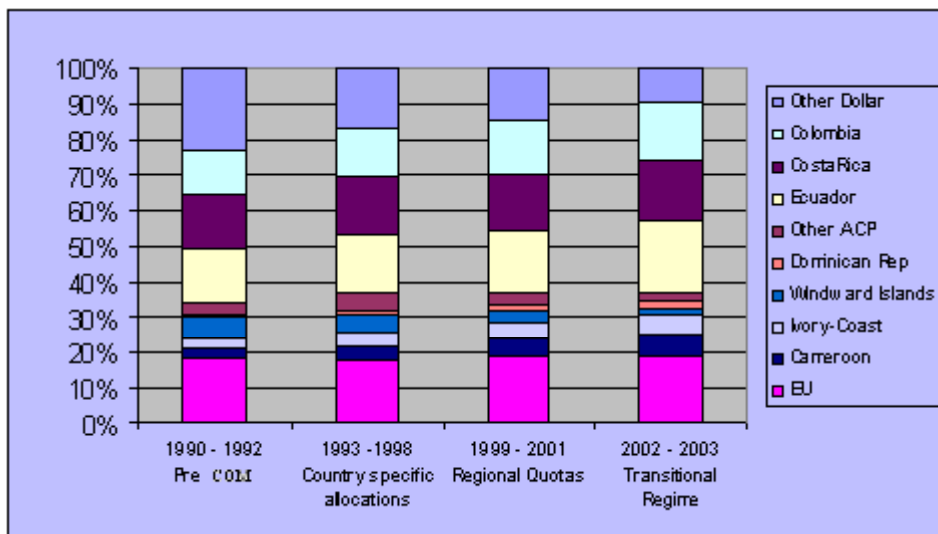
	1987	1988	1989	1990	1991
Spain	0	0	0	0	0
France	32608	29516	13949	30216	173
Greece	n.a.	4281	2725	30592	36460
Portugal	20586	31561	55226	68471	94750
United Kingdom	46553	42671	48179	48108	83154
Italy	265609	424478	333838	318672	462870
Belgium & Luxemburg	98294	106039	145641	166250	201874
The Netherlands	102831	122468	124298	92345	72010
Denmark	35302	40777	45486	43741	52676
Ireland	341179	21974	43774	35537	41932
Germany	680050	743054	853019	1131252	1346159
TOTAL	1316012	1566819	1666235	1956184	2394238
n.a.: not available					
Source: Comext – Eurostat					

The statistics in Table IV.8 show that, compared with previous years, free trade markets of 1992 dominate market share compared with protective countries. Note especially the dominance of selected exporting countries from the dollar zone, such as Ecuador, Costa Rica, and Colombia, whose market shares are far larger than, for example, the French Overseas Territories. This demonstrates that, in the COM bananas, political implications for ACP and EU producers can be more important than bare economics to maintain their market share, in which dollar countries are clearly superior.

(3,730,000 tons total imports)			
Origin	%	Destination	%
Ecuador	21	Germany	37
Martinique	6	Belgium & Lux.	4
Guadeloupe	3	Italy	23
Panama	13	United Kingdom	14
Costa Rica	15	France	14
Colombia	15	Others	8
Others	27		
Source: FAOstat and National Agencies			

Graph IV.1 shows patterns of consumption and trade in the EU. The trade flows from EU territories, which benefited from income support, grew 2.38 percent during the 1993-2003 period. The supply share increased slightly from 18.24 percent in 1990-1992 to 18.85 percent in 2000-2003.

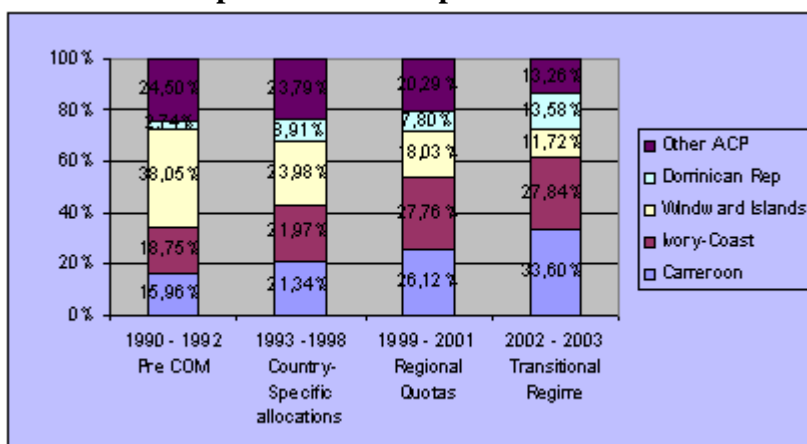
Graph IV.1 Structure of the EU Banana Market



Source: Author's calculation based on Eurostat

Regarding ACP countries (Graph IV.2), imports from the EU increased from 16.13 percent in 1990-1992 to 18.81 percent during 1993-1998, when there were country-specific allocations of the ACP quota. During the same period, ACP quotas were never filled. When the country specific allocation ended (in 1999) and a regional quota was allocated, imports decreased to 18.03 percent in 1999-2001. Among the ACP countries, West African countries increased their exports from 34.71 percent in 1990-1992 to 61.44 percent in 2002-2003, while the Windward Islands decreased dramatically, from 38.05 to 11.72 percent, respectively, for the same periods.

Graph IV.2 ACP Exports to the EU

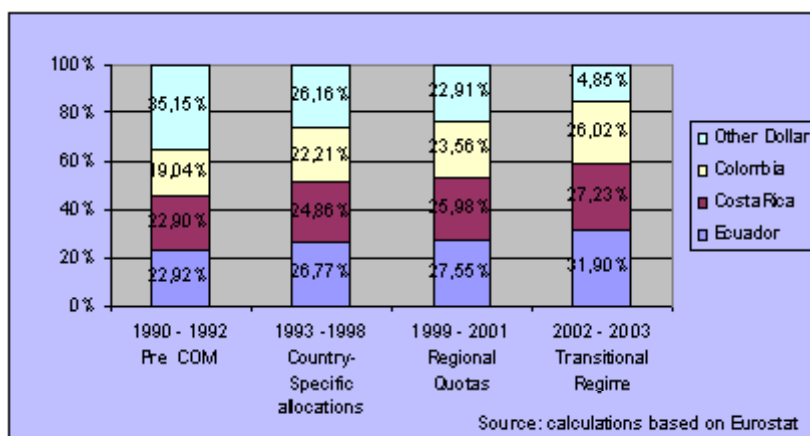


Source: Author's calculation based on Eurostat

The Dominican Republic¹⁴³, a former non-traditional ACP country, showed outstanding growth, increasing from 2.74 percent of ACP exports to the EU in 1990-1992 to 13.58 percent in 2002-2003.

The dollar countries tended to stabilize exports, increasing by only 0.34 percent overall during the 1993-2003 period. Their market share strongly declined under the COM bananas, falling from 65.63 percent in 1990-1992 to 63.34 percent in 1993-1998, 62.95 percent in 1999-2001, and 62.69 percent in 2002-2003.

Graph IV.3 Dollar Country Exports to the EU



Source: calculations based on Eurostat

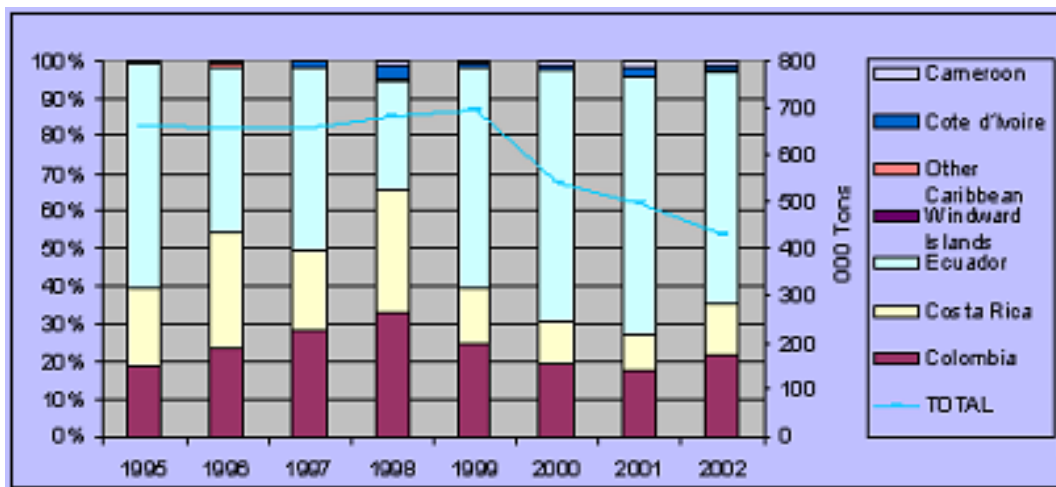
Source: Author's calculation based on Eurostat

¹⁴³ The Dominican Republic specializes in the production of organic and fair trade bananas.
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The overall market share decrease in the region is contrasted with the main dollar exporting countries (Ecuador, Colombia, and Costa Rica), which increased their market share relative to the rest of the competing dollar countries in Graph IV.3. The “other dollar” countries’ decrease is particularly considerable from the period 1999-2001 until the transitional regime of 2002-2003.

Furthermore, the enlargement of the EU by 10 new members in May 2004 (Graph IV.4) created another barrier for the dollar countries, since the ten new members were formerly free market, exclusively dollar country trade importers. The autonomous, tariff-free quota, for ACP countries would influence exports from West African countries by ensuring them a minimum share of the new members’ imports.

Graph IV.4 Total Exports and Market Share of Selected Exporting Countries to the EU10

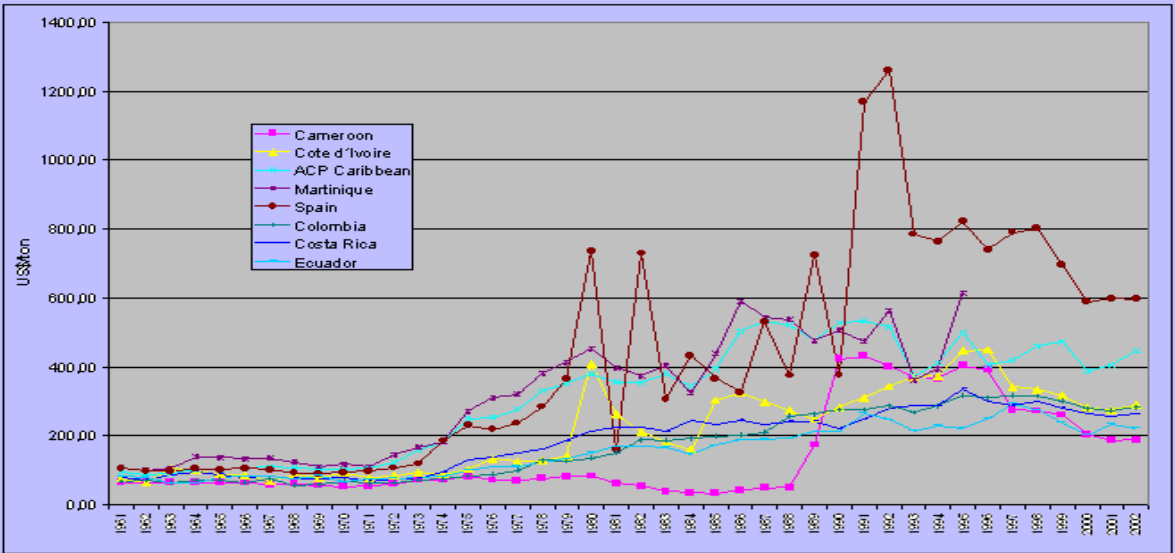


Source: Author’s calculation based on UN Comtrade

Prices, defined as export unit values, express the marginal cost of export supply and are used as a proxy for exporting prices. Graph IV.5 shows that the Caribbean ACP exporters and European producers have the highest costs. Central and Latin American exporters have much lower marginal costs, while the previously high marginal costs of African ACP exporters lowered closer to the prices of the Central and Latin American exporters. This evidence clearly suggests that the European and ACP Caribbean producers are the high-cost producers in the banana market. Asian exporters have the

lowest marginal costs, but they are largely separated from the European and North American market by high transport costs.

Graph IV.5 Export Unit Values of Selected Countries

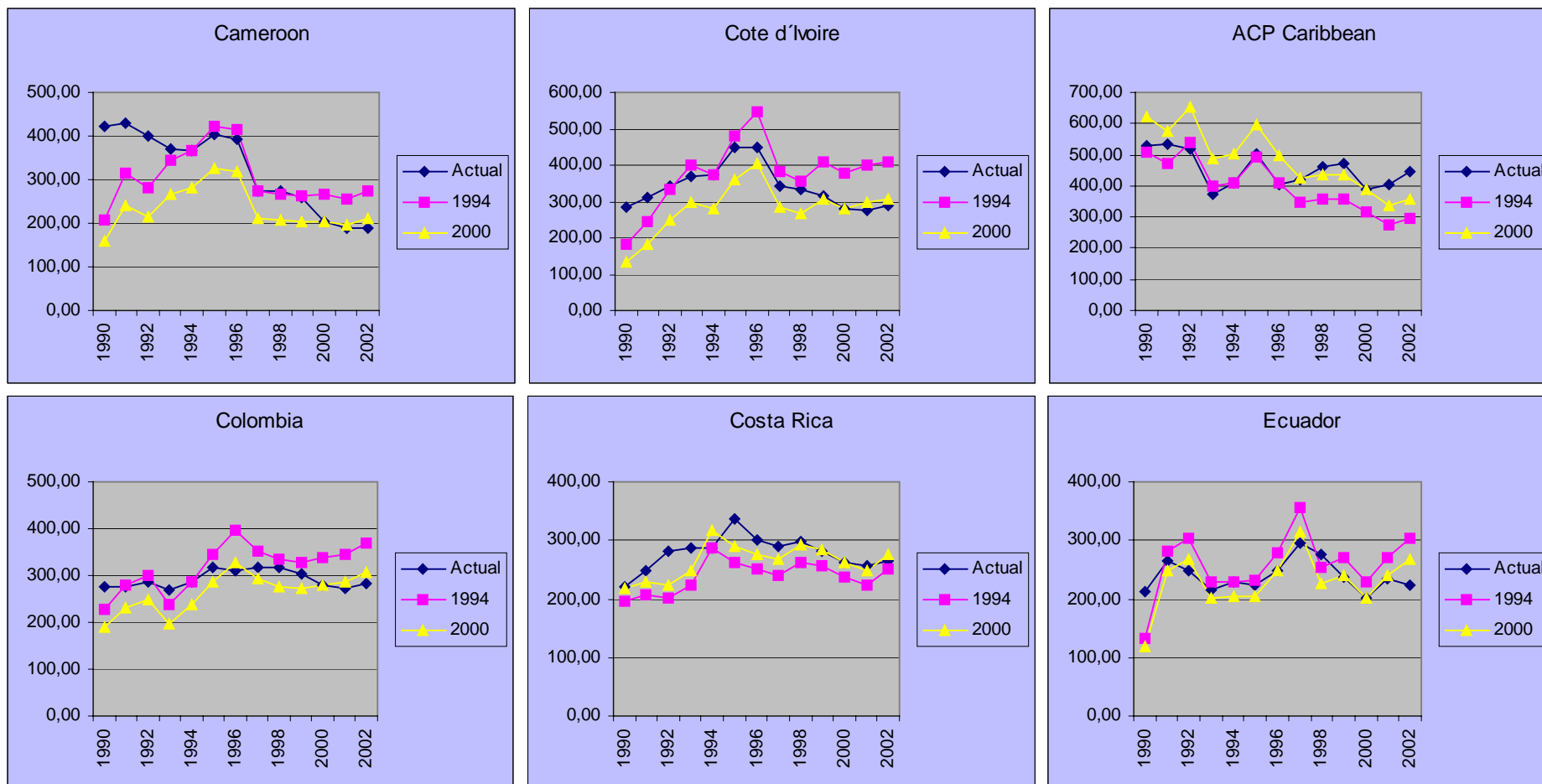


Source: Author’s calculation based on FAOStat

It is also revealing to analyze how the changes over time in the quota allocated to the cheaper suppliers from Latin America, and the changes in the allocation within this group, may have influenced prices facing EU importers. In order to test these influences an approach is taken (as in Burger et al., 2004) which combines the FOB prices of the countries in each group, calculates the weighted average of these prices, and shows what effects changes in the regime may have had on the average FOB price for European importers. From these calculations (see Graph IV.6), if the market share was the same as in 1994 (under the country allocations scheme), prices would have remained very similar to or even higher than the actual ones. With the year 2000 (under the regional allocations scheme) as a fixed figure, the only group with higher prices is the Caribbean ACP countries.

The changes in either the country quota allocation or the regional allocation regimes enabled low-cost producers to sell more. It seems that the country quotas have not affected the prices from Latin American countries (actual and fixed 1994 figures are very similar). On the other hand, country quotas may have had a negative effect (higher FOB prices) on Caribbean ACP countries.

Graph IV.6 FOB prices, weighted by import shares (1994 & 2000) in the EU15



Source: Author's calculations based on FAOStat and Eurostat.

IV.2 Background and Perspectives for Modeling the Banana Market

Besides sugar and textiles, the “banana wars” have been one of the best examples of commodity trade analysis for some time. They have been at the center of academic and political discussion and are therefore supported by abundant theoretical and empirical literature. Nevertheless, some practical problems are also relevant at the outset of this study. The purpose of this section is, in the first part, to elaborate a background and summary of the practical problems obtaining and interpreting reliable data in order to know how to interpret the data available. In the second part, the methodology of the partial equilibrium model, which is normally used in analyses of banana trade, will be introduced.

IV.2.1 Statistical Problems of Measuring the Banana Market

The first chapter includes a discussion of the measurements of competitiveness. Among the most frequent measurements, costs and market share were quoted. In this section both are challenged in order to justify the use of one.

The main problem for estimating competitiveness (on the supply side), which is based on costs of production, is the availability and reliability of information. For example, a competitiveness study developed by Infoamericas (1998) on behalf of the Colombian Banana Producers Association (AUGURA), uses costs as a competitiveness measure. It suffers from some failures in the availability of Colombian data regarding the different stages in production. FAO also studies production costs, employing a cost-based approach in the main exporter countries, but, as they mention, “...all data come from several governmental, private and other kind of sources and not from a single source. In addition, due to lack of quality and availability of information on costs, it is not possible to compare countries. There are different conditions of production and trade between countries, even within them, that make it difficult to measure representative means”¹⁴⁴ (1994, p. 4). Private companies also develop studies on costs, but because of their strategic character, these are not available for public access.

¹⁴⁴ Author’s translation.

The most comprehensive source of producer prices as a proxy variable for costs is FAOstat, which compares producing countries' prices in local currency when possible. However, according to some agencies in charge of collecting data, the information in the FAO report is not reliable because of the multiplicity of surveying methods and the difficulties of drawing a representative sample of producers and firms within the value chain.

Given the difficulty of measuring competitiveness on the supply side as a function of costs, this research uses export trends to describe the dynamics of competitive advantage. Import, export, and price data are available, though their reliability can be contested because of the influence of their sources. For a comprehensive picture of competitiveness, parameters like exchange rates, price elasticities, transport costs, profit margins, and market restrictions must also be included. However, one should be generally advised that commodity, and particularly banana, data are not reliable and in some cases unavailable.

Data from various sources, including OECD statistics, FAOstat, EU Eurostat, and UN Comtrade differ greatly. For example, according to Comtrade, Belgium is one of the major banana exporters and is certainly the main "re-exporter" in Europe. This is explained by Antwerp's role as the main European port for arriving bananas.

In the OECD and EU (Eurostat) data, it is assumed that members' import values are export values from provider countries, which can cause an overvaluation of the nominal exports because of the inclusion of shipping costs and insurance (if there are CIF prices). If data are in real terms (quantities), overvaluation does not exist, but the values still do not coincide with other sources, presumably due to different statistical sources (such as national agencies, private companies, and international organizations records). Since 1995, an additional problem concerning estimation of bilateral trade within EU countries (e.g., banana re-exports) is due to the lack of publicly available intra-EU data in Eurostat. Finally, FAO's information is also biased because it comes from governmental statistics agencies and/or private associations, which report declared, rather than effective, exports.

It is difficult to determine an international price of bananas due to bananas' perishability and European regulations, which do not allow a futures market for bananas. Some

agencies (SopiscoNews, FAO, and national agencies) use prices from non-distorted markets (USA) to mirror the balance between supply and demand. Prices are normally assigned according to the main European ports (Antwerp and Hamburg), and all other countries get their prices from the last stages of the value chain (wholesaler and/or retailer). Many analysts consider it more useful to study price trends than final price levels given that bananas lack a futures market, which impedes the forecasting of prices. Moreover, other elements, such as weather conditions or the sale of other seasonal fruits, affect the prices of year-round banana production.

A standard technique to identify prices, if they are not published, is to calculate export or import unit values¹⁴⁵, using export value (import value) divided by export quantity (import quantity). If import and export data are available, these data also allow identification of country-specific price movements. Export unit values can be treated as equivalents to FOB prices and import unit values as equivalents to CIF prices. Consequently, export unit values may be regarded as marginal costs of banana producers to deliver bananas for export. Between export and import unit values there are also transport costs and other transaction costs that are affected by import policies and will be analyzed in the next sections.

Once data problems have been analyzed, there is also some criticism from a theoretical perspective when the data is included in the models. First, comparing different static partial-equilibrium studies, results are not coincident and are occasionally contradictory. These differences can partially be explained by differences in data sources, but often the problem is the choice of reference period to calibrate the parameters of the model. Behavior differs from year to year, and the models are incapable of capturing effects such as the instability of regulations and changeable weather conditions.

A second theoretical factor affecting the models of the banana market are the European regulations in place since 1993. Demand has not changed according to price, but according to regulation. Hence, it is difficult to determine the parameters needed to project free market behavior. Quotas and licenses make demand almost static apart from the changing regulations by the European Commission itself (activities such as the framework agreement or the periodical changes in quota and/or license allocations). In

¹⁴⁵ See Section IV.1.6

addition, regulations before 1993 differed from country to country and ranged from free to fully protected markets, as in Germany and France, respectively.

An additional methodological problem has been the EU enlargement. The system of quotas and licenses in use by the EU 15 had been preserved provisionally for the new EU members (EU 10). This system was a matter of discussion between the old operators from the EU 15 and operators from the EU 10. A new problem in the statistics is how to deal with re-exports from the EU 15 to the EU 10, given the lack of reliable information from national statistics agencies of the real origins of imports. In fact, it is necessary to make several assumptions in order to simulate and forecast the effects of the changing European policies on the market shares of each of the producing countries.

As seen above, empirical work on the banana sector involves many uncertainties and assumptions. Any model that tries to explain market conditions is controversial, a tendency that is further heightened when political interests are involved, as in the case of the banana wars. The following sections show parts of this controversy from the academic perspective.

IV.2.2 Modeling the Policies of Banana Trade: A Partial Equilibrium Perspective

Banana trade empirical studies focus, firstly, on partial-equilibrium models to simulate changes in the market towards trade liberalization. Secondly, other studies specifically analyze the calculation of the tariff equivalent for non-tariff barriers (quotas and licenses) according to Annex V of the Round of Uruguay. And finally, studies analyze the potential market effects of alternative EU policies by changing prices at some stages of the value chain (importer, wholesaler, and retailer). This chapter focuses on the first and second approaches, which explain the effects of trade policies on the market share of individual producer countries. The rationale of this focus is that market share is representative for the measurement of competitiveness.

Beyond political discussions about winners and losers due to changes in trade policies, there is an academic discussion about the empirical ways to represent the banana market.

Partial equilibrium models have been commonly used in the banana case. The theoretical foundations of these models were developed by the French economist

Antoine Augustin Cournot (1801-1877) and the English political economist Alfred Marshall (1892-1924). Partial equilibrium theory examines the conditions of equilibrium in an individual market or in a part of a national economy. The partial equilibrium theory usually deals with the relationships in one market assuming other variables to be constant.

A standard definition of the partial equilibrium model is given by the World Bank: “partial equilibrium models equate supply and demand in one or more markets so that the markets clear at their equilibrium price levels. This makes prices endogenous. Partial equilibrium models do not include all production and consumption accounts in an economy, nor do they attempt to capture all of the economy's markets and prices. The approach allows the analyst to trace the impact of changes in one market on other markets, but it only captures such changes in the markets included in the model. Partial equilibrium models are best suited to analyzing sector reforms that are less likely to have large impacts on macroeconomic aggregates”.¹⁴⁶

In the literature on the banana case, many studies use partial-equilibrium models to analyze changing effects of trade policies on the banana market. One group consists of “single commodity multi-country partial equilibrium models” with demand and supply equations as functions of constant elasticities. These include Guyomard et al. (1997, 1999, 2001, 2004, and 2005), Borrell et al. (1990-1996, 1999, and 2004), R. Read (1994, 2001, 2002), FAO (2004a), and Lorca and Pérez (2004). A second group includes the spatial models of Kersten, (1994, 1995, 1999, and 2003) and the FAO estimations by Spreen (1999, 2001 and 2003a). Third, some models consider imperfect competition conditions, such as Deodhar (1994), McCorriston (1993, 2004), Herrmann et al. (2001, 2003), and Preville (1999, 2002, 2004). Finally, the global simulation model by Vanzetti et al. (2004) considers banana trade policy changes as an effect on global trade of other commodities.

Some assumptions are held in common with all studies to be considered for the empirical analysis¹⁴⁷. The first of these is extracted from the WTO regulations, which consider bananas a single, homogeneous product. This means that the origin or the

¹⁴⁶ [http://lnweb18.worldbank.org/ESSD/sdvext.nsf/81ByDocName/ToolsandMethodsImpactanalysisPartialequilibriu
mmodels](http://lnweb18.worldbank.org/ESSD/sdvext.nsf/81ByDocName/ToolsandMethodsImpactanalysisPartialequilibriu
mmodels) visited in October 2004.

¹⁴⁷ See FAO (2004b)

process of the product does not matter when trade policies are evaluated. However, as with the determinants of competitiveness, “differentiation” factors have become more important in recent years in the attempt to distinguish conventional bananas from bananas cataloged as fair trade, organic, brand name, or from specific producer countries. All these distinctions attempt to tag the “differentiated” exporting agents with a premium price higher than the price of conventional bananas.

Secondly, it is assumed that there are no substitute products—only the Vanzetti et al. (2004) model includes the effects of imperfect substitute products as an additional variable. The simplification of a single model analysis can affect welfare estimations.

Thirdly, one of the strongest assumptions is that perfect competition exists. However, as verified by the analysis of the qualitative determinants of competitiveness, there are reasons to believe that TNCs and retail chains have the market power necessary to affect conditions of competition; unfortunately, databases are almost inexistent or not reliable to prove this quantitatively.

Fourth, in all the models, elasticities are regarded as constant, and few of them make their own estimations. Furthermore, sensitivity analyses are based on changes of elasticities, shifts of demand and supply, and variations in policies. The last common assumption is that exports equal imports in the market-clearing equation.

As the most recent reform of the COM bananas is the tariff-only system, the models above have been updated for the calculation of a tariff equivalent to the pre-tariff regime based on TRQs. In order to model the tariffication process, additional issues such as a quota filling and the distribution of licenses are taken into account. For instance, if the quota is filled and binding, it is in the interest of some agents to receive quota rents by trading import licenses, “trade of banana paper”. First the distribution of licenses is based on a historical reference of trade, and afterwards the licenses can be traded freely by the operators. As only anecdotal information about the price of the licenses is available, an alternative is to calibrate the model according to the differential of internal and external banana prices. This differential includes the prices of the licenses (quota rents) and transaction costs.

The assumptions and adjustments mentioned above constitute the basis for the elaboration of the model in this research.

IV.3 The Model

The banana model in this research is an updated version of the single-commodity, multi-country, partial equilibrium model of the world banana market developed by Guyomard et al. (1997-2005). It includes the trade flows of the years 2000–2002 as a reference period, and integrates the enlargement of the Eastern European countries to the EU. It also follows the banana trade models of Borrell and Yang (1990, 1992) and Read (1994). The Guyomard et al. model includes the preferential access of some countries to the EU market by explicitly taking into account their market clearing process. A brief summary of the methodology, which has been adapted to the changing policies of the EU (from the conditions pre-COM until the tariff-only regime), is presented next. It is also shown that dynamic effects of the tariff-only regime on exports from the Caribbean Islands, West African countries, and dollar zone countries are likely to be different from static impacts, whatever the estimated level of the static tariff equivalent (Guyomard et al. 2005).

The model for tariffication analysis has been transformed from its original version by adding new exporting and importing countries and by focusing on the effects first from the pre-COM to the COM, then within the COM itself, and later from the COM to the tariff-only system. In order to understand the effects of the policy changes on model formulation, the following section offers a graphical approach as a basis to explain the partial equilibrium model.

IV.3.1 Interpretation of the Policy Changes of the COM: Graphical Approach

How to understand the changes in the COM bananas is one of the first problems in the formulation of any empirical approach. Therefore, this section deals with a brief graphical approach of the main policy changes of the EU regime, that is to say, from the time of multiple markets within the EU, prior to the formation of the COM bananas, until the current tariff-only regime.

Before the formation of the COM bananas (pre-COM), countries are divided from the supply side into three exporting groups: regional suppliers, favored suppliers and non-favored suppliers. On the demand side, importing countries within the EU are divided

according to the protective relationship with exporting countries as explained in Section III.5 (Graph III.9)¹⁴⁸.

<i>Table IV.9 Distribution of Countries According to Market Access Characteristics</i>	
<i>j</i>	Exporting Countries
Type 1	Dollar countries
Type 2	ACP countries
Type 3	EU producers
<i>i</i>	Importing Countries
Type a	France, Greece, Portugal, and Spain
Type b	Italy and the United Kingdom
Type c	Benelux, Denmark, and Ireland.
Type d	Germany, Austria, Finland, and Sweden.
Type e	Rest of the world

The following equations represent the different situations of pre-COM market equilibrium:

$$D_a = S_1^a(trq) + S_2^a + S_3^a = f(p_j^a); \text{ TRQ for } 1; (1)$$

$$D_b = S_1^b(trq) + S_2^b = f(p_j^b); \text{ TRQ for } 1, \text{ no exports from } 3; (2)$$

$$D_c = S_1^c(t) + S_2^c = f(p_j^c); \text{ single tariff } (t) \text{ of } 20\% \text{ for } 1, \text{ no exports from } 3; (3)$$

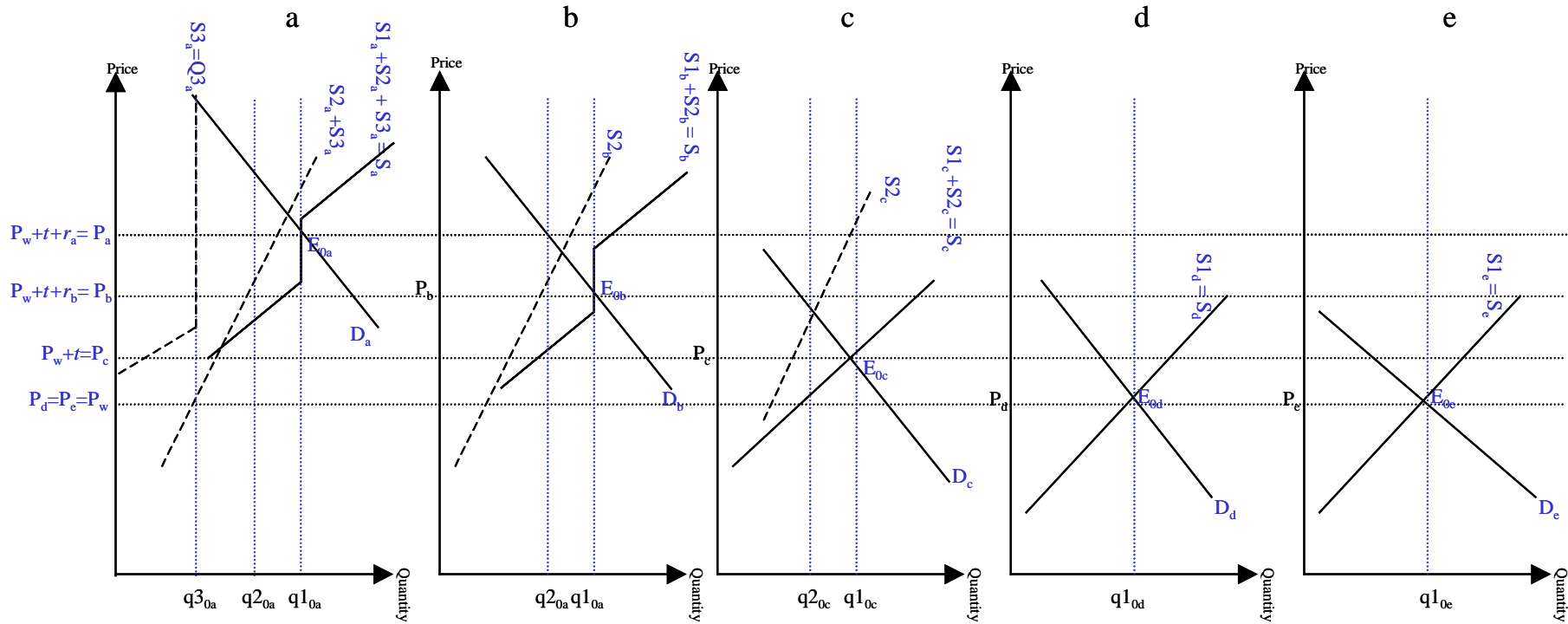
$$D_d = S_1^d = f(p_j^d); \text{ free trade, no exports from } 2 \text{ and } 3; (4)$$

$$D_e = S_1^e = f(p_j^e); \text{ free trade, no exports from } 2 \text{ and } 3. (5)$$

S_j is supply, D_i is demand, and p_j^i is the market price for j exporting countries and i importing countries. The components of the tariff rate quota (TRQ) are the tariff (t) and the quota rent (r).

¹⁴⁸ This analytical division is summarized in Table IV.9

Graph IV.7 Pre-COM Market Conditions



Note: In panel “a” dotted lines are indicative of the supply of EU (S3) and cumulative of EU and ACP producers (S2+S3). Panel “b” and “c” dotted lines are only ACP supply (S2). In all panels, the aggregated supply is the result of the sum up of the supply of EU (S3) and ACP (S2) producers (if exists) and dollar (S1) producers. The only relevant equilibriums are represented by the crossing of supply (a, b, c, d or e) and demand (a, b, c, d or e) with their respective prices (a, b, c, d, or e).

Panels *a* to *d* represent, in Graph IV.7, the market situation of EU country types *a* to *d*, respectively. Panel *e* is the situation in the rest of the world. In the case that pre-COM conditions are compared with a situation of free trade, the world equilibrium price of dollar country bananas is reduced, with a subsequent increase of imports from the rest of the world and type *d* countries. Types *a* and *b* reduce their imports of bananas and, depending on its elasticity, even *c* may reduce its import levels. The effect of type *1* exports to the EU protected markets depends on the price competitiveness of contending country types *2* and *3*. Normally, it is supposed that the elasticity of type *1* countries is superior to that of type *2* and *3* countries. Thus, the result is an increase of dollar country bananas to *a*, *b*, and *c* countries at the cost of the other exporting countries (*2* and *3*).

However, in reality the transformation of the EU was not toward a free-trade regime but toward a more restrictive market, including TRQs for all EU country members. In consequence, to transform pre-COM to COM conditions, some assumptions are made:

- The tariff quota is set at the “historical” level (1989-1991), making imports before and after the COM equal. Therefore the world price does not change.
- The different importing prices from the pre-COM regime are equalized for all countries at the same level. The assumption is that prices are equalized at the level of type *c* countries.

Because of the last assumption, the prices for type *b* countries is decreased. It also supposes decreasing competitiveness of EU producers, the beneficiaries of compensatory payments. Therefore, a last assumption is necessary: “the deficiency payments regime...to keep the support price...where EU regional suppliers are paid the difference between the EU market price and the reference price does not change the export levels of these domestic producers” (Guyomard et al. 1999a, p. 110).

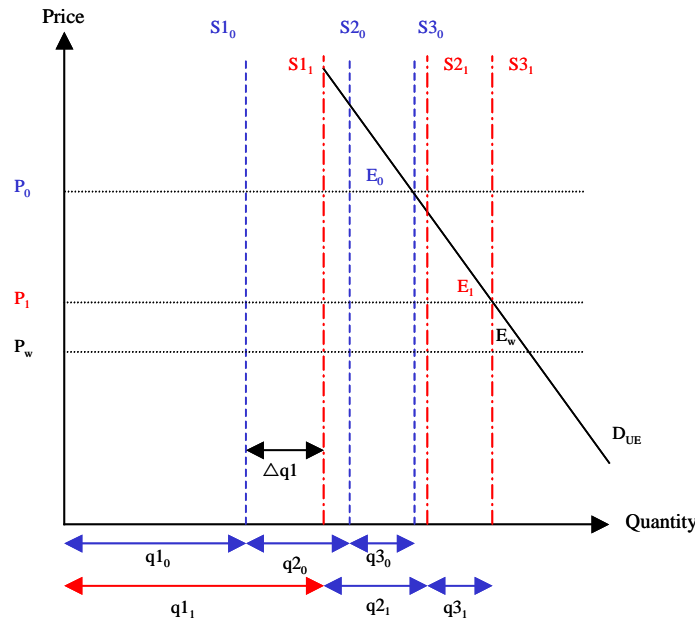
The consequence of the different pre-COM systems was a protective system of tariff rate quotas and tariff preferences for type *2* and *3* countries. The analysis is simplified by creating a situation where the amount of the quota equals the pre-COM import level. In doing so, the simulations change from one scenario with five different demand country groups (types *a* through *e*) to a scenario with two groups of countries, the EU and the rest of the world.

The basic consequence of the COM's existence was the reduction of the world price as a consequence of restricting Community imports from non-preference countries. Effects on both importing and exporting countries depend on the level at which the quotas are fixed. During the COM, this corresponded to the average of the historical reference between 1986 and 1988. Thus, assuming that import levels were the same as when the TRQ regime entered action (2,553 million tons), the decrease in country *d* imports had been exactly compensated by an increase in *a* and *b* countries' imports. Because of interacting effects, theoretically, dollar countries benefit from type *a* and *b*'s openness and lose from *c* and *d*'s closeness. In contrast, ACP countries gain from access to previously freer countries (*c* and *d*) and lose market share in the formerly more-protective EU countries (*a* and *b*).

With the TRQ applied to restrict imports to the exact amount of the quota (2,553 million tons), the impact on market share of demanding countries varies according to the single-country policies in the pre-COM period. Highly protected countries (types *a* and *b*) gain market share because of a price decrease. Less protective countries (types *c* and *d*) increase importing prices and therefore lower market share. As a consequence, welfare effects are compensated from the "winner" types *a* and *b* countries to the "loser" countries of types *c* and *d*.

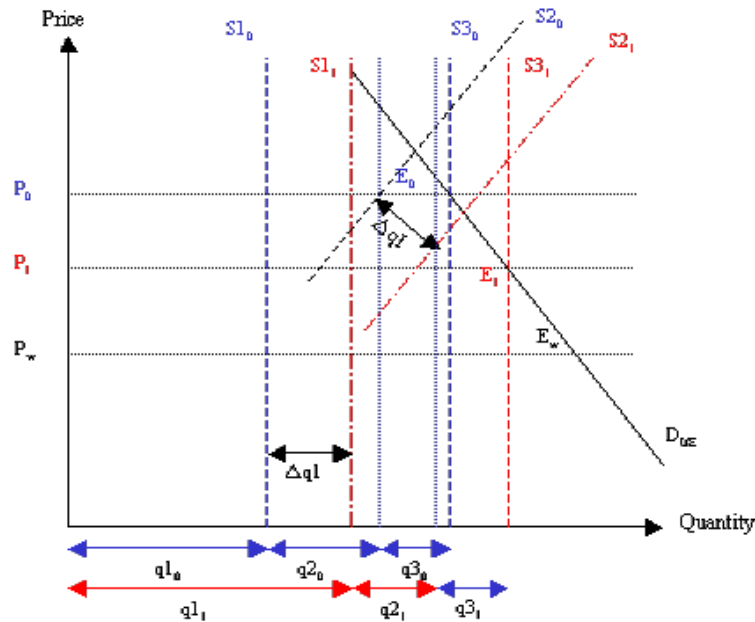
In Graph IV.8 it is assumed that sensitivity to changes in the quotas comes only through the demand; furthermore, for simplicity, it is supposed that the importing country is small, although this is not the case. If the demanding country is large, as is the EU, it is likely that EU demand changes would affect the world market price and thereby supply from major producing countries. In this simplified case, supplies from the EU, ACP, and dollar countries are perfectly inelastic (vertical lines), and any change in the quota of dollar countries affects the equilibrium price in the EU but does not impact suppliers. The assumption behind this is that supply to the EU is unlimited at any price above or equal to the world price.

Graph IV.8 Supply Responses to Quota Changes: Perfect Inelastic Situation



However, when the quota is eliminated, changes in elasticity are expected. Graph IV.9 portrays this situation by eliminating the quota for ACP countries but keeping both dollar and European Union elasticities fixed.

Graph IV.9 Supply Responses to Quota Changes: ACP Elastic



Graph IV.9 shows that the effects on price responses are lower than in the situation of perfect inelasticity of the ACP; in this case the price is reduced by a lower quantity than in Graph IV.8. From this, it is possible to conclude that the overall effects depend on the

estimation of elasticities of both demand and supply. However, as will be presented later, assumptions about TRQ distribution are also necessary. Until now the quota has not been supposed to be binding, and any change of supply is equivalent to the changes of a simple tariff.

In Graph IV.10, the TRQ is still not binding, and the importing markets of the EU and the rest of the world are only differentiated by the EU policies (COM) that will be transformed to a tariff-only regime. Therefore this analysis is a representation of supply and demand responses to changes in tariffs. From this graph the inelasticity of the EU producers (S_{3EU}) can be observed because of the compensatory aid and its resulting price, superior even to the EU market price. The assumption of fixed supply functions is thus removed, and ACP countries' (S_{2EU}) elasticity is supposed to be lower than that of dollar countries (S_{1EU})¹⁴⁹, which include the tariff. The sum of these three supply functions gives the aggregate supply function for the EU (S_{0EU}).

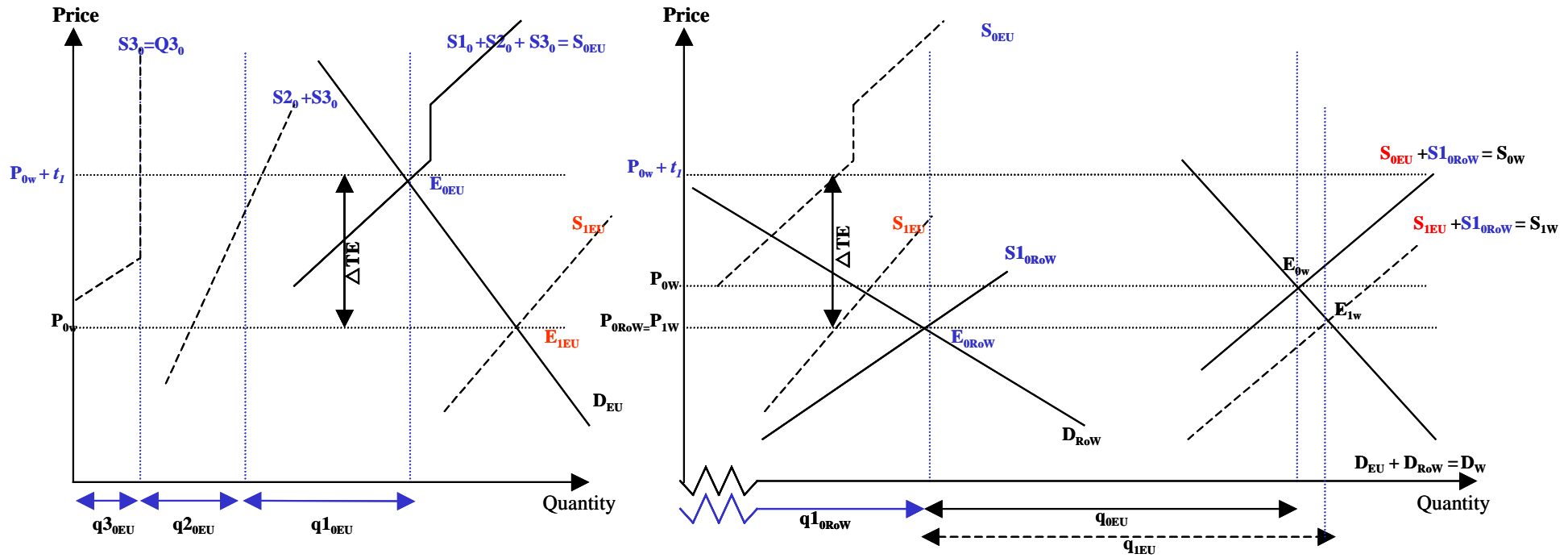
The second panel shows the behavior of the market in the rest of the world. The equilibrium is given by supply exclusively from dollar countries and the demand of the rest of the world. Because this market is assumed to be without restrictions, the equilibrium price is below the price in the EU market.

The static comparative presented in Graph IV.10 simulates the elimination of the tariff to the dollar countries, represented by a parallel, downward shift of EU supply (S_{0EU}). As supply is no longer inelastic, as in Graph IV.8, quotas are removed, and the EU is treated as a large country. The results are mostly the result of elasticity responses of supply to the EU (S_{0EU}) and the rest of the world (S_{1ORoW}).

The two markets are converted into one world market at the equilibrium price (E_W), which is higher than the "rest of the world" price but lower than the EU price. The total effect on quantities is a question of supply responses (elasticities), and the effect of the tariffs can be simulated by the opposite movement, from free trade to tariffication, this time without taking into account the quota allocation.

¹⁴⁹ Notice that empirically the elasticities of Western African countries could be at the same level as dollar countries.

Graph IV.10 Tariff Elimination on *Dollar Countries*



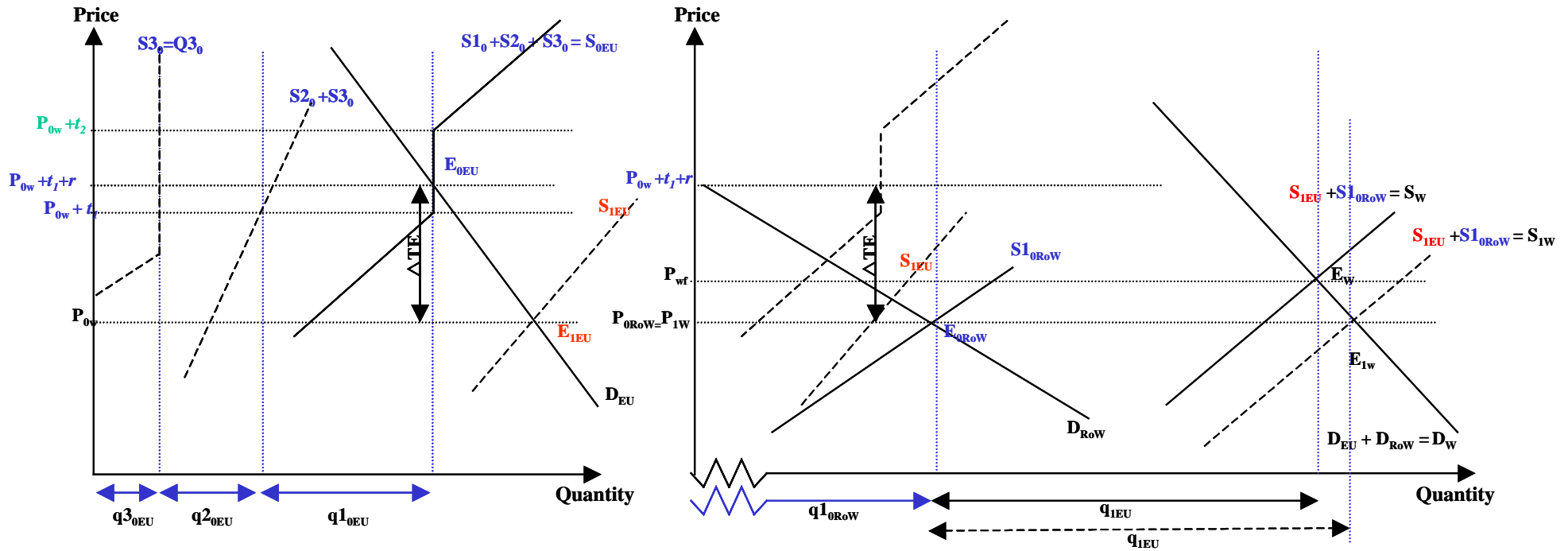
Note: S_{0EU} represents the total supply to the EU when the TRQ is not binding at the equilibrium E_{0EU} (acting as a simple tariff). If the EU is assumed as a small country, the elimination of the TRQ supposes a displacement downwards of S_{0EU} to the new position S_{1EU} (equilibrium at E_{1EU}) without affecting the rest of the world price. The equilibrium E_{1W} represents the situation in the world if tariffs are eliminated in the EU. If the EU is assumed as a large country (as it is), the new equilibrium depends on supply and demand responses. Here it is represented in the equilibrium E_{0W} where the world price increases and quantity decreases.

Finally, to verify the complexity of the model, Graph IV.11 shows the inclusion of the TRQ when the quota is binding. Although the result is the same as in Graph IV.10, the tariff equivalent is no longer the vertical distance by the shift of supply, but the distance between the binding price and the new equilibrium. The binding price is composed of the price (including margins and costs), the tariff (t), and the quota rent of the licenses (r). Based on the discussion in the first chapter regarding TRQs, the distance (difference) between the world price (P_{OW} : external price) and the EU price ($P_{OW} + t + r$: internal price) should represent the tariff. The problem under consideration is the amount of the quota rent (r) and how it should be distributed between operators. In the COM case, this problem is often discussed (Mönnich 2003; WTO 2001; Herrmann and Sexton 2001; Preville 2002). Quotas were administrated according to a historical reference, distributing the licenses between operators freely. Some of the operators were interested in the trade of licenses rather than the banana trade. Consequently, the actual distribution and price of the licenses, and with them the amount of the rents, is a matter of assumptions.

In an scenario of free trade the situation is the same as in Graph IV.10, where quota rents and tariffs are eliminated and the new aggregate supply for the world is the result of the horizontal sum of supplies, supposing that more competitive countries (such as dollar and West African countries) will receive the market share losses of Caribbean and European producers. The amount of exports depends on the exporting countries' elasticities and responses to the changed demand of the EU and the rest of the world, due to changes in import prices (this fact is even more important if the small country assumption for the EU is relaxed).

Now that some of the problems regarding data, interpretation of trade policies, and assumptions have been made, the following section develops the banana model in order to make estimations and forecast the effects of changing policies in the subsequent sections.

Graph IV.11 TRQ Situation: Binding Quotas



Note: In this case the supply to the EU is binding. The tariff equivalent is the result of the difference of the price, the tariff and a rent (internal) at the equilibrium $E_{0_{0EU}}$ with the price (external) in the rest of the world P_{0w} . In the case that the EU is treated as small country, any change of the supply due to the reduction of tariffs ($S_{0_{0EU}}$ to $S_{1_{0EU}}$) does not affect world prices. The result would be E_{1w} . Instead the real situation taking the EU as a large country the result depends on demand and supply responses. Here it is assumed to be E_w (reduction of quantity, increase of prices).

IV.3.2 Model Formulation¹⁵⁰

The following sections present a model that deals with the determination of the policy changes of the COM period first, and later, the tariff-only system. The meanings of variables are presented in Table IV.10.

<i>Table IV.10 Notations of the Model: TRQ to Tariff-Only Regime</i>
<i>S</i> : Supply. <i>D</i> : Demand Sub-indices 1,2 and 3 are dollar zone, ACP and EU producers, respectively. <i>RoW</i> : Rest of the world <i>EU</i> : European Union <i>P</i> : Price (graphic analysis) <i>p_x</i> : FOB price of exporting countries <i>p</i> : CIF price of importing countries <i>Q</i> : Quota assigned only to third-party countries (assumed to be the dollar zone) <i>K</i> : Coefficient of the costs of linking FOB with CIF prices

To adapt the model to the market conditions, some assumptions are necessary:

- Dollar countries are the only exporting countries for the "rest of the world" (*RoW*) importing countries.
- In the graphical analysis, no differences between export and import prices (such as transaction costs and margins) were taken into account; this assumption is now abandoned.
- EU producers consume their own production and, given that the compensatory aid is higher than the equilibrium price (even inside the EU), their supply is inelastic.
- ACP countries only export to the EU, and their elasticity is lower than dollar countries.
- Dollar prices include the tariff (as shown in the graphic analysis), which is assumed to fulfill the one price law within the EU.
- The TRQ is autonomous and restrictive.

The importing countries remain divided into two regions, the European Union and the rest of the world (the latter including Eastern Europe and former candidate countries to the EU).

¹⁵⁰ The analysis is based on the theoretical framework of Guyomard et al. (1997 p. 90-108) and the empirical analysis of their studies from 1997 to 2005.

Some problems include, first, how to measure the amount of the cost coefficient linking FOB prices with CIF prices; second, within the cost coefficient, how to determine the quota rent for the trading of licenses; and third, how to estimate the elasticities (estimated or assumed) in order to analyze the responses due to changes in the trade policies. The objective of the following empirical analysis is solve these issues:

Demand functions are specified for two importing regions:

$$D_{RoW} = D_{RoW} (p_1^{RoW})^{\varepsilon_{RoW}} \text{ -- rest of the world}^{151} \quad (6),$$

$$D_{EU} = D_{EU} (p_j)^{\varepsilon_{EU}} \text{ -- the EU}^{152} \quad (7),$$

where the price in the EU (p_j) is the result of a weighted average of the import price from the exporting countries, which are divided into the main dollar zone exporters (Ecuador, Costa Rica, Colombia, Panama, Guatemala, Honduras, and the rest of the dollar countries), the main ACP exporting countries from Africa (Cameroon and the Ivory Coast), and Caribbean (the Windward Islands, the Dominican Republic, and Jamaica), and the European producers. The rest of the world price (p_1^{RoW}) is given by the dollar countries, which provide all of its bananas. In consequence, supply in the EU market is specified for three exporting regions as follows:

$$S_1^{EU} (p_{x1}) = S_1^{EU} (p^{EU} - K_1^{EU})^{\varepsilon_1} \text{ -- supply function of the dollar zone} \quad (8);$$

$$S_2^{EU} (p_{x2}) = S_2^{EU} (p^{EU} - K_2^{EU})^{\varepsilon_2} \text{ -- supply from ACP countries} \quad (9)^{153};$$

$$S_3^{EU} (p_{x3}) = S_3^{EU} (p^{EU} - K_3^{EU})^{\varepsilon_3} \text{ -- supply from EU producers} \quad (10).$$

Supply equations (8) through (10) are a function of both the EU import prices and a cost coefficient (K). The law of one price can be represented by:

$$p_{x1} = p_{x2} - K_2 = p_{x3} - K_3 \quad (11),$$

¹⁵¹ "Rest of the world" includes the Eastern European countries added to the EU in May 2004.

¹⁵² In the simulation, the hypothesis of a unique demand function is abandoned regarding the different elasticities within the EU. Therefore the EU is divided in regional groups, detailed in Annex J.

¹⁵³ In the second scenario, Section IV.4.1, it should be noted that the ACP countries in Western Africa and the Dominican Republic are no longer restricted by the quota, transforming the supply from ACP countries into the equation: $S_2 (p_{x2}) = S_2^{EU} (p^{EU} - K_2^{EU})^{\varepsilon_2} + S_2^{RoW} (p^{RoW} - K_2^{RoW})^{\varepsilon_2}$

where K_2 and K_3 are the differential cost coefficients between exporting markets and the exporting price of the most competitive supplier, in this case the dollar countries.

The exports from the dollar zone to the EU are assumed to completely fill the assigned quota Q for third-party countries. In fact, supply of the dollar zone to the EU equals the quota¹⁵⁴:

$$S_1^{EU} = Q \quad (12),$$

and the EU producers are assumed to have a constant supply:

$$S_3^{EU} = \bar{S}_3 \quad (13).$$

From the supply and demand functions is possible to obtain the equilibrium for the two markets:

$$\text{as } S_1^{RoW} = D_{RoW} = f(p_1^{RoW});$$

$$S_1(p_{x1}^*) - Q = D^{RoW}(p_1^* + K_1^{RoW}) \text{ -- rest of the world (14)}$$

$$\text{and } S_1^{EU} + S_2^{EU} + S_3^{EU} = D_{EU} = f(p_j^{EU});$$

$$S_2(p^{EU*} - K_2^{EU}) + Q + \bar{S}_3 = D^{EU}(p^{EU*}) \text{ -- EU (15)}$$

Equilibrium changes can be represented by a variation in the exogenous variable Q . The first differentiation for the RoW (14) equilibrium is given by:

$$\frac{\partial S_1}{\partial p_{x1}} * \frac{\partial p_{x1}^*}{\partial Q} - 1 = \frac{\partial D^{RoW}}{\partial (p_{x1} + K_1^{RoW})} * \frac{\partial (p_{x1}^* + K_1^{RoW})}{\partial Q} \quad (16),$$

taking into account that:

$$\varepsilon_{s_1} = \frac{\partial \log S_1}{\partial \log p_{x1}} > 0 \quad (17)$$

is the supply price elasticity of dollar, and

¹⁵⁴ Any amount above the quota implies paying the over-quota tariff (prohibitive). This has been never occurred.

$$\varepsilon_{D^{RoW}} = \frac{\partial \log D^{RoW}}{\partial \log(p_{x1}^* + K_1^{RoW})} < 0 \quad (18)$$

is the demand price elasticity of the rest of the world. The equilibrium can be rewritten, combining equation (16) with elasticities (17) and (18):

$$\varepsilon_{S_1} x S_1^* x \frac{\partial \log p_{x1}^*}{\partial \log Q} - Q = \varepsilon_{D^{RoW}} x D^{RoW} x \frac{\partial \log(p_{x1}^* + K_1^{RoW})}{\partial \log Q} \quad (19a).$$

Regrouping terms:

$$\frac{\partial \log p_{x1}^*}{\partial \log Q} = \frac{Q}{\varepsilon_{S_1} S_1^* - \varepsilon_{D^{RoW}} D^{RoW} \frac{P_{x1}^*}{P_{x1}^* + K_1^{RoW}}} > 0 \quad (19b);$$

$$\frac{\partial \log p_{x1}^*}{\partial \log Q} = - \frac{Q}{S_1^* (\varepsilon_{S_{\&}} - \varepsilon_{D^{RoW}} \frac{P_{x1}^*}{P_{x1}^* + K_1^{RoW}}) + \varepsilon_{RoW} Q \frac{P_{x1}^*}{P_{x1}^* + K_1^{RoW}}} > 0 \quad (19c).$$

The equations above show the effect of changes in the quota on the export prices of dollar countries. Any increase of the quota pushes the dollar country export prices up; this increase is higher, *ceteris paribus*, when the elasticities of both dollar supply and the rest of the world's demand are closer to zero.

As the elasticities for the EU¹⁵⁵ are represented by ε_{S_2} and $\varepsilon_{D^{RoW}}$, regrouping the terms and using the same procedure as for the RoW equilibrium gives the EU equilibrium equations:

$$\frac{\partial \log p^{EU*}}{\partial \log Q} = - \frac{Q}{\varepsilon_{S_2} S_2^* \frac{p^{EU*}}{p^{EU*} + K_2^{EU}} - \varepsilon_{D^{EU}} D^{EU*}} < 0 \quad (20a),$$

¹⁵⁵ $\varepsilon_{D^{EU}} = \frac{\partial \log D^{EU}}{\partial \log p^{EU}} < 0; \varepsilon_{S_2} = \frac{\partial \log S_2}{\partial \log(p^{EU} - K_2^{EU})}$

$$\frac{\partial \log p^{EU*}}{\partial \log Q} = - \frac{Q}{S_2^* (\varepsilon_{S_2} \frac{p^{EU*}}{p^{EU*} + K_2^{EU}} - \varepsilon_{D^{EU}}) + \varepsilon_{D^{EU}} (Q + \bar{S}_3)} < 0 \quad (20b).$$

In this case, increasing the quota reduces the import price within the EU. If the price elasticities of both ACP supply and EU demand are closer to zero, the price reduction is more pronounced.

The effect of the COM bananas can be simulated by the changes in the quota allocations from the model above. However, this raises the question of how the market can remain in equilibrium while switching from a TRQ to a tariff-only system¹⁵⁶.

Inclusion of the tariff-only regime does not change the general parameters of the model. However, the new equilibrium price will be given by the following relation, where the quota is replaced by a tariff t only for dollar countries:

$$p_{x1} = p^{EU} - t_1^{EU} - K_1^{EU} = p^{EST} - K_1^{EST} = p^{RoW} - K_1^{RoW} \quad (21)$$

Following the notation from previous sections, $p_i = p_{xj} + K_{ij}$, where under free trade conditions, K is defined as the cost coefficient (transport cost and importer margin) describing the CIF price p of importing country i and the FOB price p_x of exporter j . For relatively free trade countries, K is easily estimated as the difference between CIF and FOB prices. However, for the case of the EU, K would include the tariff t and the quota rent r , depending on the supplying country.

The approach here differs from Borrell and Bauer's quota rent definition (2004), which supposes that ACP countries do not receive any rent from the trade of licenses, but follows EU Commission analysis, which says that the license owners (even dollar country operators) have a margin for trading the "banana paper". This is assumed to be an additional margin hidden in K that must be suppressed from the calculation.

$$p_i = p_{xj} + K_{ij} + t + r \quad (22)$$

¹⁵⁶ The method of determining the tariff equivalent to the banana trade regime of 2001 has been widely discussed. Annex G.a. shows the method suggested by the WTO for calculating the tariff equivalent based on a tariff gap calculation. Studies using this method specifically for the banana regime are summarized in Annex G.b. Finally, the simulation methods are summarized in Annex G.c. This research concentrates on the accounting methodology described in section IV.4 (Table IV.12), which is based on Guyomard et al. (1997).

t and r are assumed to be included in the CIF prices (approaching the wholesale price)¹⁵⁷.

The new regime only applies the tariff to third-party countries. Therefore supply from dollar zone countries is defined by:

$$S_1 = S_1^{EU} (p_{x1} + t_1^{EU})^{\varepsilon_1} + S_1^{RoW} (p_{x1})^{\varepsilon_1} \quad (23).$$

Supply from ACP and EU producer countries remains the same as in equations (9) and (10):

$$S_2 = S_2 (p_2^{EU} - K_2^{EU})^{\varepsilon_2} \quad (9) \quad (24);$$

$$S_3 = S_3 (p_3^{EU} - K_3^{EU})^{\varepsilon_3} \quad (10) \quad (25).$$

The resulting equilibrium is given by a unique equation involving a single market for the EU and the rest of the world:

$$\sum_i D^i = \alpha_i (p^i)^{\varepsilon_i} = \sum_j S_j = \beta_j (px_j)^{\varepsilon_j} \quad (26).$$

Using the prices from equation (22) in equations (23) to (25), the equilibrium quantities for every country can be obtained.

Regarding the data, the latest version of the Guyomard et al model (2003) uses the average of the period 1996–1998¹⁵⁸ as reference. The sources are Eurostat (Comext) and FAO (FAOstat). CIF and FOB prices are the result of weighted average unit values.

In order to simulate the effects of a quota change, elasticities are taken from previous literature¹⁵⁹. Growth trends in demand and technical changes in supply are estimated as processes independent of price changes¹⁶⁰. This hypothesis is restrictive as it limits the

¹⁵⁷ Following Guyomard et al., the quota rent (r) effect on the coefficient of cost (K) is based on the Agriculture Directorate of the EU Commission. A table with the cost coefficient to be used in the partial equilibrium model is included in Annex I

¹⁵⁸ Previous models use a database for the average period 1989-1991 (Guyomard et al. 1997, 1999a and 1999b). The studies following the EU Commission report in 2001 use the average between the years 1996-1998 as a reference period.

¹⁵⁹ There is also heated discussion of the elasticities. Annex H shows the elasticities of the studies dealing with the changing banana regimes.

¹⁶⁰ See Annex L

possibility of technical changes coming from favorable price expectations (Guyomard et al. 2003, p. 149). However, it makes forecasting and dynamics in the model easier.

Taking into account the earlier discussion of the tariffication process, the following section includes these new conditions in the partial equilibrium model, including the effects of the EU regime change on exporting and importing countries.

IV.4 Formalization of the Model

Policy makers have used banana models to justify the application of trade policies, however, the weaknesses of banana model assumptions have also been the basis for strong criticisms. Rather than neglect these criticisms, this section reconsiders some of the assumptions of previous works on the banana market. It simulates, under different scenarios, the response of changing policies using prices, market share, and trade flows as a measure of competitiveness¹⁶¹. Supplier countries, in particular, are emphasized, which according to the internal determinants of competitiveness are the ones most socially affected by the changes.

In order to estimate a static partial equilibrium model of the banana market, it is necessary to take into account some elements discussed earlier regarding the sensitivity of the results to elasticities, exchange rates, amounts of the quota rents, and tariff (when applicable).

As seen in Annexes G and H, simulation models take different approaches regarding the value of supply price elasticities. For example, the majority of studies determine similar elasticities for dollar and African ACP countries, given that their internal determinants of competitiveness are still available and can be rapidly and easily adjusted to new market conditions. In contrast, constraints on these determinants in Caribbean ACP impede their responses to market changes. As a consequence, theoretically, elasticities from African ACP and dollar countries should be higher than those of Caribbean ACP countries. This research takes a conservative approach in which a unique elasticity for countries ACP is assumed; in one of the simulations this assumption is abandoned.

Regarding demand elasticities, it would be useful to derive the elasticities of individual countries within the EU. However, the market restrictions make market structures

highly dependant on trade policies and elasticities difficult to measure—only for totally free markets that were totally free before 1993 (such as Germany, Austria, Finland, and Sweden) would these measurements be reliable. In order to solve this problem, some scholars estimate actual free markets' elasticities (such as for the USA) and adjust these figures to estimate elasticities for the entire EU¹⁶².

As the calculations of this paper are based on Comtrade and FAOstat data, whose figures are given in dollars, the only implementation of currency exchange rates is transforming the tariff equivalent from euros to dollars. Further research is needed to show the effects of exchange rates in particular producing-exporting countries, and caution should be taken with the often-unreliable sources of this type of data.

Finally, the determination of the quota rent and the tariff depends on the assumptions of the quota being binding and the rent being distributed between operators. In this model, the quota is assumed to be binding only for dollar countries, which are also able to hold a major portion of rents (based on the market power of TNCs and the vertical integration of domestic companies, as seen in the third chapter). However, there are reasons to suspect that African ACP countries' exports are also bound by the quota (at least before the 2001 reform of country allocations), and that both they and importing countries are able to retain parts of the quota rents. It is reasonable to assume that producer countries, particularly those with fewer TNCs (such as Ecuador and Colombia) hold less than 50 percent of rents, if any at all. The assumptions of quota rents, and subsequent estimation of tariffs, can underestimate the benefits of the tariff equivalent for dollar countries and overestimate African benefits.

The partial equilibrium model categorizes countries according to the blocks in Table IV.11. The demand side consists of nine equations representing importing countries grouped into the EU15 (seven equations), the EU10 (EST), and the rest of the world (ROW). On the supply side there are thirteen equations, corresponding to the exports of ACP countries (the Ivory Coast and Cameroon are analyzed individually), European producers (French overseas territories and the rest of the EU producers), non-traditional ACP countries (the Dominican Republic included), the most representative dollar

¹⁶¹ See Section I.2.3.3

¹⁶² The elasticities of the simulations in this research are taken from Guyomard et al. 2004 & 2005. See Annex J.

country exporters individually (Ecuador, Colombia, Costa Rica, Panama, Guatemala, and the Honduras), and the rest of the world (where countries such as the Philippines, Brazil, China and the remaining dollar countries evaluated).

Table IV.11 Notation of Trading Countries & Blocks

Exporting Blocks	
Guadeloupe & Martinique	GMA
Canary Islands, Crete, & Madeira	CMC
Windward Islands & Jamaica	CAR
Ivory Coast	CIV
Cameroon	CAM
Non-traditional ACP	NTA
Ecuador	EQU
Costa Rica	CRI
Colombia	COL
Panama	PAN
Guatemala	GUA
Honduras	HON
Rest of the world	DOL
Importing Blocks	
France	FRA
United Kingdom	GBR
Benelux, Denmark, & Ireland	BEL
Germany	GER
Greece, Portugal, & Spain	GPS
Italy	ITA
Austria, Finland, & Sweden	NOR
EU10	EST
Rest of the world	ROW

The bilateral trade volumes and the values used to run the model are based on the averages from the period 2000–2002 in the UN Comtrade database¹⁶³. Import prices are given by the weighted average of export unit values and show differentiated effects of exporter countries in world trade. In practice, the weighted average gives a higher importance to larger exporter countries such as Ecuador, which is simultaneously a low cost producer. In the model, the import price is assumed to include the tariff for third-party countries; therefore it is a proxy of wholesale prices. Finally, export prices are the difference between import prices and marketing costs (transport and margins included)¹⁶⁴. If the export price of the model is compared with the average FOB price (measured as export unit values by FAOstat), the differential corresponds to the quota rents and marketing margins, which are assumed to be partially absorbed by producer countries (for instance, FAO prices are US\$194 for Cameroon and US\$281 for Ivory

¹⁶³ See Annex K.

¹⁶⁴ See the definition of the cost coefficient K in the Section 4.3 and Annex I

Coast; in the model the same countries' prices correspond to US\$456 and US\$576, respectively)¹⁶⁵.

The quota rent and transport costs are the most important variables from Guyomard et al. to estimate for the calculation of the tariff equivalent. The tariff equivalent for the reference period 2000–2002 ground the model of partial equilibrium. Results from the earlier and later database cost coefficients (K) and tariff equivalents (TE) are given in Table IV.12.

	1996 – 1998 (€/ton)		2000 – 2002 (US\$/ton) ^a	
	EU15	Rest of the World	EU25	Rest of the World
CIF price (p)^b	593	311	603	376
Tariff (t)	75	-	79 ^c	-
FOB price in the dollar zone (p_x)	248	248	293	293
Coefficient of cost (K)	106	63	83 ^d	83
Quota rent ($r = p - K - t - p_x$)	164	0	150	0
Tariff equivalent ($TE = t + r$)	239		227	

^a (€=US\$1.053)
^b CIF price is a weighted value of prices from different origins, including dollar zone countries' tariffs.
^c €75 tariff in US\$
^d See Annex I
Source: Guyomard et al. 2001 for 1996–1998 and author's calculations based on Guyomard et al. methods for 2000–2002.

Quota rent information from owners of licenses is not available because there is no open market for licenses and transport costs are highly variable (depending on weather conditions, fruit provision, and other factors). In previous research, Guyomard et al. (2001) estimates the quota rent to be between 184 and 211 €/ton, the EU DG Agriculture Banana Price Bulletin (1995) estimates it as between 162 €/ton (Ecuador) and 232 €/ton (Costa Rica), and Van de Kastele (1998) predicts a range between 24 and 339 €/ton.

An important data issue is how to account for re-exports and their implications in intra- and bilateral EU trade. This paper uses UN Comtrade statistics to construct demand functions and assumes that the total European production (excluding France, where data for Martinique and Guadeloupe is available from Eurostat) is consumed entirely by the

¹⁶⁵ As discussed in the first section, lack of cost information makes it difficult to estimate FOB prices and to compare between countries. See FAO 1994. Marketing and transport costs are included in the differential in export price estimations.

EU15. In other words, what Greece, Portugal, and Spain produce, they consume themselves. Regarding re-exports, net imports must be adjusted by the difference between imports and re-exports, particularly for countries such as Belgium, Germany, Italy, and the Netherlands. Greece, Denmark, the United Kingdom, Slovakia, and Slovenia import from Belgium and Germany, which are clearly re-exports. Finally, Latvian and Lithuanian imports from the rest of the world are probably mostly re-exports from the Russian Federation and from Germany, Belgium, and the Netherlands.

The General Algebraic Modelling System (GAMS 2004 v.21.3) is used to run the model simulating different scenarios of trade presented in the following section.

IV.4.1 Simulation of Policy Scenarios

Different policies were enacted in the process toward tariff equivalents; therefore some policy scenarios are simulated in this section to reflect the effects on trade flows and market share¹⁶⁶. The base period is the average of trade flows for the years 2000–2002 (*Actual EU15*)¹⁶⁷. Some simulations are run to show the effects of time shifts in supply (production changes) and demand (per capita consumption trends) to create some dynamic aspect in the static equilibrium model for a range of four years¹⁶⁸.

The first scenario describes the *status quo ante enlargement (SQAE)*. This scenario simulates the situation where dollar countries' bananas are restricted to the quota (equation 12) while those from ACP countries are exported only to the EU15 (equation 9). ACP countries' exports are assumed not to fill their quota allocation.

The second scenario, *status quo ante enlargement when ACP exports to the rest of the world (SQACP)*, simulates the transition period from 2001 to 2005. A TRQ regime is maintained, but the assumption that African and non-traditional ACP countries are the exclusive exporters to EU15 is lifted. A quota, which this time is filled, forces African and non-traditional ACP countries to export to destinations other than the EU15 (in this case Eastern Europe and the rest of the world)¹⁶⁹. Countries such as Cameroon, the

¹⁶⁶ The formulation was summarized in section IV.3.2, but a complete description of the theoretical analysis can be found in Guyomard et al (1997 p. 90-107 and 2001 p. 16-19). For the empirical analysis of the tariff equivalent, see Guyomard et al (2004 and 2005)

¹⁶⁷ See Annex K

¹⁶⁸ See Annex L

¹⁶⁹ Two quotas, 387566 and 70798Mt, were created in the model to simulate, respectively, African and non-traditional ACP exports. See also footnote to equation (9).

Ivory Coast, Belize, and the Dominican Republic would increase market participation in recent years, as described in the third chapter. Countries of Eastern Europe dramatically increase purchases from African countries, and the nature (organic and fair trade) of the exports from non-traditional ACP countries (such as the Dominican Republic) create a niche market that is translated into a market share increase.

The third scenario, *status quo enlargement (SQENL)*, includes the Eastern European countries (EST=EU10) in the EU by creating an autonomous quota within the EU25 (open to all exporting countries with preference for ACP nations). As would be expected because of the tariffs, an automatic increase of the import prices of EU10 to the EU15 levels is simulated. The basic scenario changes EU15 import prices to EU25 importing prices and enlarges the quotas of dollar and ACP countries. Since the new assumption allows African and non-traditional ACP countries to export to these destinations, EU25 prices are recalculated in the base period (*Actual EU25*)¹⁷⁰ as a weighted average including prices of dollar, African, and non-traditional ACP countries¹⁷¹. Furthermore, import prices from individual EU countries and the “rest of the world,” as well as international export prices change according to the new reference. Finally, according to the EU–USA agreement of April 2001, the TRQ system of the COM bananas changed to a tariff-only system in 2006. The last scenario is the *tariff equivalent (TAR)*, which supposes the elimination of all the quotas. The simulation assumes an EU of 25 members, where African and non-traditional ACP countries are still able to export to the rest of the world. Holding constant the average of the 2000–2002 period (referenced as *Actual EU25* in Annex M), the resulting price is in equilibrium at the level of the “tariff equivalent” estimated in Table IV.12 (US\$227/ton). Table IV.13 shows the results for the four-year dynamic simulation of the scenarios described above.

¹⁷⁰ Likewise, the base period equilibrium is calibrated as in Annex M.

¹⁷¹ There is no analytical change in the formulation of Section IV.3.2. The former Eastern European (EST) countries were part of the Rest of the World equation, and after the enlargement (EU10) they should be included in the equation of the EU (EU10+EU15=EU25).

<i>Table IV.13 Trade Policy Effects on Prices and Market Flows</i>						
	Actual EU15	SQAE	SQACP	Actual EU25^a	SQENL	TAR
US\$						
EU Price	620	639	658	603	650	586
EST Price	390	371	370			
RoW Price	376	357	356	376	355	359
Mt						
Total Demand	12,037,104	12,867,960	12,859,930	12,096,287	12,791,870	13,073,810
EU Demand	4,000,326	4,128,131	4,045,069	4,615,456	4,663,625	4,982,025
From EU to EU	663,128	692,957	692,713	662,895	692,713	692,713
From Dollar to EU	2,720,702	2,720,702	2,720,702	3,320,654	3,320,654	3,597,759
From ACP to EU	616,497	714,472	631,653	631,907	650,257	691,553
From African to EU	387,566	464,918	387,566	403,216	403,216	447,000 ^b
From Non Traditional to EU	70,798	83,098	70,798	70,837	70,837	91,676 ^b
From Caribbean to EU	158,133	166,455	173,289	157,854	176,204	152,877
From Africa to the EST & ROW	0	0	114,518	0	0	0
From Non Traditional ACP to the EST & RoW	0	0	32,818	14,044	34,476	0
From dollar to RoW & EST	8,036,777	8,739,829	8,667,525	7,466,788	8,093,769	8,091,781
As a percentage of EU demand						
From EU to EU	16.58%	16.79%	17.12%	14.36%	14.85%	13.90%
From Dollar to EU	68.01%	65.91%	67.26%	71.95%	71.20%	72.21%
From ACP to EU	15.41%	17.31%	15.62%	13.69%	13.94%	13.88%
From African to EU	9.69%	11.26%	9.58%	8.74%	8.65%	8.97%
From Non Traditional to EU	1.77%	2.01%	1.75%	1.53%	1.52%	1.84%
From Caribbean to EU	3.95%	4.03%	4.28%	3.42%	3.78%	3.07%
From Africa to the EST & ROW	0.00%	0.00%	1.30%	0.00%	0.00%	0.00%
From Non Traditional ACP to the EST & RoW	0.00%	0.00%	0.37%	0.19%	0.42%	0.00%
From dollar to RoW & EST	100.00%	100.00%	98.33%	99.81%	99.58%	100.00%

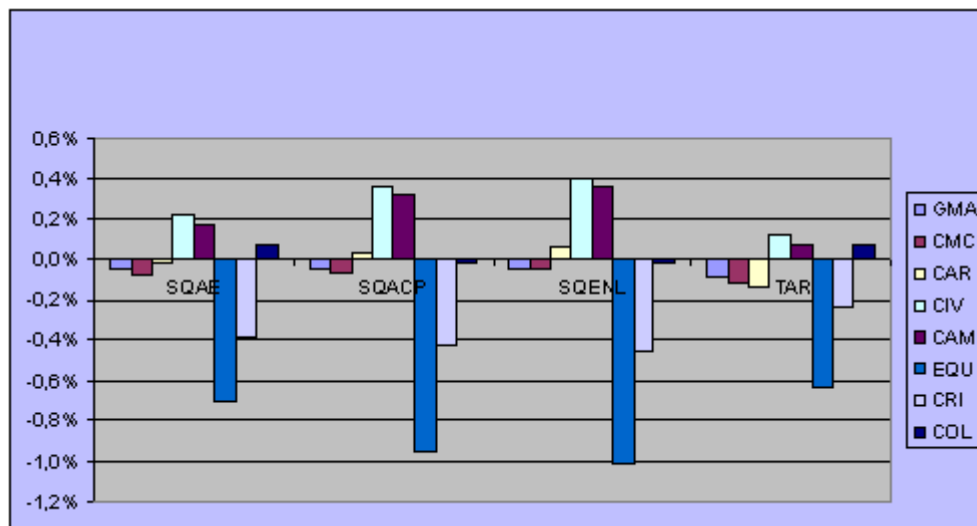
Differences		SQAE- Actual EU15	SQACP- Actual EU15		SQENL- Actual EU25	TAR- Actual EU25
From EU to EU		0.21%	0.55%		0.49%	-0.46%
From Dollar to EU		-2.11%	-0.75%		-0.74%	0.27%
From ACP to EU		1.90%	0.20%		0.25%	0.19%
From African to EU		1.57%	-0.11%		-0.09%	0.24%
From Non Traditional to EU		0.24%	-0.02%		-0.02%	0.31%
From Caribbean to EU		0.08%	0.33%		0.36%	-0.35%
From Africa to the EST & ROW		0.00%	1.30%		0.00%	0.00%
From Non Traditional ACP to the EST & RoW		0.00%	0.37%		0.24%	-0.19%
From dollar to RoW & EST		0.00%	-1.67%		-0.24%	0.19%
^a From the column <i>Actual EU25</i> onward, the Eastern European countries are included in the EU and a new market equilibrium is calibrated as in Annex M.						
^b In this scenario, exports from ACP and non-traditional ACP countries are going completely to the EU. In practice, some non-traditional ACP countries export to the rest of the world.						
n.a. not available						
Source: Author's calculations based on Guyomard et al (2005)						

According to the simulations, import prices increase in markets with more restriction (EU) and decrease with less or no restrictions (RoW). The particular case of Eastern European (EST) shows the conversion of a free market to a protected one as a consequence of the EU enlargement. Eastern European import prices increase disproportionately faster than import prices in freer markets decrease (RoW). Furthermore, the scenarios described above confirm the pervasive effect of the restrictions of exports from dollar countries to the EU. Only in the tariff-only case would the EU market share of the dollar zone increase within a period of four years. In the other cases, dollar country losses of market shares are between -0.75 percent (*SQAEC*P and *SQENL*) and -2.11 percent (*SQAE*), given quota restrictions. In contrast, compensatory payment protected European countries are only restricted by their own capacity to export. Their market share increases 0.21 percent in the *SQAE* situation and 0.5 percent in both *SQAEC*P and *SQENL* scenarios, but decreases by -0.5% in the tariff-only system. Finally, the results for Caribbean ACP and African and non-traditional ACP countries oppose one another. The capacity of African and non-traditional ACP countries to export to the rest of the world more than compensates for the eventual loss of market share within the EU in the TRQ system. In the tariff-only case, these suppliers make up for the losses of Caribbean (-0.46) and European producers (-0.35), who are the big losers of the new system.

Graph IV.12 shows the market share gains (or losses) for selected exporting countries compared with the *Actual EU15*, though now at the world trade level. In all cases European producers, Ecuador, and Costa Rica obtain net losses, in contrast with the net gains of West African producers and non-traditional ACP countries (not included in the graph). It should be noted that the freer the market is, the more the market share for dollar countries tends to increase. If, during the four years following the implementation of the tariff-only regime, there is no increase in the tariff, the reduction of protection for ACP and European countries would be implied. In consequence, dollar countries would increase their market share while traditional ACP and EU producers would see theirs reduced. In contrast, the preservation of a TRQ system with the same quota assignation as that of the averages from 2000-2002 would harm dollar countries in particular. For instance, the enlargement would limit exports to Eastern European countries, which

were formerly free market-oriented countries.¹⁷² Furthermore, according to the determinants of competitiveness Western African countries would have more time to consolidate their competitive advantage and catch up with dollar countries. The short-term advantage in costs would materialize into a long-term advantage due to the increasing influence of TNCs. In contrast, Caribbean and European producers are exposed to foreign competition, and only increasing compensatory payments could maintain their market share.

Graph IV.12 Impacts of Trade Policies on the Market Share of Selected Exporting Countries



Source: Author's calculations based on Annex N

The preliminary conclusion of this section is that the restrictive policies have had negative effects on free trade-oriented countries. It is very difficult to definitely ascertain the winner firms from the current policies because of the lack of data for these units of analysis. However, according to the value chain analysis in Chapter 3, TNCs and, recently, retail operators, hold the market power to influence the market and retain margins both from the trade of bananas and the trade of licenses. More intense research is suggested regarding imperfect competition and the effects for operators in producing-exporting countries. However, such research will be restrained by the lack of available data.

¹⁷² Some additional information regarding importing countries trends according to different trade policy scenarios is presented in Annex O.

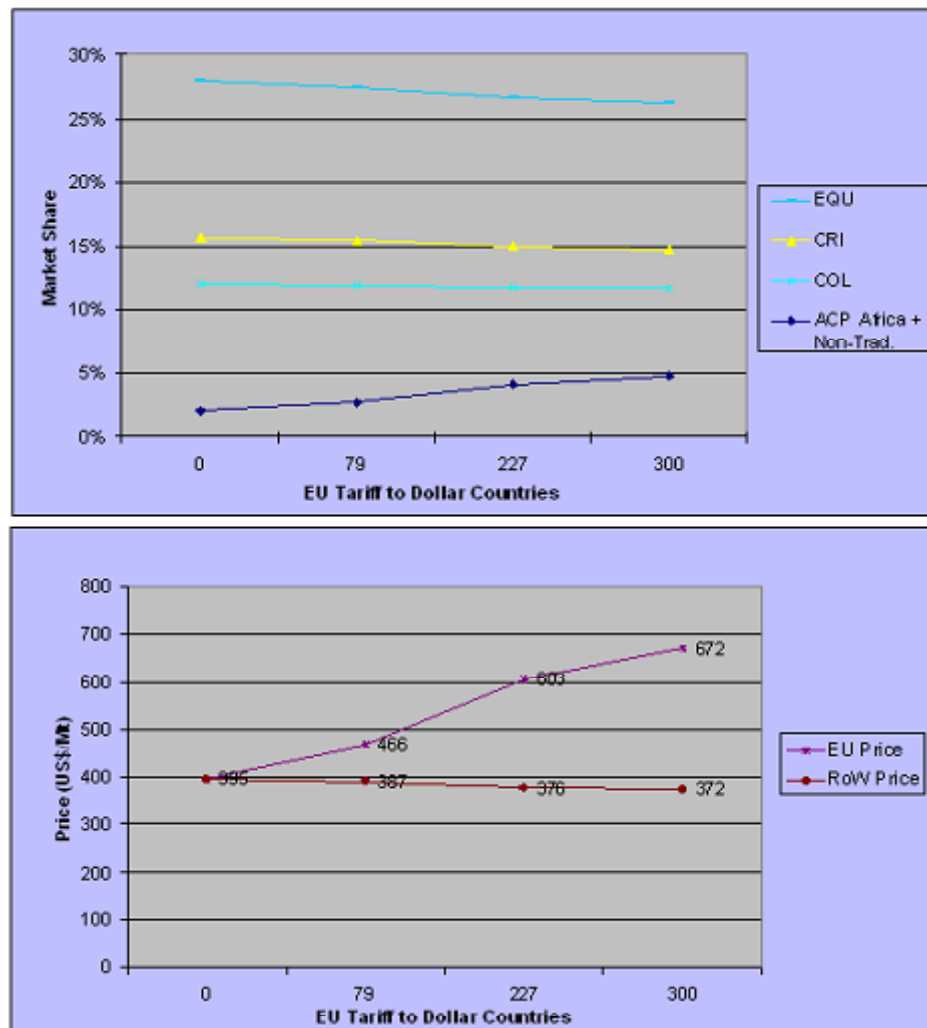
IV.4.2 Simulation of Scenarios under a Tariff-Only Regime

This section simulates tariffication keeping the market equilibrium as it is in an enlarged EU (Actual EU25 in Annex M). Thus the trade flows of the average in the reference period 2000-2002 are fixed. Different levels of tariffication, presented in the table below, affect dollar and ACP countries in different manners. EU producers receive compensatory aid guaranteeing their ability to export all of their production (but no more), and in all scenarios their amount of exports remains the same.

Tariff (US\$/Mt)	0	79	227	300
<i>US\$</i>				
EU price	395	466	603	672
RoW price		387	376	372
<i>Metric Tons</i>				
Total demand	13,420,260	12,845,690	12,095,920	11,826,540
EU demand	6,082,124	5,450,608	4,615,316	4,310,625
From the EU to the EU	662,895	662,895	662,895	662,895
From Dollar to the EU	5,066,031	4,335,128	3,309,215	2,909,099
From ACP to the EU	353,199	452,585	643,206	738,631
From Dollar to RoW	7,338,134	7,395,086	7,480,606	7,515,915
Total supply Dollar	12,404,160	11,730,210	10,789,820	10,425,010
Source: Author's calculations				

Four different scenarios are presented, from free trade (0 US\$/Mt) to a tariff higher than the “equivalent” (300 US\$/Mt). The only tariff that allows the equilibrium presented in *Actual EU25* is 227 US\$/Mt.; subsequent researchers should consider the payment of compensatory aid to producing-exporting countries in order to guarantee welfare stability. It should be noted that the increasing (decreasing) of prices due to the tariff in the EU is compensated for by a decreasing (increasing) of prices in the rest of the world. The increasing of exports to both destinations depends highly on price responses (elasticities) and tendencies of supply and/or demand (shifters). The scenarios presented in Graph IV.13 are static representations of the effects of different tariffs in the market share of selected exporting countries and importing prices from the enlarged EU and the rest of the world.

**Graph IV.13 Static Impacts of Tariffication on Selected Exporting Countries:
Market Share and Importing Prices**



Source: Author's calculations based on Annex N

For every tariff level, dollar countries' EU market share decreased—from 83.3 percent in scenario “0” to 67.4 percent in scenario “300”. In contrast, ACP countries' market share increases, 5.8 to 17.1 percent. Taking the tariff equivalent as a reference, this represents a 53 percent increase of dollar country exports in scenario “0”, in contrast with an ACP country reduction of 45.1 percent. If the tariff is 300 US\$/Mt, the expected increase in exports is 14.8 percent for ACP countries and negative 12.1 percent for dollar country bananas.

The results for particular countries show how the losses (benefits) of some dollar countries are compensated for by the benefits (losses) of African and non-traditional ACP countries. Even with tariffs higher than the tariff equivalent, African and non-traditional ACP countries win market shares. Once again the figures confirm how more free markets increase the market share of dollar countries. This is particularly favorable for Ecuador, which has the productive capacity to export to the more expensive EU market instead of secondary and cheaper markets such as Asia or South America. It is also possible to argue that in the short term, Western African countries may be able to increase their market share, even with tariffs lower than the equivalent. The rationale behind this is that traditional ACP countries are not able to compete with tariffs lower than the equivalent, and operators are transferring their operations to lower cost countries, such as those in Western Africa. The analysis of the actual tendencies of the market depends on the capacity of producing/exporting countries to react before the changing EU policies. It should be possible, taking into account the analysis of the determinants of competitiveness discussed in the third chapter, to say that lower cost countries such as Western Africa and Ecuador have higher capabilities to increase their market share in the short term, but the sustainability of this capacity is highly questionable in the long term. The analysis of the dynamics of the market in a term of four years could give a preliminary answer to the development of the market.

IV.4.3 Sensitivity Analysis

The results of the tariff equivalent are presented in this section in a dynamic perspective, applying the supply and demand shifts from Annex L. Furthermore, three simulations are performed to verify the sensitivity of the results. The first simulation (1) recognizes increasing supply elasticities in selected ACP countries (Western African and Non-Traditional ACP), keeping the actual tariff equivalent. The second simulation (2) shows the effects of keeping the tariff equivalent of the first year fixed through the fourth year. The third simulation (3) investigates what fourth-year tariff would keep EU prices at their first-year levels. Table IV.15 shows the results obtained from these simulations.

Table IV.15 Sensitivity Analysis: Tariffication Effects on Prices and Market Flows

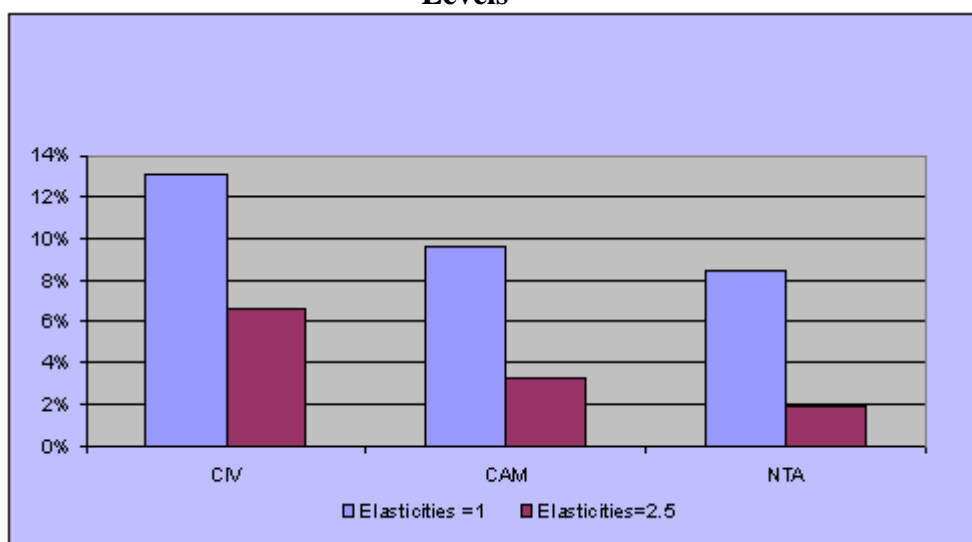
		(1)	(2)	(3)
	Actual	Increased African and NTA elasticities (to 2.5), tariff equivalent held constant	Tariff-invariant 4 year projection	Tariff equivalent projected for 4 years
Applied Tariff (US\$/Mt)	227	227	227	245
EU price	603	586	586	603
RoW price	376	359	359	358
Metric Tons				
Total demand	12,095,920	13,069,730	13,073,810	12,994,510
EU demand	4,615,316	4,980,495	4,982,025	4,892,779
From the EU to the EU	662,895	692,714	692,714	692,714
From Dollar to the EU	3,309,215	3,627,488	3,597,755	3,482,316
From ACP to the EU	643,206	660,293	691,557	717,750
From Dollar to RoW	7,480,606	8,089,232	8,091,781	8,101,732
Total Dollar	10,789,820	11,716,720	11,689,540	11,584,050

Source: Author's calculations based on Annex P

It is important to remember from simulation 1 that this research uses conservative figures for African and non-traditional ACP countries' elasticities. As tested in the previous sections, African and non-traditional ACP countries are of premium importance for calculating the effects of trade policies; they have always received benefits at the cost of the Caribbean. The Graph IV.14 shows the effects of African and non-traditional ACP countries with new elasticities to test their elasticity sensitivity.

As a consequence of the tariff equivalent, there is a decrease in the export prices from the original case to the fourth-year situation. Therefore, exports in African and non-traditional ACP countries are reduced by price reduction at a higher rate than in the original situation, with unit elasticity. This single situation illustrates the strong effects of differing elasticities on changes in trade flows.

Graph IV.14 Projection of Exports of Selected Countries with Different Elasticity Levels

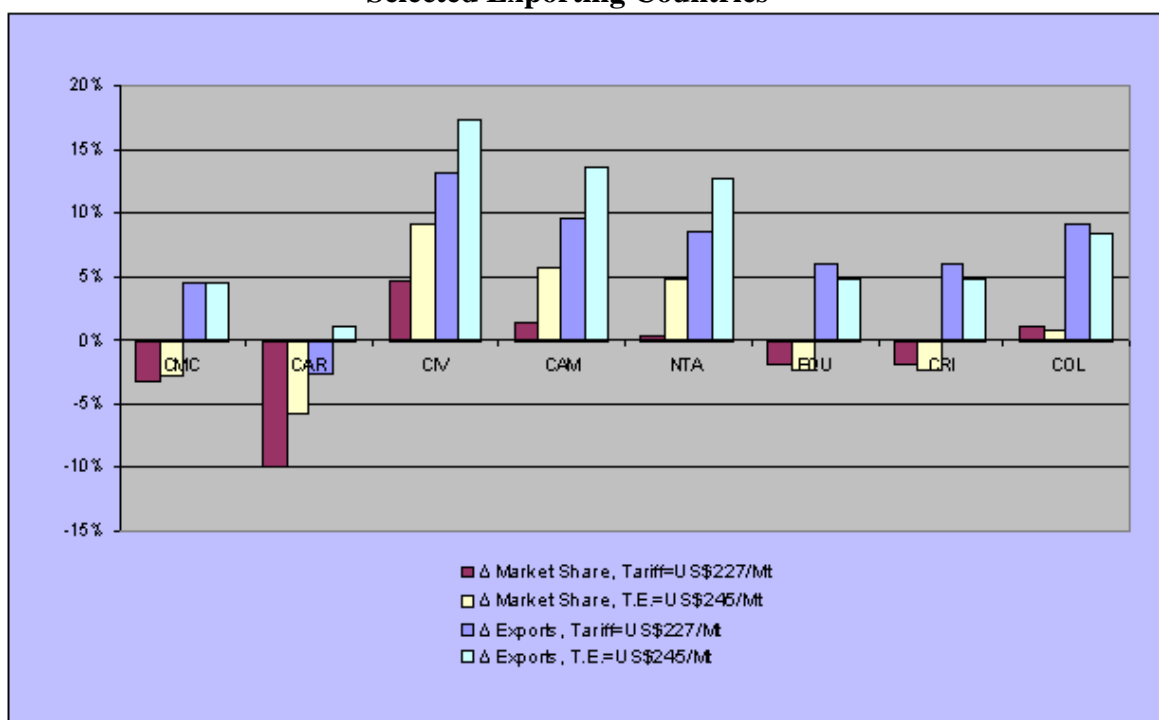


Source: Author's calculations based on Annex P

The second simulation (2) shows first that the reduction in both EU and world prices result from keeping the tariff unchangeable. The major increases in exports are from dollar zone countries. In order to see the losers from this policy, ACP countries are disaggregated, showing that the Caribbean countries decrease their levels of exports while African and non-traditional ACP countries continue increasing theirs. Again the Caribbean countries are harmed the most in terms of market share (with EU producers), while in this case the African countries perform better than in the original situation.

In order to maintain the EU importing price unchanged, a situation such as the third simulation (3) must occur, where the tariff equivalent is calculated to be approximately US\$245/Mt. In consequence, although the market share of European and Caribbean countries decreases, the total level of exports increases in all countries. A tariff of approximately US\$240/Mt would keep the level of exports from Caribbean countries steady from the first to the fourth year. In contrast, for Cameroon, a tariff with the same effect would be only US\$185/Mt, and any amount under this level may diminish Cameroon's level of exports. Therefore, a tariff of US\$245/Mt is a very favorable situation for both African and non-traditional ACP countries.

Graph IV.15 Dynamic Effects of Tariff Changes in Exports and Market Share for Selected Exporting Countries



Source: Author's calculations based on Annex P

The analysis above makes clear that the tariff equivalent is only a temporary measure, and cannot keep the market unchanged at all levels at the time of the agreement between Ecuador, USA, and the EU in July 2001. It is likely that dollar, African and non-traditional ACP countries will be favored in the long run, punishing Caribbean exports. The determinants described in Chapter 3 explain the performances of different blocks of exporting countries, particularly those from African *vis á vis* Caribbean. In fact, Caribbean and African countries cannot be treated as a single group, as they are treated in negotiations. It is not economically feasible for a single tariff rule to keep the same market share for so many different countries, as the TRQ rules do.

The positive effects of higher tariffs would not stay in the Caribbean countries; the likely effect is that African countries would increase exports, probably with an additional negative effect on Latin American exports. This paper shows that it is untenable to argue that the tariff-only system is the solution to the structural problems of competitiveness in Caribbean countries. Other solutions, such as diversification and direct aid, have also been criticized in other studies (Bananalink, Court of Auditors; NERA 2003 and 2004).

The question of competitiveness is broader than the implications of changing policies from importing countries, as was described for the case of the EU. Internal determinants show a basic picture that, complemented with the effects of trade policies, can produce an approach to the country's environment of competitiveness. Only under free-trade conditions would it be possible to thoroughly evaluate the competitive advantage of the firms, and even in this case, assumptions of perfect competition should be taken very carefully.

A blanket application of a tariff-only system, without specifications based on the internal determinants of specific countries' competitive environment, paraphrasing Krugman (1994), can be as "dangerous" (in terms of harmed producers) as attempting to equalize political and economic interests.

**V CONCLUSIONS ON THE COMPETITIVENESS OF BANANA
EXPORTING TO THE EU: SLIPPERY OR SWEET POLICIES?**

The banana case shows that developing countries' competitiveness in agricultural exports depends heavily on their internal determinants. The changing trade policy of the EU is the external determinant highlighted in this study. The outcomes for market share as a measure of competitiveness show that a foreign country's trade policies are only an external factor that can improve or deteriorate the competitiveness of the sector. To appropriately analyze competitiveness, researchers should keep in mind the necessity of studying internal determinants as a basis for policy recommendations. The agreement of July 2001 between the major players in the banana wars (the EU, USA, and Ecuador) is a result of a lack of attention to the internal determinants. As seen in the fourth chapter, even if the theoretical, practical, and interpretative problems involved in finding a tariff "equivalent" could be overcome, a single rule of trade (such as a tariff-only system) cannot rule the long-term market the same way as the previous regime (here, the TRQ system), when actors in the market have different internal structures. The main advantage of a tariff-only system is its transparency. The banana trade would no longer be affected by the trade of licenses ("banana paper"), and agencies could take advantage of the more reliable source of market information.

The ability of competitive advantage theory to explain international trade is still under dispute. However, the price- and cost-based simplicity of comparative advantage theory is too black-and-white to explain the complexities of modern international trade. Competitive advantage theory presents a more comprehensive scenario, where players compete based not only on costs but also on market strategies and management practices (among other determinants). For example, some firms (such as small farmers in the Dominican Republic, the Windward Islands, Ecuador, and Colombia) have pursued niche markets for organic and fair trade bananas. Their success is not a consequence of lower costs (in fact they are more expensive than conventional bananas) but of differentiation and technological advances in a restricted market. It is likely that in the near future, cost will be the crucial factor in the success of organic traders. Competitive advantage is dynamic, and requires that firms innovate (in processes, marketing, and the product itself) to stay competitive. Fair trade bananas might be excluded from these rules because of the ethical implications of this market, but competitiveness is present even here. Brand names and product certifications are

common business strategies because they influence a product's competitiveness, and "fair trade" bananas bring higher market prices because of their "ethical differentiation".

The cluster-value chain model has the analytical advantage of being simple and easy to apply. In this paper, it has been the basis for studying competitiveness in the banana sector at meso- and micro-levels, and its straightforwardness has been advantageous given the multiplicity of players and relationships in banana trade.

This model first separates units of analysis, whether countries (producer/exporting and consumer/importing nations), firms (domestic based and TNCs), other agents (meso-level institutions, such as unions, guilds, NGOs, and research institutions), and products (the banana). Next, it arranges participants in trade, consisting of horizontal interactions of domestic producer/exporting firms with supporting and related firms (such as plastic and box manufacturers) and vertical interconnections of domestic producers with TNCs and importing firms. And finally, the clear structure of the cluster and value chain facilitates the analyses of internal and external determinants of competitiveness.

Trade policy is the external determinant of competitiveness studied in depth for the banana trade case. In fact, one of the main differences between comparative and competitive advantage rests on the role of market distortions due to governmental intervention (trade policies). Comparative advantage assumes a world free of such distortions, while competitive advantage even admits that it is possible to take advantage of strategic trade policies to succeed in the market. Economics and business literature commonly discusses this issue, particularly in reference to the agricultural sector. This is not surprising because developed countries are still highly protective of this sector, at the expense of developing countries that still are very dependent on it. However, the banana case organizes countries somewhat differently. The EU attempts to protect a group of developing countries (mainly the ACP countries) for political and historical reasons, to the detriment of another group of developing countries, the dollar countries. Dollar countries have received the political support of the USA only when their TNCs have been threatened by harmful policies. The emphasis throughout the fourth chapter was on EU trade policies, but other determinants were also highlighted in the cluster-value chain model. In all, governmental trade policy is an external determinant that has been used to verify the hypothesis of this research. Other

determinants could be examined in a similar way, due to the flexibility of the competitiveness concept.

The selected countries show important differences even at the regional level. Among dollar countries, landholders can be small-scale units (as in Ecuador and Magdalena, Colombia), large-scale domestic firms (as in Ecuador and Urabá, Colombia), or large-scale TNCs (such as Costa Rica). Thus, the relationships across the value chain with transport and marketing depend on the vertical integration of firms.

ACP countries show quite different production dynamics. In the Windward Islands, the government participates in the production stage, while in Jamaica and the Dominican Republic such activity is exclusively private. In Africa, Cameroon's banana production is still dominated by the government-run CDC, in contrast with the Ivory Coast, where private ownership is common. Both have recently increased their market share due to the investment of TNCs, which take advantage of the region's lower labor costs, favorable geographical conditions, and preferential treatment from the EU.

Because of the lack of information on European producer countries, their competitiveness is difficult to evaluate. Theoretically, as long as the COM bananas protects their producers, these territories have no incentive to innovate or to create niche markets. Even the formulation of the incentive must be corrected, because some regions receive more than others due to misinterpretation of competitiveness determinants by the EU. Nevertheless, the brand origin strategy of the Canary Islands "Plátano de Canarias" and Martinique "La Banane de Martinique" show some interest in differentiation.

EU assistance was originally proposed to support the competitive advantage of both ACP countries and European producers. However, complex and bureaucratic procedures made it inefficient, and the focus on increasing competitiveness waned. As a result, the assistance's main effect has been that producers remain underdeveloped while waiting for the aid, postponing further investments in productivity. The only exceptions have been Belize and Western African countries, which have received support from TNCs.

In summary, a continuous study of the internal determinants is necessary to address competitiveness potential and to understand the dynamics of the competitive advantage

of producer countries. In a static analysis, there is potential for competitiveness in those countries with large-scale production and long-term horizontal and vertical integration. On the other hand, smallholders, such as those from Ecuador, Colombia, and the Caribbean, should organize themselves to correct for structural deficiencies and perform in niche markets. They could attempt to produce organic and/or fair-trade bananas, which later could eventually be transformed into dynamic competitive advantage.

A firm's strategies also depend on its scale and location within the value chain. TNCs and domestic firms in importing and exporting countries interact differently in the value chain according to their position within it. TNCs own the entire chain to strengthen their advantage, though they are becoming less interested in the production stage because of the risks associated with cultivation (including environmental costs, weather unpredictability, unstable labor conditions, and land property). Long-term contracts with independent producers are becoming more common, and TNCs are attempting to become better integrated with the final stages in the value chain (marketing, ripening, and distribution) to guarantee sales. TNCs have the least influence over the retail stage, where other firms are highly concentrated. Supermarkets and retail discounters are becoming more powerful, to the point that some authors credit them, rather than TNCs, with the power to drive the market. Retailers have even begun to bargain directly with producers. TNCs are attempting to take some kind of control over this issue, signing long-term contracts with retail chains (such as Del Monte Fresh with Wal-Mart). In addition to their vertical integration, TNCs' strategies also depend on their financial and managerial structure and on consumers' environmental and social expectations.

The strategies of domestic firms in producing/exporting countries depend on each country's environment of competitiveness. These are the internal determinants of competitiveness. For countries (or regions) where capital-intensive plantations are predominant (such as Urabá, Colombia, Ecuador, and lately Cameroon and the Ivory Coast), local firms are larger, have lower costs, and are more horizontally integrated than firms in countries with labor-intense small landholders (such as Magdalena, Colombia, the Caribbean, and EU producers). Usually, in small-scale production, associations of producers are necessary in order to achieve the necessary scale to export, as is the case in the Caribbean, where the government is also heavily involved. These

firms connect to international markets, particularly to the EU, by selling (FOB) through TNCs and independent transport and marketing firms. Direct sale to a destination (CIF) is less common; this kind of sale takes place with the North American, Eastern European, and Asian markets.

There are only a few domestic companies (predominantly Ecuadorian and Colombian) which export directly to the EU; all others use the business structure of TNCs or independent firms. The Caribbean link with the UK is a special case where government involvement and private interests are mixed—for example, the marketing company WIBDECO of the Windward Islands carries bananas to the EU. The main strategy of smaller operators is both the strengthening of their horizontal interests with larger firms and the enforcement of contracts with TNCs. Considering the difficulty smaller firms encounter in “exporting” directly to the EU, it is more precise to state that smaller firms “buy and sell” with economic agents across the value chain.

Domestic firms’ strategies in importing/consumer countries also depend on the export-import flows prior to the COM bananas. In highly protected markets (which purchase mainly from ACP countries and European producers), independent importing firms are common. On the other hand, in old free trade countries, TNCs were allowed a major concentration of market power, favoring imports from dollar countries. Nevertheless, in both protected and non-protected markets, retailers drive the market. For example, certifications on quality were pioneered by trade firms, environmental and social standards by NGOs, and lately, retailers have required both of these.

Strategies for achieving competitive advantage are multitudinous and exceed simple factor conditions. In this study, the following strategies have been highlighted: the vertical and horizontal integration (via mergers and joint ventures); certifications of quality, labor, and environmental standards; productivity-gear management practices; and, in particular, influence of meso-level policies and institutions. In fact, the “banana wars” were caused by a meso-policy of the European Union.

The analysis in Chapter 3 of the determinants supports countries such as Colombia and Costa Rica, which have been able to create an environment of competitiveness that should be sustainable in the long term. Some of the factors that guarantee a stable long-term market share to these countries are strategies of environmentally friendly

production, respect for workers' rights, investment in technologies (both production and process), and strong relations with different agents across the value chain, particularly with their partners on the demand side. As a result of this evaluation, it is assumed that policy makers and firms understand that lower cost-oriented production does not guarantee an increase in the market share in the long term. Other countries, such as Ecuador since the beginning and Western African countries more recently, have opted for the lower price strategy. In the simulations of Chapter 4, the increasing market share of Western African countries in all scenarios is particularly important, while Ecuador performs better in freer scenarios.

The short period used to make this paper's projections does not allow definitive conclusions about differentiating between low cost oriented countries (Ecuador and Western African) and countries with sustainable and long-term strategies (Colombia and Costa Rica). Instead, it is clear that those countries with neither low-cost production nor sustainable and long-term strategies are condemned to exit the market (EU and Caribbean producers). The possibility of these sensitive countries' survival was discussed in the tariff-only studies, but their contradictory results suggest that only political actions (e.g., direct payments, differentiated tariffs¹⁷³, or status quo policies) could keep them alive.

The COM bananas simulations in Chapter 4 show that the implications of EU trade policies are highly influential for the determinants of competitiveness described in the cluster-value chain analysis of Chapter 3. A preliminary evaluation of the EU trade policies shows that market shares have been stable for demanding countries due to a complex and bureaucratic system of licenses that kept the market relatively unchanged, while the effects on supplying countries have been dependent on industrial performance (determined by factors such as productivity and weather conditions) and historical links with the EU. Thus, the ACP countries, with strong colonial links to the EU, are favorably treated. West African ACP countries (with advantageous geographical and labor conditions) have increased their market share during the COM bananas, in contrast with the decrease of market share in the Caribbean ACP (with less suitable geographic location and higher labor costs). Meanwhile, the market share of dollar

countries seems to be stable in regional terms, but the market shares of the main exporting countries (Ecuador, Costa Rica, and Colombia) have increased since the implementation of the COM bananas. The effects of trade policies have been detrimental for these free trade oriented operators. The quotas were mostly filled and the tendency to oversupply was the rule during the years of the COM bananas. As a result, the surpluses were sent to neighboring countries¹⁷⁴. Price trends confirm the market stability during the COM-bananas, both overall for importing countries and for blocks of exporting countries.

The simulations under different scenarios of trade confirm the importance of historical flows of trade on country blocks and the determinants of competitiveness. In all the scenarios, although to different degrees, European and ACP Caribbean countries decrease their market share while dollar countries and West African ACP countries increase them. The simulations of the tariffification process show that the tariff “equivalent” is only feasible as a static measure. In the medium and long terms, different effects are seen, based on countries’ supply responses (elasticities) and expected productivities. This, in some way, mirrors of the determinants of competitiveness.

Operators on the supply side were always hesitant to make long-term decisions for fear of trade policy changes. The recent tendency toward a freer market suggests that they should consolidate or enhance the determinants of competitiveness which are under their control. In addition, long-run relationships with governments and operators from the demand side have become more important for maintaining a stable market share. Finally, temporary measures become scarcer and perhaps only acceptable owing to circumstances beyond their control (e.g., weather conditions).

The discussion of the tariff “equivalent” was the main issue in the “final” battle of the banana wars, but regardless of this tariff, policy and decision makers should concentrate on strengthening the competitiveness of less competitive countries. They should evaluate new alternatives for businesses, not necessarily by diversification of production, but by means of niche markets.

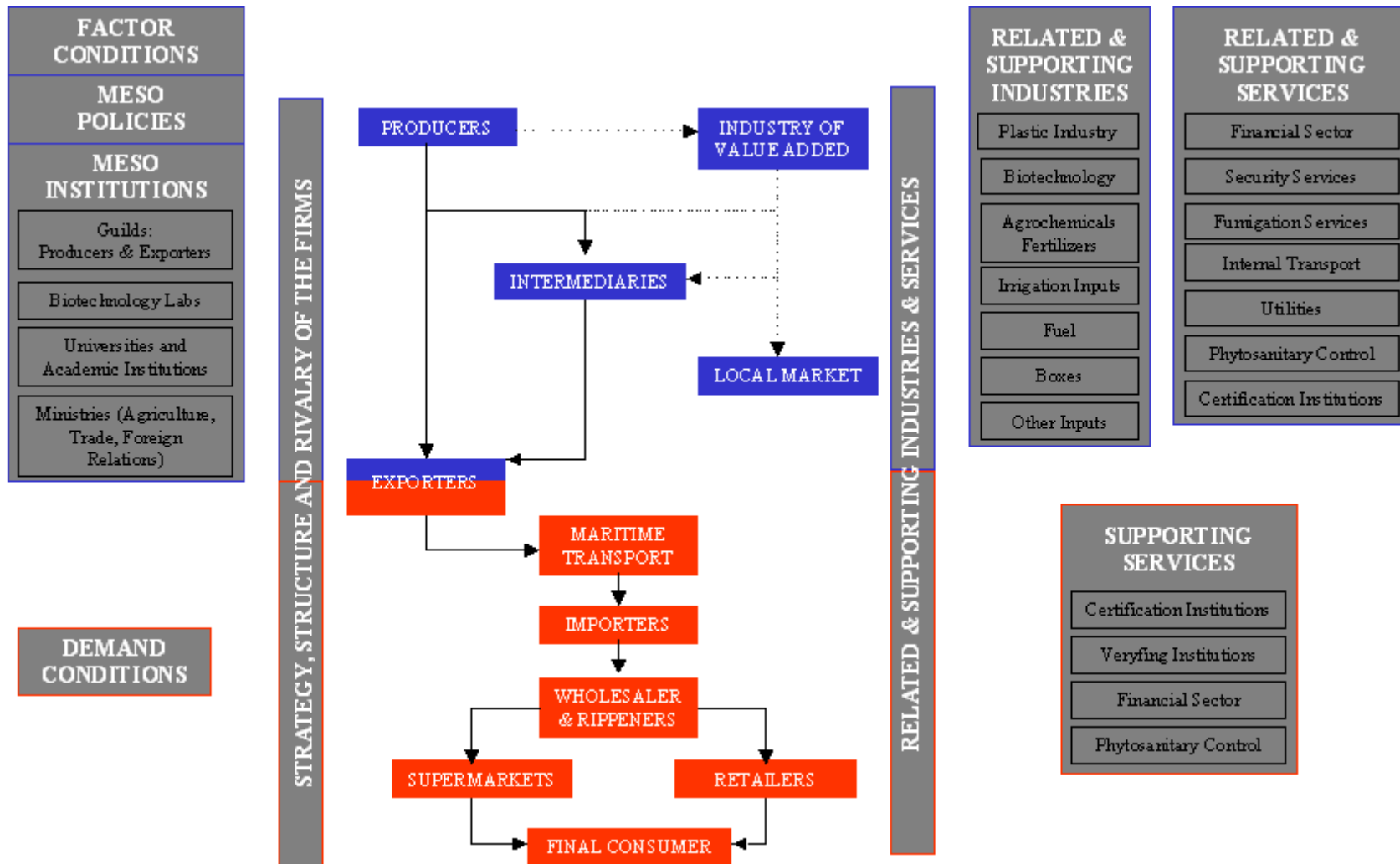
¹⁷³ A thorough study by Parker and Harrison (2004) on behalf of the European Banana Action Network (EUROBAN) investigates differentiated tariffs, taking into account social, environmental, and economic criteria.

¹⁷⁴ Previous to the enlargement, the main destination was the Eastern European countries.

Trade policies are the slippery peels of the “banana wars”, but the fruit itself, the internal determinants of competitiveness, must be taken into account if both producers and buyers are to reap its sweet gains in abundance.

ANNEXES

A. BANANA CLUSTER – VALUE CHAIN MODEL OF COMPETITIVENESS



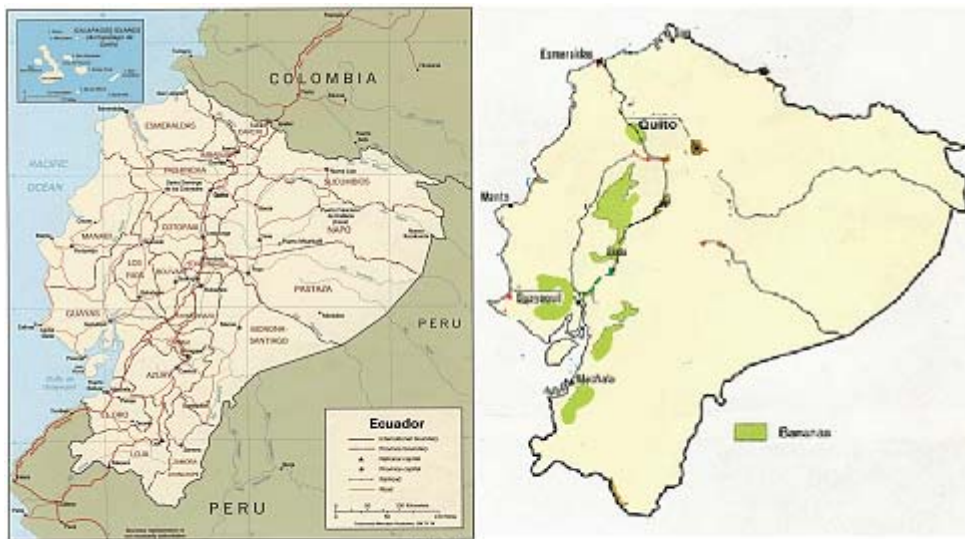
B. SELECTED PRODUCING/EXPORTING COUNTRIES

COLOMBIA



Source: <http://www.lib.utexas.edu/maps/americas>

ECUADOR



Source: <http://www.lib.utexas.edu/maps/americas/>

COSTA RICA



Source: http://www.lib.utexas.edu/maps/americas/costa_rica.gif

ACP CARIBBEAN COUNTRIES



Source: http://europa.eu.int/comm/development/body/country/country_caribbean_en.cfm

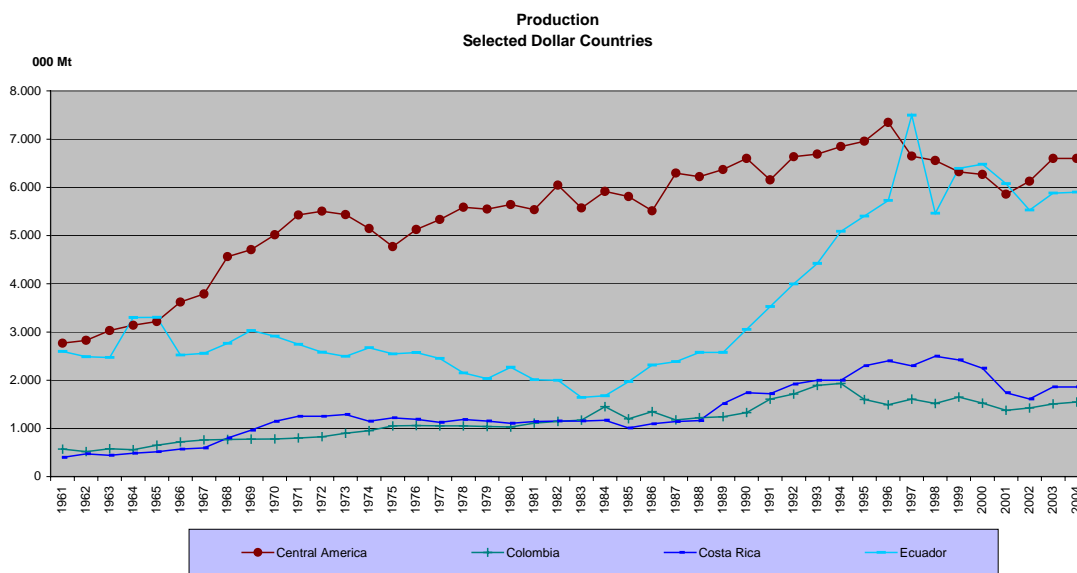
ACP AFRICAN COUNTRIES



Source: http://europa.eu.int/comm/development/body/country/country_africa_en.cfm

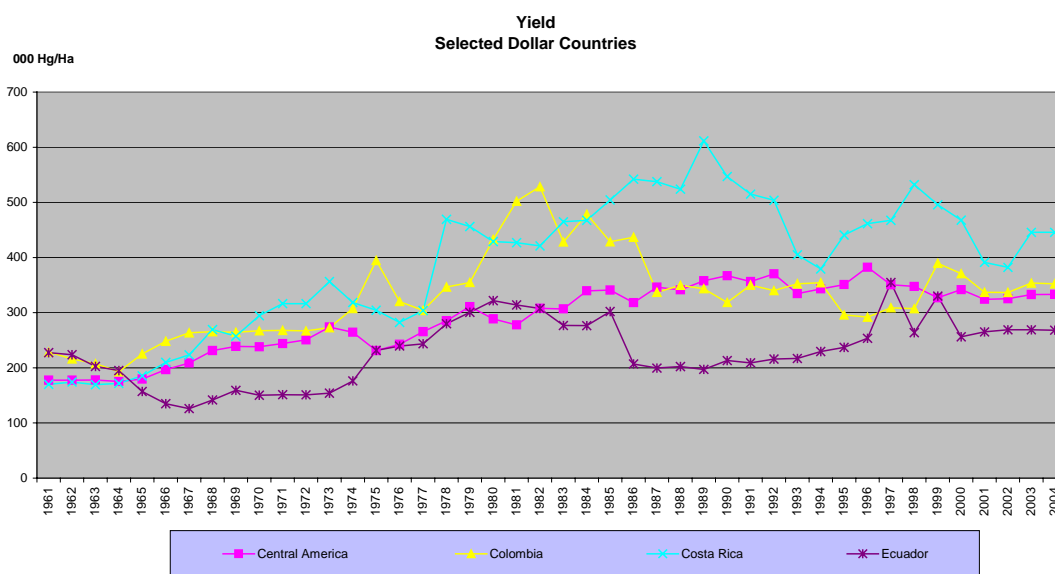
C. STATISTICAL DATA OF SELECTED PRODUCING/EXPORTING COUNTRIES

a)



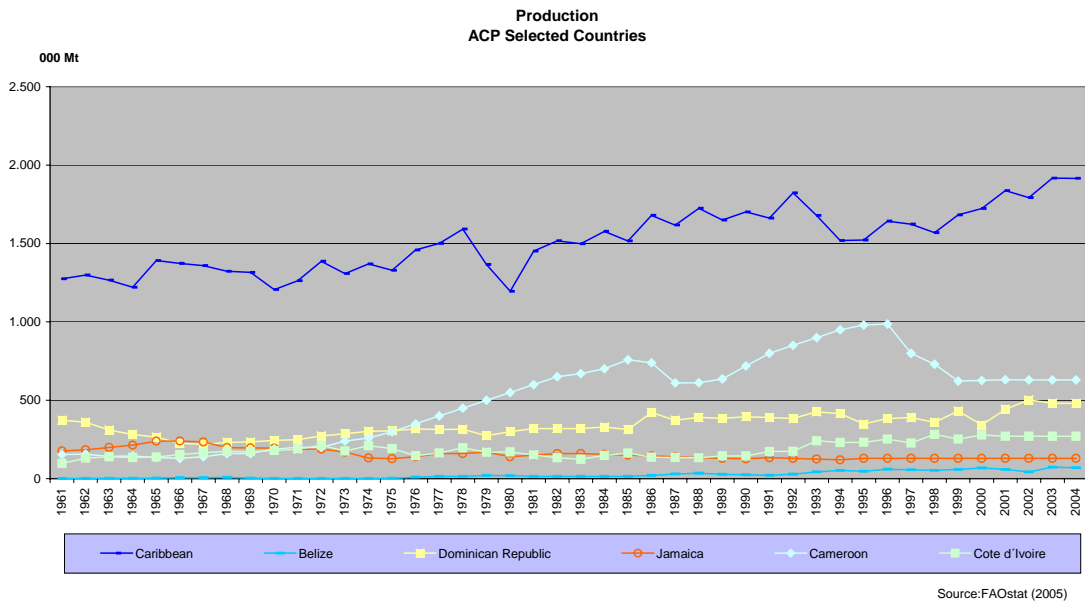
Source:FAOstat (2005)

b)

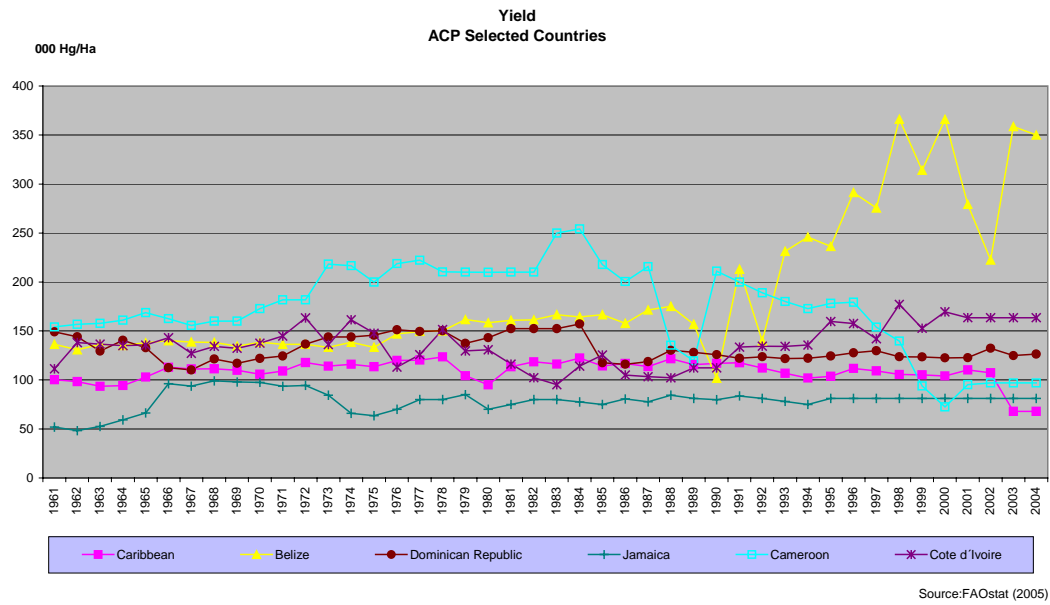


Source:FAOstat (2005)

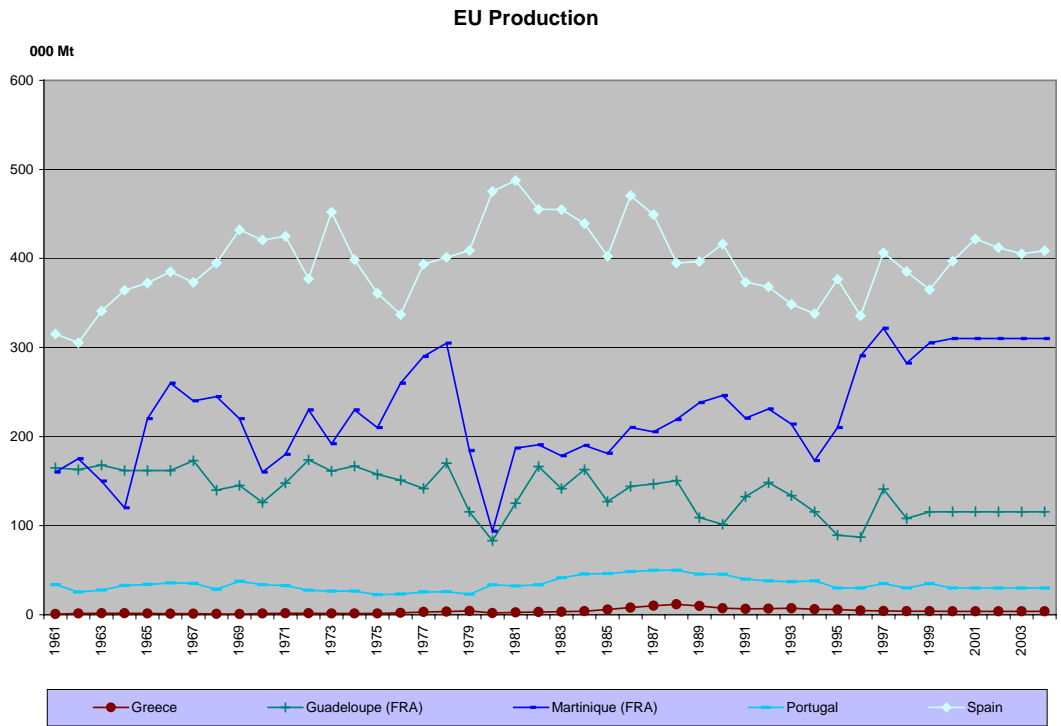
c)



d)

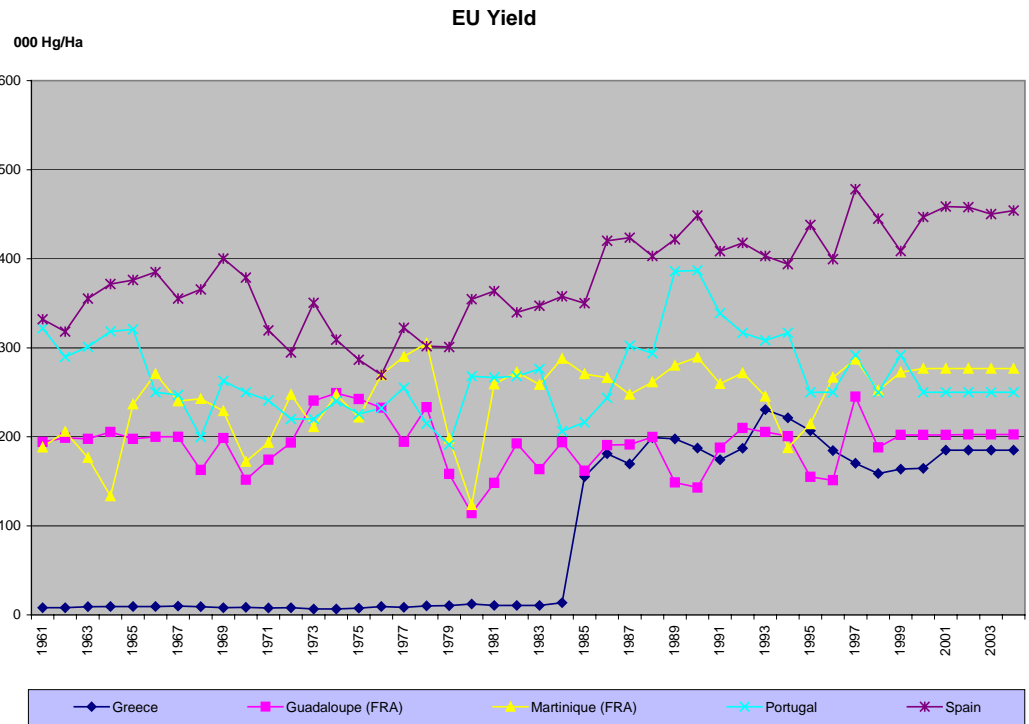


e)



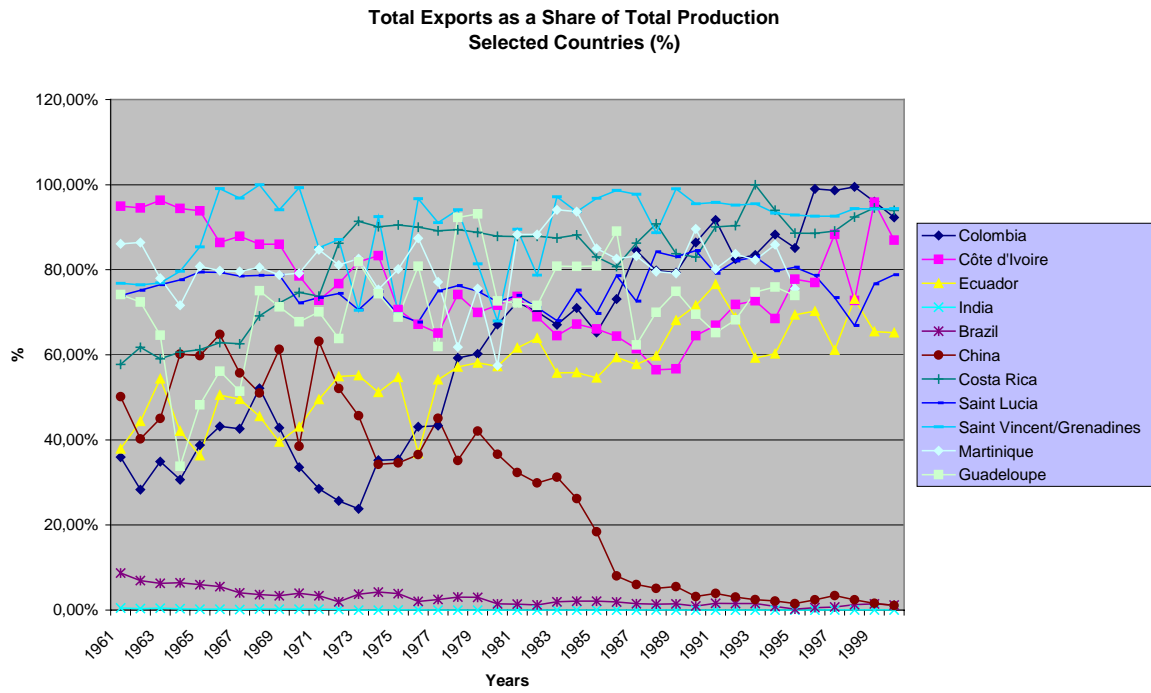
Source:FAOstat (2005)

f)



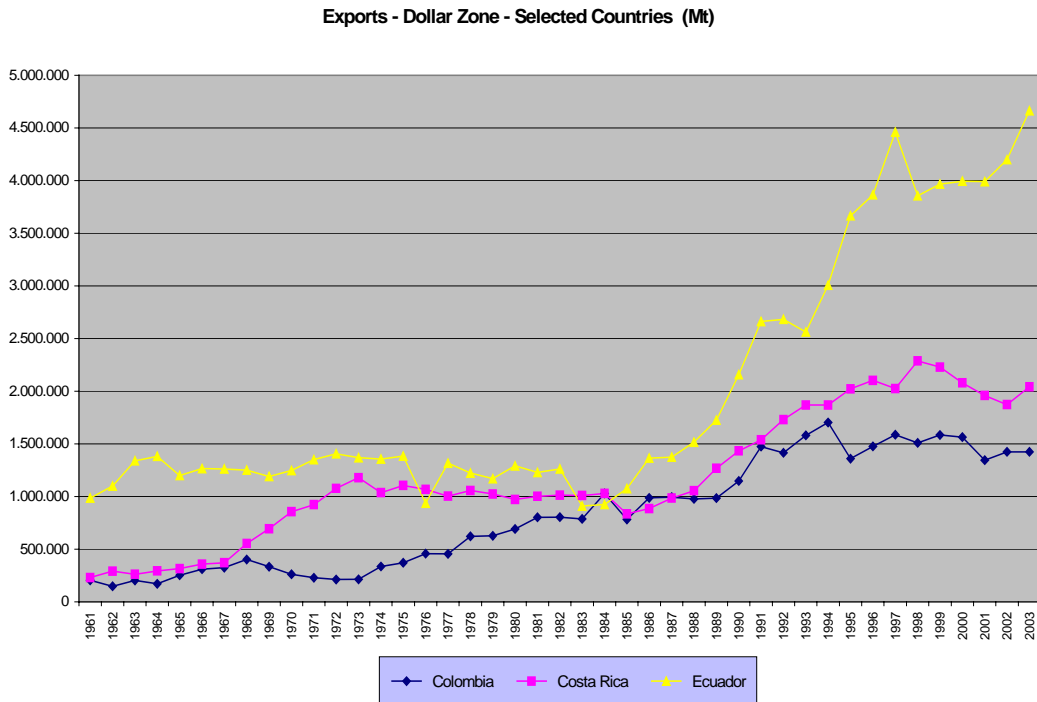
Source:FAOstat (2005)

g)



Source: FAOStat (2005)

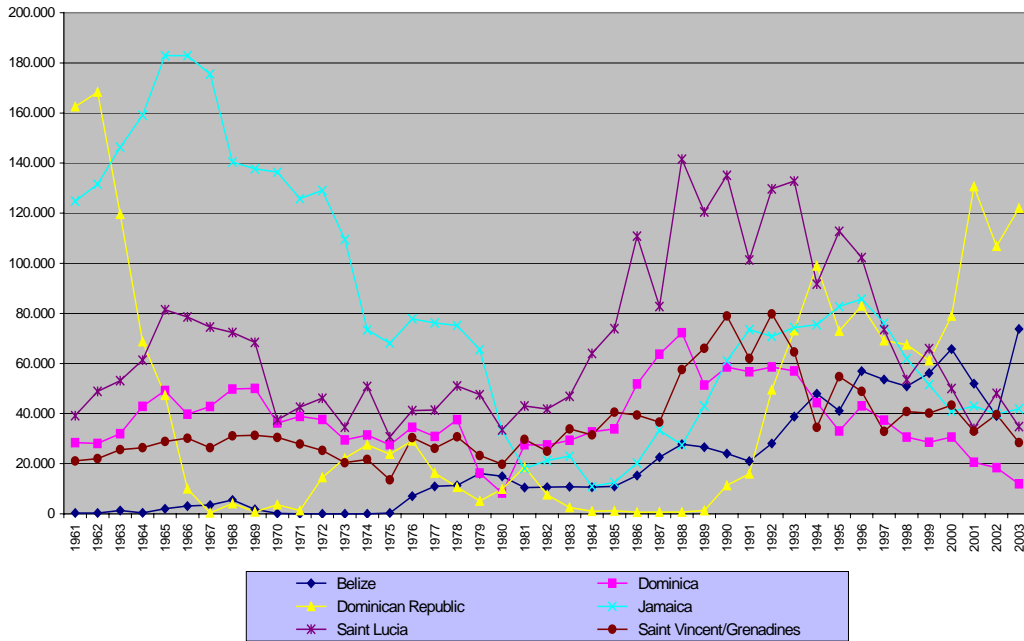
h)



Source: FAOStat (2005)

i)

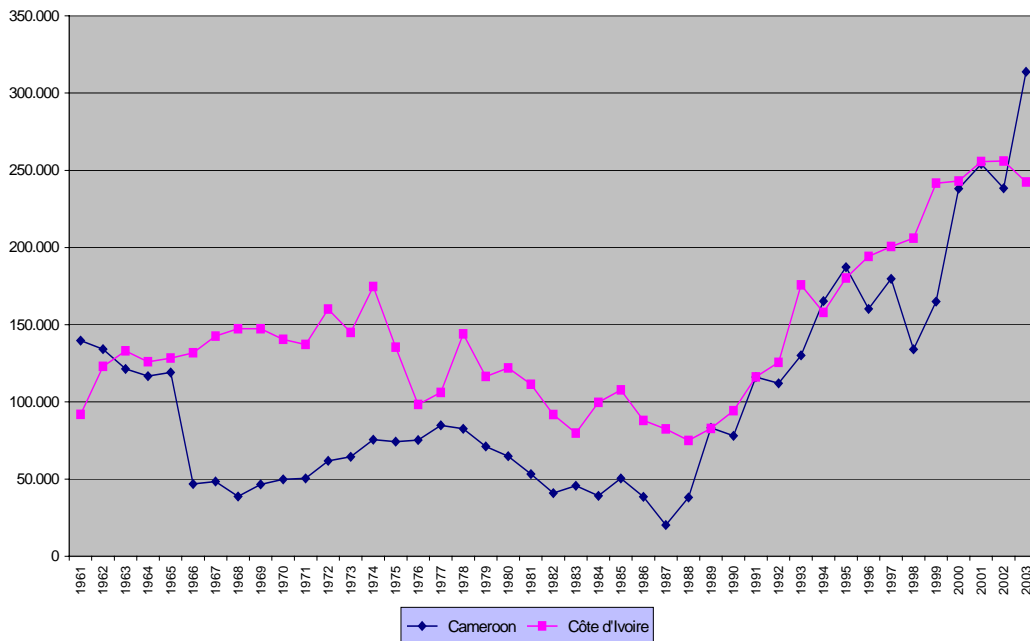
Exports - ACP Caribbean - Selected Countries (Mt)



Source: FAOStat (2005)

j)

Exports - ACP African - Selected Countries (Mt)



Source: FAOStat (2005)

D. COMPENSATORY AID TO EU PRODUCERS

The amount of compensatory aid is calculated on the basis of the average price of communitarian bananas taken to market (up to the amount of the EU quota, 854,000 tons in 2002) and the difference from the reference price (€640.3/ton since 1999). If there is no total compensation for the producer price (if the market price is below the price in the EU market), the differential is paid as complementary aid (€1.9/ton to Martinique and Guadeloupe in 2003)

Compensatory Aid – Balance 1993- 2003					
	Reference Price (a)	EU Production value (b)	Comp. aid (without complement) (a)-(b)	Total Expenditure*	Comp. Aid per box**
	€/ton			million €	€/box of 18.14kg
6 months in 1993	592.9	297.0	295.9	88	5.37
1994	592.9	385.5	207.4	123	3.76
1995	592.9	321.3	271.6	179	4.93
1996	592.9	302.4	290.5	204	5.27
1997	592.9	344.8	248.1	201	4.50
1998	622.5	378.3	244.2	193	4.41
1999	640.3	343.4	296.9	232	5.31
2000	640.3	257.4	382.9	302	6.95
2001	640.3	356.7	283.6	219	5.15
2002	640.3	337.0	303.3	253	5.60
2003	640.3	345.7	294.6	239	nd

Source: Author's elaboration based on Fruitrop 2001-2004, *Fruitrop June 2002 - May 2004. **Notifax.

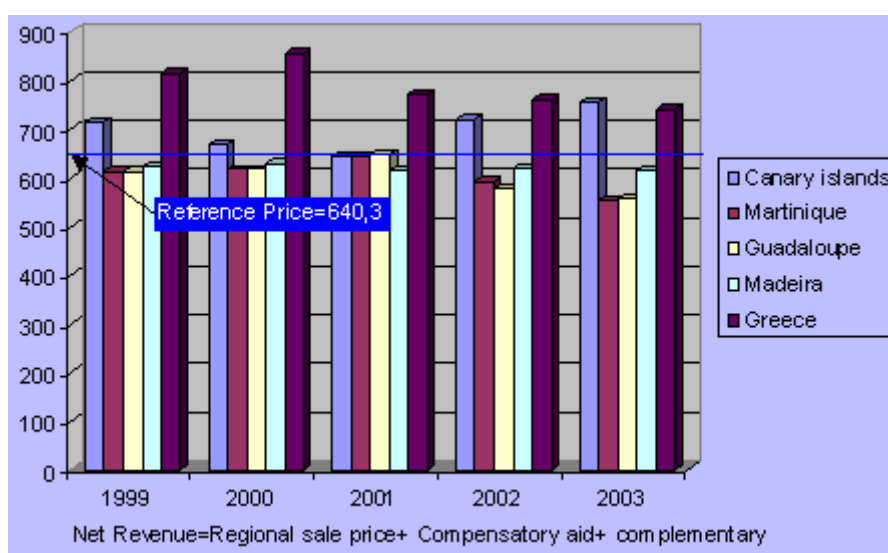
In 1999, total compensatory aid was €32.4 million, much higher than the €9.4 million in 1998. Average production cost was 640.3 €/ton, higher than the 592.9 €/ton used since 1993. These differences were caused by the increasing costs of production in Europe, minus the value of communitarian bananas in the EU market and the complementary aid necessary to three of the five-communitarian regions. However, the record for compensatory aid came in 2000, with a total of €301.9 million—which is a compensation of €382.9/ton. Again the main cause of the increase was the reduction of the communitarian price over the sale price in the market.

Compensatory Payments by Regions (€/ton)					
Sale Price in:	1999	2000	2001	2002	2003
Canary Islands	414.6	283.3	358.7	417.4	459.7
Martinique	283.5	234.2	358.3	253.3	207.4
Guadeloupe	230.7	215.1	364	227	208.9
Madeira	276.8	213.2	250.1	315.1	320.5
Greece	516.4	472.8	486.4	457.9	447.1
EU reference price	640.3	640.3	640.3	640.3	640.3
Compensatory payment	296.9	382.9	283.6	303.3	294.6
Complementary Guadeloupe	84.5	19.1		45.7	51.9
Complementary Martinique	29.9			33.4	51.9
Complementary Madeira	49.9	33.2	80		

Source: Author's elaboration based on Fruitrop 1999-2004

The calculation method overcompensates the Canary Islands and Greece and undercompensates the other regions. The compensation allows those regions with a price over the average to receive a compensation higher than those which are below the average and sometimes receive a compensation lower than production costs. This results in a complement of aid for the less competitive countries (except Madeira, which receives aid automatically).

Net Revenue due to Compensatory Payments (€)



Source: Author's elaboration based on Fruitrop 1999–2004

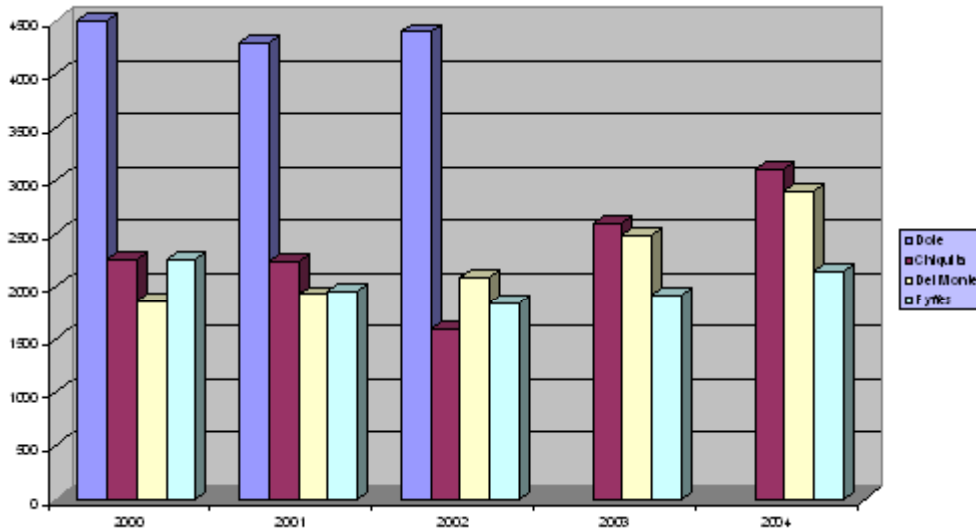
E. STATISTICAL INFORMATION ON THE MAIN TNCs

Shares of World Trade of the Main TNCs*: 1966-1973 (million of boxes)					
	Chiquita - United Brands	Dole- Standard Fruit	Del Monte	Total	% Share
1966	93.1	33.6	3.0	129.1	47.2
1967	98.8	34.7	1.9	135.4	47.6
1968	103.0	42.1	1.7	146.8	49.3
1969	101.8	45.3	4.8	151.9	49.6
1970	97.1	48.6	9.8	155.5	50.1
1971	107.6	57.7	13.5	178.8	52.7
1972	106.9	63.3	19.3	189.5	54.0
1973	96.5	74.9	29.2	200.6	57.8
Source: Ellis 1983, p. 314					
Share of World Trade from the Main TNCs (%) 1980 -1999					
1980	28.7	21.2	15.4	65.3	n.d
1992	34	20	15	69	n.d
1995	>25	22-23	15-16	62-64	n.d
1997	24-25	25-26	16	65-67	n.d
1999	25	25	15	65	n.d
Source: Van de Kastele (1998), Banana Link www.bananalink.org					
*United Brands currently is Chiquita Brands; Standard Fruit is Dole. Del Monte became a banana exporter after it bought West Indies Fruit Company in 1967.					

Market Shares of some Banana Operators in the European Union		
	1992	1998
Chiquita	>30	>20
Dole	12	16
Del Monte	5	16
Fyffes	-	18
Noboa	7 – 8	7 – 8
Source: René Ledemé, Fruitrop, October 1999		

Main Companies Results and Market Shares 1992 – 2001					
	Sales (\$m.)	Profit/loss (\$m.)	World Share (% of boxes)	EU (% of boxes)	USA (% of boxes)
1992					
Chiquita	2723	(284)	34	>30	
Dole	3120	16	20	12	
Del Monte	900	(63)	15	7-8	
Fyffes	890	47	2-3	4-5	
Geest	n.a.	5	3-4	5-6	
Total (mill boxes)			<i>525</i>	<i>200</i>	<i>165</i>
1995					
Chiquita	2566	9	>25	19	35
Dole	3804	89	22-23	15-16	35
Del Monte	1068	(72)	15-16	8	18
Fyffes– Geest	1700	65	7-8	17-18	1
Noboa			12		
Total (mill boxes)			<i>610</i>	<i>180</i>	<i>170</i>
1997					
Chiquita	2434	0	25-25	15-16	
Dole	4336	160	25-26	18-19	
Del Monte	>1200	>100	16	10-11	
Fyffes	1460	54	6-7	16-17	
Noboa			13		
Total (mill boxes)			<i>625</i>	<i>210</i>	<i>200</i>
2001	Sales (\$m.)	Profit/loss (\$m.)	Million of boxes (2000)	Banana Net Sales	
Dole	4400	150	119	1215	
Del Monte	1930	96.2	97	894	
Chiquita	1900	-119	119.3	1216	
Fyffes	1760	135.5		500*	
Sources: for 1992, 1995, and 1997, Chambron (2000); for 2001, FAO (2003b)					
*: estimation					

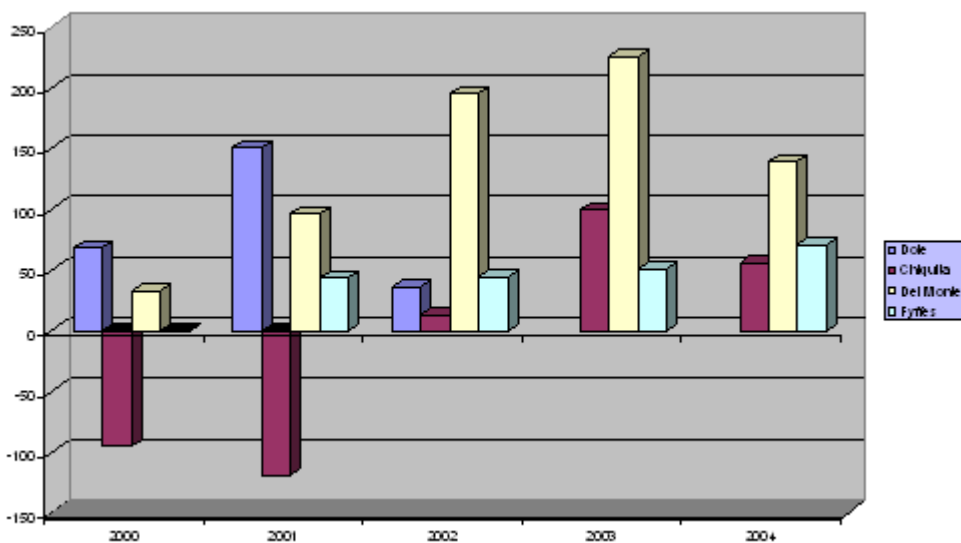
The Top Four TNCs' Total Sales (mill US\$)*



* For Dole Foods, no public statistics are available since it was acquired by Murdock Holdings
 Source: Author's elaboration based on companies' reports and CORBANA Notifax (various issues)

Regarding total sales and financial figures, the information shows greater growth by Chiquita than by Del Monte Fresh and Fyffes since 2002. On the other hand, the financial figures identify Del Monte Fresh as the winner in net values, while Chiquita is recovering from negative figures and Fyffes is continuing to grow. Some of these patterns can be explained by the structure of the companies, their market strategies, and/or their vertical (de)integration.

The Top TNCs' Net Profits (million US\$)



Source: Author's elaboration based on companies' reports and CORBANA, Notifax (various issues).

F. BANANA SUPPLY IN THE EU

Tons														
ORIGIN	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
EU	737,452	699,476	705,759	643,691	584,622	658,206	684,605	810,537	786,232	729,304	782,175	767,268	790,621	754,215
Greece	17,810	18,354	8,084	7,233	3,071	3,138	3,807	3,901	3,589	3,336	3,275	2,909	2,433	2,670
Spain	416,073	354,400	349,452	330,875	321,555	369,387	345,943	403,999	437,414	362,188	397,578	420,919	407,343	400,941
France	265,666	294,845	313,610	279,837	234,130	251,280	310,652	374,747	314,793	342,009	358,861	322,758	358,943	329,223
<i>Martinique</i>	<i>194,498</i>	<i>185,836</i>	<i>198,199</i>	<i>180,861</i>	<i>151,965</i>	<i>188,073</i>	<i>249,733</i>	<i>277,013</i>	<i>240,499</i>	<i>258,501</i>	<i>271,269</i>	<i>233,716</i>	<i>263,880</i>	<i>243,706</i>
<i>Guadeloupe</i>	<i>71,168</i>	<i>109,009</i>	<i>115,411</i>	<i>98,976</i>	<i>82,165</i>	<i>63,207</i>	<i>60,919</i>	<i>97,734</i>	<i>74,294</i>	<i>83,508</i>	<i>87,592</i>	<i>89,042</i>	<i>95,063</i>	<i>85,517</i>
Portugal	37,903	31,877	34,613	25,746	25,866	34,401	24,203	27,890	30,436	21,771	22,461	20,682	21,903	21,382
ACP Countries	621,910	596,438	680,205	748,126	726,987	763,965	800,075	693,054	654,853	675,987	755,787	728,776	726,681	786,555
<i>ex-Trad.ACP</i>	<i>617,606</i>	<i>584,519</i>	<i>641,007</i>	<i>683,583</i>	<i>639,742</i>	<i>687,163</i>	<i>733,992</i>	<i>640,413</i>	<i>593,235</i>	<i>631,129</i>	<i>692,862</i>	<i>639,104</i>	<i>625,884</i>	<i>674,835</i>
Cameroon*	77,628	115,116	110,357	146,901	158,166	165,289	166,622	157,123	155,000	160,638	204,978	215,455	229,913	292,868
Ivory-Coast	95,189	116,407	144,307	161,258	149,084	160,269	180,735	166,247	158,243	192,522	200,163	216,699	210,788	202,036
Belize	24,040	19,617	28,494	38,516	46,980	41,126	54,109	53,144	53,431	55,650	68,558	51,609	38,178	73,806
Jamaïca	63,181	70,117	74,826	77,390	76,294	83,751	89,493	76,978	61,929	51,635	40,941	42,958	40,600	41,775
Saint-Lucia	127,225	99,824	122,066	113,303	91,542	101,492	106,628	70,686	70,461	65,532	72,566	34,727	49,313	32,520
Saint-Vincent	81,535	62,263	71,320	57,608	32,055	47,673	44,173	29,981	38,737	37,910	42,923	30,829	32,520	20,911
Dominique	52,415	54,154	51,606	52,699	42,868	33,260	39,138	35,290	27,144	27,583	27,713	17,516	17,467	10,472
Grenada	8,189	8,186	6,015	6,720	5,325	4,558	2,007	101	54	621	784	591	557	448
Surinam	27,705	27,745	29,950	27,984	32,721	27,984	25,966	29,257	21,218	39,029	34,234	28,720	6,548	0
Somalia	57,785	8,081	181	501	4,634	21,701	25,121	21,608	7,018	0	0	0	0	0
Cape Verde	2,715	3,011	1,876	684	73	60	0	0	0	10	2	0	0	0
Madagascar	0	0	10	19	0	0	0	0	0	0	0	0	0	0
<i>ex non tr ACP</i>	<i>4,304</i>	<i>11,919</i>	<i>39,199</i>	<i>64,543</i>	<i>87,245</i>	<i>76,803</i>	<i>66,082</i>	<i>52,641</i>	<i>61,619</i>	<i>44,858</i>	<i>62,925</i>	<i>89,673</i>	<i>100,797</i>	<i>111,720</i>
Dominican Rep	3,836	9,703	38,512	61,677	86,074	75,045	61,250	49,031	56,199	42,217	59,807	85,886	97,331	109,434
Ghana	62	551	100	218	383	1,589	2,797	3,194	4,233	2,526	2,972	3,345	3,201	928
Other	406	1,665	587	2,648	788	168	2,036	416	1,186	115	146	441	265	1,358

Dollar Zone in 1000 t	2,362.8	2,640.6	2,730.8	2,559.7	2,450.0	2,405.1	2,470.3	2,462.1	2,426.4	2,521.8	2,543.1	2,474.6	2,561.3	2,575.8
Ecuador	381,014	646,209	745,058	650,631	612,039	632,174	685,695	738,474	568,534	696,789	690,893	705,071	828,822	798,462
Costa Rica	643,065	607,793	520,331	565,033	726,804	564,465	604,191	603,053	639,949	662,795	655,652	634,970	686,820	722,567
Colombia	420,914	518,159	533,200	451,780	511,316	557,183	652,533	568,717	540,618	554,823	617,371	645,745	665,723	671,597
Panama	648,937	591,392	601,095	568,702	426,932	415,634	310,741	357,921	416,907	422,398	389,044	347,869	307,047	303,471
Brazil	0	0	0	0	0	0	0	161	119	4,059	12,673	16,624	36,053	46,421
Venezuela	50	40	45	147	1,854	13,346	17,789	30,189	30,069	41,472	18,240	12,113	9,276	11,981
Honduras	174,296	181,389	239,184	204,048	27,535	56,030	114,256	70,445	150,714	68,168	107,793	106,432	20,396	10,798
Peru	0	0	0	0	0	0	0	0	0	0	0	1,178	5,311	5,393
Guatemala	15,994	17,665	39,700	32,538	20,041	57,536	61,824	58,329	61,227	42,402	30,094	3,160	49	1,685
Mexico	41	38	11,045	112	58	50	1,605	2,828	6,823	11,853	1,077	54	38	129
Nicaragua	49,533	59,521	28,816	10,553	8	0	12,610	29,674	10,740	15,336	19,855	1,160	849	43
Other	13,660	5,668	5,055	6,481	3,888	3,390	2,771	1,686	707	1,728	442	190	870	2,460
Undefined	15,298	12,706	7,225	69,639	119,503	105,322	6,266	624	0	0	0	0	0	829
ACP+ \$Z in 1000 t	2,984.7	3,237.0	3,411.0	3,307.8	3,177.0	3,169.1	3,270.4	3,155.1	3,081.3	3,197.8	3,298.9	3,203.3	3,287.9	3,362.4
ACP+ \$+EU in 1000 t	3,722.2	3,936.5	4,116.7	3,951.5	3,761.6	3,827.3	3,955.0	3,965.7	3,867.5	3,927.1	4,081.1	3,970.6	4,078.6	4,116.6

Updated : DV 20/4/2004

* Imports From Cameroon in 1998 are estimated to be 155, 000 t.

Source: BURGER et. al 2004. based on EU Comext (ACP & DOLLAR Z.) / Austria, Finland, and Sweden 1990-1994 from respective national trade statistics agencies.

G. METHODS OF TARIFFICATION ANALYSIS

a. ATTACHMENT TO ANNEX V OF THE URUGUAY ROUND AGREEMENT ON AGRICULTURE

Guidelines for the Calculation of Tariff Equivalents for the Specific Purpose Specified in Paragraphs 6 and 10 of this Annex

1. The calculation of the tariff equivalents, whether expressed as ad valorem or specific rates, shall be made using the actual difference between internal and external prices in a transparent manner. Data used shall be for the years 1986 to 1988. Tariff equivalents:

(a) shall primarily be established at the four-digit level of the HS;

(b) shall be established at the six-digit or a more detailed level of the HS wherever appropriate;

(c) shall generally be established for worked and/or prepared products by multiplying the specific tariff equivalent(s) for the primary agricultural product(s) by the proportion(s) in value terms or in physical terms as appropriate of the primary agricultural product(s) in the worked and/or prepared products, and take account, where necessary, of any additional elements currently providing protection to industry.

2. External prices shall be, in general, actual average c.i.f. unit values for the importing country. Where average c.i.f. unit values are not available or appropriate, external prices shall be either:

(a) appropriate average c.i.f. unit values of a near country; or

(b) estimated from average f.o.b. unit values of (an) appropriate major exporter(s) adjusted by adding an estimate of insurance, freight and other relevant costs to the importing country.

3. The external prices shall generally be converted to domestic currencies using the annual average market exchange rate for the same period as the price data.

4. The internal price shall generally be a representative wholesale price ruling in the domestic market or an estimate of that price where adequate data is not available.

5. The initial tariff equivalents may be adjusted, where necessary, to take account of differences in quality or variety using an appropriate coefficient.

6. Where a tariff equivalent resulting from these guidelines is negative or lower than the current bound rate, the initial tariff equivalent may be established at the current bound rate or on the basis of national offers for that product.

7. Where an adjustment is made to the level of a tariff equivalent which would have resulted from the above guidelines, the Member concerned shall afford, on request, full opportunities for consultation with a view to negotiating appropriate solutions.

Source: http://www.wto.org/english/docs_e/legal_e/14-ag_02_e.htm#annV (visited the 1. July, 2004)

b. PRICE GAP STUDIES FOR THE DETERMINATION OF THE TARIFF-ONLY REGIME

	Interest Groups	Data Source	Reference Period	Internal Price (A)	External Price (B)	Price Gap (PG) =(A-B) Tariff Equivalent (TE)	Additional Comments
AGREEM – Pérez et al. (2004)	Asociación de Productores de Plátano de Canarias	Eurostat and import unit values (as wholesale prices) from country reports	2001 – 2003	Weighted average of wholesale prices for dollar country bananas in the EU (€68/ton)	Simple average of CIF prices from <i>dollar</i> countries (€11)	PG= €57/ton. There is a profit of €85.50/ton that should not be included in the estimation. TE= €71.5/ton (€52.2/ton if EU10 is included).	The simple average of the external price is one of the weak points of this approach since it undervalues the price from dollar countries, especially large exporters such as Ecuador. There is no estimation of protection for ACP countries and/or EU producers.
CIE – Borrell & Bauer (2004)	Chiquita	Eurostat, FAO, and companies' data	2000	Traditional ACP €per ton (€24)	CIF price in EU ports (€60)	€64/ton ACP internal price already includes protection, therefore PG=TE=€64/ton	“the CIF price in the EU ports is free of preference and therefore it is the competitive world market. There is neither additional calculation nor comparison with other markets necessary to calculate the price-gap” (Borrell & Bauer 2004, p.9).
EU Commission (2005a)	EU Producers and ACP countries	Eurostat & FAO	2000 – 2002	EU-25 duty paid at the Latin American price (€789)	Latin American CIF price for the EU25 (€559)	TE= €230/ton	The price is calculated taking into account the ratio of wholesale prices between EU15 and EU25, with the duty paid.
EU Commission (2005b)		Sopisco News	2002 – 2004	EU15 weekly prices of the five major brands plus EU10 “reconstructed” price (€58)	Average of non-EU prices (€71)	TE= €187/ton plus a TRQ of 775,000 metric tons for ACP imports.	There was a lack of information on prices from April to December 2004. Therefore the result of the price gap for this period was adjusted by a coefficient of 1.35. Regarding external prices, the difference is not clear the difference for estimation between EU25 and EU10 countries is not clear. (WTO Arbitration 2005, p. 24-25)

NERA & OPM (2004)	Caribbean Producers & Exporters (Fyffes)		1999 – 2002	ACP Caribbean FOB exc. Dominican Republic (€20)	Latin American FOB (€62)	TE= €258/ton	This estimation assumes that the costs of transport, although different, are smaller between ACP and Latin American countries. For that reason, it is irrelevant to find the transport costs by subtracting CIF prices.
Raboy et al (2004)	Dole Foods	Eurostat & FAO	2000 – 2002	Traditional ACP €per ton (€31.8)	Latin American prices constructed from US prices (€63,4)	PG= €68,4/ton The additional amount depends on how much of the tariff (€75/ton) is included in the gap if: - 100% TE=143 - 75% TE=124 - 50% TE=106	The adjustments are justified by qualitative differences in the value chain when exporting to the US or the EU from Latin American countries. A “conservative” assumption is that “free market EU CIF prices would have to be 50% higher than US CIF prices in order to reflect competitive market economies” (Raboy et al. 2004). Adjustments to the constructed US price with the EU price were necessary.
Source: Author’s elaboration based on referenced studies.							

c. SIMULATION MODELS FOR THE DETERMINATION OF THE TARIFF EQUIVALENT FOR THE EU BANANA REGIME

€/ton	Base Year	Price Gap	Sensitivity Analysis	Other Assumptions	Tariff Equivalent
AGREEM – Lorca & Pérez (2004)	1996 -2002	Price-gap and spatial equilibrium	Changes on elasticities.	Two step procedure. 1. Find an equilibrium in a situation of free trade (without quotas and tariffs). 2. Find the quantities of the tariffs by trial and error. Exchange rate is the average of the reference period (0.97€/US\$)	259.8
CIE – Borrell & Bauer (2004)	1992 - 2000	Based on Annex V AoA and partial equilibrium	Changing African elasticities, tariffs, and exchange rates.	No aid for EU producers. Africa determinants according to short-term trends. African elasticities perform better than dollar countries'. No changes in real exchange rates. Compensation payments not included.	64
FAL – Kersten (2003)	2000	Spatial equilibrium	Different levels of tariffication. Shifts of supply based on productivity and of demand based on income and population growth.	Combined system with tariffs for dollar countries and quotas for ACP countries.	Between 300 and 406 according to sensitivity analysis
FAO & UniFlorida – Spreen (2003a)	Average 1998 – 2000	Spatial equilibrium	Under different levels of tariffication.	Time shifts supply and demand. Parity of exchange rate.	300
FAO (2004a)	2000 -2002	Partial equilibrium	Simulation of supply and demand in 2007. Changing elasticities and shares of the quota rent captured by the suppliers.	Prices in Asia do not affect the market in EU and USA. Two step procedure: 1) Estimate TRQ for the year 2005. 2) Estimate tariff-only value for the years 2006 –2007. Quota rent estimated in €100/ton.	146, if quota rent is totally absorbed by the supplier
INRA – Guyomard et al. (2003)	Average 1996 – 1998	According to differential between prices (FOB-CIF) and partial equilibrium	Under different levels of elasticities, exchange rates and shifts of supply and demand (model is actualized with 2000-2002 data).	Market clearing equations (EU and RoW). Determine CIF and FOB prices (sources: FAO and Eurostat). Time shifts of supply and demand (last 15 years) separated from price trend impacts. Compensatory aid included.	Between 182 and 239 according to sensitivity analysis
UNCTAD – Vanzetti et al (2004)		Global simulation model (GSIM)	Different changes in the amount of the quota rent distribution between producers.	Quota Rents are estimated in €300/ton and suppliers receive €60/ton, therefore €75/ton is enough to maintain the market. If ACP suppliers receive 100% of the quota rent, the maximum tariff should be €85/ton.	75 to 185, according to the quota rent distribution

Source: Author's elaboration based on referenced studies

H. PRICE ELASTICITIES

Asociación Grupo de Estudios Europeos y Mediterráneos (AGREEM)*			
Supply		Demand	
Asia (the Philipines)	0.81	EU15	-0.53
Central America	0.62	Other Western Europe	-0.87
European producers	1.63	EU10	-2.05
South America	0.77	Other Eastern Europe	-1.99
Traditional ACP	0.41	Asia	-0.51
		North America	-0.18
		Oceania	-0.37
*Data series between 1985-2002 Source Lorca and Pérez (2004)			

Centre for International Economics (CIE) & the World Bank Borrell & Yang 1990 (used by Kersten - Bundesforschungsanstalt für Landwirtschaft)			
Export Supply		Import Demand	
Latin America	3	North America	-0.3
Eastern Asia	2	Germany	-0.5
Caribbean	1	France	-0.5
DOM	1	Benelux	-0.5
Europe	0.5	UK	-0.5
Western Africa	1	PEH	-0.5
Eastern Africa	1	Italy	-0.5
Oceania	1	Eastern Europe	-0.7
		Other Western Europe	-0.2
		Former USSR	-0.7
		Oceania	-0.3
		Other Developing	-0.2
		Latin America	-0.3
		Near East	-0.5
		Far East	-0.4
Borrell & Haslow (2004) re-evaluate the estimations based on the Global Trade Analysis Project and give Ecuador, Colombia, and Central American countries elasticity values of 2.9, 3.1, and 3.3 for the fruit and vegetable industry. They assume that the estimation of Ecuador is relevant given that Ecuador is highly dependent on bananas for its fruit and vegetable industry. Source: Borrell & Yang 1990 based on World Bank 1985 Banana Handbook			

FAO & University of Florida - Spreen (from the FAO meeting in December 2001)			
Export Supply		Import Demand	
Ecuador	1.44	United States	-0.86
Colombia	1.407	Canada	-0.93
Costa Rica	1.44	Latin America	-0.70
Dominican Republic	1.02	European Union	-0.639
Other Dollar Countries	1.31	Other Western Europe	-0.858
Caribbean ACP	1.02	Eastern Europe	-0.7
Overseas EU Territories	1.02	Former USSR	-0.7
African ACP	1.10	Middle East	-1.523
Philippines	0.97	Japan	-1.04
		Other Asia	-0.7

Source: FAO Spreen, (1999 and 2003a)

FAO*			
Supply		Demand	
Belize	0.86	Argentina	-1.14
Brazil	0.66	Canada	-0.26
Cameroon	0.16	Chile	-0.42
Ivory Coast	0.30	Former USSR	-0.86
Colombia	0.38	Hungary	-0.58
Costa Rica	0.23	Japan	-0.26
Dominican Rep.	0.36	Norway	-0.37
Ecuador	0.75	New Zealand	-0.74
Grenada	0.26	Poland	-1.36
Guatemala	0.30	Romania	-0.45
Honduras	0.36	South Africa	-0.92
Mexico	0.30	South Arabia	-0.49
Panama	0.23	Senegal	-1.29
Phillippines	0.30	Tunisia	-1.16
St. Lucia	0.30	UAE	-1.89
St. Vincent	0.68	Uruguay	-0.95
Thailand	0.30	USA	-0.11
Vietnam	0.69	EU15**	-0.035
		Germany	-0.37
		Italy	-0.15
		United Kingdom	-0.015
		Average EU15	-0.178

*Short-run elasticities.
**In their model the authors assume identical parameters for the EU and the USA because EU (aggregate) elasticity was not statistically significant and individual EU countries' results are not consistent with the current behavior of the market.
Source FAO (2004a)

INRA – Guyomard et al. model			
Supply		Demand	
Guadeloupe and Martinique	1	France	-0.7
Other European producers	1	United Kingdom	-1.0
Windward Is. and Jamaica	1	Benelux, Denmark, &	
Cameroon and Ivory Coast	1	Ireland	-0.4
Other ACP	1	Germany	-0.4
Non-traditional ACP	1	Spain, Grece, & Protugal	-0.7
Dollar Zone	2	Italy	-1.0
		Austria, Finland, & Sweden	-0.4
		Former EU candidates	-0.3
		Rest of the world	-0.3

Source Guyomard et al. (2001)

UNCTAD – Vanzetti et al. model			
Supply		Demand	
Western Africa	1	EU	-0.89
Rest of the world	0.47		

Substitution elasticities between producing countries=5

Source Vanzetti et al. (2004) based on FAO's World Food Model

I. COST COEFFICIENT

K (US\$/Mt)									
	FRA	GBR	BEL	GER	GPS	ITA	NOR	EST	ROW
GMA	163	163	163	163	163	163	163	163	0
CMC	44	44	44	44	44	44	44	44	0
CAR	163	163	163	163	163	163	163	163	0
CIV	127	127	127	127	127	127	127	127	127
CAM	127	127	127	127	127	127	127	127	127
NTA	152	152	152	152	152	152	152	152	152
EQU	83	83	83	83	83	83	83	83	83
CRI	83	83	83	83	83	83	83	83	83
COL	83	83	83	83	83	83	83	83	83
PAN	83	83	83	83	83	83	83	83	83
GUA	83	83	83	83	83	83	83	83	83
HON	83	83	83	83	83	83	83	83	83
DOL	83	83	83	83	83	83	83	83	83

Source : Author's transformation in dollars from original data in euros from Report to the European Commission IV DG Agriculture (Guyomard et al. 2001)

J. ELASTICITIES OF THE MODEL

Exporting Blocks		
Guadeloupe & Martinique	GMA	1.0
Canary Is, Crete, & Madeira	CMC	1.0
Windward Islands & Jamaica	CAR	1.0
Ivory Coast	CIV	1.0
Cameroon	CAM	1.0
Non-traditional ACP	NTA	1.0
Ecuador	EQU	2.5
Costa Rica	CRI	2.5
Colombia	COL	2.0
Panama	PAN	2.0
Guatemala	GUA	2.5
Honduras	HON	2.0
Rest of the World	DOL	2.0
Importing Blocks		
France	FRA	-0.7
United Kingdom	GBR	-1.0
Benelux, Denmark, & Ireland	BEL	-0.4
Germany	GER	-0.4
Greece, Portugal, & Spain	GPS	-0.7
Italy	ITA	-1.0
Austria, Finland, & Sweden	NOR	-0.4
EU10	EST	-0.4
Rest of the World	ROW	-0.4
Source: Guyomard et. al. 2001		

K. SCENARIO ACTUAL EU15 STATUS QUO ANTE ENLARGEMENT

(Shifters of supply and demand as Guyomard et al. 2003)

Projection to a range of four years with the period of reference average 2000-2002

ORIGINAL MODEL EU15	EU 15	FRA	GBR	BEL	GER	GPS	ITA	NOR	EST	ROW	Exports	Export. Price (US\$/Mt)
GMA	286 691	97 384	59 828	13 935	75 158	23 730	16 299	358	0	0	286691	457
CMC	376 437	0	0	0	0	376 437	0	0	0	0	376437	576
CAR	157 911	104	147 680	8 145	73	1 907	0	2	0	0	157911	457
CIV	188 834	121 830	6 153	25 804	30 798	3 749	496	4	0	0	188834	493
CAM	198 923	73 082	40 620	14 698	21 883	4 829	43 703	108	0	0	198923	493
NTA	70 829	1 065	36 119	13 355	13 151	1 403	5 508	228	0	0	70829	468
EQU	665 556	12 092	2 056	201 744	182 179	71 892	174 473	21 118	311 041	2 238 035	3214631	293
CRI	604 304	11 345	106 649	228 621	121 470	58 263	33 529	44 427	50 284	1 135 188	1789777	293
COL	650 023	11 429	41 923	362 442	128 845	49 175	48 506	7 703	96 054	680 513	1426590	293
PAN	290 180	9 241	1 892	102 148	82 537	25 786	43 094	25 481	64 382	24 077	378639	293
GUA	16 995	71	2 322	12 693	1 344	8	0	557	3 133	859 784	879913	293
HON	57 969	157	21 714	25 570	6 949	48	1 177	2 354	5 782	375 297	439048	293
DOL	435 675	81	113 772	154 574	3 175	35 210	85 115	43 750	84 493	2 108 712	2628881	293
Demand Exc Intra EU	4 000 326	337 880	580 728	1 163 729	667 563	652 436	451 900	146 090	615 170	7 421 607	12037104	
Consumption	4 000 326	566 131	768 018	273 170	976 607	672 969	437 363	306 068	615 170	7 421 607	12037104	
Importing Price	620	526	646	665	641	615	629	858	390	376		
Dollar Zone	2 720 702	44 416	290 328	1 087 791	526 500	240 381	385 895	145 390	615 170	7 421 607	10757479	
Africa Zone	387 757	194 912	46 773	40 503	52 681	8 578	44 198	112	0	0	387757	

Source: Author's elaboration based on Guyomard et al 2004

L. DYNAMIC SHIFTERS FOR THE MODEL

Supply*		Demand**	
GMA	0.0110	FRA	0.010
CMC	0.0110	GBR	0.015
CAR	0.0030	BEL	0.015
CIV	0.040	GER	0.015
CAM	0.032	GPS	0.010
NTA	0.030	ITA	0.010
EQU	0.0520	NOR	0.015
CRI	0.0520	EST	0.025
COL	0.0520	ROW	0.015
PAN	0.0520		
GUA	0.0520		
HON	0.0520		
DOL	0.0520		
*Production changes			
**Per capita consumption trends			
Source: Guyomard et al. 2003			

M. SCENARIO *ACTUAL* EU25 ENLARGEMENT TRQ TRANSIT PERIOD

(Shifters of supply and demand as Guyomard et al. 2003)

Projection to a range of four years with the period of reference average 2000-2002

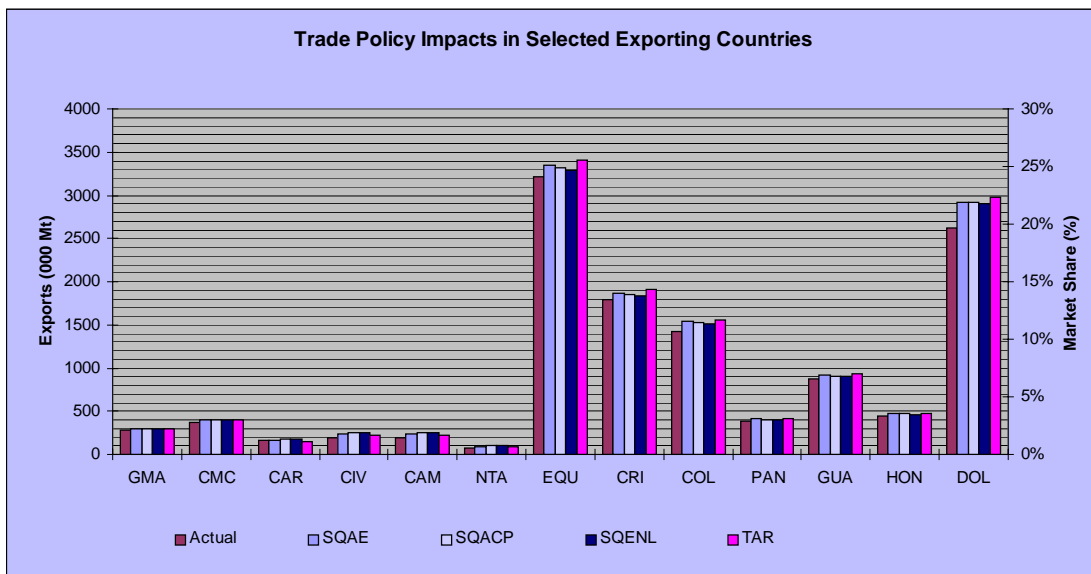
EU25 MODEL	EU 15	FRA	GBR	BEL	GER	GPS	ITA	NOR	EST	ROW	Exports	Exporting Price (US\$/Mt)
GMA	286 535	97 336	59 806	13 932	75 084	23 725	16 293	360	0	0	286535	442
CMC	376 360	0	0	0	0	376 360	0	0	0	0	376360	561
CAR	157 854	104	147 625	8 143	73	1 907	0	2	0	0	157854	442
CIV	188 735	121 771	6 151	25 798	30 768	3 748	495	4	7 904	0	196639	478
CAM	198 831	73 046	40 605	14 695	21 861	4 828	43 688	109	7 745	0	206576	478
NTA	70 798	1 064	36 105	13 352	13 138	1 403	5 506	230	39	14 044	84880	452
EQU	665 360	12 086	2 055	201 698	182 001	71 877	174 412	21 231	311 041	2 238 035	3214435	293
CRI	604 299	11 339	106 610	228 568	121 351	58 251	33 518	44 663	50 284	1 149 267	1803851	293
COL	649 805	11 423	41 907	362 358	128 719	49 165	48 489	7 744	96 054	680 513	1426372	293
PAN	290 185	9 237	1 892	102 124	82 456	25 780	43 079	25 616	64 382	24 077	378644	293
GUA	16 993	71	2 321	12 690	1 342	8	0	560	3 133	859 784	879910	293
HON	57 960	157	21 706	25 564	6 942	48	1 177	2 367	5 782	375 357	439099	293
DOL	436 612	81	113 729	154 598	3 172	35 203	85 085	44 744	68 764	2 139 754	2645130	293
Demand Exc Intra EU	4 000 326	337 715	580 511	1 163 519	666 908	652 302	451 742	147 629	615 129	7 480 832	12096287	
Consumption	4 000 326	566 131	768 018	273 170	976 607	672 969	437 363	306 068	615 129	7 480 832	12096287	
Importing Price	603	526	646	665	641	615	629	858	502	375		
<i>Dollar Zone</i>	2 721 214	44 395	290 220	1 087 599	525 984	240 332	385 760	146 925	599 441	7 466 788	10787442	
<i>Africa Zone</i>	387 566	194 817	46 756	40 493	52 629	8 576	44 183	112	15 650	0	403216	
<i>QUOTA A/B</i>	3 320 654	<i>QUOTA C1</i>	403 216	<i>QUOTA C2</i>	70 837							

Source: Author's elaboration based on Guyomard et al 2004

N. RESULTS IN DIFFERENT POLICY SCENARIOS

Disaggregated Results of Exporting Countries in Different Policy Scenarios					
Mton	Actual	SQAE	SQACP	SQENL	TAR
GMA	286691	299587	299424	299424	299424
CMC	376437	393370	393290	393290	393290
CAR	157911	166455	173290	176204	152877
CIV	188834	230129	248871	252718	221567
CAM	198923	234790	253214	257128	225433
NTA	70829	83098	103616	105313	91679
EQU	3214631	3345405	3311633	3285844	3408380
CRI	1789777	1862587	1858396	1843924	1912688
COL	1426590	1535394	1522823	1513329	1558311
PAN	378639	407517	404248	401727	413668
GUA	879913	915709	906517	899457	933000
HON	439048	472534	468791	465868	479716
DOL	2628881	2921387	2915823	2897643	2983773

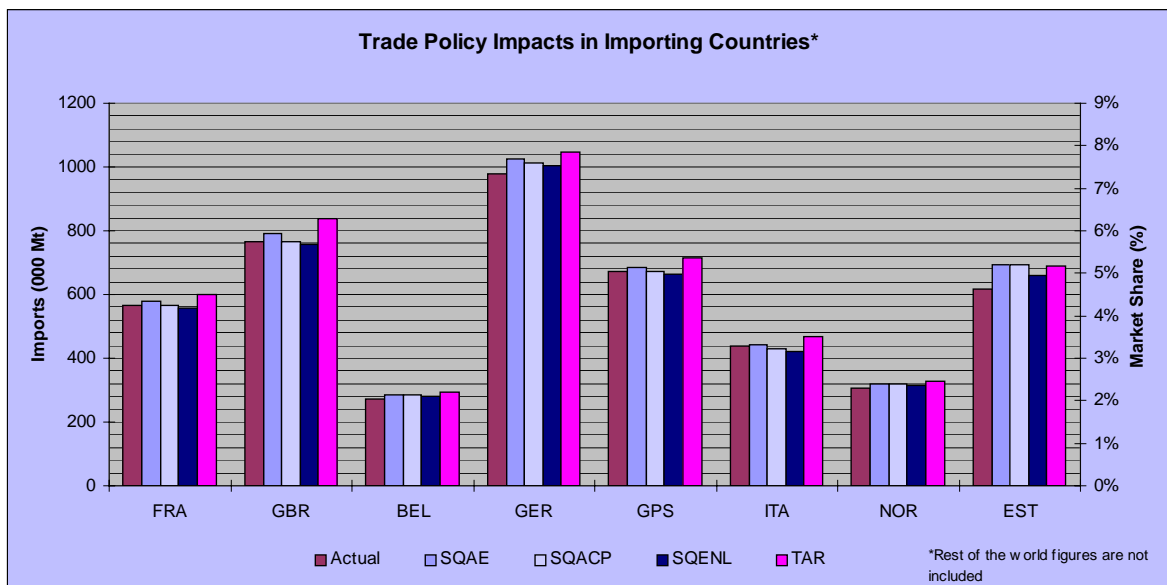
Source: Author's calculations based on Guyomard et al 2004



Source: Author's calculations based on Guyomard et al 2004

Disaggregated Results of Importing Countries in Different Policy Scenarios					
Mton	Actual	SQAE	SQACP	SQENL	TAR
FRA	566131	576954	564832	558840	601148
GBR	768018	791336	767691	756083	839165
BEL	273170	286592	283135	281415	293399
GER	976607	1024590	1012233	1006083	1048926
GPS	672969	685834	671424	664302	714595
ITA	437363	441719	428520	422041	468417
NOR	306068	321106	317233	315306	328733
EST	615170	693629	694409	659556	687643
ROW	7421607	8046201	8120456	8128245	8091781
EU 15	4000326	4128131	4045069	4004069	4294382

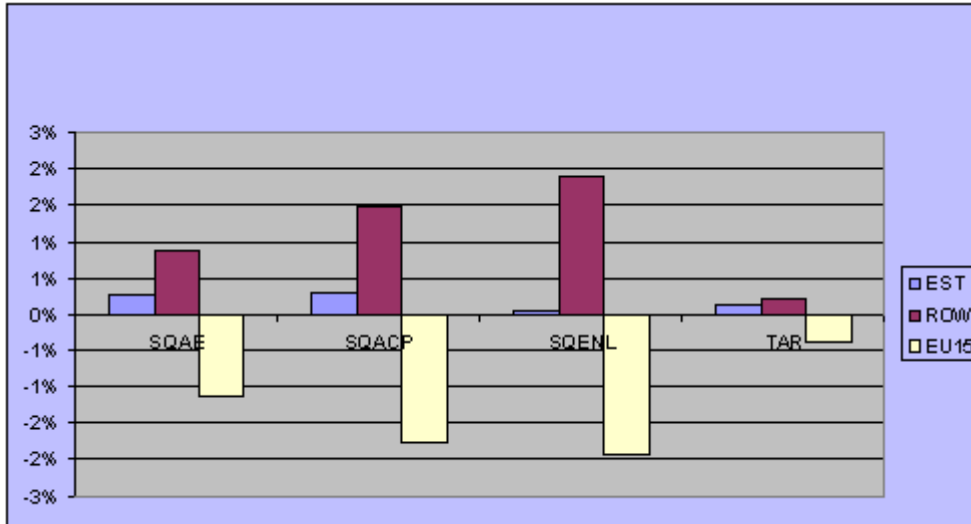
Source: Author's calculations based on Guyomard et al 2004



Source: Author's calculations based on Guyomard et al 2004

O. SUMMARY OF RESULTS FOR IMPORTING COUNTRIES

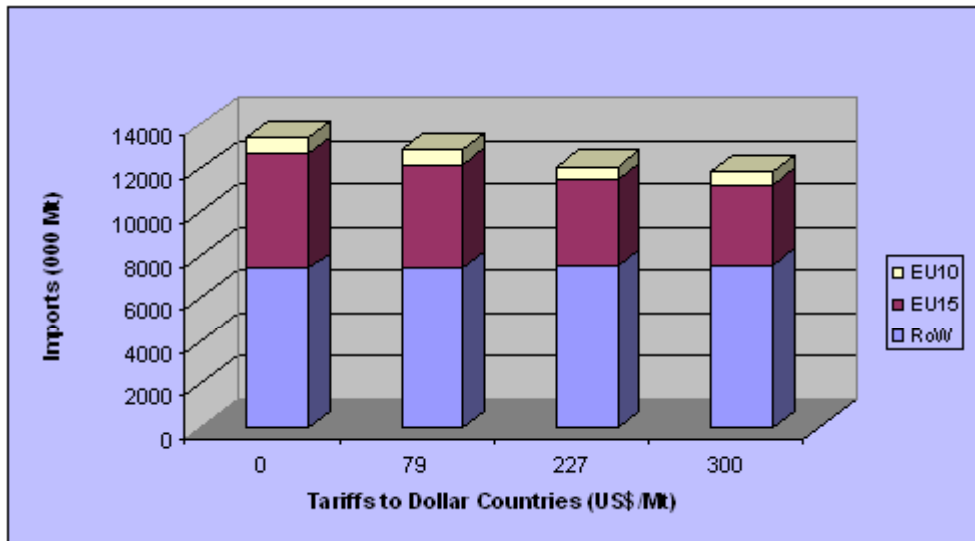
a. Impacts of Trade Policies on Selected Importing Markets



Source: Author's calculations based on Annex N

Among importing countries, Eastern Europe and the rest of the world compensate for the market share the EU15 loses because of increased import prices. Within the EU15, the major market share decreases take place in the UK, France, and Germany. The producer countries of Greece, Portugal, and Spain also cut back on imports, likely because of their production restrictions.

b. Static Impacts of EU Tariffication on Importing Blocks



Source: Author's calculations based on Annex N

As a result of the price differences between the rest of the world and the EU25, importing countries from the EU25 reduce their imports as the tariff increases; this reduction is compensated for with RoW imports.

P. RESULTS IN DIFFERENT TARIFFICATION SCENARIOS

Disaggregated Results of Exporting Countries in Different Tariffication Scenarios				
	Actual	Increased African and NTA elasticities (to 2.5), tariff equivalent held constant	Tariff-invariant 4 year projection	Tariff equivalent projected for 4 years
Applied Tariff	227	227	227	245
Exports (Mton)				
GMA	286535	299424	299424	299424
CMC	376360	393290	393290	393290
CAR	157148	152980	152877	158999
CIV	195826	208785	221567	229742
CAM	205722	212428	225433	233751
NTA	84510	86101	91679	95257
EQU	3215215	3417120	3408380	3374483
CRI	1804289	1917592	1912688	1893665
COL	1426649	1561507	1558311	1545900
PAN	378717	414517	413668	410374
GUA	880123	935392	933000	923721
HON	439184	480699	479716	475895
DOL	2645643	2989892	2983773	2960010
Total	12095921	13069727	13073807	12994511
Exporting Prices US\$/Mton				
GMA	440	423	423	440
CMC	559	542	542	559
CAR	439	422	422	439
CIV	475	458	458	475
CAM	475	458	458	475
NTA	450	433	433	450
Dollar	293	276	276	275

Source: Author's calculations based on Guyomard et al 2004

Disaggregated Results of Importing Countries in Different Tariffication Scenarios

	Actual	Increased African and NTA elasticities (to 2.5), tariff equivalent held constant	Tariff-invariant 4 year projection	Tariff equivalent projected for 4 years
Applied Tariff	227	227	227	245
Imports (Mton)				
FRA	566112	600945	601148	589303
GBR	767982	838760	839165	815644
BEL	273165	293342	293399	290081
GER	976589	1048724	1048926	1037066
GPS	672947	714353	714595	700514
ITA	437342	468191	468417	455287
NOR	306062	328669	328733	325016
EU15	4000199	4292985	4294382	4212912
EU10	615117	687510	687643	679868
RoW	7480606	8089232	8091781	8101732

Source: Author's calculations based on Guyomard et al 2004

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European Union, documents banana dispute

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World Trade Organization, Dispute Settlement

http://www.wto.org/english/tratop_e/dispu_e/dispu_e.htm

Banana Trade Organizations

Asociación de Bananeros de Colombia - AUGURA

<http://www.augura.com.co>

Asociación de Exportadores de Banano del Ecuador

<http://www.aebe.com.ec>

<http://www.thebanananews.com>

BanaFair e.V

<http://www.banafair.de>

BananaLink

<http://www.bananalink.org.uk>

Better Banana Project Rainforest

<http://www.rainforest-alliance.org/programs/agriculture/certified-crops/bananas.html>

Caribbean Banana Exporters Association – CBEA

<http://www.cbea.org>

Corporación Bananera Nacional – CORBANA (Costa Rica)

<http://www.corbana.com.cr>

European Union, Comité de gestion de la banane

<http://europa.eu.int/comm/agriculture/minco/manco/banana/index.htm>

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<http://www.fairtrade.net>

FAO Commodities and Trade Division

<http://www.fao.org/es/ESC/ESCR/>

International Network for the Improvement of Banana and Plantain – INIBAP

<http://www.inibap.org>

International Banana Association

<http://www.eatmorebananas.com>

Ministerio de Agricultura de Colombia – Agrocadena de Banano

<http://www.agrocadenas.gov.co/home.htm>

Proyecto SICA/MAC

<http://www.sica.gov.ec/cadenas/banano/index.html>

Technical Centre for Agricultural and Rural Cooperation ACP-EU

<http://www.agricta.org/agritrade/bananas/index.htm>

The Banana Group

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UNCTAD - Infocomm

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Companies

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Caribana

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Chiquita

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Dole Foods

<http://www.dole.com>

Eurobanan Canarias

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Favorita

<http://www.grupowong.com>

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Fresh Del Monte Produce Inc
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Ortofrutticola Acese
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Plátano de Canarias
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Proban
<http://www.proban.com.co>

Turbana Corporation
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Statistics

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Commodity Page
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Curriculum Vitae

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Employment History

- Since 04/2006 **Project consultant (internship): Fair Trade of Bananas**
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- 01/2004 – 08/2004 **Project consultant (internship): Trade policies of the EU banana regime**
- Vrije Universiteit Amsterdam, Amsterdam – THE NETHERLANDS
- Institute National de la Recherche Agronomique – Rennes – FRANCE
- Colombian Association of Banana Producers, Bogotá D.C. – COLOMBIA
- 02/2003 – 03/2003 **Guest researcher: Methods to evaluate competitiveness**
Universidad Jaume I, Castellón de la Plana – SPAIN
- 08/2001 – 04/2002 **Specialized Professional: Competitiveness Department**
Ministry of Foreign Trade of Colombia, Bogotá D.C. – COLOMBIA
- 07/2001 – 12/2001 **Principal lecturer: Globalization and Integration**
Assistant lecturer: Introduction to the International Economics
Universidad del Rosario, Bogotá D.C. – COLOMBIA
- 09/2000 – 02/2001 **Internships**
- Global Player Focus Latin America – Consulting, Dortmund – GERMANY
- Institut für Iberoamerika-Kunde, Hamburg – GERMANY
- Ibero-Amerika Institut für Wirtschaftsforschung, Goettingen – GERMANY
- 08/1996 – 12/1997 **Assistant of Purchases, Foreign Trade and Quality Certification**
Electromanufacturas S.A. – ISO 9002
Bogotá D.C. – COLOMBIA

Education

- 04/2002 – 07/2006 **Economics, Ph.D.**
Georg-August-Universität Göttingen, Goettingen – GERMANY
Research: Competitiveness and Trade Policy Problems in Agricultural Exports: A Perspective of Producing/Exporting Countries in the Case of Banana Trade to the European Union
- 03/1999 – 03/2001 **International Studies, Masters**
Universidad de Chile, Instituto de Estudios Internacionales, Santiago– CHILE
Research: Trade Relations between the European Union and Latin America – A Political-Economy Study of the Banana Trade between the EU and Ecuador
- 08/1998 – 09/1999 **International Relations, Specialization**
Universidad de Chile, Instituto de Estudios Internacionales, Santiago– CHILE
Research: Agricultural and Agro-industrial Exports from the Andean Community and Chile: A Comparative Analysis
- 1992 – 1997 **Economics**
Universidad del Rosario, Bogotá D.C. – COLOMBIA
Research: Diversification by means of Tariff Preferences: An Alternative to the Illicit Cultivation

Recent Publications

2005

The Tariff-Only Import Regime for Bananas in the European Union: Impacts on ACP and non-ACP Suppliers. With: Hervé GUYOMARD, Chantal LE MOUËL, Fabrice LEVERT. In: Eurochoices, August. 4(2), pp. 36-41.

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