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The EU-US Controversy on Trade with Genetically Modified Organisms (GMOs)

- Implications for the Transatlantic Trade Relations -

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Abstract

The commercial relations between the United States (US) and the European Union (EU) have been characterized by constant disputes concerning the creation of trade barriers. One recent controversy concerns Genetically Modified Organisms (GMOs) that are included in food products. The US claims that the EU is creating barriers to trade by applying a moratorium on the approval of GMOs. The moratorium has already caused economic losses to the US and a decline in exports of food products to the EU.

This document presents the importance of agriculture in trade and provides a picture of the trade relations in food products between the US and the EU. A description of the different regulatory frameworks for food products is included as a tool to understanding the different institutional perspectives on the same issue. An emphasis is made on importers of fruit and vegetables since these products appear to be the largest group of products dominating imports of food products from the US to the EU. The viewpoints of the importers towards GMOs are presented.

This research concludes that the GMO controversy may lead to the creation of new trade barriers, non-tariff barriers and technical barriers to trade in particular. It has been demonstrated that the process behind the creation of trade barriers between two blocks have the effect that one barrier of trade may lead to the creation of another, either within the same area of dispute or in a different field.

Key words: moratorium, GMOs, biotechnology, transatlantic trade, EU-US trade relations, trade controversies, food products

Table of Contents

1 Introduction

This chapter is intended to give a picture of the problem to be dealt with in the thesis starting with an introductory background to the topic. Further the problem is discussed stepwise along with research problem and research questions, which will make up the base of the thesis. The purpose of the thesis is explained, followed by the delimitations considering the framework of the thesis.

Today the world has changed dramatically and what used to be a world governed by two super powers, the United States (US) and the former Union of the Soviet Socialist Republics (USSR) is today evolving into a world divided into several larger regions which also has meant increased influence for many smaller nations.

The US has emerged as the sole super power, militarily and economically. Europe, on the other hand, has shown the most complex and evolving phenomenon of regionalization, the European Union (EU). This has led to a new world order with new balances of power. The US now being challenged by the EU in many areas, politics and trade are two examples.

1.1 Background

Today the EU-US relations are becoming increasingly important and complex, with a lot of topics involved in the agenda and each of them with its own nature. The composition of countries within the EU is a complex network itself and requires the consensus of all nations in each matter.

As the EU is growing bigger and as the importance of regionalism is increasing, trade relations with regions outside the EU are also becoming more complex, which in some cases leads to the emergence of conflicts on different matters.

The EU is divided when it comes to varying standards and certification procedures for different products in different member countries. However, the current approach goes towards the harmonization of laws, regulations, standards, testing, quality and certification procedures to create as uniform a system as possible, based on necessary health and safety requirements. The

EU's often stricter legislation has effects on trade relations with the US which is the background to several recent trade disputes between the two blocks.[1]

Among the disputes that have emerged in recent years and which have had severe effects on the EU-US relations are the disputes known as the banana case and the hormone case.

In 1993 the EU implemented an import regime for bananas. This regime gave preference to banana imports from EU overseas territories and former colonies. The regime discriminated against bananas from other territories including Latin America where US companies predominate. The US challenged the regime and brought the case to the WTO dispute settlement procedure.[2]

The hormone case refers to an EU ban on the production and importation of hormone-treated beef that was put in place in 1999. The reason for the ban was the EU's concern for consumer safety and the fear of risks to human health. The dispute has been going on for a couple of years and has caused some friction in the trade relations between the EU and the US.[3]

One of the most recent controversies in the EU-US relationship concerns the EU's ban on imports of Genetically Modified Organisms (GMOs). [4] Since a couple of years ago there has been a discussion about the development of GMOs and trade in GMOs where the EU and the US have had differing points of views concerning possible threats to the environment and to human health. As the years have passed and GMOs are becoming more and more common in the US there has not been any progress or result of the difference of opinion between the EU and the US. The last year the debate has escalated and today it is an important issue, dividing the EU and the US. The GMO issue is probably the biggest concern in the EU-US relations today.

1.2 Problem discussion

Preliminary reviews of articles suggest no strong scientific evidence of repercussions from GMOs either on human health or on the environment.

[1] *Foreign Trade Barriers* (2000)
[2] Hanrahan, C.H., *CRS Report for Congress, RS20130: The US-European Union Banana dispute*, (December 9, 1999)
[3] Ahearn, R.J., *CRS Issue Brief for Congress, US-European Union Trade Relations: Issues and Policy Challenges*, (updated May 12, 2003)
[4] Ibid

However, GMOs certainly have an impact not only on health and the environment but they also have economic and political effects and so this affects different actors' viewpoints on different levels. There is a lot of interest from both the EU and the US, and there are many actors behind these interests with different perceptions which also has contributed to differing legislation and to contradictory views over the same issue.

The controversy on GMOs was initiated when the EU, as a response to member states' requests, imposed a moratorium on the approval of biotechnology products in 1998, meaning that approvals were to be delayed. Since then, there have not been any new approvals of biotechnology products. [5] Recently the US has requested the WTO to review the EU policies on GMO products since it is argued that the EU is blocking the development of trade in GMOs. On the other hand, the EU believes that it is its right to ensure the safety of the products with regard to distribution as well asn the labelling and contents of the product.

The EU is taking a much more precautionary approach towards GMOs emphasizing protection for human health and for the environment. The EU has recently imposed new and stricter regulations on labelling for food products containing GMOs. This is another fact that is objected to by the US, which claims that labelling rules "'*could lead to the imposition of a new set of non tariff barriers*'"[6].

There are several actors who are involved in the GMO business and who will be affected in one or another way by an outcome of the dispute between the EU and the US, if there will be an agreement on the moratorium. First of all, it is important to see what will happen with the moratorium and what the WTO will respond to the US' request for review of the EU policies on GMOs.

Among the actors discussed above, trading companies (exporters and importers) represent a group of great interest for this thesis. They are an important group in the discussion in the GMO issue since their operations can be considered as the focal point for the possible introduction of GMO products from the US to the EU. If a GMOs agreement comes to reality, they will have to adapt to the new situation and certainly they will be affected in some degree.

[5] Capell, K., *A food fight the U.S. is sure to lose*, BusinessWeek, (21.07.2003)
[6] Ibid

1.3 Problem formulation

The research problem that this thesis will explore is:

Within the EU-US trade relations, what are the possible consequences concerning the creation of trade barriers as the GMO issue proceeds?

The research problem incorporates the different processes behind the creation of trade barriers and the possible causes and consequences of trade barriers. Furthermore, important drivers of the commercial relations between the EU and the US are encompassed by this research question.

The research problem is further divided into three research questions to separate the problem into important parts that will help us give an extensive picture of the issue. Furthermore, the research questions will step-by-step take us through the research process and help us to reach a trustworthy result. The research questions are presented below:

What does the EU-US trade pattern within food and GMO food products look like?

This research problem deals with the general picture of EU-US trade relations but also with certain sectors of importance in the trade relations between the EU and the US. Trade patterns in GMOs are also incorporated.

What are the standpoints of EU importers of food products towards GMOs and what are the general attitudes of specialized organizations towards an agreement on the GMO dispute?

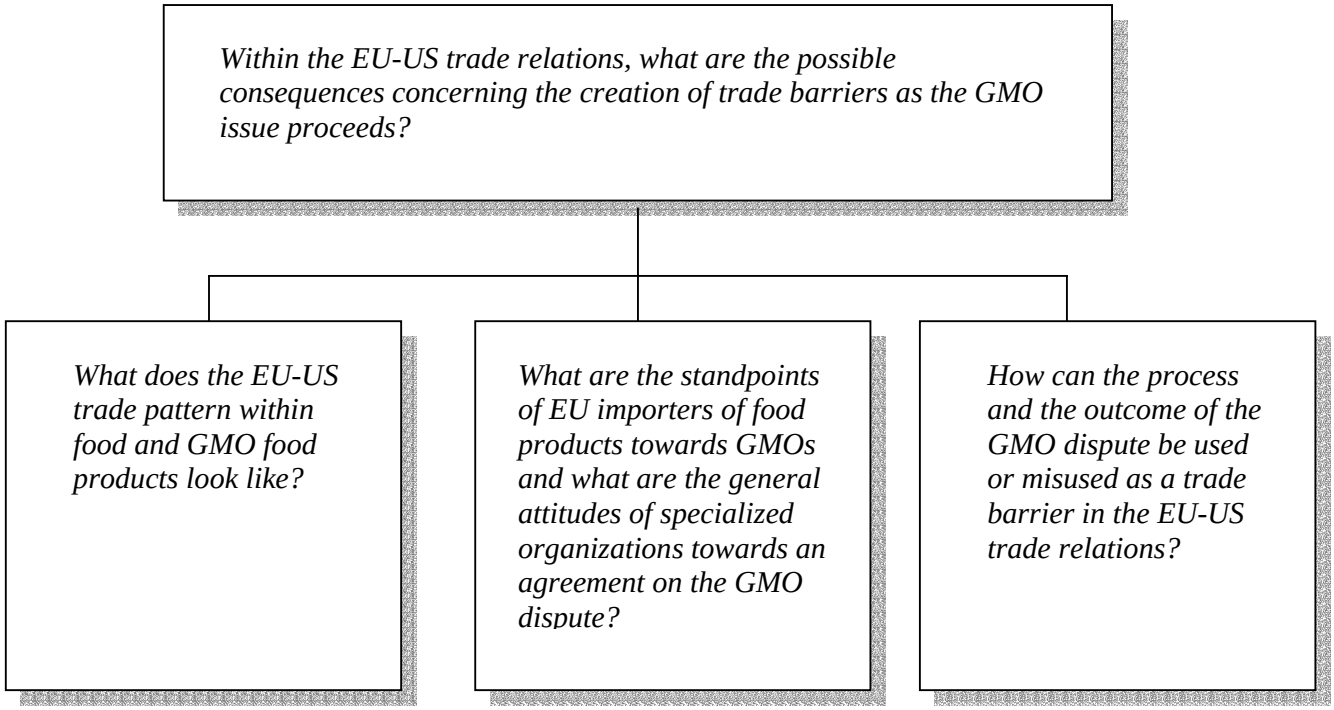
The focus will be on EU importers of products from US food companies. EU companies participating in imports within one sector of importance are incorporated. Furthermore, drivers for support and refusal of the commercialization of GMOs are encompassed by this research question. Specialized organizations refer to organizations with special knowledge on agriculture and GMOs or special knowledge on the transatlantic trade relations.

How can the process and the outcome of the GMO dispute be used or misused as a trade barrier in the EU-US trade relations?

According to the US, the dispute surrounding the GMO issue is contributing to creating obstacles to free trade between the two blocks. From the EU's point of view, it is a legitimate concern about the safety of GMO food. Risks for new trade barriers to emerge, depending on different outcomes and interests in the GMO dispute, are incorporated in this research question.

The research problem and the research questions connected to it are presented in the model below.

Figure 1.1: Research Problem and Research Questions



Source: Authors' construction

1.4 Purpose

The purpose of the thesis is to analyze the effects of a trade dispute in one sector of business (food products) and from there, draw general conclusions on the specific consequences for future trade with GMO food products between the EU and the US. We will analyze the GMO issue's possible impact as a contributor to creating new barriers to trade by looking at the dispute process but also by looking at possible final outcomes of the GMO dispute.

We will identify a sector within food products that stands for the largest share of imports to the EU that originates from the US. This sector will be analyzed using the Swedish market as an example. The intention is then to describe the GMO market and to bring its impact on this sector into focus, and finally be able to draw some conclusions on how imports of food products will be affected by an outcome of the GMO dispute. Simultaneously, we intend to give a picture of the EU- US relations in general and see how these might be affected by this particular issue, added to a large list of commercial disputes.

1.5 Delimitations

Biotechnology is a concept that includes a wide array of products and applications, where GMO is one example. Our research will be limited to GMO applications to food products and we will therefore not include any other biotechnological areas. Furthermore, we will not look at feed products concerned with GMOs, only food products. The reason is that we believe that food products represent a more sensitive matter and are especially subject to public opinion. The research will pay extra attention to one particular group of food products, the group of food products that dominates the EU imports from the US. To limit the scope of the thesis there will be no further study of other groups of food products.

We will look at different actors that are influenced by the GMO issue. To delimit our research we will not look at actors outside the EU and the US. We will focus on EU based companies as importers. We will no, however, investigate the effects for US exporters. The research would be much too wide and complex to analyze the effects for both parties.

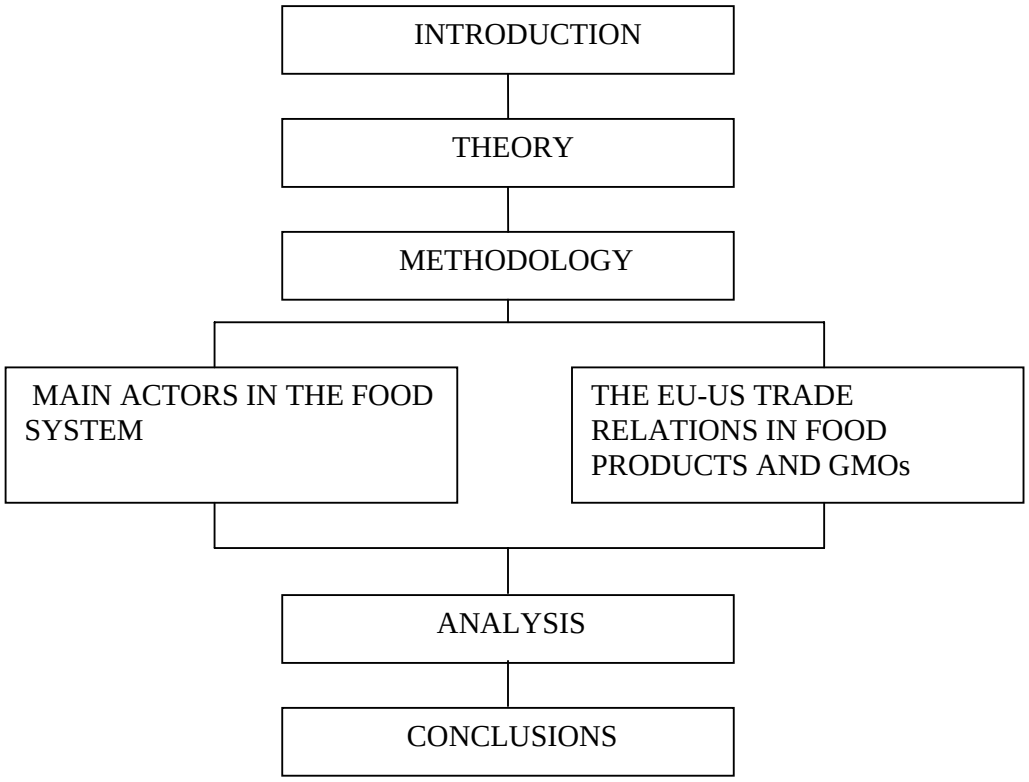
The thesis will not incorporate any deeper analysis of scientific or biological concerns within GMOs; rather it will deal with GMOs from a trade perspective.

1.6 Thesis outline

The theory can be seen as an introductory chapter to what comes next and putting the methodology chapter right after seemed reasonable in order to explain the background to the empirical investigation before approaching it. The empirical part of the thesis begins with an introductory part discussing the main actors in the food system. The idea is that this chapter shall give a picture of the food system before going into the topic in question. The empirical part

continues with the main part of the thesis which starts with a general picture of the EU-US trade relations and the trade relations in agriculture. It continues with a presentation of food policies in each of the trade blocks and with a discussion of the GMO market. The chapter ends with a presentation of the companies that took part in our investigation of EU importers and their standpoints towards GMOs. The theoretical chapter together with the empirical part makes up the base for the analysis that follows and the conclusions that are presented in the end.

Figure 1.2: Outline



1.7 Abbreviations and Definitions

BRC	British Retail Consortium System
BSP	Biosafety Protocol
CAP	Common Agricultural Policy
CODEX	Codex Alimentarius Commission
DSU	Dispute Settlement Understanding
EFSA	European Food Safety Authority
FDA	Food and Drug Administration
FFAS	Farm and Foreign Agricultural Services
FNCS	Food Nutrition and Consumer Services
EU	European Union
FAO	Food Agricultural Organization
GATT	General Agreement on Tariffs and Trade
GAP	Good Agricultural Practice
GMO	Genetically Modified Organisms
HGP	Human Genome Project
IP	Intellectual Property Rights
IPE	International Political Economy
MEAs	Multilateral Environmental Agreements
MRP	Marketing and Regulatory Programs
NAFTA	North America Free Trading Agreement
NGOs	Non-Governmental Organizations
NMC	Näringslivets Miljöchefer
NRE	Natural Resources and Environment
NTBs	Non-tariff barriers
OECD	Organization for Economic Cooperation and Development
RD	Rural Development
REE	Research, Education and Economics
SEA	Single European Act
SITC	Standard International Trade Classification
SPS	Sanitary and Phytosanitary Standards Measures
TBT	Technical Barriers to Trade
TEP	Transatlantic Economic Partnership
TNCs	Transnational Corporations
TRIPs	Trade Related Intellectual Property Rights
UN	United Nations
UNSD	United Nations Statistics Division

USDA	United States Department of Agriculture
VER	Voluntary Export Restraints
US	United States
USSR	Union of Sovietic Socialist Republics
WHO	World Health Organization
WTO	World Trade Organization

Biotechnology - is technological applications using biological systems, living organisms, or derivates thereof, with the purpose to modify products or processes for specific use. Biotechnology can include medicine applications, human cloning, Genetically Modified Organisms.

GMO (Genetically Modified Organisms) - When the term GMO food products is used what is actually referred to are products that are produced from genetically modified organisms. Although there are no solid GMO food products, there are organisms that might be included in food products, and thus the expression GMO food products is often used.[7]

The moratorium – "a period during which an obligor has a legal right to delay meeting an obligation, esp. such a period granted, as to a bank, by a moratory law".[8]

[7] Livsmedelsverket, *Genteknik* (2002)
[8] *Hyperdictionary*

2 The Theoretical Framework of International Trade

There are many areas involved in international trade, of which international collaboration is one important element. Below we will discuss some important implications for international trade, with classical theories in international trade as a starting point. Furthermore, there is a discussion about the contemporary development towards trade liberalization and about the different barriers to trade that still are exercised in international trade. The chapter ends with a description of trade in agriculture, which is of particular concern to this thesis.

Global trade has developed in several ways during the years, with both economic and technological implications. The number of trade barriers has decreased and has contributed to a trend towards free trade. Trade possibilities have developed through deregulation and privatization but also through advances in communications and transportation. [9]

Trade in manufactured goods dominates the world merchandise trade and statistics show that it will continue to do so. Since the 1950s a great and steady development in trade volume can be seen in sectors such as manufactures, mining products and agricultural products.[10]

2.1 International collaboration in trade

Collaboration can be a very soft and easy process of negotiation when the parties involved agree on the benefits to be acquired from the cooperation. However, the process becomes complicated when one of the parties, or both, does not share the same view about the benefits to be obtained from the agreement. This leads to the creation of a framework that regulates their interdependence if they want to continue to collaborate despite the conflict.[11] One concept arises which is essential to understand international cooperation, i.e. *international regime*. A regime can be defined as *"….norms, rules, and procedures agreed to in order to regulate an issue area"*[12]

[9] Gilpin, R., *Global political economy: understanding the international economic order*, (Princeton, N.J: Princeton University press, 2001)
[10] Wild, J.J., Wild, K.L, Han, J.K., 2003, *International Business*, Prentice Hall 2d. edition
[11] Young, O.R., *The International political economy and international institutions*, volume 1, (UK: Edward Elgar Publishing Limited, 1996)
[12] Ibid, p.185

It is crucial to drop the usual difference made between politicized and depoliticized collaboration, assuming that the first is good and the latter is bad collaboration. When collaboration is influenced by complex interdependencies, then everything is susceptible to be politicized. [13]

Today, the number of involved actors in international collaboration is greater than ever. It is not only the traditional foreign or economic ministries that are main actors in international collaboration, but there are also specialized agencies and associations that are of great importance. They are in constant contact with other foreign ministries without intervention by their national authorities. Nowadays, non-governmental organizations keep in contact with each other in every part of the world and try to find new ways to shape policies in their home countries. The flow of international information is more open, constant and varied than ever.[14]

Knowledge is an important element for studying the development of conflicts. *"Knowledge is the sum of technical information and of theories about that information which commands sufficient consensus at given time among interested actors to serve as a guide to public policy designed to achieve some social goal".*[15] Knowledge comprises scientific views related to social goals. Such views are usually influenced by ideological elements and therefore self-interested groups are frequently proponents of new knowledge. Some exaggerations, inaccurate analogies and other imperfect uses of the language are common in science for policy and in policy for science. It can be said that the role of knowledge is to serve as a mediating body of theory that goes beyond the existing lines of ideological contradictions. [16]

2.2 International trade theory

Ever since the fifteenth century there have been economists trying to explain trade and reasons for trade with different theories. Several economic theories in international trade have developed during the years. Adam Smith, David Ricardo, Eli Heckscher, and Bertil Ohlin are several well known economists

[13] Young, Oran R. (1996)
[14] Ibid
[15] Ibid, p.194-195
[16] Ibid

who have become famous for their theories in international trade.[17] Diverse theories have evolved over time, and trade patterns also have developed. Today economists are still looking at classical theories, such as those developed by Adam Smith and David Ricardo, trying to define their own approach to trade and trade patterns.[18]

2.2.1 Classical perspective on economics

The most prominent classical theories within international trade are *the theory of absolute advantage, the principle of comparative advantage,* and *the factor proportions hypothesis.*[19]

The time period referred to when discussing classical economic theories stretches from 1776 to 1870, with Adam Smiths' publication "The Wealth of Nations" as an initiator in modern economic science. [20] According to the mercantilistic approach, which was specifically in focus during the seventeenth and eighteenth centuries, the aim was to keep a constant surplus when involved in foreign trade. It was argued that deficits in the balance of payments could contribute to negative effects on the supply of circulating monetary gold. Criticizing the simple explanation that this approach provided, Adam Smith developed his *theory of absolute advantage*. This theory states that our country should buy a good from a foreign country if this country can supply the good cheaper compared to if we had made it ourselves. David Ricardo followed with his *theory of comparative advantage*, developing the former reasoning. The main thought with the comparative advantage is that *"a country should specialize in producing and exporting goods in which its comparative advantage is greatest, or comparative disadvantage is smallest, and should import goods in which its comparative disadvantage is greatest"* [21].

Smith, Ricardo and the other classical economists were in particular interested in identifying what factors determined the distribution of income among land, labor and capital, and in exploring the patterns of imports and exports in different countries. Their theories have laid the foundation for further advances in theories explaining trade and international trade.[22]

[17] Wild et al (2003)
[18] Ibid
[19] Trebilcock, M J., Howse, R., *The regulation of international trade*, (London, Routledge, U.K, 1999)
[20] Kjeldsen-Krag, S., *International Economics*, (Copenhagen: Copenhagen Business School Press, 2002)
[21] Trebilcock, M.J, Howse, R. (1999, p.3)
[22] Gilpin, R. (2001)

2.2.2 Neoclassical economics and International Political Economy (IPE)

Gilpin discusses the importance of both politics and economics in international trade and how they affect one another. The author emphasises the roles played by the state and the market as an integral part in economic development. He further explains how the definitions of Economics and Politics have developed over the years.[23]

Governments and powerful groups pressuring governments can intervene in the market and alter economic variables, such as supply, demand and prices. Markets are controlled through measures such as wages and prices, as well as taxes, subsidies and tariffs. This shows that there is a need to look at trade and markets, not only by considering economic factors but also by looking at political factors.[24]

There is a distinction between neoclassical economics and international political economy (IPE). The most prominent differences between the views of neoclassical economists and international political economists are that the former see the market as self-regulating and emphasize efficiency and mutual gains from economic exchange while the latter group looks at the market as influenced by social, political and cultural aspects with particular attention to market activities and the associated distribution of gains. [25]

Gilpin uses the term neoclassical economics or simply "economics" and defines it as *"the body of methods and theories accepted and utilized by most members of the economics profession"*. [26]

Economics deals with human behaviour concerning the choices that we face and what the factors are that influences those choices. Economics works as guidance to individuals to help them make rational choices and allocate resources efficiently when resources are scarce or constrained. Individuals face economic decisions frequently and such decisions always imply that one has to give up something when choosing something else which can also be seen as a trade-off between costs and benefits. This matter is also referred to as "the

[23] Gilpin, R. (2001)
[24] Frieden, J.A., Lake, D.A., *International Political economy*, (London: Routledge, 1998)
[25] Gilpin, R. (2001)
[26] Ibid, p.46

opportunity cost", the cost of forsaking something of equal value or possibly higher value. [27]

2.2.2.1 Neoclassical economics and more recent theories

The classical theories were followed by a period characterized by neoclassical theories, where the factor proportions theory (or Heckscher-Ohlin theorem) was dominating. The neoclassical theories stretch from 1870 to around 1936. The factor proportions theory focuses on the factor endowment of different countries as adeterminant in explaining patterns in international trade.[28] The theory was based on the assumption that countries *"enjoy comparative advantages in producing goods that use their more abundant factors more intensively, and each country will end up exporting its abundant factor goods in exchange for imported goods that use its scarce factors more intensively"* [29].

In the 1960s Vernon developed his theory about international trade patterns through *the Product cycle theory*. What distinguished this theory from the former (the factor proportions theory) was the use of different stages in a product's life cycle explaining the patterns of international specialization in manufacturing.[30]

More recent theories explaining international trade are e.g. the New Trade Theory and the National Competitive Advantage. The New Trade Theory emerged during the 1970s and 1980s and states that *"(1) there are gains to be made from specialization and increasing economies of scale, (2) the companies first to enter a market can create barriers to entry, and (3) government may play a role in assisting its home-based companies"*[31]. The National Competitive Advantage Theory was developed by Michael Porter in 1990. In contrast with earlier theories that tried to explain patterns for imports and exports, this theory aims to explain why some nations are more competitive than others in certain industries. The theory states that the capacity of the industry to innovate and upgrade are important determinants explaining a nation's competitiveness. [32]

[27] Gilpin, R. (2001)
[28] Kjeldsen-Krag, S. (2002)
[29] Trebilcock, M.J, Howse, R. (1999, p.4)
[30] Ibid
[31] Wild et al (2003, p.154)
[32] Ibid

2.2.2.2 International Political Economy (IPE)

International Political Economy investigates the interplay between economics and politics, integrating markets with states, multinational firms and international organizations.[33]

In comparison with the neoclassical approach, the IPE approach includes a broader spectrum of issues. The IPE looks at the market as part of a bigger context where the market and economic activities are influenced by social, political and cultural aspects. The distribution of gains derived from business is one important aspect that the IPE takes into consideration. International regimes, as important contributors in the distribution of gains from economic activities, therefore play a crucial role in the IPE-perspective.[34]

There is criticism towards the fact that the economic approach itself does not consider the dynamics of the market with attention to external factors such as technology. This is one reason why economics should not be looked upon alone in studying the international economy. According to Gilpin, international economy is best understood when combining studies in international political economics with studies in economics.[35] "There is a pressing need to integrate the study of *international* economics with the study of *international* politics to deepen our comprehension of the forces at work in the world."[36]

2.3 Political approaches to trade liberalization

The approach towards free trade is a complicated matter and several obstacles still remain. It is partly a matter of fear whereas companies and nations are willing to take advantage of the possibilities offered in other markets, while at the same time they are not as willing to let others into their own economies. [37]

The concept of free trade, as it is interpreted today, is based on the ideas developed from the classical economists that were earlier mentioned. The idea and the use of the principle of comparative advantage presented was that

[33] Frieden, J.A., Lake, D.A. (1998)
[34] Gilpin, R. (2001)
[35] Ibid
[36] Gilpin, R. (1987)
[37] Gilpin, R. (2001)

countries gain from trading freely with other countries rather than from using protectionist measures to shield domestic businesses. [38]

2.3.1 The role of the state

Policy is described as government intervention and is used with the aim of reducing market failure. Some of the tools that can be used to reduce market failure are: executive means, regulation, market intervention or exhortation. Executive means implies that the public good is provided directly by the government, while regulation means two alternatives: prohibition or implementation. Market intervention is carried out by enforcing taxes or subsidies, or both. Finally, exhortation refers to the use of education or propaganda. If the government itself does not regulate the policies, there can be other institutions, designated by the government, to perform. Those institutions can be environmental agencies or marketing boards, for example.[39]

When it comes to international trade, one of the policies used by the government is restriction on trade. There are numerous reasons why states decide to restrict trade. For many years tariffs were used initially to increase government revenue. Taxation could be the easiest way governments use to collect money. Modern governments, however, have different reasons for imposing protective measures, especially on imports. These reasons can be: the protection of domestic producers from external competing goods, the decrease in the consumption of a particular good, military security reasons, the reduction of imports from the balance of payment or even as a solution to political pressures[40].

Trade policies are the different ways in which states have control over their international trade. These policies deal with exports and imports, and in general it can be said that a state tries to stimulate exports while restricting imports in order to have a positive balance of payments. The trade policies in imports can be classified into two categories; tariffs and nontariff barriers (NTBs).[41]

[38]Gilpin, R. (2001)
[39]Michelmann, H. J, Rude, J., Stabler, J., Storey, G., *Globalization and agricultural trade policy*, (Colorado, USA: Lynne Rienner Publishers, , 2001, p260)
[40] Södersten B. & Reed G., *International Economics*, Third Edition, (the Macmillan Press Ltd, 1994)
[41] Dicken P., *Global Shift*, Fourth Edition, (Paul Chapman Publishing Ltd. London, 2003)

Several economists state that there is a development towards regionalism and towards a division of the world into three trading blocs: the Americas, East Asia and Europe. The progress of the negotiations at the Uruguay Round (1986 to 1993) turned out to be very slow. However, the division into trading blocs is argued to contribute to faster negotiations compared to negotiations performed on a multilateral basis. [42]

As it used to be during the General Agreement on Tariffs and Trade (GATT) process, the US was the major economic power and negotiations were conducted between industrial countries as other member countries took part on the "most-favored-nation basis". Therefore regionalism was not seen as a threat at that time. Although trading blocks today can be seen as having a positive impact on negotiations, they can also be seen as distorting to multilateralism.[43]

2.3.2 Historical view on trade liberalization

In 1944 the Bretton Woods conference established an institutional framework that included the basis of a *"liberal international economic order"*[44]. The macroeconomic equilibrium would be the responsibility of the International Monetary Fund, while the institution in charge of providing a set of rules that would ensure fair trade through multilateralism and nondiscrimination between contracting parties was the GATT. The GATT was established as a result of the Geneva Round. The World Bank was in charge of providing resources to the developing countries with the objective of reinforcing the liberal infrastructure of the countries. During this process, the US played the dominant role with its position as the major economic and political power after World War II. Thereby, the negotiations and final drafts for the creation of the new economic regime were embedded with American ideology. *"A Pax Americana had succeeded the Pax Britanica of the nineteenth century."* [45]

After World War II the approach towards trade liberalization was seen through the many rounds of negotiations that were undertaken within the framework of the GATT. The development of trade liberalizing measures has since then gone up and down. Economists talk about the New Protectionism when referring to the time period of the 1970s which was characterized by the emergence of

[42] Jovanovi, M.N., *International Economic Integration – Critical perspectives on the World Economy* (London, UK: Routledge, 1998)
[43] Ibid
[44] Bhagwati J. , *Protectionism*, (Cambridge Massachusetts: The MIT Press, 1988), p.1
[45] Ibid, pp. 2

several non-tariff barriers. Later the New Protectionism was replaced by the New Regionalism (specifically in focus during the 1980s) which was in particular influenced by European integration and also meant new conditions for the multilateral trading system. It was during this time that the need for a new round of trade negotiations emerged and this was in particular initiated by the US who stressed the importance of such negotiations.[46]

In 1986 the Uruguay Round of trade negotiations was opened up in Punta del Este, Uruguay. The negotiations endured for a long time and were not ended until 1993.[47] During the Round there was a discussion about radical changes within several sectors, where agriculture was one. The other two sectors specifically in question were textiles and government procurement. The issues were changes towards trade liberalization and the removal of barriers to trade. [48]

The World Trade Organization (WTO) was created as a result of the negotiations at the Uruguay Round. The intention was to continue the work of the GATT in reducing barriers to trade. The WTO today provides opportunities for member states to negotiate over trade liberalization.[49]

The Uruguay Round ended with many issues left unsolved and with several barriers to trade still restricting free trade. In 1999 the WTO planned a new Round of negotiations to try to solve many of the issues that remained from the Uruguay Round. The launch of the Round, the Millennium Round of trade negotiations, was intended to take place in November 1999 in Seattle, Washington, but was delayed due to disagreements among member countries accompanied by public protests against the conference.[50]

Starting in 2000, after the unsuccessful meeting in Seattle, the negotiations on the Agreement on agriculture continued with the issues that remained from the Uruguay Round. The new issues on the agenda were: the impact of agriculture on the environment, biotechnology, state-trading enterprises, regional trade agreements, consumer concerns over food quality, rural policy, and sanitary

[46] Gilpin, R. (2001)
[47] Ibid
[48] Dasgupta, B., *Structural adjustment, global trade and the new political economy of development*, (London, U.K Zed, 1998)
[49] The WTO, *the multilateral trading system - past, present and future*,
[50] Gilpin, R. (2001)

and phytosanitary (SPS) regulations. The agreement on agriculture was an important step towards further trade liberalization.[51]

During this time there were discussions about a sixth environment action program following the fifth environment action program that lasted from 1993 to 2000. The action programs present the EU environmental policies and initiate regulations for environmental concerns.[52]As environmental issues are of global concern, they are dependent on international cooperation. The EU is involved with both regional environmental agreements and so called multilateral environmental agreements (MEAs), meaning that it is actively dealing with the elaboration, ratification and implementation of the agreements.[53]

The Millennium Round in Seattle was followed by the Doha Round which was launched in November 2001. At the Doha round the Doha development agenda was developed and among others reductions of tariffs and other barriers restricting agricultural trade were on the agenda. The Doha Round, which is known as the fourth ministerial conference, was followed by the most recent ministerial conference which was held in Cancún, Mexico, in September 2003. This conference aimed at further improving the results of the preceding round.[54]

2.4 Tariffs and non-tariff barriers

Although free trade is an objective in international trade, there are occasions when restrictions in trade are used. Tariffs and non-tariff barriers are measures that governments can use to restrict trade, which they might want to do for reasons with political, economic or cultural backgrounds. Firstly, restrictions of trade with political background might derive from a wish of one nation to gain influence over another or perhaps from a wish to strike back at a nation that is conducting unfair trade practices. It could also be a matter of protecting jobs or for security reasons, aiming to protect national interests. There are, for example, nations that think that they might risk starvation in case of war if they are too dependent on imports of food products. Secondly, an economic motive for restricting trade could be an attempt to protect young, domestic industries from competition. Furthermore, it might be an attempt to promote a strategic

[51] Michelmann et al (2001)
[52] European Union website, *Preparation of the new environmental action plan*,
[53] European Union website, *Multilateral Environmental agreements*,
[54] The WTO, *Doha Minesterial* (2001)

trade policy, which implies to watch out for possibilities for economies of scale and First-mover advantages. Finally, cultural motives concerns protection of national identity and may also imply an unwillingness towards influences from other cultures.[55]

2.4.1 Tariff barriers

"A tariff is a tax, or a custom duty, imposed on the importation or exportation of a product that is crossing national boundaries"[56] Import tariffs are more usual than export ones. For reasons of trade balance, countries seek positive balance in its commercial trade with other nations. However, export tariffs are used when a country has the monopoly of a commodity and a tariff can increase the price of such product without any change in the foreign demand.[57] Tariffs are basically taxes applied to the value of products imported and elevate the price of those products[58].

According to the purpose they serve, tariffs can be classified as protective tariffs or revenue tariffs. Protective tariffs are imposed in order to protect local industry from external competition. When a tariff is imposed on an imported product, the price of the product increases, making it less attractive than the local product. Revenue tariffs are levied in order to raise tax revenues. This kind of tariff is usually imposed by developing countries that look for an income source. In developed countries, tariffs are used as a protecting measure rather than as a tool for raising income.[59]

According to the method of tariff calculation, there can be ad valorem tariffs, specific tariffs, or compound tariffs. Ad valorem is a *"…set proportion of the price of the good at the border"* [60], specifically that *"…is specified in money terms per unit"* [61] and a compound tariff is a combination of ad valorem and specific tariffs. [62]

In order to face the increasing number of goods traded internationally, countries use two main lists in their tariffs classification. One consists of the goods that

[55] Wild et al (2003)
[56] Asheghian., P., *International Economics*, (Minneapolis/St Paul: West Publishing Company, 1995), p. 94
[57] Ibid
[58] Dicken, P. (2003)
[59] Asheghian P. (1995)
[60] Södersten B. & Reed G. (1994, p.193)
[61] Ibid, p.193
[62] Ibid

can be introduced to the country free of duties and the other is a list of goods that are susceptible to custom duties.[63]

Tariffs are imposed not only on final products, but also on intermediate ones. Therefore companies are affected by tariffs in both the inputs in the production process and in the outputs, the products they sell. This makes the realistic measure of a tariff difficult to determine in a product since a nominal tariff only rates the duty on final products.[64]

There are other kinds of classifications of nontariff barriers, where Bhagwati's is one example. He classifies nontariff barriers into two kinds with different implications for trade. The first class is composed of the *"high-track"* exclusions on exports by commercial partners. This class corresponds to those that bypass GATT's regulations, and therefore they are clearly and politically negotiated. The second class comprises the *"low-track"* restraints, which can be "*countervailing duties and anti-dumping provisions"*.[65]

2.4.2 Non Tariff Barriers (NTBs)

Both tariff-barriers and non-tariff barriers can be used to restrict imports. However non-tariff barriers can also be used to protect the well-being of a nation or a group of nations.[66]

Depending on their characteristics and purpose, non-tariff barriers can be classified into the following groups: Quotas, Voluntary export restraints (VER), Subsidies and Dumping.[67]

2.4.2.1 Quotas

"A quota is the limitation set on the number of units of a commodity that crosses national boundaries".[68] Quotas can be imposed on both, imports and exports, so they can be known as import quotas and export quotas.[69]

[63] Asheghian P. (1995)
[64] Ibid
[65] Bhagwati J. (1988, pp.44)
[66] Mercado, S., *European Business*, (Harlow: Financial Times Prentice Hall, 2000)
[67] Wild J. et al. (2003)
[68] Asheghian P., (1995, p.114)
[69] Wild J. et al. (2003)

Import quotas

The most common type of non-tariff trade barriers is import quotas. The aim of import quotas is to set a limit on the amount of goods allowed to enter the country. By restraining the forces, local producers can maintain their share of the market since prices of foreign products increase, making import products less competitive compared to domestic ones.[70] There are three different types of import quotas: unilateral quotas, bilateral or multilateral quotas and tariff quotas.[71]

Unilateral quotas refer to when an importing country levies a quota without any kind of negotiation with the export country. This quota can create tension and conflict since its application excludes the point of view of exporting countries.[72]

Bilateral or multilateral quotas are those where negotiations are carried out by import and export countries before the application of a quota. It requires collaboration and a series of negotiations between countries in order to agree on a system of quotas. Products that are usually have this kind of quota are textiles, automobiles, electronics and footwear.[73]

Tariff quotas are a hybrid, a combination of a tariff and a quota. This type of quota establishes restrictions on the number of units of imports entering the country at certain level of tariff or at no tariff at all. Any extra quantity imported exceeding the limit is subject to a higher tariff.[74]

Export quotas

Export quotas are restrictions or ceilings imposed by countries on the number of items for exportation, and they represent a way that countries restrict international trade. Among the main reasons for the application of export quotas are: (1) to guarantee the availability of a scarce product in the local market; (2) to have control on the supply of products in order to manipulate the price in both, national and international markets; (3) to verify the exports to

[70] Wild J. et al. (2003)
[71] Asheghian P. (1995)
[72] Ibid
[73] Ibid
[74] Wild J. et al. (2003)

hostile countries of products that have a strategic importance for the export country. [75]

Like import quotas, export quotas can also be categorized as unilateral, bilateral or multilateral. [76]

Table 2.1: Comparison of tariffs and quotas[77]

• Quotas result are a better way to restrict trade flows than tariffs since tariffs only increase the price of products, but do not restrict the number of products entering the market.
• A drawback of quotas is that their application might lead to local monopolies and higher prices. The reason is that domestic companies are aware of the limits of foreign products, which can be used as a way to increase prices.
• Since they are the most effective way to restrict trade, quotas are also an important bargaining and retaliation tool in international negotiations.
• Quotas are easier to administer than tariffs. A whole legal framework must be established in order to impose tariffs.
• Quotas are more restrictive than tariffs and constrain competition
• Quotas can be more detrimental than tariffs to an import country if the quota allows the creation of a monopoly power to exporters.

2.4.2.2 Voluntary Export Restraints (VER)

VER refers to establishin informal common understandings, where export countries agree to voluntarily restrain their exports. Normally, export nations are not willing to establish a limit on their exports. However, the application of voluntary exports restraints means that the importing nation is threatening to apply even bigger restrictions if the voluntary restraint is not taken by the export nation. [78]

[75] Asycuda
[76] Asheghian P. (1995)
[77] Ibid
[78] Worldtradepress dictionary

2.4.2.3 Subsidies

"Subsidies are indirect forms of protection granted by national governments to domestic producers." [79] Subsidies are granted to either import or export competing industries. The primary reason for giving subsides to local industry is to improve the nation's position in international trade, either by decreasing the dependence on imports or by increasing foreign exchange by encouraging exports. Subsidies allow local companies to export at lower prices and yet cover the costs incurred and gain profits. This permits less efficient local producers to compete against foreign efficient producers in the international market. [80]

There can be different types of subsidies. The most usual is to give cash compensations from the government directly to local exporters after a sale has been completed. However, since this kind of subsidy for manufactured products has been prohibited by the GATT, countries have created other types of subsidies to achieve the same objective. Some of these new forms of subsidies are special privileges like insurance facilities, tax concessions granted to exporters and low interest loans. Another way is when governments purchase a company's excess production at high prices and export those products at low prices. [81]

2.4.2.4 Dumping

Dumping refers to when a product is sold at a price below its cost or at lower prices in foreign markets than in local markets.[82] Dumping can be sporadic, predatory or persistent. [83]

Sporadic dumping is when a company with an excess in inventories sells its goods in a foreign market at a price below its costs, or lower than the price in the local market. This kind of dumping is occasional since it occurs only when a firm has unpredictable surpluses in its stocks. Giving its relatively low impact on foreign trade, governments rarely impose duties for protection reasons. Predatory dumping is when a company tries to weaken or to take its competitors out of the market, and for that purpose decides to sell its products at a lower price in foreign markets. If the company succeeds, then it can not

[79] Asheghian P. (1995, p.123)
[80] Ibid
[81] Asheghian P. (1995)
[82] The WTO, *Understanding the WTO*
[83] Asheghian P. (1995)

only raise the prices again to compensate for the expenditure of selling below the cost, but it also might obtain a monopoly in the foreign market. Persistent dumping is also known as international price discrimination. It refers to the situation when a company with a monopoly influence continually sells at below cost or at lower prices in foreign markets than in domestic markets. The objective is to increase profits by using its position of monopoly. [84]

To sum up, it can be said that sporadic dumping is an occasional practice; predatory dumping a temporary activity; and persistent dumping is a continual sale of products at below the cost or lower price in foreign markets. [85]

2.4.3 Technical Barriers to Trade (TBT)

TBT are regulations and standards that countries request for different products. The objectives of TBT are in general terms: to protect human, animal and plant safety and health, to protect the environment, and to prevent deceptive devices.[86] The most important TBT are described in the following section.

2.4.3.1 Government health and safety standards

Government health and safety standards refer to when a government imposes regulations in order to protect its health and safety levels by requiring certain specifications for the introduction of products in the domestic market. One example is the requirement for tobacco companies to label cigarettes stating that the product is harmful to human health. These standards are requirements that a government imposes on products about the different types of presentations and packaging. Foreign companies must fulfil these requirements if they intend to introduce their products in the local market. One example is the requirement for specific size or the use of special recyclable materials for packaging. [87]

There has been an expansion of national regulations and standards in consumer and environmental protection areas. However, sometimes governments establish these kinds of regulations to intentionally block imports from specific trade partners. At the same time, different standards and regulations for every country can cause companies to incur high costs since products must have different tastes and presentation for different markets. In some cases, countries

[84] Asheghian P. (1995)
[85] Ibid
[86] The WTO, *TBT objectives*
[87] Ibid

have even used the media as a way to spread negative propaganda on imported products from specific trade partners. Since food safety standards have a direct impact on public health, consumers tend to be more aware and sensitive to them. The public consciousness about the effects on health of food additives, high technology agricultural production, and pesticides, for example, has increased considerably over the past years.[88]

2.4.4 Other non tariff barriers

Besides the barriers described above, there are other types of non tariff barriers to trade that are usually well distinguished and appear as government policies and regulations. They can be identified in three main groups: government purchasing policies, administrative delays, and intervention in the foreign market.[89]

2.4.4.1 Government purchasing policies

Such policies refer to when a government gives priority to purchasing domestic products over foreign ones. Since governments are large purchasers of products and services and have an important influence on flows of trade, this kind of policy has strong implications in international trade.[90]

2.4.4.2 Administrative delays

Governments can make importation of foreign products difficult by interrupting the import process with bureaucratic delays, using as an excuse certain inspections. Two examples are special licences, and problem with the invoice of the value of the good. Wrong calculations over the price of foreign products that can lead to higher duties are common mistakes in this kind of non tariff. [91]

2.4.4.3 Intervention in the foreign exchange market

Governments can encourage exports or reduce imports by intervening in the foreign exchange market. A way to do this is the devaluation of the national currency. This would make import products more expensive than domestic ones. At the same time national products might become more attractive to foreign markets because their price is reduced after conversion into foreign currencies. Another way is to use multiple exchange rates, which means the

[88] Vogel, D., *Trading Up, Consumer and Environmental Regulation in a Global Economy*, (Harvard University Press, 1995)
[89] Asheghian P. (1995, p. 132)
[90] Ibid
[91] The WTO, *TBT objectives*

application of different exchange rates for different imported or exported commodities. Such practice is commonly used by developing countries to ensure that essential goods are imported and nonessential goods exported. [92]

Different factors play an important role in the choice of which instrument to use as a protective measure. Producers may favor the use of quotas since they provide certainty about the effects; the number of items imported will not increase even if the domestic market grows or the world market contracts, or if new external producers come to the market. Governments may favor quantitative restrictions because their effects are less evident to consumers. Quantitative restrictions will also increase the price but the estimation of the increase is more difficult to measure giving the complexity of the estimation. Quotas are illegal according to the GATT regulation, and therefore there is a risk that when a government imposes quotas, the other country may retaliate in accordance with the GATT rules. VER are not specifically prohibited by the GATT rules which give a margin of maneuverability. [93]

2.5 Trade in agriculture

Agriculture has been excluded from the beginning in the GATT negotiations, and the main reason for that was the negative attitude from the US and developed countries in Europe. These countries had high protectionist lobbies that had created mechanisms for agricultural income support. On the other hand, most developing countries were eager to liberalize agricultural trade while restricting their manufacturing industries. During the post-war period developed countries looked for protection for their agriculture sector while dismantling the protection measures for their manufacturing sector. At the same time developing countries built protection for their manufacturers and discouraged the protection for their farmers. The preference to protect agriculture by developed countries was matched with the aim to industrialize the developing countries. By that period developing countries were considered to have comparative advantage in agriculture, and therefore their intention to liberate this sector.[94]

[92] Asheghian P. (1995)
[93] Södersten B. & Reed G. (1994)
[94] Bhagwati J. (1988)

According to Grimwade the major failure of the GATT negotiations was the incapability of reaching an agreement on agricultural products. The background to this is partly the extent to which governments intervene in agriculture. [95]

The inclusion of agriculture in the GATT negotiations was not realized until the Uruguay Round in 1986. The US pushed for the inclusion of agriculture as a new key sector in its exports interests. [96] The Agreement on Agriculture was mainly an understanding between the US and the EU. This agreement covered three main aspects: market access, export subsidies and local aid for agriculture. Starting in 1995, countries were obligated to reduce their tariffs by 36% over a period of six years. For developing countries this reduction would be 24% in ten years. In the case of subsidies, these would have to be reduced by 20% and 13,33% for developing countries. The agreement gives a framework aimed to prevent the increase in protection for agriculture above the level in 1993, the year of the end of negotiations.[97]

Other measures agreed upon at the Uruguay Round were the establishment of the application of Sanitary and Phytosanitary Standards (SPS). This measure allows the countries to define the standards for human, animal and plant protection and can be used for import discrimination. The Trade Related Intellectual Property Rights (TRIPs) was also negotiated in the Uruguay Round. This treaty gives companies the right to patent their creations in all WTO countries, including life forms, particularly seeds. This new measure also represents an impact on food products.[98]

A study made by the Food and Agricultural Organization (FAO) in 1999 about the outcomes of the Uruguay Round Agreement on Agricultural on 16 developing countries, showed that in developing countries food imports increased instead of exports. In 12 of those 16 countries policies towards reduction of farm subsidies took place and while their imports increased, their exports did not rise. In contrast, Western countries increased their subsidies from US$182 billion in 1995, the same year of the creation of the WTO, to US$362 billion in 1998. [99]

[95] Grimwade, N., *International Trade Policy: a contemporary analysis*, (London, U.K: Routledge, 1996)
[96] Bhagwati J. (1988)
[97] Madeley, J., *Hungry for trade – How the poor pay for free trade* (London: Zed, 2000)
[98] Ibid
[99] Ibid

Agriculture is a difficult area to agree on in negotiations because its significance to the countries can be measured by the different functions agriculture play in national economies. Three aspects of agriculture can be identified as key elements in the discussion of the importance of agriculture: food security, rural development and environmental protection. [100]

Food security is a legitimate concern among countries and there is a feeling of security when nations can guarantee self-sufficiency of agricultural production. States see themselves as necessary in the provision of enough food products to ensure the constant supply of food products. Viability of rural areas is a primary objective of rural development and the aim of helping agriculture is to maintain rural employment. Countries also seek to preserve the culture and traditions linked to rural lifestyle and to avoid social problems associated with urbanization. Environmental concerns are part of the development of agriculture and it is argued that agriculture practices can produce considerable damage or improvements to the environment. [101]

The US played an integral role in the introduction of special rules in agriculture, as import quotas and export subsidies were crucial for the country's agricultural activity. Before the US involvement in this matter, no one saw any reason for special rules within agriculture. Later, however, this exceptional treatment has led to several conflicts in the interpretations of the GATT concerning agricultural protectionist measures. The Uruguay Round resulted in several measures intended to open up the market for international trade. Tariffs in manufactured goods were reduced at the same time as several important areas were provided with lowered trade barriers. Import quotas and subsidies were reduced or eliminated. Despite these progressive steps, there were some sectors that were affected more negatively. Agriculture and textiles are two of those sectors that have been under continued restrictions.[102]

2.5.1 Agricultural protectionism

There are several reasons why governments intervene in agriculture, primarily to stabilise the market and above all to stabilize the price of agricultural products. Firstly, the market for agricultural products is unstable by nature and prices fluctuate constantly and incomes may vary year after year. Secondly,

[100] Michelmann, et al. (2001)
[101] Michelmann, et al. (2001)
[102] Gilpin, R., (2001)

government intervention is to ensure farmers some minimum level of earnings on the land where without intervention, farmers would find themselves in several economic problems. Thirdly, governments intervene with the objectives to guarantee regular supplies of food, to avoid dependence on imports of food products, and to reduce the risk of global price fluctuations which drives governments to protect agriculture and look for self-sufficient supplies. And finally, besides the economic justifications, is the desire of governments to …*"preserve the countryside or prevent the decline in family farming."* [103]

There are different ways in which governments achieve the objectives mentioned above, where in general terms five categories can be identified:

1) Policies aimed to decrease farm costs, or input subsidies (e.g. low interest loans and fertiliser subventions) in order to assist farmers to improve productivity.
2) Policies aimed to increase profits, including measures to augment farm output, measures which subvsidize farm goods prices (e.g. deficiency payments) measures to decrease imports (e.g. tariffs, import quotas, etc) and measures designed to control local supplies (e.g. production quotas)
3) Government spending designated in particular to rural areas (e.g. expenses in rural infrastructure, social services and transport subventions)
4) Measures to improve farm-based non farm occupations (tourism, for example)
5) Direct revenue supplementation. [104]

Agricultural trade is complicated by multiple ways of export incentives or subsidies. One of the most used incentives by developed nations, including the EU, is the export restitution. In the EU *"…these were paid to exporters on the difference between the EU's internal price and the world price of the product in question."* Another common non tariff barrier is variable import levies, an important element in the EU's Common Agricultural Policy. In general terms, if the price of a specific commodity decreases, the import duty increases in order to guarantee that the local prices are not destabilized. On the other hand, if the price goes up, the import duty is reduced. [105]

[103] Grimwade N. (1996 p.196)
[104] Ibid
[105] Ibid

The use of non tariff barriers is an important instrument to price control. Import quotas, which are quantitative restrictions on trade of agricultural commodities, are the main source of trade distortion. Import quotas discriminate the importing nation from fluctuations on the international market. [106]

Nonborder measures are also tools for distorting trade. One means is the application of target or minimum prices on agricultural products. It is the setting of a fixed price regardless of the international prices. Another way to distort trade is the use of deficiency payments which are an annual based agreed price designed for each product, and in case of fall in the market price below this level, the farmer is permitted a deficiency payment equivalent to the difference. [107]

There are several other ways to restrict trade even though many of them are not created with the intention of controlling imports. There is a need to guarantee that imports match with health and sanitary requirements in the importing nation.

2.5.2 Other trade concerns in agricultural trade

Labelling of food products can have a blocking impact on trade between countries. Labelling rules differ from one country to another for different products because of different cultural and social norms. The bigger the differences in labelling rules between different countries, the more difficult it is for companies to meet differing demands in different country markets. Labelling of production processes is especially likely to block trade. Labelling can be interpreted as a hidden protection for domestic producers and not as a response to consumer preferences. This might lead to conflicts in trade.[108]

In the late 1990s there was a discussion in international trade about how to handle products that have environmental impacts. The institutions that then were involved with regulatory issues in international trade were primarily the WTO and the Biosafety Protocol (BSP). Those two institutions still play important parts in issues concerning coordination and regulation of biotechnology products, but there are other institutions of importance. Firstly

[106] Vogel, D. (1995)
[107] Grimwade N. (1996)
[108] Jörgensen, C., *Märkning av genmodifierade livsmedel – en samhällsekonomisk analys*, (Lund: Livsmedelseknomiska institutet, 2002:2)

there is the International Plant Protection Convention, which is more science based, compared to the WTO and the BSP. There is also the OECD (Organization for Economic Cooperation and Development) and several regional initiatives (e.g. the TEP, ECTI) which deal with, among other things, trade facilitation and environmental protection.

The introduction of GMO products and other biotechnological inventions to the market have raised concerns about their effects on the environment and their safety. Those are concerns that further have developed the discussion about the relationship between environmental policies and trade policies. Michelmann et al summarize this issue into two main problems: *" When does trade impose such burdens on the natural environment that trade rules must be revised or offsetting interventions be made to protect environmental quality?"* and *"When do the burdens of environmental measures on trade justify their removal of reform?"*[109] According to Michelmann et al there has to be an evaluation of costs and benefits related to environmental matters to be concerned in relation to costs and benefits related to trade aspects.[110]

2.5.3 Market imperfections and the market for food products

There are two kinds of market imperfections that characterise the market for food products and contribute to market failures. Firstly, producers know the quality of the products better than consumers. This is called asymmetric information. Secondly, knowledge about the quality might be collective. Production and consumption of grocery products may also have external effects. This means that the result of a situation caused by a company's operations have an impact on other people's welfare or other companies' production possibilities, although it will not show in the market, as affecting prices. In production of food products, agriculture is one example that might have a positive environmental impact by contributing to a more open landscape (environment), but at the same time it might contribute to negative environmental effects such as nitrogen leakage in the surroundings.[111]

Market imperfections such as the ones mentioned above can sometimes be regulated through public measures, typically through taxes, subsidies, bans and rules for labelling. The level of efficiency gained through these measures

[109] Michelmann, et al. (2001, p.13)
[110] Ibid
[111] Jörgensen, C. (2002:2)

depends on what costs and what level of societal usefulness they generate. Rules for labelling can, for example, contribute to fairer competition, simplify the information transferred to consumers and in that way, change consumer behaviour.[112]

There is often a distinction between search products (consumer realizes the quality of the product before purchase), experience products (consumer realizes the quality and the products attributes after purchase and consumption) and credence products (consumer does not realize the features of the product even after consumption, e.g. because of lack of knowledge or information) which refers to their different characteristics. Mad cow disease contamination in beef is mentioned as an example of products with credence attributes. Labelling can be used to emphasize the different characteristics of the products and is of importance to a consumer who bases his or her purchase decision on those specific characteristics. A credence or experience attribute can be turned into a search attribute with the help of labelling and so may decrease the consumer's costs associated with information needs and purchase decisions. From the seller's point of view, positive attributes are important for satisfying the consumers and attracting repeat buying. [113]

As concerns asymmetric information, sometimes the producer does not want to inform the consumers about the product if it means that the demand for the product would decrease. There might be characteristics of the product that are not visible at first, e.g. how consumption will affect your health. If producers are not aware of all product characteristics either, such as the product's effect on your health, the information is said to be symmetric imperfect.[114]

According to Aldrich, information provided is firstly made up of information that privileges the producer. This means that positive characteristics will be emphasized, while less positive characteristics will not be mentioned unless necessary. Aldrich mentions high sodium content as one characteristic that the producer will not mention, although consumers may be suspicious about the product if competitors state "no sodium content". [115]

[112] Jörgensen, C. (2002:2)
[113] Michelmann, et al. (2001)
[114] Jörgensen, C. (2002:2)
[115] Aldrich, L. *Consumer use of information: Implications for food policy*, Agricultural Handbook no. 715, Food and rural economics division, Economic Research Service, US department of agriculture, June 1990

It occurs that companies present some characteristics of a product, whether the product has those characteristics or not. This is called “moral hazard” and implies that the buyer cannot check the quality of the product before buying it and there is a moral risk that the seller does not present the right quality. Sometimes some characteristics contribute to higher production costs that companies cannot afford and this in turn might contribute to a market dominated by products where there exists no demand for products with bad quality. This is called adverse selection, a supply of “bad products”, which in the end might contribute to a market collapse. Rules for labelling are one measure that can be used to avoid this and at the same time create an expanded market for more qualities (levels of quality). [116]

The market for used cars is one example of a market that is characterized by asymmetric information, “moral hazard”, and adverse selection. Firstly, the seller knows more about the car and its quality than the buyer. Secondly, the seller selling a car of bad quality does not want to state the car’s real quality differences before the purchase (moral hazard). The buyer therefore encounters the same price no matter what quality. Demand decreases because the buyer risks buying a car of bad quality at a comparably high price. Price decreases because of lower demand, which makes owners of better cars want to keep the cars. This contributes to a market characterized by adverse selection, dominated by cars of even worse quality and it risks collapsing.[117]

So called “experience products” give consumers good opportunities to make rational buying decisions with the help of brands. Repeated purchasing gives the consumer knowledge about the quality of the product and the company get “punished” through decreasing demand if it sells products with bad quality. Consequently, demand for products with a good reputation will increase and that way quality is also rewarded. With correct and extensive information the transaction cost may also decrease. An important part of transaction costs is, e.g. the time the consumer spends on gathering information about products to make a rational purchase.[118]

The second market imperfection is information as a collective product. Companies can sometimes use another company’s information about some

[116] Jörgensen, C. (2002:2)
[117] Ibid
[118] Ibid

positive characteristics of a product, without any costs for themselves. If a company, for example, choose to label a product as having features that are good for your health, other producers with similar products can use the labelling. This means marketing “free of charge” if consumers associate the positive characteristics with their product as well. The information, the labelling, holds characteristics of a collective product, because other producers can use it without paying for it.[119]

[119] Jörgensen, C. (2002:2)

3 Methodology

This chapter aims at explaining the research approach and design used in the thesis. It further defends and evaluates the data collection procedure.

3.1 Research strategy

As stated by Merriam, the way to attack a problem is dependent on the characteristics of that specific problem and what final result we are trying to reach.[120]

Merriam makes a distinction between experimental research design and non-experimental research design. An experimental research design is characterized by a cause/effect relationship and by the fact that the researcher/s/ can manipulate the variables in focus. A non-experimental research design, on the other hand, is intended to describe and explain and is often referred to as descriptive research. Although some descriptive research might contain causal relationships, it is not common; rather it is about describing something that is in existence. [121]

A case study is to look at a limited area of interest, a specific area such as a person, an event, a social group or situation. [122] Case studies are good to use when investigating current topics, where it is not possible to manipulate variables of interest.[123]

Since this thesis is dealing with a subject that is quite complex and outside the knowledge of the thesis authors, a lot of background research had to be done before the problem could be defined. After having studied the topic carefully, there had to be a focal point of the thesis. The theme was first of all clarified to be: “the EU-US relations on GMOs”. This was further developed into a problem area, which at first was to look at how the EU-US dispute on GMOs would affect different actors in the EU and the US, more specifically the gains and losses to be expected for companies in each of the two trading blocks. However, it appeared that this would make the problem far too extensive, looking at the dispute from both sides with a too wide definition of actors.

[120] Merriam, S.B., *Fallstudien som forskningsmetod* (Lund: Studentlitteratur, 1994,)
[121] Ibid
[122] Ibid
[123] Ibid

Furthermore, we were warned that it would be difficult to find out gains and losses. How would we measure that? Therefore we thought through the problem and decided to narrow it down considerably. Instead of analyzing the gains and losses, we decided to change the terminology, from looking at "consequences" instead of "gains and losses". Furthermore we decided to look at the consequences only from the EU's point of view, i.e. for EU companies importing from the US.

During the revision of the problem formulation, we also tried to identify groups of food products (using the SITC classification system) that were involved most frequently in trade from the US to the EU. This appeared to be fruit and vegetables.

The focal point of our field study was to look at Swedish importers of fruit and vegetables – by first of all identifying the largest ones. When contacting these companies we were surprised to hear that their imports from the US represented only around one percent of the total. However, statistics on imports to the EU as well as to Sweden revealed that fruit and vegetables are the kind of food products that are imported the most from the US and therefore we continued along this track. We also found out that one possible explanation for our surprising discovery could be the fact that there might be a hidden amount of indirect imports from the US, products that might go from the US to, for example, the UK to Sweden. The aim was to look at one specific sector to provide a picture of what kind of standpoints and ideas importers might have towards GMOs. We chose to look at importers of fruit and vegetables as examples and to give a "real life point of view".

The terms "the US" and "the EU" are used when discussing opinions that are dominating those regions. This does not mean everyone in the US or in the EU is pro-GMO. There are differing views on GMOs within those regions as well.

3.2 Research Approach

Different approaches can be used to gather information for a case study. Merriam discusses "qualitative" cases studies specifically. He describes this approach as being more about discovery and interpretation of certain aspects rather than about testing hypotheses. [124]

[124] Merriam, S.B. (1994)

Merriam further separates case studies according to their characteristics, classifying them according to four common traits: particularistic, descriptive, heuristic and inductive. Referring to a research approach as particularistic means that it focuses on a specific situation, event or person and what is important for this area in focus. The descriptive traits of a research imply, as mentioned, that the intention is to describe something, even more crucial; to describe something as complete, and careful, as possible. The meaning of a heuristic approach is that it is intended to extend the knowledge of the reader aiming to improve his or her understanding of the topic in focus. Finally, a case study characterized by inductive traits means that it is built on the information available, that hypotheses and expressions are based on this context that also makes up the framework of the research. [125]

As survey investigations are normally performed with a deductive approach, descriptive research is typically performed with an inductive approach, where the result is also often presented in a qualitative way, using words instead of figures for explanations.[126]

This research was performed with an inductive approach. There was a lot of information written on the subject so first of all we had to find out what was already known on the subject and what kind of information was lacking. With that as a base, our problem was defined and field studies could be planned. This indicates the importance of the empirical part of our thesis. Theories naturally had to be in a later chapter. We did look at possible theoretical approaches while working actively with the problem definition and the field studies, but it was not until after field studies were performed that we felt like we could decide what kinds of theories were most proper to use.

3.3 Data collection

At first it was a bit difficult to separate what is theoretical data and what is empirical data, but this evolved naturally during the process of data collection and as soon as the structure had been planned.

Theories in international trade and trade barriers were natural choices in analyzing trade relations between the EU and the US. Trade in agriculture and

[125] Merriam, S.B. (1994)
[126] Ibid

related topics were chosen as they seemed reasonable to use in discussing food products and food policies.

3.3.1 Primary data

Primary data was collected using varying approaches naturally developed through the different stages in the research process.

We started our search for specific information about companies in Sweden which import food products from the US. We started by contacting different national organizations involved with trade issues, such as the National Board of Trade, Confederation of Swedish Enterprises and the Swedish Federation of Trade but also organizations specializing in food products. We did not reach the specific information we wanted this way, but we obtained a lot of other useful information and even more important, established some useful contacts for later stages in our research process. We were luckier in identifying the largest Swedish importers actively involved in trade with food products from the US. We contacted the largest food chains in Sweden: ICA, Axfood and Coop and also Saba Trading AB, an importer of fruit and vegetables that had been recommended. Thereby we could finally identify ICA, Saba Trading and Everfresh Group as being the largest importers of fruit and vegetables in Sweden. We decided to contact many of those again to try to book meetings for interviews with them. This resulted in interviews performed at each of the companies, except for Everfresh Group where information has been gathered through a phone interview and through e-mail correspondence. The reason we did not visit Everfresh Group was the company's lack of time; however, representatives from the company were very helpful in providing us with the information needed.

Interviews are important tools in the development of case studies; they represent a valuable source of information. Commonly, interviews for case studies are of an *open-ended nature* where respondents are asked to give facts and opinions about different topics. There can be certain occasions when one can request the interviewee to suggest his/her own insights into some incidents and use such suggestions as the starting point for further investigation. In this case, the interviewee is assisting more as an informant than a respondent. [127]

[127] Yin, R.K., *Case study design: Design and Methods*, (California, USA: Sage Publications, 2003)

There are as many kinds of interviews as purposes for applying them. Each of those kinds has its strengths and weaknesses; there are different considerations when it comes to deciding which type of interview to conduct. An open interview is frequent in qualitative research and it is characterized by little control from the researcher. So, during the interview, the researcher's task is to guide the session while giving freedom to the interviewee to emphasize issues which he or she considers important. Questions in this kind of interview must be formulated widely; the aim is to look for open answers instead of short yes or no answers. The advantage is that this type of interview brings out topics of relevance to the interviewee; the disadvantage is that it could be difficult to apply to inexperienced interviewers.[128]

We started to compile some questions for importers of fruit and vegetables. The questions were divided into three key areas according to their purposes. Those areas were: The company, Imports, Imports from the US, and GMOs. With those questions as a starting point, we outlined questions that were specifically aimed at the Ministry of Agriculture and the National Board of Trade. The questions intended for the Ministry of Agriculture put more focus on GMOs and their effects and future spread, while the questions aimed at the National Board of Trade focused on the legal aspects and the outcome of the dispute. The questions and the question key areas were used as a framework for discussion rather than as a strict questionnaire to be followed through the interview. We realized from the first interview that it was a good idea to start with a rather open question and let the interviewee lead the way from one topic to another. The interviews lasted for about one hour and during that time we believe that we covered the issues that we intended to cover.

We began with an interview with Björn Hacklou, who is dealing with imports of fruits and vegetables, at ICA Fruit and Vegetables which is located in Helsingborg in the south of Sweden. We followed up with three interviews in Stockholm: one of them was with Katarina de Verdier, responsible for environment and quality issues, at Saba Fruit and Vegetables, which is another importer of fruit and vegetables. Interviews were further made with David Carlander, at the Ministry of Agriculture, and with Bo Magnusson and Magnus

[128] Berndtsson M., Hansson, J., Olsson, B., Lundell, B., *Planning and Implementing your Final Year Project-with Success!*, (London: Springer, 2002)

Nikkariinen, who are dealing with questions within agricultural and food products and SPS.

A closed interview is commonly used in survey research; it is an important tool for statistical methods. It refers to a set of questions asked by the interviewer during the session. It is also known as pre-structured interview since it does not allow any variation in the format of the interview. The advantage of this kind of interview is that it can be repeatable, a disadvantage is that the questions can be limited and of importance to the interviewee. [129]

The UN's comtrade database has mainly been used for the collection of statistics that is presented in chapter 5. This source has been used in order to provide a reliable result that allows for comparison of different data.

3.3.2 Secondary data

There is a wide amount of written material dealing with the EU-US relations and the GMO-issue. Our secondary data therefore includes various articles, reports, books and Internet sources. Although it is a rather current topic it has been on the agenda for a couple of years. Therefore the data collected mainly originates between the years 1998 and 2003.

Theories that have been used consist of theories dealing with international relations with focus on international trade, trade liberalization and trade in agriculture. The reason why those kinds of theories were chosen is because the thesis will deal with the relations between two larger blocks participating in international trade.

3.4 Quality of the research

3.4.1 Validity

The general understanding of validity is the extent to which the result from a specific research can be applied in other situations. [130]

The situation today in the GMO dispute is that the EU is using a very cautious approach since it is argued that there might be risks for human health and the environment, and this approach seems to affect companies and their standpoints

[129] Berndstsonn M. et al. (2002)
[130] Merriam, S.B. (1994)

in the EU. If the same research approach was used, but looking at another sector within food products, the standpoints of importers would probably be quite similar. However, there could be different advantages with GMOs that could favor some sectors of importers more than others. If more sectors within food products were to be analyzed and compared, there would probably be some evident differences. However, we argue that the validity of this research approach is rather high.

For a high level of validity of a qualitative analysis, informative figures and tables should be used with the purpose to present data in a structured way that will simplify for the reader how to draw correct conclusions and how to follow the result of the research and see the main idea. Tables and figures allow the reader to easily understand main points and to make comparisons. [131]

Figures and tables on trade patterns between the EU and the US have been used in order to support and clarify the trade situation between the two blocks.

3.4.2 Reliability

Reliability is about determining to what extent the research approach in use can be repeated and whether the result achieved will be the same if the research is repeated. [132]

Looking at different actors, but also taking into consideration the different characteristics of the food market and other related aspects to the GMO dispute, we believe that the result achieved would be very similar to our result if the same research approach was used. Therefore we argue that the level of reliability in this research is rather high.

[131] Merriam, S.B. (1994)
[132] Ibid

4 Main actors in the food system

This chapter describes the key players in the whole food chain, starting with producers as the first element in the chain, continuing with traders, processors, distributors, wholesalers and ending with the last, but essential, element in the chain, the consumers. We end the chapter with a model that shows the linkage between the different actors. The dominating part of this chapter comes from Tansey and Worlsey, because their book specializes in the food system and provides a comprehensive picture of the actors. Complementary information of importance has been added where needed.

In food policy debates there has been a change of focus from agricultural production to a wider context referred to as the food system.[133]

The food system is controlled by various actors or groups of influence, and these actors put pressure on the system at different levels and in different ways. The level in which they intervene in the system depends on the political or economic power they have. [134]

The increase in food production has progressed successfully during the last three decades, although there was a slow-down in the 1990s as food security became an emphasized issue. *"Rapid changes are taking place in the structure and authority of governments, the global economy, the structure of the farming sector, and global and local food industries and retail businesses."*[135] Roles of governments have changed and development of food policies is no longer only a concern for central governmental ministries but are also influenced by local governments, business and industry and non-governmental organizations (NGOs). [136]

Consumer interests and changing consumer patterns have important impacts on the global and national food systems. New demands on food quality and food safety also put pressure on the food systems. Production, trade and markets are further influenced by processors and retailers that will have to respond to

[133] IFPRI Strategy toward food and nutrition security (2003)
[134] Tansey G. & Worsley T., *The Food System, A Guide*, (London UK: Earthscan Publications Limited, 1995)
[135] IFPRI Strategy toward food and nutrition security (2003, p.12)
[136] Ibid

consumer demands. NGOs and transnational corporations (TNCs) are at the same time getting a more emphasized role in policy talks. [137]

4.1 Producers

Nowadays the situation for producers, or farmers, has shifted significantly, from being the key actor in the decision making to being merely providers of raw material to other larger actors in the food system. This has been due to the industrialization and mechanization of agricultural production, which has led to the appearance of new actors in the food system. Many of the activities performed by producers have passed to other actors in the food system, from traction power provided by machinery producers, to specialized chemical treatments provided by the agro-chemical industry. [138]

Today, the number of farm workers is decreasing, especially in industrialized countries and the trend is a continued decline in the number of workers in the agricultural sector. In addition, farmers are "*the riskiest end of the food system"*[139] The factors on which the farm production is based are many and are beyond producers' control. Climate, commodity prices and economic policy decisions are among the most important variables that have a definitive influence on producers' activities. [140]

Nowadays, the role of producers has evolved dramatically; mechanization and the development of new methods of production, as well as the strong need for commercialization, have forced producers to adapt. *"Now a farmer needs to know about equipment maintenance, accounting, marketing, use of chemicals, as well as long-standing soil and animal management skills"*[141]

Producers are important players in the food system, not only for production purposes but also for contributing to the sustainability of a healthy environment.[142] With an increasing demand for food security and with emphasis on environment protection, there is more pressure on producers to intensify agricultural production. This means that there has to be an emphasis on institutional support, incentives, infrastructure and inputs.[143]

[137] IFPRI Strategy toward food and nutrition security (2003)
[138] Tansey G. & Worsley T. (1995)
[139] Ibid, p.89
[140] Ibid
[141] Ibid p.97
[142] Madeley, J. (2000)
[143] IFPRI Strategy toward food and nutrition security (2003)

4.2 Traders

Traders are responsible for most of the trade of food in the world; they are the importers, exporters, brokers and merchants. It is a considerable business where products from developed countries dominate. Most of the movement of food and agricultural products in the world is performed by traders; however, little is known about their activities. The reason is that, statistically, it is difficult to identify a sector of food import within their activities or their associations. They usually do not disclose or produce public information; they import commodities which later will be processed or products for consumption with the retailer's name on them. [144]

A pattern among traders that is clear, during the last years, is the growing concentration of trading activities in few companies. Many distributors and agents have been taken over by larger trade companies; nowadays few companies dominate different sectors from bananas to cereals. [145]

Traders' main concern is the profits they can obtain from buying selling and moving merchandise rather than from the basic price of commodities. However, their activities can get very complicated since they have to deal with different regulations and risks in the different markets they work in, as well as the financing of imports from developing countries. [146]

Trading commodities is a complex business; important factors have to be taken into consideration. Seasonal production and weather to locations for production and commercialization are among the most relevant. Traders also have to deal with handling high stocks of products. In order to spread the risks involved in trading commodities with no buyers at the time of purchase, the futures market was created. In the futures markets parties reach a commitment for buying or selling certain amount of commodities at certain specific times and prices at a determinate date in the future. With this option, traders can *"buy a commodity for cash and immediately sell a futures contract on it, to sell at an amount that covers the cost and vice versa"*. [147]

[144] Tansey G. & Worsley T. (1995)
[145] Ibid
[146] Ibid
[147] Ibid, p.106

Today, the activities of traders go beyond that of just trading products. They have influence throughout the whole food system, from farm to shops and other companies like processors and manufacturers. In some cases, they perform a wide range of activities and are part of large conglomerates so that it can be difficult to categorize them. [148]

4.3 Processors

TNCs are important actors in international trade and are typically involved in marketing and processing of foodstuffs. There is a high concentration of TNCs in agricultural trade, with a small number of companies responsible for a dominating share of trade in one particular product. [149]

With industrialization, farm products began to be more processed than before, and the relation between farmer and consumer changed with the arrival of manufacturing companies in the food system. At the same time, urbanization made customers to be at longer distances from farmers which contributed to the creation of a large chain of distribution. This chain is integrated first by networks of wholesalers and small shops and then by a large number of retailers. And finally, to end this chain, there is a group of caterers who transform the food (both processed and natural) into meals ready to eat. [150]

Food processors provide a great variety of products from basic ingredients, such as sugar to special formulas, like, for example, food for infants. However, in many cases the products they produce contain substances that replace natural food ingredients and frequently they use artificial flavours, conservatives and additional components. [151]

Processors require farmers to fulfil numerous requirements in their products like size, and colours. Farmers also have to accept conditions on price, growing methods and periods, pesticides treatments and harvesting dates. Another way to reduce risk is the utilization of traders as suppliers of raw materials. [152]

A trend among food processors is concentration, now that there are fewer companies providing food products. They have more control and influence in

[148] Tansey G. & Worsley T. (1995)
[149] Madeley, J. (2001)
[150] Tansey G. & Worsley T. (1995)
[151] Ibid
[152] Ibid

the food market as their size has increased. Companies have expanded their traditional business area to other sectors within the food market. Among the challenges food processors have to face are the internationalization of customers and globalization of trade. [153]

The main goal for food processors is to increase the added value to their products because the basic need or food is satisfied by natural products. Therefore they have to be aware about changes in lifestyles, customs and trends that affect the food industry. [154]

4.4 Distributors

The movement of food products to the selling point is performed by wholesalers and retail distributors. They have become the most common point of encounter between food buyers and food producers. The trend among them has been one of concentration as well, with large corporations dominating the food distribution. Even though there are many names and supermarkets brands, most of them belong to a single group and the strategy is to diversify and have presence in different segments of the market. [155]

Retailers seek alliances and cooperation with their counterparts across Europe with the objectives of having presence in other markets, of facilitating the distribution of food products and of negotiating any particular issue of interest for all the members. [156]

Retailers have the choice to take a neutral position towards individual products which allows them to support healthy habits and ecological causes as a response to consumer's concerns. [157]

Retailers use technology in the operations as a way to increase the added value to their activities and therefore, to increase profits. Different check-outs aided with computer laser readers are linked to ordering and distribution systems, stocking levels and spoilage in order to minimize costs and labour and to have more control in the operation. [158]

[153] Tansey G. & Worsley T. (1995)
[154] Ibid
[155] Ibid
[156] Ibid
[157] Ibid
[158] Ibid

4.5 Wholesalers

Wholesalers provide retailers with manufactured products. However the trend has changed and wholesaler's activity began to decline as manufacturers delivered directly to retailers' depots. This situation led wholesalers to merge and then create large firms. At the same time, they formed alliances with some individual retailers in order to gain bargaining power towards buying groups. [159]

4.6 Consumers

"Consumers are those that expend money on goods and services" .[160] Consumers are a group that, even though they act individually, when they manage to stay together in voluntary organizations they can have a significant impact on other actors. People may have common demands when it comes to food products, some of those are safety and security, nutritional value, sufficiency and sustainability of the food. The main way consumers exercise this influence is through money, which is known as effective demand. [161]

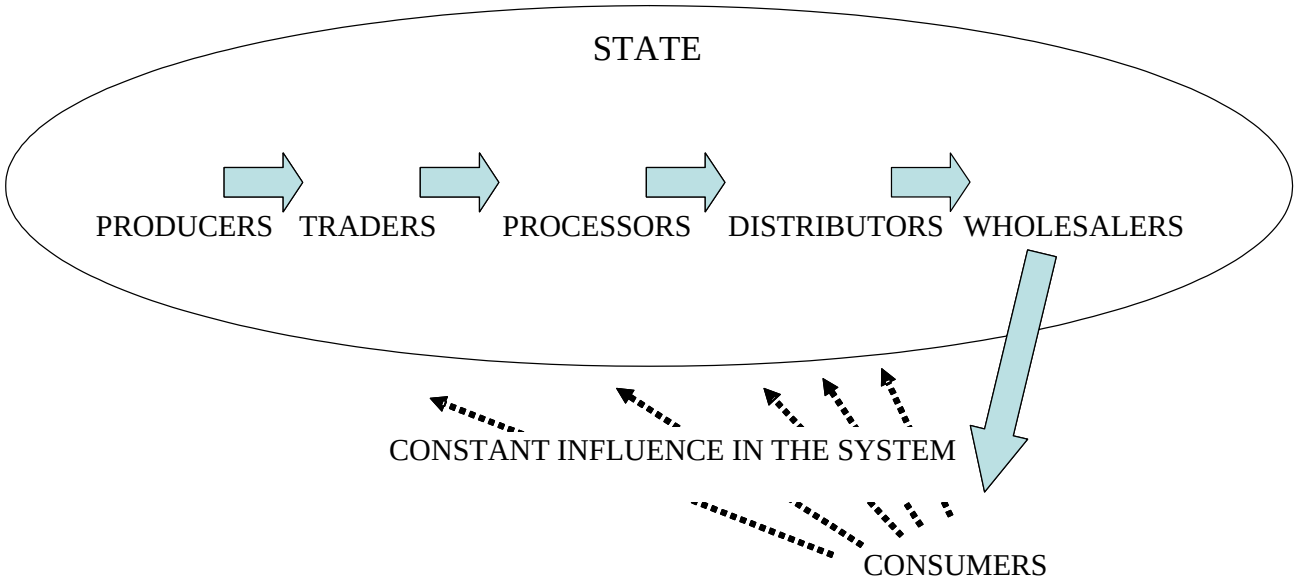
Information is a key element in the food system. Opinions from experts, market researchers, government agencies and companies can vary depending on the interests those opinion leaders promote. However, information can also be acquired from other sources; an important one is the label on the product. There, consumers can find relevant information about the features of the product and even though not all can understand what is stated in a label, most people like to read a label, especially the nutrition information. [162]

Consumer organizations and media often play important parts in influencing public opinion on food products and inventions in the food system. [163] There is a large number of consumer organizations with some amount of influence on individual consumers, and most of them are middle class consumers. There have been several cases where consumer associations boycott products from large international corporations when they perceive that the company is delivering harmful products. This has caused considerable economic losses to those firms. In addition, the activity of consumer associations has spread to other areas than just the product itself. Nowadays consumers are more aware

[159] Tansey G. & Worsley T. (1995)
[160] Ibid, p.142
[161] Tansey G. & Worsley T. (1995)
[162] Ibid
[163] IFPRI Strategy toward food and nutrition security (2003)

about the practices of companies including environmental handle of waste, corporate responsibility, labour practices and contribution to society. [164]

Figure 4.1: The Main actors in the food system



Source: Authors' construction

[164] Tansey G. & Worsley T. (1995)

5 The EU – US Trade Relations in Food Products and Genetically Modified Organisms (GMOs)

This chapter presents the empirical evidence of the thesis with information partly collected through a series of interviews. These interviews were made with people in different Swedish authorities: The Ministry of Agriculture, the National Board of Trade and the Swedish Food Federation. Their opinions will provide a broader understanding of the EU-US relations. An overview of the food and the GMO market is presented in this chapter which is further discussed on an EU and US level. Later on in the chapter more in-depth information on three different Swedish importers of fruit and vegetables is presented, information which was gathered from interviews with representatives of the companies in focus.

The trade and investment relationship between the EU and the US is the largest of the bilateral trade relations in the world today.[165] The EU-US bilateral trade relations are formalized through the Transatlantic Economic Partnership (TEP) which was agreed upon in May 1998.[166] The trade relations between the EU and the US have grown in importance as globalization has developed, but so has also competition between the two blocks. Differing policies between the two blocks interfere in the trade relations and that also increases the risks for conflicts and the scope of such conflicts. It is questioned whether this in the long run will lead to a better base and motivation for cooperation or whether it will end in more conflicts, contributing to distorting future efforts for collaboration. The relationship with its controversies has been characterized by the US and its concerns about EU policies toward agriculture, and standards and intellectual property rights on one side, and the EU's concerns about US restrictions on trade and investment in several sectors on the other side. All these trade concerns are dealt with under the GATT/WTO.[167]

Agricultural trade between the EU and the US has been characterized by differing opinions on many matters. The WTO dispute settlement has been utilized in several matters and that has divided the two blocks in agricultural trade. The EU's ban on imports of beef is one of those cases that was brought

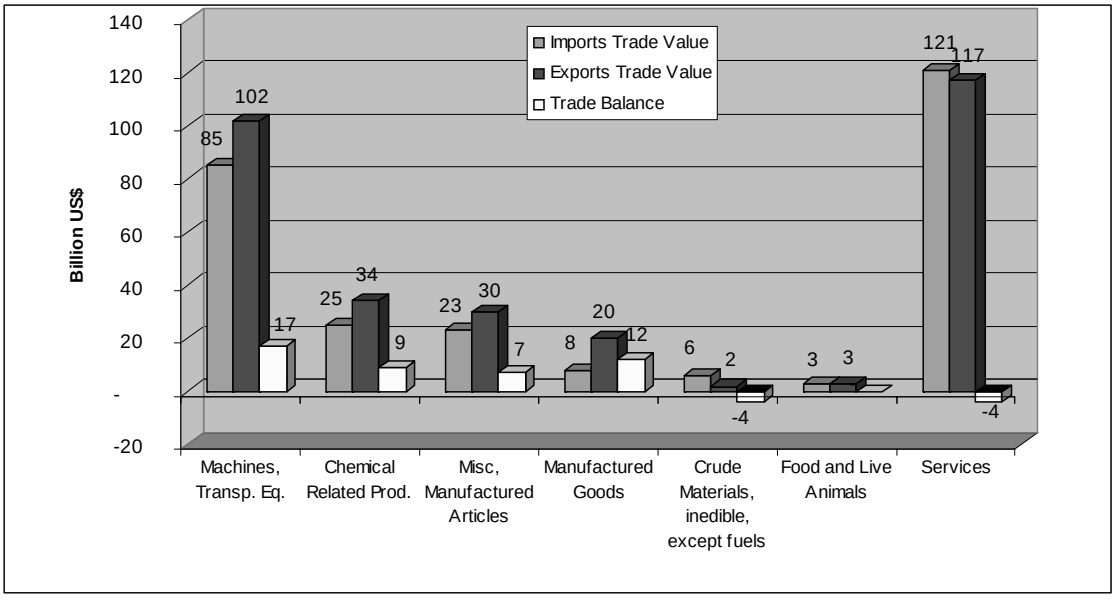
[165] The United States Mission to the European Union, *Foreign trade standards often igenore science, U.S. group says, (May 6 2003*)
[166] Mercado, S. (2000)
[167] Eichengreen, B., *Transatlantic Economic Relations in the Post-Cold War Era*, (NY, USA: Council of Foreign Relations Press, 1998)

to the WTO. The issue that is now in focus in trade between the EU and the US is the EU's ban on GMOs. This ban has now been in force during five years, and has together with contradicting regulations and labelling requirements affected the EU-US trade relations. Developments in regulation and labelling of GMOs will most likely continue to challenge the trade relations in the near future. [168]

5.1 EU-US trade pattern

Both the EU and the US have as main trading partners countries that are located in their own regions. In the EU it is more evident since most of the trade is intraregional, with more than 60% of trade among member states. In the US trade with Canada and Mexico, its partners in NAFTA (North America Free Trading Agreement), accounts for more than 30% of trade. However, for the US the EU represents more than 18% of its trade relations while for the EU the US represents between 7 and 9% of international trade. Trade between the EU and US is dominated by services, followed by machinery and transport material.

Figure 5.1: EU Bilateral trade with the US (2002)[169]



Source: United Nations, Comtrade database

[168] Hanrahan, C.E. (2001)
[169] The data for services is from 2001

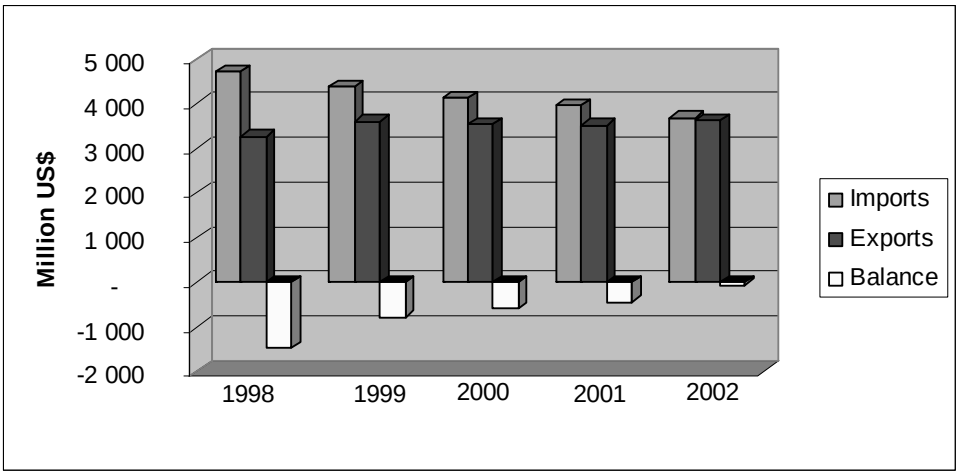
Trade in agriculture between the EU and the US accounts for 4,4% of the total bilateral trade. During the last years there has been a surplus in favour of the EU due to increases in EU exports. From 1998 the trade balance of agricultural products between the EU and the US has shifted from a negative to a positive balance in favour of the EU. [170]

Agriculture is an important sector for the EU which is the second world exporter of agricultural products after the US. The agri-food processing industry of the EU is the world's largest. The EU is the largest importer of agricultural products in the world with fruits, coffee and tea among the biggest imports.[171] With more than 370 million consumers and with the future enlargement towards Central and Eastern European countries, it is expected to increase considerably.[172]

On the other hand, the US is the largest importer of agricultural, fish and wood products in the world. The main destinations of US exports are Japan with US$16,6 billion, the EU with US$10,5 billion and Canada with US$7,8 billion. Agriculture is one of the main contributors to the state of the trade balance in the US.[173] In 2000 US exports accounted for 19,2% of global agricultural exports.[174] The main products are rice, cotton and in some cases fruits and nuts exports are even bigger.[175]

[170] European Union website, *EU agriculture and the WTO, European Commission, Directorate-General for Agriculture* (2001)
[171] Ibid
[172] European Union website, *Summaries of legislation; Green paper*,
[173] USDA, *Farm and foreign agricultural services*
[174] Economic Research Service US department of agriculture, *US agricultural trade: global trade*,
[175] Ibid

Figure 5.2: EU trade balance with the US in Food products



Source: United Nations, Comtrade database

5.1.1 The EU-US Commercial relationship in agriculture

Trade relations between the EU and the US could be much better than they currently are. There have been several commercial disputes in recent years.[176] The background to all these issues is that there are several economic implications for both sides, and that makes things even more complicated. The recent developments started with the banana dispute and the hormone disputes at the end of the 1990's and continued with the dispute on steel tariffs. In all of those disputes, the EU asked the WTO for panels to resolve controversies with the US and the result was positive to the EU. It is indeed a difficult relationship, and the GMO dispute will probably worsen it.[177]

Agriculture is a key sector in the global economy, which is the reason why it has always been difficult to reach agreements in this area. Even though agriculture itself does not play a decisive role in the EU economy or in the US, it has a big importance for trade. Countries are looking for self-sufficiency in food and agricultural products, which contributes to making negotiations in agriculture difficult. [178]

One important aspect in the current situation between the US and the EU in agricultural products is the deficit that the US has in its trade balance of these products. The US is by tradition an important exporter of agricultural products;

[176] Magnusson, B., the Unit for Global Trade; Questions within agricultural and food products and SPS, National Board of Trade, Interview, 28.10.2003, Stockholm,
[177] Ibid
[178] Magnusson, B., Nikkarinen, M., the Unit for Global Trade; Questions within agricultural and food products and SPS, National Board of Trade, Interview, 28.10.2003, Stockholm

however during the last years US' exports have been constant while imports on the other hand have increased. That has created a concern in the US authorities who want to reverse this situation because overall there is also the general US budget deficit as a decisive point.[179] However, the conflicting relationship cannot be explained by only one or two reasons; imports of agriculture are very important but there is also the matter concerning the high subsidies in the EU. The levels are still very high because the reductions have been rather minor. [180]

Other explanations for the conflicting relationship have to do with the different views on agriculture between the US and the EU. In the US industrialized agriculture might be favoured while in the EU the traditional family structured agricultural practice is more welcomed. This is smaller scale and perhaps not as competitive as the industrialized one.[181]

An important difference between the EU and the US is that in the US people do not trust the state, but put more trust in the food producers and regulatory authorities. In the EU people trust their states, but not the food producers because of bad past experiences like foot-and-mouth diseases and mad-cow diseases. Therefore, new food inventions go through a long process before acceptance in the EU. However, consumer opinions towards GMOs may differ in different parts of Europe and in some places a stepwise escalation can be seen. A recent study (carried out by the SIFO opinion poll institute) shows that one out of two Swedes can think of buying food products with GMO content.[182]

European consumers seem to be much more sceptical toward scientists and scientific evidence and to their food agencies compared to American consumers. This probably has its roots in the many scandals that have struck Europe in recent years. There was the hormone case, the foot-and-mouth and the mad cow disease cases which were going on for several years. Further, there was the dioxin case in Belgium and Holland a couple of years ago.[183]

[179] Magnusson, B. (2003)
[180] Ibid
[181] Magnusson, B. (2003)
[182] Björklund, H., Business analyst, Swedish Food Federation (Livsmedelsföretagen), phone interview, 22.10.2003
[183] Magnusson, B. (2003)

The difference in ideas towards food biotechnology between Europe[184] and the US lies in the different levels of trust the two regions have in their industry and their environmental groups. In a study performed by Eurobarometer, a US survey about the different applications of biotechnology, including GMO, and the trust in institutions showed that in general the acceptance of GMOs is bigger in the US than in Europe. In the US consumers have more trust in industry and less trust in environmental organizations and consumer associations than in the EU. [185]

Attitudes are not always based on scientific knowledge. Rather it might be a matter of standpoints towards promoters (industry) and regulators (governments). It has been shown that trust in institutions play a decisive role. In the US the trust in industry can be explained by the perception that industry looks more to the people's interests than consumer organizations or environmental groups. This same pattern is not always the same in Europe. In a way, US acceptance to new technology can be explained in the EU rejection.[186]

5.1.2 Key sectors within trade with food products

In the table below statistics have been taken from the United Nations Statistics Division (UNSD) concerning trade and the Standard International Trade Classification Revision 3 (SITC) have been used in identifying the main food categories. The group of products taken into consideration is SITC Rev3, classification 0 Food and Live Animals.

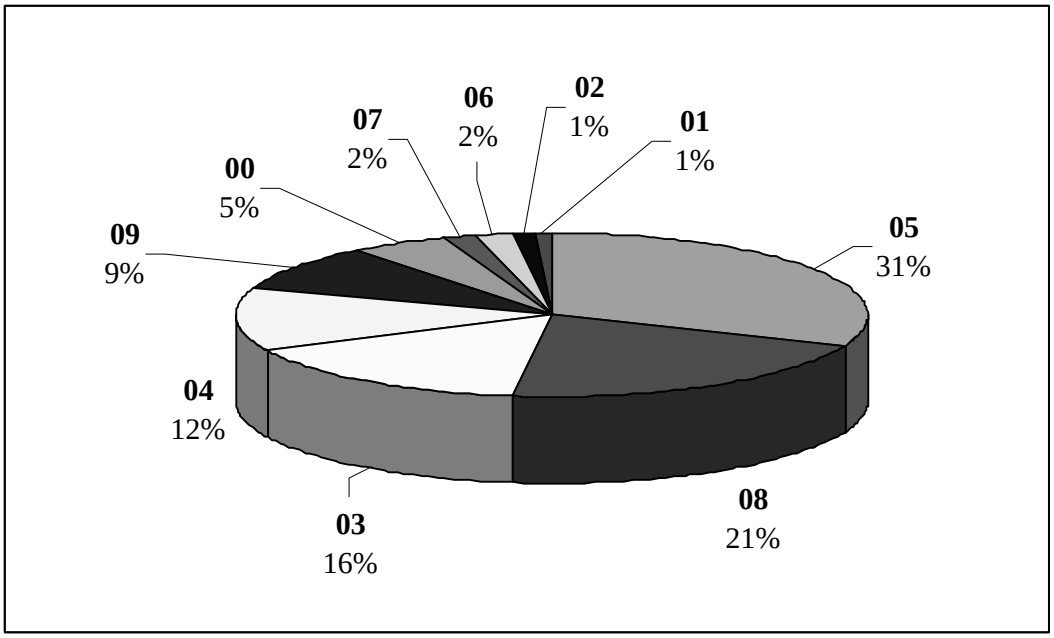
[184] In this case the term Europe is used since the study was performed not only with EU Members, but also Switzerland and Norway.
[185] Hornig Priest, S., Bonfadelli, H., and Rusanen, M., *The "Trust Gap" Hypothesis: Predicting Support for Biotechnology Across National Cultures as a Function of Trust in Actors*, Risk Analysis, Vol23, No. 4, 2003
[186] Hornig Priest et al (2003)

Table 5:1 Subdivision of SITC Rev3 section 0 Food and Live Animals

Code	Divisions
00	live animals
01	meat and meat preparations
02	dairy products, bird eggs
03	fish, crustaceans, molluscs
04	cereals, cereals preparations
05	vegetables and fruit
06	sugar, sugar preparations, honey
07	coffee, tea, cocoa, spices
08	animal feed stuffs
09	misc. edible products.

Source: United Nation, Comtrade database

Figure 5.1: EU Imports of food products from the US by Products (2002)



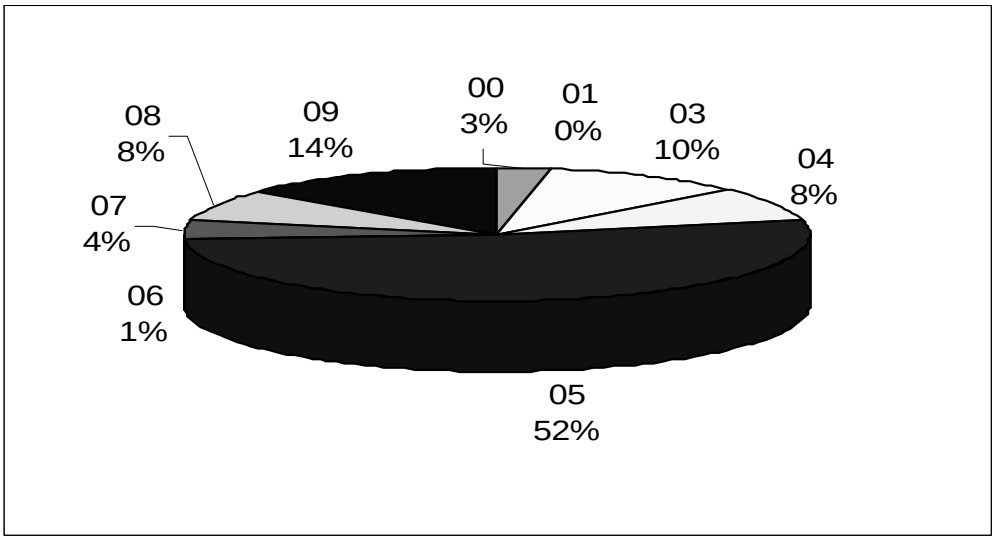
Source: United Nations, Comtrade database

The main product group that the EU imports from the US is vegetables and fruits, with one third of the imports corresponding to this group. In this selection the main importers within the EU are the UK with 23% of the total followed by Germany with 15% and France with 13%. [187]

[187] United Nations, Comtrade database

Since Swedish importers are used as an example in this research, and the same division as above is made for Sweden's imports from the US.

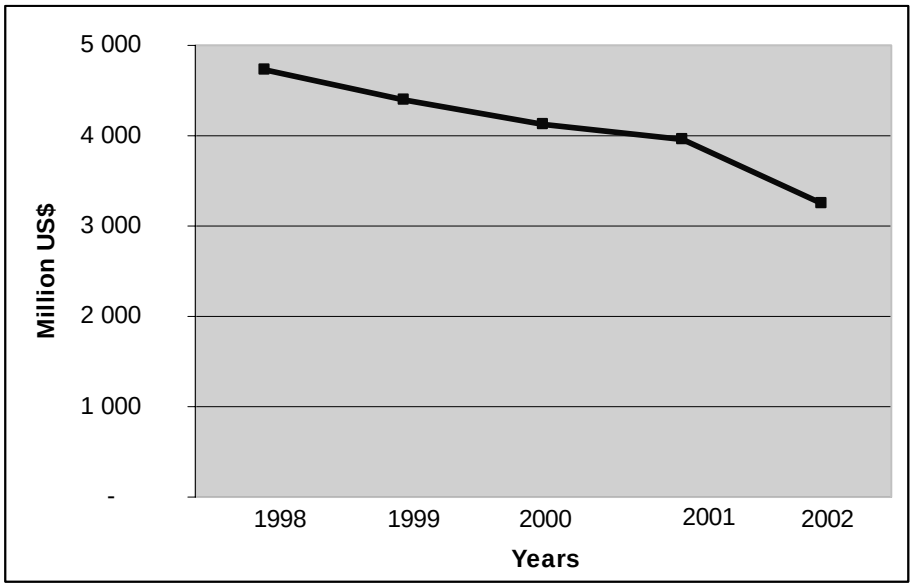
Figure 5.2: Swedish Imports from the US by Products (2002)



Source: United Nations, Comtrade database

The chart shows that for Sweden the group of food products that is imported the most from the US is fruit and vegetables, i.e. the same as for the EU as a whole. However, during the past five years the trend has been towards lower imports.

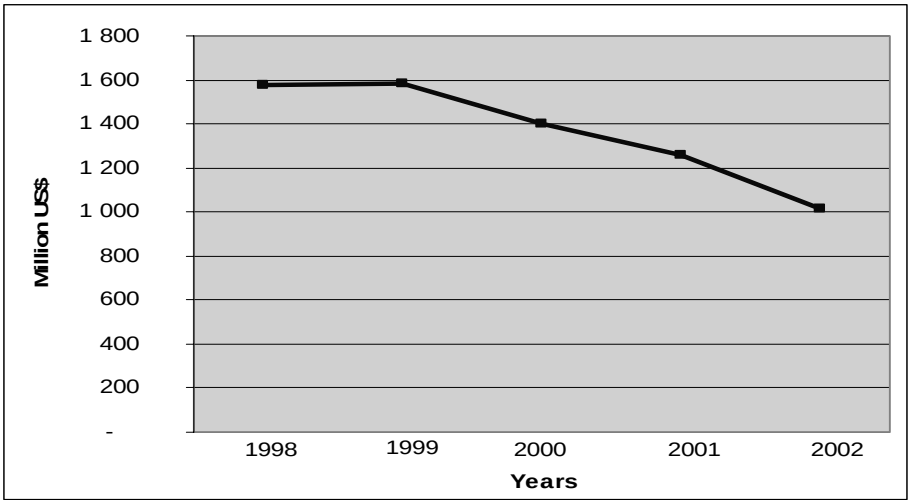
Figure 5.3: EU Imports of Food Products from the US



Source: United Nations, Comtrade database

In the case of vegetables and fruit which is the largest sector, the trend has not been any different from the whole group, with Germany and UK being the main importers within the EU.

Figure 5.4: EU imports of 05 Vegetables and Fruit (SITC 3, division 2) from the US



Source: United Nations, Comtrade database

5.2 Policies for food products in the EU and the US

The US regulatory approach to biotechnology can be described as a legalistic one, while the EU regulatory approach can be described as a politically controlled. The former approach implies that market efficiency is controlled through government intervention and there is a strong support for biotechnology products. The latter approach (the EU approach) means that more concern is taken for democratic values and when it comes to biotechnology, "certainty" is required and therefore EU countries holds a more restrictive approach towards biotechnological inventions. [188]

5.2.1 EU Food Policies

In Europe the process towards a creation of a common policy that regulates food products in all aspects, from farming to the moment the food is consumed, took different steps. The background of the current Food Policy can be found in the post-war period, after the shortages of food experienced during the war. With that memory still vivid, the creation of the Common Agricultural Policy (CAP) negotiated in the Treaty of Rome, represented one of the most important policy areas within the EU. The CAP came into force in 1962 and its main

[188] Michelmann et al. (2001)

objectives were, in general to achieve food self-sufficiency for the citizens of Europe.[189]

Even though consumer protection policy was not included in the CAP from its origin, by 1972 the idea was recognized in the Paris European Council. By 1986 the Single European Act (SEA) set the basis for the inclusion of the concept of consumers in the Treaty of Paris. Therefore the Commission was able to recommend measures intended to protect consumers. The SEA eliminated the condition for unanimity in adopting legislation related to the protection of consumers. The co-decision is nowadays a common procedure when food safety is an issue; it is completely valid for consumer protection and human health.[190]

During the 1990s Europe suffered from a crisis in food products - the mad-cow disease which caused a dramatic change concerning consumer protection policy. This, along with the strong demands from authorities, revealed the limitations of the European legislation regarding consumer protection policies. In an effort to improve the legislation, in 1997 the European Commission published the Green Paper on the general principles of food law in the EU. In general terms the objective of the document is to open the discussion about the legislation on food products by taking into consideration the consumers' concerns. The debate generated by the Green Paper resulted in the publication of the White Paper on food safety in July 2000. The objective of the document is to complete an overall legislation that includes harmonization not only in national systems for food control, but also extended to EU borders considering the EU extension[191]. The Commission launched the framework for the development of a legal system that will cover every aspect of the food chain, *"from the farm to the fork"*. [192]

By the end of January 2002 the Regulation (EC) 178/2002 was the key player in the new legislation ruling food safety, creating the base for the new approach. It also led to the creation of the European Food Safety Authority (EFSA) together with the Food Chain and Animal Health.

[189] European Union website, *Agriculture*
[190] Ibid
[191] European Union website, *Summaries of legislation; White paper*
[192] European Union website, *Summaries of legislation; Green paper*

The EFSA is responsible for[193]:

- Scientific assessments of risks in food products,
- Compilation and analysis of scientific information about potential risks through the whole food chain
- Providing safety evaluations of dossiers presented by industry for Community level approval of substances or processes,
- Identification and notification of emerging risks,
- Providing scientific support to the Commission predominantly in the case of a food safety emergency,
- Maintaining direct communication to the consumers and other interested parties of information about potential risks.

The EU legislation on food was elaborated based on four articles from the Treaty establishing the European Community. Article No.37 related to Agriculture, article No.152 related to Public Health, article No.95 related to High Level of Protection of Public Health, and Title XIV related to Consumer Protection. [194]

The general objectives of the food safety policy is:

- To guarantee the elevated standards of protection of human and animal health by applying a continuous control all over the food chain.
- To put quality ahead of concerns. This implies two important aspects, 1) no negotiable quality when it comes to safety of the food and the minimum requirements for protecting the environment, and 2) flexible quality for uniqueness in food products.
- To re-establish the confidence of consumers. This is achieved by giving constant information about the every aspect of food safety. [195]

The Regulation (EC) No. 178/2002 later added five general principles that take precedent over other documents in this subject:

- It refers to all stages of production, processing and distribution of food products, including feed and food-producing animals

[193] European Food Safety Authority, *The tasks of EFSA*
[194] European Union website, *Summaries of legislation; Green paper*
[195] Ibid

- Risk analysis will be considered as a way to ensure the protection of human health and life (precautionary principle)
- Responsibility is distributed among all operators in the food sector
- The traceability of products must be possible at all stages of the food chain
- Public authorities must provide citizens with clear and accurate information. [196]

5.2.2 US Food Policies

In the US the former president Abraham Lincoln created the United States Department of Agriculture (USDA) in 1862 and by that time it was called the "people's Department". Its main objective was to give advice to farmers about the better ways to grow crops and provide them with good seeds. Today the USDA is responsible for agricultural policy in the US.[197] The USDA is integrated by seven areas in charge of different aspects of food policy. Those areas are: Farm and Foreign Agricultural Services, Food Nutrition and Consumer Services, Food Safety, Marketing and Regulatory Programs, Natural Resources and Environment, Research Education and Economics, and finally, Rural Development.[198]

Farm and Foreign Agricultural Services (FFAS) is in charge of providing aid to US farmers in case of uncertainties in the weather and markets. The assistance is delivered in form of commodity programs, local and international credits, assistance for disaster and emergency aid programs aimed to enhance the development of agriculture in the US. It is also the representative of US agriculture in export markets. The FFAS is integrated by three agencies that carry out specific activities within the FFAS: the Farm Service Agency, Foreign Agricultural Service and Risk Management Agency.[199]

The Food Nutrition and Consumer Services (FNCS) is responsible for controlling the agricultural abundance in order to end famine and improve nutrition and health in the US. Some of the activities of the FNCS are the Food Stamp Program, Child Nutrition Program, and the diffusion of scientific information about diet and nutritional guidance. The FCNS function through

[196] European Food Safety Authority, *Official Journal of the European Communities*
[197] United States Department of Agriculture
[198] United States Department of Agriculture, *Mission of USDA agencies and offices*
[199] United States Department of Agriculture, *Farm and Foreign Agricultural Services (FFAS) mission area*

two agencies: the Food and Nutrition Service and the Center for Nutrition Policy and Promotion.[200]

Food Safety is in charge of ensuring that the supply of meat, poultry and egg products is safe and that it is properly packed and labelled. It also sets the standards for inspection and food safety in meat, poultry and eggs products from domestic and international markets. The Food and Safety Mission Area is aided by the Food Safety and Inspection Service.[201]

Marketing and Regulatory Programs (MRP) is responsible for promotion and marketing of US agricultural products in domestic and foreign markets. Three agencies help the MRP to carry out its activities: The Agricultural Marketing Service, the Animal and Plant Inspection Service and the Grain Inspection Packers and Stockyards Administration.[202]

Natural Resources and Environment (NRE) is in charge of guaranteeing sustainable management in order to preserve natural resources and environment. It consists of the Forest Service and the Natural Resources Conservation Service.[203]

The main duties of Research, Education and Economics (REE) are to generate research, analysis and promote education in order to create a sustainable and competitive US food system. Its activities are performed through the Agricultural Research Service, the Cooperative State Research, Education and Extension Service, the Economic Research Service and the National Agriculture Statistics Service.[204]

Rural Development (RD) is responsible for the development, growth and improvement of rural communities by providing technical and financial resources to areas of potential development. The RD comprises three agencies: the Rural Business-Cooperative Services, the Rural Housing Service and the Rural Utilities Service. [205]

[200] United States Department of Agriculture, *Food, Nutrition and Consumer services*
[201] United States Department of Agriculture, *Food Safety*
[202] United States Department of Agriculture, *Marketing and Regulatory*
[203] United States Department of Agriculture, *Natural Resources and Environment*
[204] United States Department of Agriculture, *Research Education and Economics*
[205] United States Department of Agriculture, *Rural Development*

Along with the USDA, there is another federal administration that shares responsibilities concerning food policies, safety, and consumer protection which is the Food and Drug Administration (FDA). Founded in 1906 the FDA is one of the oldest consumer protection agencies in the US. Its main mission is *"…to promote and protect the public health by helping safe and effective products reach the market in a timely way, and monitoring products for continued safety after they are in use."*[206]

The FDA regulates the following products: biologics, cosmetics, drugs, foods, medical devices, radiation-emitting electronic products, and veterinary products. Within food products the FDA is responsible for labelling, safety of all products with the exception of meat and poultry (these are regulated by the USDA) and bottled water.[207]

The FDA guarantees:

- that the supply of food in the US is safe and free from contaminants,
- approval of new additives in food before they are used,
- dietary supplements and contents of infant food products are safe

The activities of the FDA are:

- Review of new products in the market. (By scientific tests in order to verify the safety of the product)
- Constant monitoring. (By frequent inspections of producers and imported products with the objective to ensure that there are no samples of contamination in the products or risks of new health threats)
- Establishment of standards and regulations. (To define the requirements products must accomplish and ensure that they are safe for consumers)
- Correction of problems. (When there is a problem with the product the FDA is responsible for the adoption of proper measures in order to solve the problem.[208])

[206] Food and Drug Administration, *Activities*
[207] Food and Drug Administration, *Regulations*
[208] Food and Drug Administration, *Activities*

5.3 The global situation of GMO food products

5.3.1 Background GMOs

The use of GM techniques does not have a long history. It is quite a new thing with GM microorganisms such as beerjeast and chymosin in cheese production being used within production in the early 1990s. GM crops were first introduced in the 1980s with a strong commercial expansion in mid-1990s. GM crops made up 1,7 million hectares of cultivated agricultural area in the world, while in 2001 the number was 52,6 million hectares (4,5%). The most dominating GM products are maize and soya, with maize representing 63% of the world's total cultivated area of GM crops and soya representing 19%. Cotton and rapeseed are also among the most common kinds of GM products. Production of GM products is concentrated in the industrialized countries with the US as the most prominent producer. However, 75% of the total amount of farmers growing GMOs is made up of small producers of GM cotton in developing countries. Within the EU, commercial cultivation exists in Spain, France and Portugal, who however, count for a very small amount of world production.[209]

GM techniques make it possible to produce crops with lower production costs but also make it possible to reach environmental returns within agriculture. GM techniques are further predicted to change characteristics in food products in the future, such as taste, nutrition content and durability. However, there are risks associated with GM techniques. Environmental risks imply, for example, that the GM crops might spread to wild plants.[210]

The difference between GM products and traditional food products lies in the production process. The purpose of commercial food production is to lower production costs and there are therefore no physical differences between GM food products and traditional food products. The purpose with the cultivation of GM crops is to increase productivity in agriculture by using less input compared to conventional crops but still with the same result.[211]

Those that are pro GMO state that GM-technique is especially advantageous in agricultural production and processing. Using GM-technique in agricultural

[209] Jörgensen, C. (2002:2, p.27)
[210] Ibid p.27
[211] Ibid

production implies that higher profits can be reached at the same time as fewer pesticides can be used. GM-techniques lead to more efficient and environmentally friendly agriculture. GM-techniques make it possible to grow crops in places where it has not been possible to grow something before, which in particular refers to third world countries. There are further important advantages with GM technique associated with agriculture and third world countries. Firstly, when in the future GM crops with quality modifying characteristics will be used, there will be possibilities to control the nutrition content of food products. This may help people that suffer from illnesses related to lack of certain vitamins, which is very common in poor countries. Secondly, GM techniques can block the development of dangerous toxins in plants.[212]

Looking at the negative side of the development of GMOs, there is a fear of valuable features and DNA being lost if the use of GM crops get as big as to cause other crops to disappear. GM crops may spread resistance against damage and pesticides to plants in surrounding environments which in turn may contribute to those plants dominating the flora. This leads to decreasing biodiversity with GMOs or features with GMOs dominating all growth. Furthermore, use of GMOs can increase one-sided use of crops and lead to increasing use of monocultures in agriculture. This in turn may lead to an increasing vulnerability in agriculture with invasions of insects that risk destroying a large part of the crop. Another problem is that antibiotics resistant genes sometimes are added to plants and there is then a risk that those antibiotics resistant genes will be transferred to human beings and animals.[213]

Gene-technology makes it possible to transfer a gene from one organism to a completely different organism. An organism is a biological unit that can reproduce or transfer genetic material. Seed, fruit and pollen are therefore also organisms.[214] Genetic modification is used in order to develop certain traits for living organisms, which e.g. can be useful for farmers trying to improve their crops. This is not possible to do with traditional breeding techniques which is also why many people oppose to GM-techniques. They argue that no one really knows what the consequences could be from transferring genes between different species. Opposition towards GMOs is very much based on religious

[212] Jörgensen, C. (2002:2)
[213] Ibid
[214] Genvägen

and moral concerns, and it can be argued that GM-technique "allows unjustified human intervention in nature". [215] Although GMOs are used in other areas as well, public concern particularly from consumers and environmental groups has been especially evident within food products.[216]

So far GM crops have been mainly used for animal feed, although you cannot deny the fact that even if people normally do not have direct contact with GM crops in daily consumption, they will be likely to consume GM crops indirectly through animals. [217]

5.3.2 The GMO market

In 2000 the GM food industry was dominated by five large companies worldwide: Monsanto (US), Astra Zeneca (Sweden/UK), Du Pont (US), Novartis (Switzerland) and Aventis (France). The US is the largest market for GM food, with Monsanto as the most prominent actor. To gain profits from GM food, the suppliers need to reach a large market, and it is especially Europe and developing countries that they would like to target. The arguments needed to promote the product in those areas must, however, convince policy makers that GM products are essential for feeding the world and can help reduce poverty in developing countries, assuring that those products are the key to food security. [218]

When GM crops were first being commercialized, around 1995, the supply of GM crops consisted of varieties of tomatoes, corn, cotton, canola, and soybeans. Later a number of other GM crops have developed, although they are not as common as the ones previously mentioned: flaxseed, potato, squash, papaya, rice and melons. All of those crops are allowed for production in USA, but not in the EU. [219]

Several countries and regions, particularly the EU as one important actor, refuse to import GM products which limit the growth prospects for GM food to a large extent. Farmers in developing countries are afraid that GM technology will damage their own agriculture and harm food security. The worst threat that they fear is that corporations (TNCs) might get too much control over food

[215] Princen, S., *EU regulation and transatlantic trade*, (Boston: Kluwer Law International, 2002), p.199
[216] Ibid
[217] Madeley, J. (2000)
[218] Ibid
[219] Michelmann et al. (2001, p73)

supplies. Farmers in developing countries would have to buy seed every year, which they cannot afford. Borrowing is also too risky and uneconomic since money lenders charge the farmers unacceptably high rates.[220]

To protect themselves against health and environmental problems, many developing countries do not import GM products or else they demand that they are at least labelled. This is called "the precautionary principle" and is further promoted by NGOs that suggest it should be *"a central part of international agreements"*. [221]

The three biggest producers of GM crops today are USA, Canada and Argentina. All of them have taken initiatives for volunteer labelling. The US has adopted guidelines for volunteer labelling of food products that contain GMO (positive labelling) but also for food products that do not contain GMO (negative labelling). [222]

Michelmann et al makes a distinction between different uses of GM crops in countries that import them. Michelmann et al say that most of the GM seed and fruit which is imported are not used for reproduction since it is argued not to be suitable in those countries. Rather they are processed or eaten. This provides two perspectives from which to look at the diffusion of GM crops over the world. One can look at exports of GMOs as a way to spread the existence of GM crops, or one can argue that it requires that seeds are moved across borders for reproduction purposes in order to diffuse GM crops. If you use the first way to look at it, GM crops is rather wide spread and there are *"potential risks of new biotechnologically modified varieties"* [223], but if you use the latter argument, then it is not that wide spread and the *"potential risks are minimal"* [224].

Rules for labelling are very different in different countries. What distinguishes the rules from one country to another is, for example, whether the rules are compulsory or voluntary. Sometimes labelling requirements differ depending on the ingredients that contain GMO. There are also differences on what GM crops the rules encompass and do not encompass. How the labelling is done is

[220] Madeley, J. (2000, p. 105)
[221] Ibid
[222] Jörgensen, C. (2002:2)
[223] Michelmann et al (2001, p73)
[224] Ibid p. 73

also different, with some countries requiring more extensive labelling while others only require information that GMO has been used in the production.[225]

5.3.3 International agreements

Even if rules differ between different countries and regions, there are some rules that apply globally as they are regulated through different international agreements.

There is work towards harmonization of standard rules surrounding biotechnology food products, although there are differing views whether they should be harmonized or not. The United Nations (UN) agencies and the Organization for Economic Cooperation and Development (OECD) are attempting to introduce harmonized rules of this kind. The international standard setting body for food safety known as *the Codex Alimentarius commission (Codex)*, is used as a reference in several international agreements. The Codex is to *"protect consumer health, to ensure fair food trade practices, and to promote coordination of all food standards work undertaken by international governmental and nongovernmental organizations"*[226]. The Codex is administered by the Food Agriculture Organization (FAO) and the World Health Organization (WHO), both agencies within the UN, and it is referred to by the US as well as the EU when it comes to health and safety aspects of food products. [227]

National standards responding to food safety in biotechnology products have developed as a result of the absence of globally harmonized standards. This has resulted in decreasing international competition, distortion of markets and prevention of foreign firms to enter the market which in turn leads to an increasing amount of international trade frictions.

Negotiations were in 1999 carried out in Cartagena (Colombia) and resulted in January 2000 in an agreement that regulates trade in GMOs – the, so called, Cartagena Protocol on BioSafety. The Protocol implies that countries have the right to use the precautionary principle, to refuse imports of GM products for safety reasons *"without having to give scientific proof"*[228] . The intention was that the Cartagena Protocol should not be subordinated to the WTO dispute

[225] Jörgensen, C. (2002:2)
[226] Stamps, J. (2002)
[227] Ibid
[228] Madeley, J. (2000, p. 114)

settlement procedure and other international agreements, but that is not the case. The Biosafety Protocol preserves countries' rights under other international agreements, including the WTO.[229] The Cartagena Protocol is of special importance because it does not put free trade rules first, but put safety as top priority. [230]

In the negotiations of the Protocol there were two blocks with different opinions: the EU and the majority of developing countries on one side and the US with Argentina, Australia, Canada, Chile and Uruguay (The Miami Group of agricultural exporting countries). On the other side the EU and the countries that shared its view wished for the Protocol to set rules for protecting biodiversity from GMOs and the threats that they imply. Their fear was that GMOs would replace biodiversity and put food security at risk. The US and the other countries wanted, on the other side, a protocol that could not overcome WTO rules. So far the US has not signed the Biosafety protocol. [231]

As disputes on bilateral or multilateral bases can no longer be solved between the parties involved, the cases can be brought to the WTO for dispute settlement. The WTO has its Dispute Settlement Understanding (DSU) which is used for all agreements that were negotiated during the Uruguay Round. Within the GATT framework there are a couple of important agreements to consider when issues arise. The SPS agreement, in charge of regulating product standards, states that food safety standards must be based on science. Another agreement with a role in dispute settlements is the Technical Barriers to Trade (TBT) agreement which deals with questions concerning labelling and packaging of the product. Depending on the purpose and the question in focus, one of these agreements can be referred to. As concerns GMO-labelling it can be discussed whether it is intended to achieve SPS goals or whether it is not, and if it is, it falls under the rules of the SPS agreement but if it is not, it is regulated under the TBT agreement.[232]

5.3.4 The EU and the GMO food market

The evolution of the EU's standpoint concerning the existence of GMOs in trade is characterized by four main events[233]:

[229] Public Affairs section of the US Embassy, Japan, *Trade Agency Highlights Developments in Biotechnology*
[230] Madeley, J. (2000, p. 112)
[231] Ibid
[232] Michelmann et al (2001)
[233] Princen, S. (2003)

- *Unilateral restrictions* on sales of GM foods
- *The Moratorium*; Member states forming a blocking minority that halts the approval process
- *Extended labelling requirements* contributing to incorporate food additives and colourings
- Strengthening of the formal approval criteria for GM products through a *new Directive*

Eighteen varieties of GMOs have been approved for use within the EU since 1991, when the Directive 90/220/EEC was implemented. [234] The first approvals of GM crops within the EU were made in 1996 on certain kinds of GM soya beans and GM maize which were herbicide-resistant and produced the Bt-toxin. However, the approvals also contributed to many member countries questioning possible risks associated with GM crops. Unilateral bans on GMOs emerged from several member states right after the approval of the GM maize.[235] Article 16 of Directive 90/220, the safeguard clause, was utilized by several member states in banning GM maize and oil seed rape to be placed in their markets. The countries in question were Austria, Luxemburg, France, Greece, Germany and the United Kingdom. [236] The rule stated that member states were allowed to ban products this way *"if they had 'justifiable reasons to consider' the product 'a risk to human health or the environment,' but only on a provisional basis"*[237]. Those particular bans were not considered to be justified as the countries did not have any new evidence on the maize; however, the Commission could not force the countries to withdraw their bans. With time, more unilateral bans started to emerge. [238]

The European Commission realized already in 1997 that many member countries were against approval of new GM crops and that this would most likely make continued approvals difficult. In 1999 the opposition had increased with several member states demanding tougher rules. Austria, Belgium, Finland, Germany, the Netherlands, Spain and Sweden also threatened that they would not accept any GMOs in their markets if it could not be proved that those products would not contribute to any harm to the environment or to human health. This contributed to the introduction of a "de facto moratorium"

[234] European Union web page, *Questions and answers on the regulation of GMOs in the EU*, 24.10.2003
[235] Princen, S. (2003)
[236] European Union web page, *Questions and answers on the regulation of GMOs in the EU*
[237] Princen, S. (2003, p.217)
[238] Ibid

as the European Commission decided that there could not be any new approvals as long as that many member countries opposed them. The de facto moratorium meant that there would be no more new approvals of new GM crops related to Directive 90/220. [239] When authorization came to a halt in October 1998, there were 13 applications awaiting approvals. [240]

Beginning in 2000, new labelling requirements were put in place, meaning that food additives and colourings were incorporated to be covered by the rules on labelling. The new regulations were labelled 49/2000 and 50/2000. The first regulation states that products that contain less than 0,9% of GM food ingredients, which has not been added deliberately, do not need to be labelled. The latter regulation states that food additives and flavourings would also have to be labelled if they contain GMOs, which was not the case before since they used to be encompassed by different legal frameworks. [241]

In parallel with the moratorium and the extension of labelling requirements, the Commisison was considering revisions to Directive 90/220. Already in 1996 the Communication on Biotechnology and the White Paper had put forward four objectives concerning revision of 90/220:[242]

- *"To increase the flexibility of Directive 90/220"*
- *"To increase the uniformity of the approval process between Member States"*
- *"To give notifiers more opportunities to benefit from the uniform EC approval system"*
- *"To facilitate the link between Directive 90/220 and product legislation (such as the Novel Foods Regulation, which was also discussed at the time)."*

As the controversies on GMOs evolved, the need to revise the Directive 90/220 was even more evident. As a result of that, the Commission published its proposed revisions in February 1998, but they were first adopted in March 2001. The new Directive was labelled 2001/18 and was to be incorporated in member state laws, at the latest October 2002. [243] Directive 2001/18/ is about

[239] Princen, S. (2003)
[240] European Union web page, *Questions and answers on the regulation of GMOs in the EU*
[241] Princen, S. (2003)
[242] Ibid p.219
[243] Princen, S. (2003)

the intentional release of GMOs into the environment and regulates the approval process of applications on the use of GMOs in field studies or in the release of GMOs on the market.[244]

There are no GMO products sold in Sweden today, but there are ingredients present in both food and feed that are derived from GMO. Today there are 12 GM crops permitted in the European Union, and therefore also in Sweden: soya, maize and rape are some of the products. Studies performed by the Swedish Board of Agriculture (Jordbruksverket) as well as from the National Food Administration (Livsmedelsverket) have found, in some samples, that there is a small percentage of GMO content in feed and food sold in Sweden, even though those GMO levels are below the labelling threshold and therefore do not need to be labelled. [245]

There are today some GM crops that are allowed on the EU market for food products and thereby are regulated through the labelling requirements. Those are maize, soya and rapeseed of certain kinds.[246]

In Europe there are policies and regulations that are aimed to control several elements in different aspects of agriculture. The EUREPGAP gives guidance to practices to suppliers about environment, treatment to staff, child labour and in various other areas.[247] "The EUREPGAP fruit & vegetables "is a normative document for international certification developed through an agreement among actors representing the whole food chain for fruits and vegetables from all over the world. EUREP stands for the Euro-retailer produce working group which is the group of retailers that initiated the certification in 1997. The EUREPGAP was intended to contribute to develop good agricultural practice (GAP) with the help of common standards and procedures. One important driver for the introduction of common standards and procedures was the emergence of issues within food safety, with mad cow disease and the introduction of GM seeds as important and actual matters influencing the initiative. The organization today has the form of a supply chain partnership, referring to the fact that it considers interests in the entire supply chain together

[244] Livsmedelsverket, *Genteknik (* 2002)
[245] Carlander, D., Senior Administrative Officer, Ministry of Agriculture, Food and Fisheries; food division, interview, 28.10.2003, Stockholm
[246] Jörgensen, C. (2002:2)
[247] Hacklou, B., Purchaser, ICA Frukt och Grönt, interview, 24.10.2003, Helsingborg

with consumer interests. Members of the EUREPGAP are made up of retailers, suppliers/growers and associate members from the input and service side of agriculture.

There are three key elements in focus in the EUREPGAP protocol principles: food safety, environment protection and worker welfare, with food safety as the most important. The goal of the EUREPGAP is to maintain food safety practices within agricultural production to reduce the associated risks. Supported by the protocol principles and the compliance criteria, the EUREPGAP is to objectively validate procedures so that best practice all over the world is performed in a systematic and consistent way.[248]

In the EU there is a set of quality norms for fruit and vegetables. Some of the basic requirements are: they should not be damaged, they have to be fresh and there can be no soil on the product. There are different classes for tolerance and there are guidelines for presentation, packaging, labelling, size and variety of the product. Swedish companies are supposed to follow these norms. [249]

5.3.4.1 EU Legislation on GMOs

In Europe the precautionary principle is in use to inform consumers, to protect the environment and to take care of health risks. This will make GM crops not as cheap as if there were no regulations. Then food would be much cheaper, it certainly costs. Consumers will pay but they are willing to give that extra money for that information. This is a learning process; if the customer knows that there are oranges that contain GMOs then he or she can take the decision either to buy them or not. [250]

Rules for GMOs within the EU are regulated through EU directives 1139/98 and 50/2000 and apply to food products that contain GMO or products that derive from GMOs. The motive for labelling of GM products is not derived from health issues but rather based on consumers' right to choose between food containing GMOs and food that do not contain GMOs. Since 1997 labelling of new food products, "novel foods", is compulsory. Products that are categorized as "novel foods" are:

[248] Eurepgap, the global partnership for safe and sustainable agriculture
[249] de Verdier, K., Quality & Environmental Coordinator, Saba Frukt och Grönt AB, interview, 28.10.2003, Stockholm
[250] Carlander, D. (2003)

- Products and ingredients that have been produced from plants and animals that earlier have not been used for production of food products within the EU.
- Products and ingredients that are produced with production methods that normally are not used and if the methods imply meaningful modifications of the product.
- Products and ingredients that contain or are produced from – or through – GMOs. [251]

The products categorized as "novel foods" have to be judged by responsible authorities before they are released on the market and have to be labelled so that it is obvious what characteristics have been changed and what method that has been used to achieve these characteristics.[252]

GMOs are within the EU regulated through various directives. The Novel foods is regulated through 258/97/EC while the traceability and labelling is regulated through article 8 of 258/97/EC and Regulation EC 1139/98. Furthermore, regulations on GMOs are affected by Experimental releases and placing on the market, 2001/18/EC.[253]

Regulation 2001/18 and Regulation 1829/2003 on genetically modified food and feed are used to control the approval and authorization of cultivation of GM seed in the EU. For GM seed to be authorized there will have to be scientific evidence that the seed most likely will not have any negative impact on the environment or on human health. There is a limit for the amount of GMO content set at 0,9% and those products that exceed that limit are considered GMO products. The reason why there is a limit is that there are no completely pure seeds. There is always a risk for cross pollination in seeds, spread by wind and by insects. Today, genetic modifications have been carried out in various kinds of food products world-wide: beet, maize, potato, swede rape, soya bean, cotton, chicory, and tomatoes. Within the EU there is authorization for only a few of those: GM-swede rape, GM maize, GM soya

[251] Jörgensen, C. (2002:2, pp27)
[252] Ibid
[253] Saeglitz, C. Bartsch, D., *Regulatory and associated political issues with respect to Bt transgenic maize in the European Union*, Journal of Invertebrate Pathology 83 (2003, 107-109)

bean and GM chicory. GM potato and GM cotton are two groups that have been requested for authorization.[254]

The main idea with traceability is that with GMOs it shall be possible to trace through the whole distribution chain with each supplier in the chain informing the next whether the product is GMO or derives from GMOs through production. According to Commissioner David Byrne information that is required (*"Information about the supplier, customer, price and transaction…"* and *"the nature, source, contents and amount of a food or feed product…"*) for traceability purposes, is in most cases already in place. [255]

The EU has a directive on legal protection of biotechnological inventions, created in 1998 and implemented by all member states. Plant and animal varieties are exemptions that are not protected by this directive and as a whole the directive can not be compared to the level of patent protection that is provided to biotechnological inventions in the US.[256]

5.3.5 The US and the GMO food market

In general biotechnology has developed by hand with the advance of information technology; however this development has been more evident in the US than other parts of the world. The reason for this is the considerable support from federal funds in incentives and infrastructure. Along with these aids, the US created a regulatory framework that encourages start ups and investment in R&D in biotechnology. It is important to mention that the US biotechnology sector was responsible for the creation of the Human Genome Project (HGP), a mayor step in science.[257]

The US, today, is responsible for most production and exports of biotechnology food products in the world. In 2001 the US had farmland covered by biotechnology crops that accounted for 68%of global acreage. The second largest producer of biotechnology crops is Argentina, covering 22%of the world farmland of biotechnology crops. In the US biotechnology products included in human and animal food products have been on the market since

[254] European Union website, *EU institutions press releases; Questions and answers about GMOs in seeds*
[255] *Byrne-ing issues*, The Parliament Magazine, magazine of the European Parliament, (issue 123, 10 September 2001, p.29-31)
[256] *Foreign Trade Barriers*
[257] Malinowski, M. *Biotechnology in the USA: responsive regulation in the life science industry*, Int. J. Biotechnology, (Vol. 2, Nos. 1/2/3, 2000)

1995. [258] It is estimated that in the US more than 60% of processed food contain GMOs.[259]

One good attribute with the US is that its crop production is generally of high quality. For example, in comparison with maize grown elsewhere, U.S. grown maize is normally better suited as a basis for production of Tex Mex Food - Tacos. With GMOs it is possible to make products look good and at the same time have a high quality and good taste.[260]

An essential part of the success of biotechnology in the US is the regulatory framework that encourages companies involved in this area which invest in R&D. Some of the most relevant events in biotechnology are:

- 1980 Intellectual Property Rights (IP) policy: US legislation recognizes the right to patent inventions in biological organisms. Companies can have the rights over genetically modified seeds.
- 1989 Human Genome Project (HGP): The effort to identify all human chromosomes in order to elaborate a shared resource that will accelerate advances in biomedical research.
- 1997 FDA Modernization Act: General provisions aimed to support biotechnology applications; one of these is the Fast Track provision that speeds the process to access innovative products.[261]

Recent studies have demonstrated that in the US 60% of food products contain genetically modified ingredients, which means that at least a small proportion of these products contain crops genetically modified. Today the GMO plants approved for commercial use in the US are soybeans, corn, canola, cotton, papaya, squash, potato, tomatoes, rice, flax, sugar beet, sweet corn, melon and radicchio. The reason why many food products contain GMOs is that they are made of three major crops that happen to be made with biotech: soybeans, corn, and canola, and these products are very popular in American diet. In the US there is no legal requirement to label GMO products, and this makes it difficult to distinguish whether a consumer is eating GMOs or not. [262]

[258] Stamps, J., *Trade Agency Highlights Developments in Biotechnology*, Public Affairs section of the US Embassy, Japan, (2002)
[259] MarketResearch, *Agriculture GMO Research Reports*
[260] Björklund, H. (2003)
[261] Malinowski, M. (2000)
[262] Genetically Engineered Organisms GE foods in the Market

5.3.5.1 US Legislation on GMOs

There are no strict regulations for biotechnology food products specifically in the US. Regulations that apply to food products in general, such as regulations on food safety and environmental protection, also apply to biotechnology food products. Regulations for consumption are determined by product characteristics as a base rather than whether the products are grown with GMOs or not. There are no mandatory labelling requirements for biotechnology food products either. However, volunteer labelling presenting possible biotechnology content is permitted. As there is still no scientific evidence for possible threats to the environment or to human health, biotechnology food products are in the US considered equivalent to conventional food products. Regulation issues are, however, considered differently in different states in the US. Some states want labelling of biotechnology products to be mandatory and there are also some companies that refuse to use food products containing biotechnology. One example is McDonald's that, for their French fries, do not accept potatoes that originate from US growers using biotechnology.[263]

There are a couple of trade concerns that restrict US producers from distinguishing food products from biotechnology content. Firstly, it means a lot of work and consequently high costs to segregate biotechnology food products from conventional food products. Secondly, there is a risk for accidental cross-contamination meaning that plants may be bred with biotechnology crops creating breeds with features that might contribute to undermining biological diversity. Thirdly, there is no guarantee from the US government that export channels do not contain certain kinds of biotechnological ingredients, since there is no rule that authorizes it to control this matter. [264]

5.3.6 The GMO dispute

There is today a widespread use of GM crops in the US with farmers trying to reach benefits such as possibilities to reduce input costs and enhance agricultural productivity. This in turn is promoted as a possibility for improving nutrition in developing countries. The use of GM crops is, however, limited within the EU. The main reason the use of GM crops differs so much between the two blocks is said to be the differing opinions on potential effects on human health and the environment. US consumers in general also seem to believe in GM products. The reason why the EU uses stricter rules on GMOs seem to be

[263] Stamps, J. (2002)
[264] Ibid

related to the fact that Europeans are more risk averse and will await scientific proof of no damage to health and environment before applying looser restrictions. [265]

The acceptance of GM products in the US compared to the EU is very much dependent on the fact that there was no labelling in place in the US. There is a difference in culture between the EU and the US, which also matters. The acceptance of GM products in the US compared to the EU is very much dependent on the fact that there was no labelling in place in the US. There is a difference in culture between the EU and the US, which also matters. There was not really a big debate in the US when GM-crops were introduced, and the debate would probably have been louder if the opponents in the US would have used the argument that *"one should not play God and change what has been created"*. In the EU the precautionary principle is utilized as a way to value the risks associated and if the risks are assessed to be too high, the products will not be approved. There have been voices arguing in favour for using risk assessment to be extended to encompass regular food in the future, as normal food never have been scientifically evaluated.[266]

One opinion is that EU-members do not base their regulations on science which therefore violates WTO rulings and that these kind of regulations create "disguised trade barriers". Agricultural and industrial production with products deriving from bioengineering are mentioned as American industries that have been destined to suffer from these unfair regulations, putting them at a trade disadvantage. The negative effect that the EU regulations have on US trade is to be seen further in the developing countries. The EU's resistance to bioengineered products discourages the developing countries from using such products too. Since the developing countries are part of the US main targets, this will further put American biotechnology companies in a bad situation.[267]

EU trade policies within the GMO area are very much based on the de facto moratorium on any new approval of GM products that was introduced in 1999. The moratorium implies that the application process of new GMO crops came to a halt. Furthermore, compulsory labelling and traceability requirements have been proposed. The moratorium contributed to US corn shipments worth $300

[265] Ahearn, R.J. (May 12, 2003)
[266] Carlander, D. (2003)
[267] The United States Mission to the European Union, (May 6 2003)

million being cut short. The suggested rules on labelling and traceability are also expected to block US products of entering the EU.[268]

"The moratorium has nothing to do with food as such. It has only to do with genetically modified organisms - not food produced from GMOs. It is a question about "when" we can restart the procedure for approval for new types of genetically modified organisms – organisms in the sense of reproductive material, not food." [269]

The dispute on GMOs derives from the fact that the US accused the EU of imposing a moratorium on the approval of GMOs without any justification.

One view is that the products that will be affected are primarily seeds and when the moratorium is lifted, there might be some kind of maize, soya beans and oil seeds that may be released quite soon for reproduction for seed, not directly for GM consumption. [270]

Another view is that all food products can or will be affected by the spread of GMOs. There are not that many GM-crops involved in international trade today; however, those that are in focus – soya, maize and rape; and products produced from them can be found everywhere in various food products. [271]

"The EU makes the laws, but it is the member states that actually vote on the products." [272] There are several committees and levels in the decision making process. The Novel foods regulation has been in force since 1997, but the problem for the European Commission is that there are member states that are not following this regulation. This is also the reason why the Commission has not put forward a proposal for approval of new products, since it is obvious that it would be turned down by some member states. [273]

Sweden has taken a cautious approach to GMOs and from Carlander's point of view: *"Sweden has not been part of the moratorium countries but we did not disagree with the moratorium countries either; however, we do disagree*

[268] Ahearn, R.J, (May 12, 2003)
[269] Magnusson, B. (2003)
[270] Nikkarinen, M. (2003)
[271] Carlander, D. (2003)
[272] Ibid
[273] Ibid

because we have agreed on the legislation". [274] Since all countries once agreed on the legislation, the Swedish standpoint is that it is wrong to ignore the rules. From a Swedish point of view the regulations that are now in place(the food legislation, the feed legislation and the traceability rules) are seen as important. Carlander believes that as long as an application is in line with those rules and are based on science, the Swedish government would certainly approve those products in question. It is important that consumers are able to make an informed choice and therefore labelling would be a basic requirement. The fact that the products should not imply any danger to human health and the environment is already included in the regulations. So with labelling it is then up to the consumers to decide whether they want to buy it or not.[275]

5.3.6.1 Possible outcomes of the GMO dispute

As it is today, the US is not challenging the labelling and the EU's standpoint on that, but it is challenging the fact that the EU is not following its own legislation. The Commission had decided to start new approvals from November 10 2003.[276]

The next approval of a GMO in the EU would mean the end of the moratorium. This would further imply that the EU would start following its own regulations again after five years with no approvals of GM crops. If the WTO further rules in favour of the US it will imply that the US can retaliate. Carlander believes that the EU will follow the ruling of the WTO, although appeals will be made. This case is comparable with the hormone case where the EU would have to pay for fighting against the US. Two aspects should be considered concerning the consequences of the moratorium. Firstly, no one can tell how many products would have been approved if the EU had followed its legislation. Secondly, if products would have been approved, no one knows what actual amounts would be imported to the EU. These aspects also make it difficult to evaluate the amount of retaliation. In Europe there are some countries that are more open to new GM varieties than others. Sweden is one country that is likely to belong to those that will accept the new products if they fulfil the new regulations.[277]

[274] Carlander, D. (2003)
[275] Ibid
[276] the case for approval was actually postponed to be decided upon later this year; .Financial Times, Nov 11 2003, Delay for EU modified food ruling, Minder, R.
[277] Carlander, D. (2003)

Magnusson believes that it is important that the EU lifts the moratorium and he thinks it will come to an end at the end of 2003. The fact that the EU in July 2003 completed its work on the new system for labelling and traceability of GMO products can be seen as a basic condition for the member countries to consider lifting the ban on GMO products. The ban is a decision that is taken on member states' level and not by the EU as a whole and some member states required a new system in force before they would lift their ban. [278]

Magnusson further suggests that a possible outcome of the GMO dispute is that the WTO panel may judge that the EU does not have any scientific evidence for banning the products. US victory can, however, be very costly because European consumers might interpret it as though the US is trying to force them to eat something that they don't want. This in turn might contribute to an escalation in consumer resistance towards American food in general. [279]

The US uses the SPS agreement as a reference point when accusing the EU of ignoring the rules about lack of scientific evidence. The SPS agreement requires scientific evidence on all measures that will restrict international trade and Magnusson believes that it will be hard for the EU to provide the scientific evidence required before the WTO panel. He states that the European Commission is probably aware of that fact. The European Commission has tried to end the moratorium, but the Commission is probably aware of the fact that there might be a lack of scientific knowledge that could strengthen the EU ban in a possible dispute. Magnusson's personal opinion is that that the dispute will not run the whole way, but if it did, it would be likely that the US would be the "winner". [280]

Björklund's view of a possible outcome of the current dispute is that *"the US has a solid legal case in the WTO Dispute Settlement Procedure. Intense research has been performed for a long time and no one has proved that there are any signs that GMOs will do any harm and this puts a lot of demand on the EU. In addition the US has a substantial trade policy leverage, which in the long term most likely means the EU will have to adapt"*. He sees a possibility that the US will be allowed by the WTO to introduce retaliatory tariffs, which will hurt both the EU and the US just as bad. If there will be retaliatory tariffs

[278] Magnusson, B. (2003)
[279] Ibid
[280] Ibid

imposed on exports from the EU, importers of EU products will in turn be punished by sanction tariffs. In order to avoid such a trade conflict EU countries will be under pressure to restart the GMO approval procedure. In a way the Commission has prepared the ground for this, and the recently decided mandatory rules on labelling and traceability might facilitate a modified EU policy.[281]

If the moratorium is lifted it is hard to tell how the market for food products will be affected, but at least consumers are given an individual choice because of the strict rules for labelling that are in use. *"If you want to eat products which are produced from GMOs you can, but if you want to avoid it you can. It should not be a problem."* [282]

When introducing new GMO varieties in Sweden, for example, the consumer acceptance would probably increase stepwise as companies develop their marketing activities and emphasize the possibilities that can be offered with products containing GMOs. The fact that less pesticide is used may convince some consumers to pay a bit more for those products. However, the general idea is that GM products will be cheaper than conventional food and this will probably strengthen the consumer acceptance. It will take time before consumer acceptance increases and it is possible that there might be around 5-10% of consumers that will buy GM food after a while – *"not in the first year but later when it is growing bigger"*. [283]

Consumer preferences are a big issue within the GMO context. For example, it might be interesting for a low price chain to import products containing GMOs because they are cheap to buy, but it is still dependent on its consumers' preferences and if the consumers don't want it, the store will obviously see no reason at all to keep it in its assortment.[284]

In the case of GM content in fruit and vegetables, consumer acceptance would most likely be more difficult compared to other food products, since fruit and vegetables are consumed directly. On the other hand, there might be consumers that are willing to buy GM fruits because of better flavour or better nutritional value. The fact that GMOs can contribute to better products as well as the fact

[281] Björklund, H. (2003)
[282] Magnusson, B. (2003)
[283] Carlander, D. (2003)
[284] Björklund, H. (2003)

that there may be less use of pesticides might increase the acceptance among consumers. Carlander emphasizes the importance of consumers' right to be able to make an informed choice and he believes that the advantages that can be expected from GMOs will sooner or later contribute to a spread of GM products, also in the market for fruit and vegetables. It is all very dependent on the consumers' acceptance. [285]

5.3.6.2 Further possible consequences of the GMO dispute

What distinguishes the US and the EU rules on GMOs is the labelling aspect. Within the EU, food companies are (since January 2000) required to label their GM products and thereby inform consumers if they contain any ingredient that contains one % or more of GM soya or maize. The EU, or the Commission more specifically, has plans on even requiring food companies to state "GM-free" on products that do not contain any GM ingredient. That kind of rule, or any labelling requirement at all, does not exist in the US. Instead the US has claimed that those countries that are requiring labelling of GM products are acting in a way that contradicts the rules of the WTO, since the labelling rules are not based on international standards or on sound science. [286]

Legislation allowing GMOs without labelling is not a likely scenario, according to Carlander. Several member states, Sweden as one of those, would not agree to that and furthermore it would go against the regulations in use. As it is today both rules and labelling are satisfactory and it would require a lot of time and strong evidence of positive effects from GMOs if labelling was to be removed as a requirement, which is not likely to happen within the near future. [287] Magnusson agrees that a market for GMOs without traceability and labelling rules is not possible, stating that there can not be completely free trade with GMOs since there have to be approvals and tests on products containing GMOs. [288]

Magnusson declared that he does not know what role the dispute in the WTO will play if the moratorium is lifted, but he claims that there might very well be more disputes to come concerning GMOs. The different positions between the EU and the US concerning rules on traceability and labelling which is a very controversial issue might escalate in importance. The US does not agree with

[285] Carlander, D. (2003)
[286] Madeley, J. (2000)
[287] Carlander, D. (2003)
[288] Magnusson, B. (2003)

the EU's mandatory labelling since it will mean major changes for US distributors exporting to the EU. It would mean tougher requirements through the whole food processing chain as GM products would have to be separated from non-GM products. If this dispute escalates it will become much more difficult than currently and especially difficult for the WTO panel. [289]

Although very few GMOs are acknowledged within the EU, there are countries outside the EU where production of GMOs is increasing and their production methods will be affected by EU rules on tracability and labelling. Only those countries that have acknowledged the same GMOs as the EU can export to the EU. Furthermore, if they want to export to the EU they have to grow crops that are acknowledged in the EU, although those crops may not be suitable to grow in the exporting country.[290]

Furthermore, labelling rules will be affected. "*New rules (to be implemented during 2004) will also mean - rather cumbersome and administrative burdensome - costs, but how much costs is difficult to say, although, it is an important aspect for the actors involved*". It could further be discussed whether the new rules for traceability will mean that food products in general, not only GMO products, might be more expensive. Despite the costs involved, GMOs can offer opportunities for development within the food products industry, which also has to be considered. [291]

For those companies that decide not to work with GMOs, the supply of substitutes for GMOs is rather large, but the substitutes are often more expensive than the raw material that they are supposed to replace. Furthermore, for companies that choose not to trade on the world market, possibilities to buy cheap products will decrease because it is no longer possible to use the price differences that exist in the raw material business. Ignoring the world market can therefore become costly to companies.[292]

The largest costs to companies dealing with products containing GMOs seem to be costs associated with the separation of GMOs and conventional raw materials and also costs for documentation. The new EU suggestions will imply

[289] Magnusson, B. (2003)
[290] Furemar, S., *Märkning av genmodifierade livsmedel – en företagsekonomisk analys*, Rapport 2002:3, (Lund: Livsmedelsekonomiska institutet, 2002)
[291] Björklund, H. (2003)
[292] Furemar, S. (2002)

increasing costs for those companies that choose to use GMOs as well as for those that choose not to use GMOs. Those producers or suppliers that will use GMOs are indirectly restricted from trade on the world market through the EU requirements. Required systems making traceability and separation of different ingredients possible are not present on the world market. Producers that choose not to use GMOs can not trade on the world market either because there is often an amount of GMO content included. The fixed costs associated with identification and traceability of GMOs are just as high in all companies, no matter what the size or turnover. Those costs will most likely be difficult to cope with for small companies.[293]

So far, labelling has made processors and exporters of processed products reformulate or search for more expensive non-GM sources.[294] If companies choose not to trade with third countries they can avoid the involvement of unwanted GMOs; however, this measure will also mean more costs associated with decreasing amount of choices and less competition and flexibility. Production may also be affected and there could be less flexibility because of lack of choices when it comes to raw material in the production process.[295]

When conventional raw material trade is replaced, existing infrastructure will not be used in the best possible way and then both conventional and GMO raw material will be affected by costs associated with less efficiency in the processing. A company might choose to have two production lines, one for GMOs and one without. Since these different qualities can not be mixed, this choice will require double production units. Therefore companies are most likely to choose one of these alternatives.[296]

There have been critical opinions expressed by the processing industry concerning the limits for labelling and for accidental contamination of GMO products in non-GMO products, claiming that the limit is set at a far too low rate. The upper limits for accidental contamination have actually been under debate for a long time in the EU. [297]

[293] Furemar, S. (2002)
[294] *Foreign Trade Barriers*
[295] Furemar, S. (2002)
[296] Ibid
[297] Magnusson, B. (2003)

In addition, the US and the EU are big markets, not only against each other but also in the rest of the countries in the world. The EU is the largest importer of food products in the world which impacts on flows of trade. The outcome of the dispute will affect other EU partner-countries and their practices in agriculture. There is a lot of money involved in this dispute. [298]

There are different time frames to be considered when discussing the different aspects concerning disagreements on GMOs. First of all, the approval of new GM varieties will probably be put in place quite soon, but then even if the US can be seen as a "winner", the EU might continue the dispute. This case can be compared with the hormone case which was a long lived dispute. There is always public opinion to be raised in a controversial matter as this. [299]

5.4.7 EU importers involved in trade with food products

Traceability and labelling requirements will require more work and costs for importers throughout the whole chain. However, these costs will likely not be too elevated since companies are already tracing their products. There are also costs associated with analysis and samples to measure contents of pesticides. These costs would definitely make it more difficult for importers. This would, however, depend on the kind of products imported, and some processed products may require extra labelling and some less.[300]

Companies that use products containing GMO must analyze the GMO or get some kind of GMO guarantee from the supplier. They cannot assume that the GMO content is approved GMO. Companies that do not use GMOs are also affected by those rules indirectly. They will have to prove that they do not have any GMO ingredients voluntarily. [301]

If it turns out that companies like ICA or Axfood import GMO products, and they do not have the support from customers and the general public, they might damage their reputations. [302]

The retailers are aware of the concerns of the consumers regarding GMOs, and they have noticed that the consumers do not want those products and the

[298] Nikkarinen, M., Magnusson, B. (2003)
[299] Nikkarinen, M. (2003)
[300] Carlander, D. (20039
[301] Furemar, S. (2002)
[302] Carlander, D. (2003)

companies do not want bad reputations. However this can be a gradual process. By labelling the product customers would have a choice, and with time it might result that consumers will accept it. This will have to be handled very carefully, maybe at the beginning with small quantities and with information choices consumers will start to be more open. The important thing is the different view consumers have on food products. It is not the same opinion about GMO food than GM used for clothing like cotton. The effects on environment are also measured differently when comparing GMO crops with, for example, car pollution.[303]

Fruit and vegetables is the group within food products which stands for the largest share of EU imports of food products deriving from the US. The companies that have been studied are therefore mainly those involved in trade with fruits and vegetables.

Below follows a summary of the results from interviews with the largest importers of fruit and vegetables in Sweden – ICA AB, Saba Trading AB and Everfresh. Their viewpoints and perspectives on GMOs will be presented in order to provide a picture of the implications for traders that will arise from an eventual agreement on GMOs between the EU and the US.

5.4.7.1 ICA AB[304]

Company information

ICA AB employs 40 000 people and has 3000 stores ín Scandinavia and the Baltic states and is today the largest retailer group in the Nordic countries. 30% of ICA AB is owned by ICA förbundet invest AB, 20% by the Norwegian company Canica AS and 50% by the Dutch company Royal Ahold N.V. ICA. The ICA Ahold group has an annual turnover of 70 billion SEK. The group consists of independent daughter companies with a huge network of stores but also with distribution supplying restaurants among others. Some of the most prominent stores within the ICA group are ICA Nära, ICA Supermarket, ICA Kvantum and Maxi ICA stormarknad.[305] ICA Frukt och Grönt AB is in charge of the purchase of fruit and vegetables and is located in Helsingborg in the south of Sweden.

[303] Carlander, D. (2003)
[304] Hacklou, B. (2003)
[305] ICA website

Operations

Within Royal Ahold there are groups that meet and discuss the products. ICA has, for example, one person who is in charge of apples and as he goes to meet the others in the group he may say that the apples of some special sort are not very good this year and so the group decides that there will be no imports of apples of that kind. Furthermore, there are constant contacts with suppliers. ICA has people with responsibilities for certain areas and who are located in the US taking care of the contacts with the suppliers there representing the Ahold group (which includes companies in Sweden, Norway, Finland, Denmark, Holland, Ireland, Spain, the Czech Republic, and the Baltic states). As can be seen, there are large groups making joint purchases and sharing the responsibility. Even before ICA joined the Ahold group there was cooperation with the current partners.

ICA has two ways in which they work with their suppliers to protect consumers: the control program and the BRC system (British Retail Consortium; a British system concerning suppliers' behaviour in their production). ICA's control program consists of a small laboratory that checks shelf life of the products, to check that the quality stays the same. If there would be tracks of salmonella, the supplier would have to clean everything in production. ICAs suppliers are required to have accreditation from BRC, showing that they are using the system.

ICA has a sophisticated system for control of their goods. First of all, the products are packed in some box with a barcode which is then placed in a box with a barcode. The use of barcodes makes it possible to stop the distribution and supply of a specific product if it turns out that it contains e.g. salmonella. This information is also connected to the cashier so that it can be stopped on time. If it turns out that consumers are not satisfied with a certain product, ICA sends it to the laboratory to test it and then ICA can contact the supplier to make further checks.

In Thailand, specifically, salmonella tests are made to make sure that ICA does not import fruit and vegetables containing salmonella. If consumers would read that there is salmonella in fruits from Thailand, it is important for ICA to know and be able to tell the customers that the company has tested its products.

Imports

ICA imports fruit and vegetables from several countries and what is imported is dependent on the season. During the summer almost all vegetables in ICA's assortment are Swedish. In the winter time, however, vegetables are mainly imported from Holland, Spain and Italy, but also small quantities from Greece, Germany and Hungary. As concerns fruit, apples from Sweden are used, although the quantity is very low. The apples are taken from Österlen in the south of Sweden but "*the total quantity is not larger than a farm in Washington State"*.

Today, ICA only imports very small quantities of fruit and vegetables from the US. The reasons for that are primarily that the US dollar has been so high and also that the demand for fruit and vegetables from the US has decreased. Furthermore, the European market has developed in the production of fruit and vegetables, which also is contributing to lower quantities being imported from the US. Importing from the US means a long distance to distributors which also makes it more complex compared to importing from European distributors. Therefore, importing from the US is said to be not very competitive.

There used to be imported grapes from California (US), but since transports made them bad, those imports were cancelled. ICA also used to import both apples and pears from Washington State, but as production has developed in Europe this is not the case anymore. There might be some special sort of apples for Christmas because they have better taste than others during that period of time. Otherwise, the imports from the US mainly consist of Anjou pears. The existence of Anjou pears in ICA's assortment is due to the fact that these pears were the ones that the consumers loved the most. The Anjou pears today exist in larger quantities in ICA's assortment than do Conference pears from Holland or France. However, if ICA would ask the consumers what pears they prefer and it turned out that it was Conference, the demand would decrease and it would no longer be profitable to import Anjou pears. Another product that is imported mostly for Christmas is dates from California, since they are very popular during that time. Those are organic products and do obviously not contain any GMOs. Cherries are also very popular in December, particularly because of the good quality. The cherries from the US compete with cherries from France which are very cheap ones, almost half of the price compared to the ones from the US. However, since quality is of great importance when it

comes to cherries, ICA prefers to import them from the US. Grapefruits from Florida are imported in the winter time.

Four years ago there was more activity in imports of fruit from the US; however currency fluctuations and the increase of skills in European producers gradually reduced the imports. In the case of the UK things may be different; the strength in their currency and close relation with the US is a reason for them to keep buying from the US. [306]

Hacklou claims that ICA is not at all dependent on the US for imports of fruit and vegetables and that the company can manage with imports from other countries without problem. Grapefruits which are imported from the US could also come from Israel, for example.

GMOs and the company's standpoint

ICA has a clear standpoint when it comes to GMOs. The company does not want any GMOs in their products and already five years ago the company had policies saying that the company will not buy any products containing GMOs at all. It is argued that consumers should be given a choice if they do not want products containing GMOs. Therefore ICA thinks that labelling is one basic requirement. As it is today, consumers in general do not know that much about GMOs and their effects. Hacklou says that he believes that there are GMOs in the food we eat today and that it is difficult to protect oneself from GMOs.

It is important for ICA that its customers feel that they can rely on the company and starting to use GMOs in its assortment is something that would most likely harm the company's reputation and the relationship with the customers. Therefore ICA emphasizes the importance of listening to the customers and their wishes. ICA's quality managers are in constant contact with the suppliers to make sure that the practices are in accordance with ICA's standards. GMOs are a difficult matter because you can not see GMOs and therefore it is crucial to ICA to have control of who their suppliers are and what they do.

The ICA brand which is used on several products is one way or symbol that ICA uses to guarantee that there is no GMO content in their products.

[306] Hacklou, B. (2003)

ICA is not satisfied with the situation with GMOs today and Hacklou means that GMOs can be looked at as a threat. For example, there are today a lot of young people who are vegetarians and if there might be GMOs in fruit and vegetables they would not be satisfied. "*We need to be careful.* "

If there would be a free market for GMOs, Hacklou believes it would still be up to the community to decide. He does not think a completely free market for GMOs is likely, but if possible it could be interesting for bigger companies to buy but still consumers would probably be resistant if they know that the products may contain GMOs. There will be labels about the GMO content, if the product contains GMOs. Hacklou thinks that consumers are not willing to buy products containing GMOs today, but maybe they will change their minds in 5-10 years when people have found out that there were no effects from the fruits or vegetables. Today, people are very suspicious because of earlier incidents such as the mad cow disease and problems with meat from the US.

5.4.7.2 Saba Trading AB[307]

Saba Trading AB is the largest importer of fruit and flowers in Scandinavia.[308] It is a group integrated by four different companies including Saba Frukt & Grönt AB, AB Banankompaniet, Saba Blommor AB and Saba Fresh Cuts AB. The headquarters is located in Stockholm and the purchasing and transportation functions are located in Helsingborg. Saba Frukt & Grönt AB also has seven distribution centres in Helsingborg, Malmö, Västerås, Stockholm, Umeå, Luleå and Borlänge. The company started operations in 1909 when Banankompaniet started importing bananas. Later on fruit and vegetables were included in the assortment and in 1980 Saba Trading was created. Today, Saba Group has a turnover of over 3 billion SEK and employs more than 850 people in Sweden with Saba Frukt & Grönt being the biggest unit within the group.

Saba Trading AB is owned by Dole Food Company Inc. (60%), Axel Johnson (25%) and KF (15%). The main customer is COOP.

Operations

Saba is always trying to avoid middle men by buying directly from producer when possible. However, this is not possible for all products at this date; in some specific cases Saba requires the assistance of middle men/agents. It is the

[307] de Verdier, K. (2003)
[308] Saba pressinformation

personnel in Helsingborg who are responsible for choosing locations and products to buy. They receive the information from the Key Account Managers and the customers about their requirements and then proceed to the purchasing and delivering process. In order to optimize the procedure the products are, when possible, transported directly to the distribution units in order to avoid unnecessary circulation through Helsingborg.

Saba has a series of requirements on quality that their suppliers have to fulfil. The criteria that Saba considers when choosing suppliers are:

- Position – required to be producers to avoid middle men
- Certification in place – either through EUREPGAP or ISO
- Size of the growers and their costs
- Geographic location – for efficient transport
- IT standard – easy access to communication
- Program agreement[309] - how they are functioning, system in place for their business

Saba signs an agreement with each one of its suppliers requiring the criteria above mentioned. With this, Saba ensures that all the products have the quality standards required to sell them in the market and that they do not contain any GMO or exceed limits for pesticides. Besides, Saba practices regular audits to ensure that the practices of the suppliers are performed in accordance with the EUREPGAP schedule. This is the most important requirement for Saba. With this accomplished, then there is a solid base. In case producers do not have traceability, then Saba can help them to develop and improve it. Saba's main producers are analyzed very careful before they are chosen.

However, above all it can be said that everything is about cooperation. If Saba gives all the information that the grower needs, then there will be a good result for a long-term relation. As Katarina de Verdier states *"They are growing because that is their profession and we are selling because that is what we are good at. We know that they are doing a good job – in that sense it might be about trust"*.

[309] Translation from Swedish "Programavtal"

Imports

For the assortment of vegetables in Saba, Sweden is the main source with 35%, especially in the summer when there is a great variety of tomatoes and potatoes. In imports, Spain has an important contribution during autumn and winter seasons. Next to Spain is Holland. Those three countries are the major providers following each other by seasonal sales. Other important countries supplying vegetables are Germany, Italy and France.

In the case of fruits two countries dominate the supply: Spain is the largest contributor with 21,2% especially of citrus fruit; Italy is the next with 19,6% of the total, mainly stone fruits. From there, the contribution is widely spread among other countries.

The amount of imports from the US is quite low for both fruits and vegetables. Saba's imports of fruit and vegetables from the US represents less than 1%.[310] The main products from the US are iceberg lettuce, pears and grapefruits. One of the reasons why imports are so low is that it could be expensive due to the distance that requires long transportation.

GMOs and the company's standpoint

According to Saba, there is not enough information about GMOs and its consequences on human health and environment. For that reason they want to keep the right to not allow them into their assortment. Saba can consider the introduction of GMOs if the consumers express the demand for it. For the company, it is also important to have a guarantee from the suppliers that the products are safe. But at this time, the impression is that this kind of information does not exist.

Saba follows the information given by the European Commission, regarding what kind of GM-products that exists on the market, for their risk-analyses. If there is any risk of having a GM-product, the product is sent to analysis to be sure that there is no GMO in the assortment. So far, Saba has not found anything.

[310] Åkesson, J. (2003)

Saba keeps contact with other importers through Näringslivets Miljöchefer (NMC)[311] who meet three or four times a year. GMOs has been discussed among other topics; however these discussions are more informal since each company has its own policies. Dole has subsidiaries throughout Europe, and as part of this large corporation, Saba quality managers hold, along with other quality managers from other companies in the group, meetings once or twice a year to discuss common concerns. One of those is the GMO issue, and the general opinions about GMOs are that the public remain sceptic even though there are many pressures from different actors for the approval of GMO commercialization.

Saba is attentive to the Swedish Society for Nature Conservation (Naturskyddsföreningen) since they consider it has a realistic view on GMOs by presenting the pros and cons. Therefore they follow the discussions in Swedish Society for Nature Conservation.

Today, an introduction of GMOs is not an issue for the company. If everything is changing, if there seems not to be any risks, perhaps it could be interesting to consider the inclusion in the assortment. Since the customers are the ones deciding, they have the last word. For Saba if there is a market for GMOs, this has to be with labelling so the consumer can have a choice. If consumers demand GMOs and the company knows that there will not be any negative consequences, then Saba will discuss it. Otherwise in the present situation the company does not see any use of having GMOs in the assortment. In de Verdier's opinion, GMOs could be interesting for growers and perhaps for developing countries, but not for the industrialized world.

Today, traceability and labelling are important to keep consumers informed. The decision whether to include or exclude GMOs in the assortment will be up to the consumers. However, the company will have their own ethical point of view.

[311] Näringslivets Miljöchefer (NMC) is a non-profit organization for companies and other organizations working actively with environmental concerns. .

5.4.7.3 Everfresh Group AB

Company

Everfresh Group started its operations in 1987 and was then dealing with mainly imports of fruits from South America and Cyprus. Since the start, the assortment and the number of suppliers have increased. Through its daughter companies, Everfresh AB and Lime Frukt & Grönt AB, Everfresh Group AB today sells fresh fruit and vegetables to wholesalers, stores, and restaurant wholesalers in all of Sweden.[312] Everfresh Group AB is the second largest importer of fruit and vegetables in Sweden. The company has an annual turnover of about 2,6 billion SEK. Axfood and KF are two examples of Everfresh customers.[313]

Operations

At Everfresh, products are controlled when they arrive and either they are OK and taken in directly or else they might have to be sent for reassortment and if they are really bad they are thrown away. Everfresh follows the quality norms set up by the Swedish Board of Agriculture (Jordbruksverket). The goods that are imported must be labelled with the country of origin and this labelling is also there when the goods are sold to customers. [314]

Everfresh has agreements with suppliers stating that there shall be no GMO content in the products that are imported. The company has to follow the customers' requests and the customers don't want GMOs in their products. Everfresh's suppliers are certified through the EUREPGAP which also implies that there should be no GMO content in their products. [315] It is crucial that suppliers are able to deliver products that fulfil the requirements that Everfresh has set up. Those are requirements concerning both the product and the production. The requirements presented in the EUREPGAP are followed. [316]

Before Everfresh starts importing from a supplier, the company receives information about the products and documentation about what pesticides have

[313] Steen, J., Purchaser, Everfresh Group AB, phone interview, 28.11.2003
[314] Luedtke, P., Quality and environment coordinator, Everfresh Group AB, e-mail correspondance, 6.11.2003
[315] Steen, J. (2003)
[316] Luedtke, P. (2003)

been used. Suppliers are required to be able to present documents about the use of pesticides and traceability if demanded. [317]

Imports

The company imports fruit and vegetables from several countries in the world, but the largest quantities are imported from Spain, Italy, Holland and South America. From the US there are primarily imports of Anjou pears, but there are also imports of cherries and grapefruits. Furthermore, there is a small amount of grapes and also a small amount of iceberg lettuce at times when it is hard to obtain that in Europe. At Christmas time there are some imports of apples from the US as well. The amount of imports from the US is around two % of total imports. Although imports from the US used to be a little bit higher, they have always been low. The demand for Anjou pears has always been high, but has decreased because of better storage possibilities and because of changes in consumer preferences. There used to be more imports of grapes from the US, but as there are now grapes of good quality to be found in Europe, the imports of grapes from the US have decreased. Everfresh values quality and price and those are also the most prominent determinants when choosing which countries to import from. Storage possibilities are also important elements since there are costs associated with that. [318]

GMOs and the company's standpoint

Today, Everfresh does not buy or sell any GMO-products and it is stated in the contracts with suppliers that there shall be no products containing GMOs being delivered. Luedtke claims that; "*We have quite good knowledge about GMOs, which of course always can be improved.*" She also makes a remark that the development of GMOs is progressing very quickly. To her knowledge there are not that many products containing GMOs within the fruit- and vegetables-sectors as a whole. Everfresh is, however, very sceptical to GMOs and refuses to accept any products containing GMOs in its assortment. [319]

The Swedish government and the EU Parliament have clear restrictions concerning GMOs and Everfresh argues that the company trusts their knowledge since the company does not have enough knowledge to evaluate the

[317] Luedtke, P. (2003)
[318] Steen, J. (2003)
[319] Luedtke, P. (2003)

consequences from using GMOs. Everfresh, however, requires that its suppliers respect the laws and regulations agreed upon in the EU.[320]

5.4.7.4 Summary EU importers of fruit and vegetables

The importers of fruit and vegetables have extensive control systems in their operations in order to control the origin of the products and the processes that they have gone through. Furthermore, the importers have certain criteria that their suppliers have to fulfil. One common criterion which is of importance to the importers is that their suppliers follow the standards set up by the EUREPGAP.

The patterns of imports from the US seem quite similar in the companies analyzed. The patterns indicate that imports from the US represent a very low amount of total imports of fruit and vegetables. It is also obvious that the Swedish importers of fruit and vegetables are not dependent on the US. More and more opportunities have emerged within the EU as concerns developments in production and therefore many products that were earlier imported from the US are now purchased from other countries within the EU. This in association with the fact that it is expensive to import from the US and that the products have to be transported over long distances makes the US a less attractive market to import fruit and vegetables from. Those products that come from the US today are basically imported because of their high quality.

There are clear opinions against the use of GMOs in all three of the companies that were investigated. There are agreements with suppliers that there shall be no GMO content in the products imported and the importers also rely on the EUREPGAP certifications that state that there shall be no GMOs in the production of the fruit and vegetables. Consumer demands are important to the importers as that influences the demand from retailers, i.e. the importers' customers. Therefore, consumer preferences determine whether GMOs should be included in the importers' assortment or not.

For summary, importers of fruit and vegetables do not import products containing GMOs and they have good systems in use controlling that there is no GMO content in the assortment.

[320] Jönsson, H., Marketing manager, Everfresh Group AB, e-mail correspondence, 19.11.2003

6 Analysis

This chapter provides an analysis of the GMO controversy and its implications for the transatlantic trade relations, in accordance with the purpose of the thesis. Important implications for the EU-US trade relations and for the GMO controversy are analyzed in correlation with a model constructed by the authors.

As has been seen collaboration becomes difficult when two parties cannot agree on the advantages to be obtained from an agreement. This is evident in the case of the US and the EU in their efforts to collaborate on common measures for trade with GMOs.

6.1 Agriculture and the EU-US trade pattern

Agriculture continues to be a controversial topic in negotiations. Even though agriculture represents a relatively small proportion of the EU and the US economies, agriculture keeps creating controversies. The traditional roles attributed to agriculture still remain in the minds of government officials when deciding about the liberalization of agriculture. It is not only the traditional roles that influence governments' decisions on agricultural matters, it is also the different perspectives and, of course, the economic situation of each party involved.

These differences in perspectives are evident in the policies regarding food and agricultural products. Both the EU and the US have gone through different processes and events before shaping their food and agricultural policies. In the case of the EU, the CAP has gone through many events, beginning with the lack of food supply as a consequence of World War II, to facing dangerous diseases such as the mad cow disease in the 1990s. These episodes, along with the complexity that the agreement of all member states in creating legislation implies, have led to the current food and agricultural policies. In the US, agriculture has not gone through any major events; in fact agriculture has developed due to government support and economy growth. In the US, there has been a trend towards increasing production through supporting technological applications. Policies towards agriculture are also formulated as a way to facilitate the development and commercialization of agriculture.

6.1.1 EU-US trade pattern within food and GMO food products

There are many advantages in acting as regions or trading blocks, but there are also difficulties. It has been stated that trading blocks can have a negative impact on multilateralism. Within the EU as well as within the US, there are conflicting opinions and in matters like the GMO issue, where the EU and the US decide to take different positions, some opinions might be neglected. Seen from the EU's point of view the moratorium was put in place as a result of some member states' decision to ban GMOs. However, it is not that the other member states protested. In the case of the US it is a bit different since there are groups that are against GMOs, but since there is no mandatory labelling in place they cannot protect themselves against GMOs in food products.

Within the fruit and vegetables sector, EU imports from the US are obviously decreasing. Except for expensive products and long distances to transport the products, developments in European production have also been mentioned as one important reason for decreasing imports. This means that companies within the EU that used to import from the US now can import the same kind of products over shorter distances. This is interesting to note as it will affect US trade a lot since the EU is one of its main trading partners. In the long run it could have devastating effects on US trade if companies within other sectors of food products in the EU would find the same opportunities within Europe as they have in the US. Since the US is an important trading partner for the EU as well, this is not likely to happen within the near future, but if demand for US products would decrease it seems that importers in the EU could very well find other sources. It is, once again, the consumers who will decide.

The EU has the great advantage that intra-trade represents a big proportion of trade, which indicates that there might be other sources to rely on other than the US. The EU can to some extent lighten the dependence on US imports because of the possibility that internal trade offers. However, for the US, the enlargement of the EU can be seen as an opportunity and will certainly increase the appeal of the EU market for US products.

The EU is at commercial disadvantage with the US in biotechnology and GMOs, with the US dominating biotechnology products and GMOs. It will take time before the EU can compete with the US in biotechnology and in production of GMOs. There is not the same level of support, infrastructure and

legislation in the EU as in the US that allows and encourages companies to invest in biotechnology.

In the EU the development of biotechnology is not as advanced as it is in the US and the US has a comparative advantage to the EU that it certainly is willing to exploit. The EU is surely aware of this situation and that could be one reason why the introduction of GMOs is not in a hurry for wide open approvals. There are no strong arguments in favour of GMOs in the EU. Even in the UK which can be referred to as pro GMOs, there is not a big support for these products.

6.2 The process behind the creation of barriers to trade

International trade is a matter of "give and take" which also means that there are both gains and losses to be made from trading internationally. The fear of letting other countries into the domestic market can be one reason why international trade is difficult and why trade liberalization is still not fully achieved. The GMO issue can be analyzed from the different points of views of the EU and the US respectively. What is apparent is that there are gains to be made for each of them at the same time as they are punishing each other.

There are different reasons why states restrict trade. In the case of the EU, it is normally the European Commission that delivers the opinions of its members and also manages common restrictions to trade. However, in the GMO case, member states have shown differing opinions and they have had so much influence on the European Commission that they contributed to the imposition of a moratorium on the approval of new GMOs.

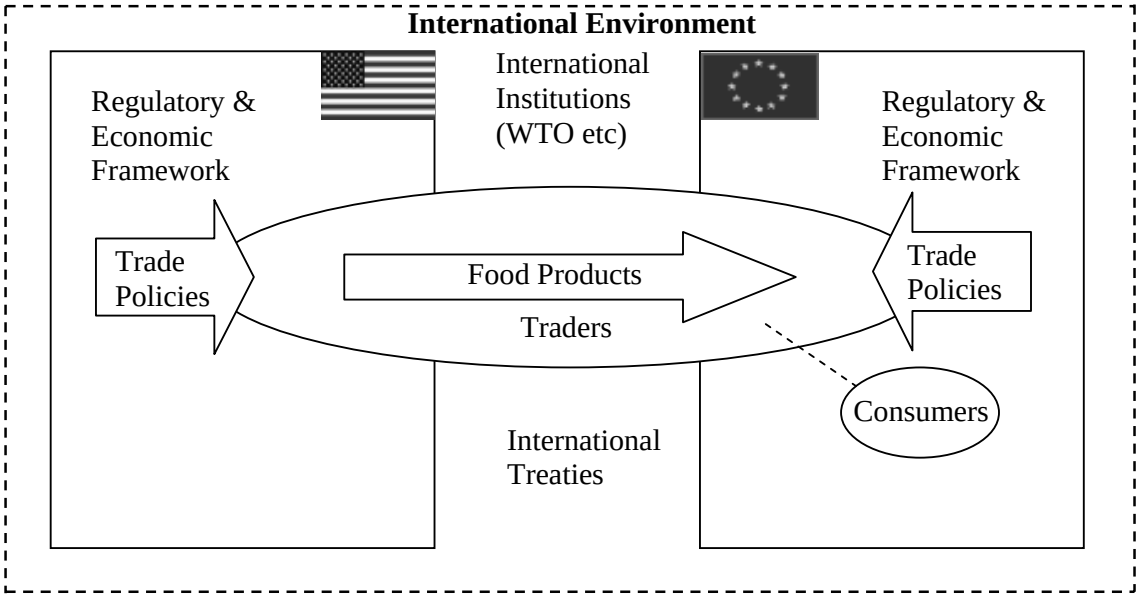
It is clear that the trade relationship between the EU and the US has been under high pressure in the last decade with several disputes threatening the future relations. As have been seen, the disputes can be explained by several reasons.

The GMO-dispute is a controversy and collaboration characterized by both political and economic implications. Among the trade theories discussed in this thesis, the EU-US trade relations are probably best explained through the IPE approach, since it is a matter of two large blocks participating in trade with each other and where states, multinational firms and international organizations come to be of great importance for the trade relationship. The inclusion of political aspects and involvement of a wide array of actors, as described by the

IPE approach, fits with the way world trade is developing, concerning collaboration and trade between trading blocks.

To highlight important aspects in consideration for the analysis of the EU-US trade relations on GMOs and how the dispute can lead to the creation of barriers to trade, a model will be used as an analytical tool. The model pictures the influences of policies and other forces that impact on the two trading blocks trading with each other within an international environment, referring to the EU-US bilateral trade relations. The structure derives from the model of the food system as explained in chapter 4, but is here put into a larger context focusing on the transatlantic trade relations. Attention is paid to the trade relations in GMOs and the internal and external influences on this trade relationship. The intention is to show how these influences can lead to the creation of trade barriers.

Fig 6.1 Influences on the EU-US bilateral trade relations in food products



Source: Authors' construction

Within the national environment there are influences from regulations, economic factors and policies. The regulatory framework incorporates national legislation and standards that apply to the different products and areas of business. Economic framework refers to the different economic interests that

might be present in each of the trading blocks. Trade policies represent national interests and preferences that influence the trade relations. Consumers are actors who have great influence on both the exporter and the importer. The international regulatory environment has through international treaties and international institutions further impact on the actions within the trade relations.

6.2.1 National influences

6.2.1.1 Regulatory and economic framework

As have been seen, there are strong regulatory agencies and regulations in both the EU and the US concerning food and food safety. It would be wrong to say that the US has fewer rules and fewer regulating bodies to follow; however, it seems to be more a question about the level of caution. The EU has been threatened by several incidents concerning food and threats to human health, with severe consequences from mad cow diseases which will later be forgotten. This naturally contributes to more caution in approaching new inventions in food and that will be consumed and that we don't know the consequences of. Therefore, EU legislation incorporates clear statements that food products shall not cause any threat to human health and to the environment. The GMO issue raises a natural concern because of the nature of the products.

In the US, the emergence of biotechnology as a growing business has resulted in a considerable support from the government to companies involved in biotechnology. This includes not only economic support but also an extensive legal framework that allows companies to better exploit their inventions. US companies have a major motivation to invest and to push the government to help them find new markets for biotech products.

Even though there is no definitive scientific evidence whether GMOs are harmful or not to human health or the environment, the two trading blocks seem to have completely different views on this issue. This is because GMOs and biotechnology are rather new areas, and their development is in an early stage and its implications for both health and economy can be considerable.

Economic factors are key elements in changing or modifying policies. In the case of the US, its current trade deficit with the EU is one factor that could put pressure on pushing for the acceptance of GMOs. Under these circumstances, the enlargement of the EU makes it possible to reach a larger market with US products. The constant decrease in EU imports from the US of food products

and, in particular, fruit and vegetables over the last years puts further pressure on the commercial balance in the US. The prospects do not look good for the US, considering that a large share of food products in the US contain GMOs. An agreement on GMOs is important to US companies.

The US' arguments for GMOs include statements ensuring that GMOs are the solution to poverty and improvement of life conditions of developing countries. However, it is also obvious that biotechnology is of great economic importance to the US. Certainly there is a lot of money involved, with possible gains on one side and the risk of staying behind in the development of a new technology on the other.

The dispute between the EU and the US on GMOs can also be looked upon with a critical eye, looking at trade interests seen from the EU and the US respectively. The US expects profits if GMOs could be released on the European market and especially if the release will not have to be associated with strict regulations. Therefore moral and ethical issues might be neglected in their quest for profit. The EU's position on the other side could be seen as a step to try to protect their own interests such as domestic production and sales.

Michelmann et al. raised an interesting view on the relationship between trade and environment, arguing that there has to be an evaluation of costs and benefits in matters where the environment plays a crucial role in trade. He indicates that there might be occasions when trade rules threatens the natural environment and should be offset or revised, but also occasions when environmental measures become burdens for trade. As has been seen, the EU is acting with attention taken to the environment and health issues, while the US argues that there are no risks associated with health and environment with GMOs and that consumers should be given a choice to buy GMO food products if they wish. The US is obviously arguing that the EUs environmental and health concerns are blocking trade.

6.2.1.2 Trade policies

As discussed earlier, the US regulatory approach to biotechnology was characterized as a legalistic approach, while the EU approach was characterized as a politically controlled. This is an important aspect in the discussion about the policies' impacts on the trade relations on GMOs, as the US policies are more influenced by government intervention while the EU policies are more

influenced by democratic values. This in turn, stems from the background as to why there are different standpoints towards GMOs between the two blocks and consequently why conflicts arise. In the US, public opinion might be seen to be in favour of economic interests. As the debate in the EU concerns GMOs' possible threat to human health and to the environment, the public is naturally involved.

In the EU the control over the whole food chain is strict, and it is reinforced by the policies surrounding it. The concept "from the farm to the fork" is a perfect example of how strict the control is in every stage of the food chain. The policies are consequently used for this purpose, including not just the agricultural activity but also consumer protection. These policies are applied to imports of food products, and that is why the EU trade policies regarding food products are influenced by food products policies.

In the US, on the other hand the responsibilities are shared by two main authorities; the USDA and the FDA. These institutions are in charge of food control and consumer protection regarding food products. The policies include human protection and consumer advice. However, as noted, there is not a strong emphasis on environmental protection. One possible reason for that is that policies have been influenced by different experiences compared to the EU. Therefore it is possible that the US legal and institutional framework for food, agricultural products and now biotechnology has not been designed as cautiously as that of the EU.

6.2.1.3 Consumers

As concerns public opinion and in particular the consumer points of view on the GMO issue, it seems to be that consumers in the EU are more uncertain about the consequences of these products compared to consumers in the US. There is a growing awareness about food impact on human and animal health and environment.

The spread and use of GM crops in the US is increasing and people are consuming products containing GMOs. As the use of GMOs has increased in the US it is not likely that it suddenly will come to a halt. As we have seen there are several advantages with GMOs; the use of fewer pesticides, the possibility to produce more using less input; and the possibility to control the nutrient content of products. Those are all important arguments that could

convince European actors within food and agriculture to use GMOs in production or sales. However, it is also obvious that it is all a matter of consumer preferences. Maybe it is not enough to say that fewer pesticides are used or that there are costs savings to convince EU consumers. However, if more advantages can be realized such as the control of nutrition content and this proves to be valuable for people suffering from certain allergies or people in need of nutritional food, it is likely that consumers can be convinced about the possibilities that GMOs could offer and there would be a demand for GMO products also in the EU. If or when the demand for GMO food products increases in the EU, there are good prospects for profits for US companies.

6.2.2 International influences

There have been efforts to create an international regulatory framework that could lead to harmonized policies in world trade. Still there is a conflict between national interests and international interests. The many rules that are in force, both internationally and nationally, make it difficult to interpret what is right and what is wrong in international trade. Trade in GMOs is still under development which is also why there are no complete rules in the area. One achievement within the harmonization of international trade policies is the creation of the WTO which is to work for a global environment that simplifies international trade. The WTO also has its dispute settlement procedure, to judge in cases where two parties cannot agree in international trade. As GMO is a new element in international trade there are sound rules on the area at the moment. However, the SPS agreement states that scientific evidence is needed when imposing safety standards in trade and this is what the US refers to when accusing the EU of not following the rules of the WTO. The Cartagena Protocol on Biosafety contradicts the SPS requirement on scientific evidence, as it states that countries can refuse imports of GM products for safety reasons without providing scientific evidence. As the US has not signed the Cartagena Protocol, it has no application in the trade relations with the EU. However, if it would apply, the SPS agreement would be given higher priority since the WTO supersedes the Cartagena Protocol.

6.2.3 Traders of food products

It is evident that the division lines of the activities in the food system is getting more and more transparent. The actors are integrating not only within the same line of activities but they are now taking over other activities in the food chain. Now there are importers involved in distribution and in retailing, either

working independently covering these activities or by strategic alliances with farmers, distributors and retailers. This increases the control of products in the food chain and of the content of the products.

All the actors work together in a chain that starts with farmers and later in the chain connects with wholesalers that are responsible for commercializing the product to the final link, which is the consumer. The different actors in the chain can be located either in the same market or in different markets that might be spread all over the world. In this chain the state plays a fundamental role due to the fact that the state can have an influence in almost every link of the chain, through policies and regulations. The last link in the chain which is the consumer is an actor that cannot be controlled by states in the same way as the rest of the actors. Actually, consumers can impose a pressure on states to modify or increase their control over the whole food system.

6.2.3.1 Importers' standpoints on GMOs

Within the EU importers of food products have a responsibility towards consumers, guaranteeing that there are no GMOs in their products. If it would appear that a food chain store has products containing GMOs or grown with GMOs, there is a lot at stake for the company. Therefore it is important for the company that it knows the origin of the product and what processes it has gone through. To judge from our field study, the EUREPGAP in providing standards for actors involved in food production plays an important role for the importers in the relationship with suppliers. The EUREPGAP is important in delivering a feeling of trust and confidence from the supplier to the buyer.

In the food market the opinion of consumers can be of great importance. Probably there is no other business area as sensitive to public opinion as the food industry. Therefore, there is sometimes extreme care on quality control on products, and constant reviews of consumers' preferences. This is evident in the interviewed companies, which consider reliability and customer confidence key elements for the company's success. As part of the food system and the integrated chain of activities the companies must cooperate and have the same objective in mind, which is customer satisfaction. Therefore the customers' opinions would affect not only retailers, but also the rest of the companies involved.

Hence, import companies have the customers in mind and perform their activities according to what they perceive is the consumers' preferences. So far there is no sign that consumers would accept GMOs in the EU. Importers believe that the current situation is satisfactory; they do not feel that GMOs will bring any benefit, at least not in a short term perspective. And a reason for that is the scepticism consumers have towards GMOs, This scepticism is understandable considering the difficult circumstances food products have been through during the last years in Europe, including the mad-cow disease among others. It will take some time before people can accept GMOs without fear, and with fruit and vegetables especially since this group of products is directly consumable. Importers remain cautious about this issue; they are first of all dedicated to business and to creating profits, but they have to be careful about the way to obtain profits. They are aware that it is easier to maintain an attitude of supporting customers' decisions than take the risk of being exposed by selling unsafe products.

Furthermore, importers rely on the EU's position towards GMOs and take the same position. In absence of a complete understanding of the benefits and consequences of GMOs, the best way is to trust the authorities' positions. With this attitude, companies can assure that their activities are carried out in accordance with rules and regulations.

Looking at the requirements that the importers of fruit and vegetables have on their suppliers, location and certifications assuring good practices are of great importance. It seems reasonable to think that the suppliers will try to live up to those requirements for continued business and that both supplier and buyer value stable long-term relationships.

6.3 Outcomes of the GMO dispute and the creation of trade barriers

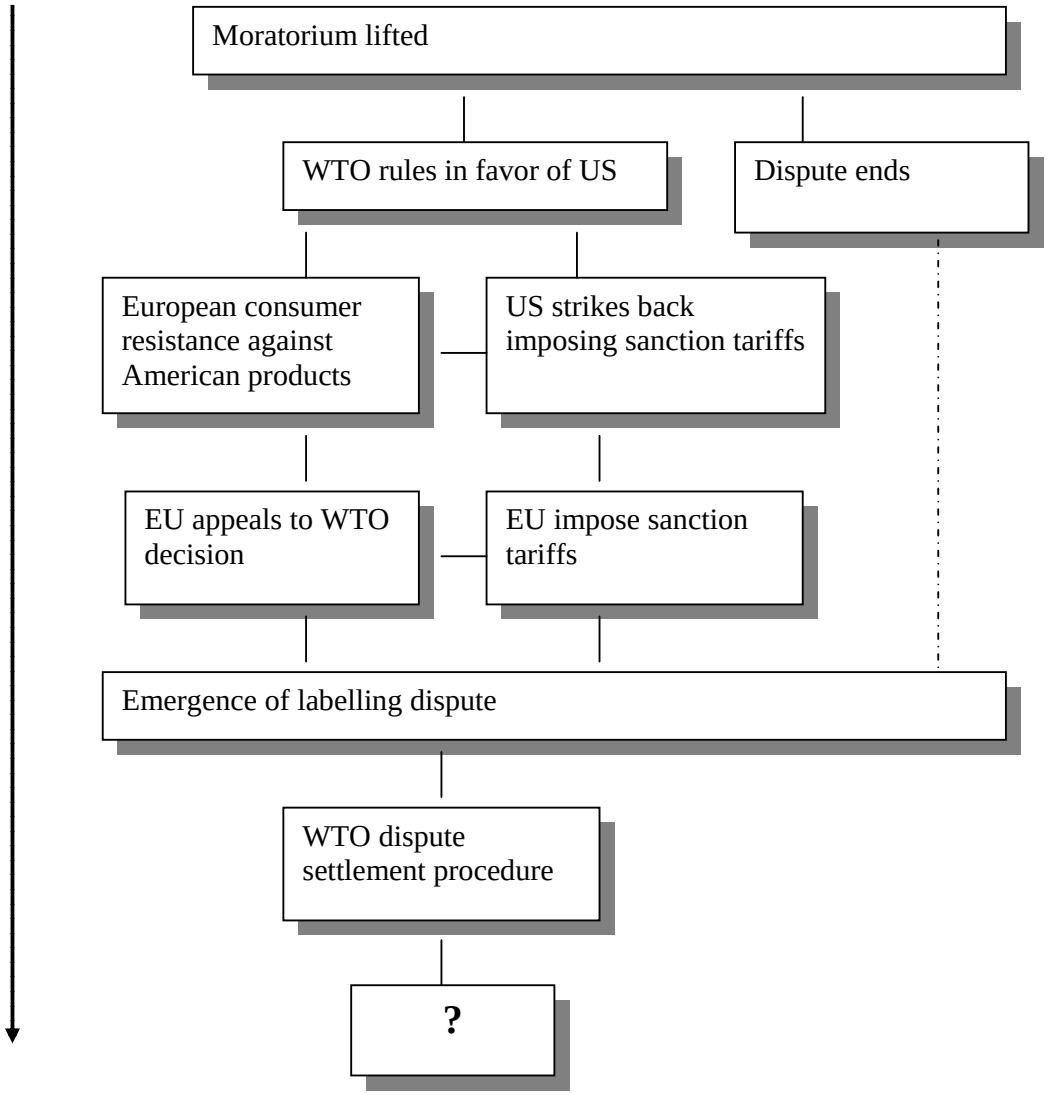
As has been seen, there are several factors that influences the trade relations on GMOs. The dispute can, depending on those different influences, lead to different outcomes. Here we present the most likely outcomes, built on the framework provided earlier in the thesis. Those outcomes will be further analyzed later in this section as concerns their contribution to the creation of trade barriers in the EU-US trade relationship.

6.3.1 Possible scenarios of the outcomes of the GMO dispute

From our field study we can conclude that a completely free market for GMOs is not likely. Consumer resistance and labelling rules are hindering free trade, and a market with GMOs without labelling does not seem possible in the EU as it is today.

The model below shows possible turns that the GMO dispute may take. The figure is a simplified model of different scenarios that might happen. It is important to note that there are different timeframes to be considered for each of those scenarios.

Figure 6.2: Possible outcomes of the GMO dispute



Source: Authors' construction

There is a common belief that the moratorium will come to an end and that this will happen quite soon. The end of the moratorium means that the EU will start to follow its own legislation again, restarting the approval process for new GMOs. This also means that the US will get what it wants. Furthermore, the WTO process is interesting to look at. The process might be interrupted and so the dispute would come to an end so to speak, although that will not necessarily mean that the EU and the US have reached an agreement and that both are satisfied with the situation. There might be new and old issues to arise within the GMO dispute. However, it might also be that the WTO will continue its investigation of the dispute and that it finally reaches a decision. A common belief is that the WTO will rule in favor of the US, as the EU will not be able to present any scientific evidence of the GMOs harm on the environment or to human health. This can lead to an escalation in consumer resistance against American food products. What is even more likely to happen is that the US will strike back for the years of the moratorium which might mean that the US will impose sanction tariffs on EU products imported to the US. It might very well be that both consumer resistance emerges and that the US imposes sanction tariffs. Furthermore, it might be that the EU decides to appeal to the WTO or that the EU decides to impose sanction tariffs against the US as a reponse to US' tariffs.

Whatever happens in the WTO and after a possible WTO decision, it could be that a new dispute emerges – a dispute over EU's labelling and traceability rules. As has been seen there are contradictory views on labelling in the relationship between the EU and the US. The labelling requirements that the EU has imposed evidently mean tougher demands on US companies that wants to export GMO products to the EU. This is predicted to be a long and difficult process if it comes true and it might also end up in the WTO dispute settlement procedure.

6.3.2 The Creation of trade barriers

The EU-US controversy is a clear example of how the need and desire to stick to health and sanitary requirements can lead to the imposition of import restrictions.

Even though we have not seen any new approvals of GMOs in the EU, there are indications showing that the moratorium may be lifted shortly. The

introduction of the new stronger rules for labelling can be seen as one indicator. Even if the moratorium is lifted and crops are approved for use within the EU, the labelling requirements remain. As has been discussed, the US is not satisfied with the mandatory labelling rules that are in place in the EU and will therefore probably not be completely satisfied when the moratorium is lifted. The labelling requirements may imply larger costs for US exporters of products containing GMOs. This may in turn lead to more expensive products, but necessarily since GMO food products are supposed to be cheaper because they are cheap to produce. However, if they become expensive and certainly if consumer resistance remains, there might be very low demand and consequently a low rate of imports of those kinds of products from the US.

Trade barriers that appear to be of greatest importance in the GMO context are the group referred to as TBTs. TBTs are used in order to protect the safety of human beings, animals, health and environment, and in order to protect oneself from deceptive devices. In the current GMO dispute, all of those elements, except for possibly animal safety, are of great concern, in particular to the EU. Government health and safety standards are mentioned as an important TBT and can also be related to the EU's labelling requirements. The labelling requirements affect actors involved in the production and launch of food products containing GMOs in the EU.

With all the rules in place and with the associated ethical and moral issues, GMOs seem to provide a natural foundation for disputes and for the creation of trade barriers, non-tariff barriers in particular.

There are many considerations to think about concerning the GMO issue, and a valuation of the different opinions and standpoints, from where a government can get the support to levy trade barriers arguing that it is in benefit of the population. There are powerful actors that can influence important decisions. Governments make their assumptions and measures about the consequences and then encourage or discourage free trade.

In the case of the EU, it is obvious that consumer concerns are put at the top, which also makes retailing companies care about the image of the. At the same time GMO is a current topic and it will take time before scientific evidence can be presented. However, it is also clear that authorities, scientific institutions and specialized agencies in the EU have not made an effort to support the

introduction of GMOs. If spreading the information that there is not enough scientific evidence in place that supports that GMOs would do any harm to human health or the environment, European consumers might not be as resistant to GMOs as they are.

The creation of trade barriers, in some cases, can be a process where not only governments or interested actors are involved in their creation. They are certainly the main precursors of trade barriers but once these are established then the consequences can be the creation of sort of “natural barriers to trade”. The reason why they can be defined as natural is because in this particular case involving food products, the process of creation of trade barriers can reach a point where there is no necessary intervention of governments or institutions.

One major obstacle for trade with GMOs is the reluctance from EU consumers towards GMO products which indicates that they will not accept the products if they are put on the market. As mentioned earlier, there could be a feeling among EU consumers that the US is pushing for the consumption of GMOs and this could lead to a general rejection of US products, arguing that they are bad for human health and the environment. Then we can talk of barriers created by the consumers, and there is no institutional framework that can prevent or avoid this situation.

If a scenario as the described above comes to reality, then the repercussions can be even greater. There are businesses in the US that are not satisfied with the use of GMOs. The standpoints of those businesses may spread to American consumers which may strengthen the public rejections of GMOs. There are already large companies in the US that are rejecting GMOs completely. If American consumers would be more aware of the spread of GMOs and if the debate on GMOs would escalate as it has in the EU, it would be interesting to see how American consumers would react.

If looking at the moratorium as an intention to create barriers to trade, it could be assumed that the EU is using international agreements as an excuse for blocking trade with GMOs. The blocking of trade could be a way to protect local industry from GMO products that might be cheaper and also have other features that might supersede domestic products.

Since both the EU and the US are attractive markets, not just for each other but also for the rest of the world, the implications of a trade dispute go beyond the two of them. The situation can result in more countries other than the US and the EU becoming involved in this commercial dispute.

7 Conclusions

This chapter provides a summary of the thesis and presents the conclusions that have been drawn. The conclusions are presented in accordance with the research questions and consequently the research problem on which the analysis was based. Finally, recommendations for future research are presented.

7.1 Summary

In international trade there is always a balance, where trading parties can either reach a positive or negative balance in different areas of trade. In the case of the commercial relation between the EU and the US, and more specifically trade in food products, the trade pattern during the last years has been characterized by a trend towards a positive balance for the EU. However, the introduction of GMOs can reverse the situation and give the US the opportunity to obtain more gains from the commercial relationship.

The two different regulatory frameworks play a significant role in the development of GMOs in each region. While in the US biotechnology, and more specifically GMOs, are encouraged, in the EU the level of development in production and commercialization of GMOs is far from the level of development in the US. It can be stated that biotechnology and GMOs are in a preliminary stage of development, where there is need for proving the efficiency and safety level of these products. Once this is achieved, then there is a need to convince important actors about the benefits of these products, and more importantly, to convince the consumers.

Consumers strongly influence traders' standpoints and activities regarding GMOs. There is more or less a general consumer reluctance towards GMOs, and traders have identified this concern and have adapted their policies and activities in order to avoid GMOs in their assortment. Traders work together in an integrated chain that ranges from producers to wholesalers which finally links to consumers. As part of this chain, traders know that their activities can have impact on the whole chain. That is why the traders' positions towards GMOs are in accordance with the EU's general dispositions, and in order to demonstrate a responsible attitude toward consumers.

When there are large amounts of money involved and many actors with different interests in international trade, there is a strong possibility that trade relations will become tense. In order to protect these interests, countries and regions often use measures that contravene international trade. Some of those measures are barriers to trade, which can take many forms. In some cases barriers to trade can be levied without intention, but the implications for trade are the same. In this context, the repercussions can be more barriers extended to other areas and friction among commercial partners.

Trade barriers are the main obstacles for international trade, and even though there have been efforts to promote free trade there still remain obstacles to trade, mainly non tariff barriers.

7.2 Conclusions

The first research question that this research intended to investigate is as follows:

What does the EU-US trade pattern within food and GMO food products look like?

There has been a decrease in EU imports from the US, which is certainly not a good sign for the US. This pattern is especially evident in the importing of food products and fruit and vegetables as the main group of products within the sector. In the US the application of biotechnology in agricultural products is increasing (GMOs). Meanwhile, in the EU there is a general aversion to the introduction of these products. The US is a much more developed market compared to the EU. In the EU, production and trade of GMO crops have so far only been granted for 12 GM crops. Both the US and the EU have strong reasons to take their respective positions. Those reasons range from internal pressures to general concerns like their trade balance. In this respect the current decline in imports represents a warning to the US due to the significance that the EU market represents to US products. If there is no substantial change in the EU policies towards GMOs then the trend will possibly continue with the same pattern.

From the EU point of view, the current trade pattern is not a concern, and actually it can be said that it is an optimal situation for the EU commercial relations. The EU is depending less on imports from the US, and EU producers

are becoming more efficient. Therefore intratrade is a resource for supplying of food products. Because the development of GMOs is in a higher level in the US than in the EU, this situation is also a decisive point for delaying the approval of GMOs.

Within food products, fruit and vegetables is the sector that dominates EU imports of US products, representing 31% of the EU's total imports of food products from the US.

The second research problem that the thesis was based on was formulated as follows:

What are the standpoints of EU importers of food products towards GMOs and what are the general attitudes of specialized organizations towards an agreement on the GMO dispute?

From our field study of EU importers of fruit and vegetables, it was evident that those companies took the same position as the European Comission, arguing that they would not accept GMOs in their assortment as long as they could not be sure that GMOs cannot cause any damage to the environment or to human health.

Even though fruit and vegetables is the largest group of food products imported from the US, there are other options for EU companies, specifically within the EU. Extensive control over the food system is of great importance to food companies in the EU. This need for a high level of control might be easier when trading within the region. The wish to control the origin and the content of the product also highlights the importance of labelling. The importance of labelling makes it difficult to imagine a market for GMOs without labelling in the EU.

Consumer preferences are an important concern to the importers and, as it is today, consumers in general don't want GMOs in their food. The retailers are dependent on the consumers' demands as their reputation and sales might be affected if they don't listen to the customers. The importers in turn are dependent on the retailers' demands and so the whole food chain is affected. Even though actors in the food chain might argue that products containing

GMOs can have a lot of good features, they will not import the products if the consumers don't want GMOs,

The third research problem was formulated as follows:

How can the process and the outcome of the GMO dispute be used or misused as a trade barrier in the EU-US trade relations?

As concerns the creation of trade barriers in the GMO context, there is an evident growth in the existence of non-tariff barriers and technical barriers to trade. First of all, the moratorium is seen as a first step in the creation of trade barriers, where the US accuses the EU of imposing such trade distorting measures, while the EU considers it its right to look after the environment and human health.

Various indicators suggest that the GMO dispute will end with a removal of the moratorium, although with stricter labelling requirements. Looking at it from the US' point of view, this is not a satisfactory outcome since the labelling requirements will limit US companies' exports of GMO food products to the EU. From the EU's point of view, the labelling requirements can be seen as a way to give the consumers the possibility to choose GMO products if wanted. The labelling requirements restrict trade between the EU and the US and can be seen as a non-tariff barrier. This way the outcome of one dispute results in the creation of a new dispute, or at least lays the base for a new commercial confrontation.

International agreements can be misused as tools to create trade barriers, even though that is not their intention. Looking at the EU's position in trade with GMOs from a critical point of view, the restrictive measures taken by the EU can be interpreted as intentions to create trade barriers.

Consumer resistance to GMOs appears to be relatively high in the EU. Although the moratorium may be lifted soon, the five years of the moratorium have served as a way to increase the resistance and has posed a serious threat to US products. It is one of the most difficult barriers to remove in the trade relations with the EU and could be referred to as a "natural barrier to trade".

It is evident that the creation of trade barriers may contribute to generating other trade barriers. New barriers to trade may arise as one actor's response to another actor's action and may escalate in a series of sanctioning activities, or so called sanctioning tariffs, as may be likely in the EU-US trade relations.

The three research questions and the conclusions presented above lead to the research problem that this thesis was built upon, and which is as follows:

Within the EU-US trade relations, what are the possible consequences concerning the creation of trade barriers as the GMO issue proceeds?

Although there have been efforts to reduce protectionist measures during the years, we can see a development towards the emergence of new non-tariff measures. Tariff barriers can be controlled, while it is more difficult to control the existence of non-tariff barriers.

There may be an emergence of sanction tariffs, used by the US to retaliate against on the EU. These might be used to discourage US companies from buying certain products from the EU and will certainly have a large impact on the EU.

As the EU-US relations have been harmed by several trade disputes lately, we have also witnessed how they both have imposed different measures as responses to unfair treatment. The GMO dispute as yet another dispute risks splitting the two trading blocks further and encourages the imposition of trade barriers.

As already described, the relation between the EU and US has been characterized by commercial disputes in different areas. The conflicting matters have evolved like a vicious circle where it seems like one dispute is replaced by another. The GMO issue is just another stage in a series of conflicts. The GMO conflict is not limited to GMOs or agricultural products. There have been other controversies and disputes in other fields. It is possible that a new issue arises as a consequence of failed negotiations in a previous issue. As concerns the GMO issue, it might be that it results in a new dispute concerning labelling differences, but it might also be that it spreads to a completely different sector of business as a response to the failure in the previous dispute. It is likely that

the GMO dispute can contribute to escalating disputes in other sectors if, for example, sanction tariffs are used.

7.3 Suggestions for future research

The GMO dispute could be studied from many different points of views. This thesis covered how a resolution of the GMO dispute could lead to the creation of trade barriers. Furthermore, an in-depth study of the creation of trade barriers and the possible emergence of new disputes could be performed. There could also be a study of other commercial disputes to see if any correlations can be seen in comparing different disputes and their processes in creating barriers to trade.

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Appendix I

Questionnaire for importers

Imports

- What do Your current operations look like?
- What do the *import* procedures look like – the whole value chain?
- Do You divide the fruit and vegetables in any way – e.g. separating good and bad products, or separating them after their country of origin? Do You have any standards that You have to abide by?
- What factors do You consider when You choose countries for import?
- What kind of information do You receive from the suppliers, about the suppliers and their products? Any specification of where they were cultivated/ the origin of the products?
- What countries do You import most from? Who are Your largest suppliers in that market? What products?

Imports from the US

- What do imports from the US look like? (amount)
- How have the imports from the US developed during the years? What has contributed to this development?
- What products (fruit & vegetables) are imported the most from the US?
- What companies do You import from in the US?

GMOs

- What is Your general knowledge about GMOs and about products that contain GMOs?
- What is the company's standpoint when it comes to GMOs?
- What kind of information do You receive from the importers; about the importers and possible GMO content in products?
- If an agreement on GMOs in trade between the US and the EU is reached, have You thought about the consequences for Your company?
- Assuming free trade, how will it affect Your operations (marketing, finance, choice of countries for imports)? Would You have to change some procedures?
- Within Your sector, fruit and vegetables, what advantages do You see in products containing GMOs?

Appendix II

Questionnaire Ministry of Agriculture, food and fisheries

GMOs

- What kind of information are foreign companies required to disclose regarding the GMO content in their products?
- If an agreement on GMOs in trade between the US and the EU is reached, what do You think about the consequences for importers of food products?
- Assuming free trade, what kind of companies will be affected and how will they be affected? (positive and negative effects)
- We have identified fruit and vegetables as the most dominating sector in imports to the EU that originates from the US. What do you think about the consequences for this group of products in case of free trade with GMOs? (Cheaper products, different taste, longer durability?)
- Within the sector fruit and vegetables, what advantages do You -see in products containing GMOs?
- How do you think this dispute specifically will affect *importers* of fruit and vegetables?
- How will importers have to adapt? Change operations? What are the new demands that are put on the importers?
- How do you think consumers will react and how will they affect importers and their import activities?
- What will the market look like with the introduction of GMOs in the market?
- How do think a dispute will affect biotechnology companies in general?

Appendix III

Interview questions relating to trade barriers etc
The dispute

- How can you describe the commercial relations between the EU and the US?
- What is the background of the dispute? Can you describe the process for the dispute?
- What is the current status of that dispute?
- How would you describe the importance of the GMO dispute? Is it a big concern to all products, or does it only concerns certain products?
- What groups are affected the most by the conflict and in what way?
- What groups are pushing for a stop of the negotiations?
- Is there a general agreement over the GMO issue by all the countries in the EU? Do all share similar pints of view?

Different outcomes

- What different scenarios do you see for a settlement in the GMO dispute?
- What is the ideal scenario for the EU?
- What do you think will be the most possible outcome to this dispute?
- Are there any other commercial disputes in the agenda between the two blocks?
- In how long do you think there will be a solution?
- I what ways do the EU and US knowledge and experience from GMO's differ?

Commercial implications

- What will the market (for food products?) look like with the introduction of GMOs in the market?
- How will importers have to adapt to the possibility of free trade in GMOs? What kind of requirements would they have to face?
- How do you think consumers will react and how will they affect importers and their imports?
- If the US would win the dispute, would not be possible with the rapid development with new GMO varieties? Then how would that affect trade with food products un general?(referred to fruit and vegetables which is the group of food products which is imported the most from the US to the EU)
- How do you think this dispute will affect the market for fruit and vegetables?