

SOURCES OF COMPETITIVE ADVANTAGE OF  
THE TURKISH CLOTHING AND CEMENT INDUSTRIES  
WITH RESPECT TO THE EUROPEAN UNION

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## **ABSTRACT**

### **SOURCES OF COMPETITIVE ADVANTAGE OF THE TURKISH CLOTHING AND CEMENT INDUSTRIES WITH RESPECT TO THE EUROPEAN UNION**

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This thesis aims identifying the sources of competitive advantage of the Turkish clothing and cement industries with respect to the European Union following the methodology of the Diamond Framework, introduced by Porter (1990), which is based on the theory of competitive advantage. The methodology is modified in order to include the effects of Turkey's integration process to the European Union on the industries. Using this methodology, this study assesses the sources of competitive advantage of the Turkish clothing and cement industries by evaluating the industries' factor conditions, demand conditions, firm structure, strategy and rivalry, and the role of the government and European integration process. The main idea of this study is that both industries take their advantage from basic factor conditions. While the role of Turkey's integration process to the EU is more effective on the clothing industry, it stays limited on the cement industry.

**Keywords:** Competitiveness, Competitive Advantage, Turkey, European Union, Clothing, Cement

## ÖZ

### TÜRK HAZIR GİYİM VE ÇİMENTO SEKTÖRLERİNİN AVRUPA BİRLİĞİ KARŞISINDAKİ REKABETÇİ AVANTAJLARININ KAYNAKLARI

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Bu tez, Türkiye'nin hazır giyim ve çimento sektörlerinin Avrupa Birliği (AB) karşısındaki rekabetçi avantajlarını Porter (1990) tarafından geliştirilen Elmas Yöntemi'ne (Diamond Framework) dayanarak araştırmayı hedeflemektedir. Yöntem, çalışmaya Türkiye'nin AB ile entegrasyon sürecinin sektörler üzerindeki etkisini ekleyecek biçimde geliştirilmiştir. Oluşturulan yöntem doğrultusunda Türk hazır giyim ve çimento sektörlerinin rekabetçi avantajları, sektörlerin üretim faktörleri, talep koşulları, şirket yapısı, stratejisi ve rekabeti ve devletin ve AB entegrasyon sürecinin rolü değerlendirilerek saptanmıştır. Çalışmanın temel bulgusu her iki sektörün de rekabetçi avantajının temel üretim faktörlerine dayandığıdır. AB entegrasyon süreci hazır giyim sektörü üzerinde etkili olurken, bu etki çimento sektöründe sınırlı kalmıştır.

Anahtar Kelimeler: Rekabet Gücü, Rekabetçi Avantaj, Türkiye, Avrupa Birliği, Hazır Giyim, Çimento

To My Mother and Father

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## LIST OF ABBREVIATIONS

ABGS	General Secretary for EU Affairs
AGSD	Ankara Clothing Manufacturers' Association
BEST	Business Environment Simplification Task Force
CC BEST	Candidate Country Business Environment Simplification Task Force
CE	Conformity Europe
CEDB	Council of Europe Development Bank
CEEC	Central and East European Countries
CEMBUREAU	European Cement Association
CEN	European Committee for Standardization
CET	Common External Tariff
CO <sub>2</sub>	Carbon Dioxide
CUD	Customs Union Decision 1/95
DEİK	Foreign Economic Relations Board
DİE	State Statistical Institute
DPT	State Planning Organization
DTM	Undersecretary for Foreign Trade
EC	European Community
EEC	European Economic Community
EFTA	European Free Trade Area
EIB	European Investment Bank
EU	European Union
EU-15	European Union with 15 Member States
EU-25	European Union with 25 Member States
EUR	Euro
FDI	Foreign Direct Investment

FTA	Free Trade Area
GAP	South Eastern Anatolian Project
GDP	Gross Domestic Product
GJ	Giga Joule
İHKİB	Istanbul Clothing and Apparels Exporters' Union
İKV	Economic Development Foundation
İMD	Institute for Management Development
İMF	International Monetary Fund
İMKB	Istanbul Stock Exchange
İTKİB	Istanbul Textile and Clothing Exporters' Union
Kalder	Turkey Quality Foundation
KOSGEB	Small and Medium Sized Industry Development Administration
KWH	Kilowatt Hour
MEB	Ministry of Education
MEDA	Euro-Mediterranean Partnership
NATO	North Atlantic Organization
NCC	National Council of Competitiveness
OAİB	Central Anatolia Exporters' Union
ÖİB	Privatization Administration
OECD	Organization for Economic Cooperation and Development
R&D	Research and Development
RCA	Revealed Comparative Advantage
RIA	Regional Integration Agreement
SME	Small and Medium Sized Enterprise
USD	United States Dollar
USAD	United States Department of Agriculture
TBT	Technical Barriers to Trade
TÇMB	Turkish Cement Manufacturers' Association

TGSD	Turkish Clothing Manufacturers' Association
TRY	New Turkish Lira
TSE	Turkish Standards Institute
TTGV	Turkish Technology Development Foundation
TÜBİTAK	Turkish Scientific and Technological Research Institute
TURKAK	Turkish Accreditation Institution
TÜSİAD	Turkish Industrialist and Businessmen Association
UNIDO	United Nations Industrial Development Organization
US	United States of America
WEF	World Economic Forum
WIIW	Wiener Institute for International Economics
WTO	World Trade Organization

## **CHAPTER 1**

### **INTRODUCTION**

National competitiveness is regarded as one of the most important issues concerning economic development of countries. It is mainly the ability of countries to achieve success in international markets leading to better standards of living for its citizens. Since the main purpose of nations is to increase the real income for all, they give emphasis identifying their competitive advantages, strengths and weaknesses. Many studies have been conducted measuring countries' macro-level competitiveness as well as the competitive performance of industries and firms at the micro level. Not only international organizations, but also national government institutions, private organizations and also scholars analyze competitiveness from many perspectives; such as relative overall competitiveness, industrial competitiveness and company-level competitiveness.

The need for improving competitiveness has increased with the pressure of globalization. Trade barriers have fallen and markets have integrated on a global basis, while customer needs and wants have converged all over the world. Competitiveness and sustainable economic growth depend on the ability of countries to respond to these global changes. The most important players for competitive performances of countries are companies, which are forced to compete in the global arena. In that respect, the role of governments and international organizations is providing appropriate conditions for firms to accomplish their goals.



For that it is important identifying the factors that lead a country to a higher level of competitiveness. The most well-known institutions working on country-level competitiveness measures are international organizations such as the Institute for Management Development (IMD) and the World Economic Forum (WEF). They stress on several factors that determine a country's level of competitiveness. The main factors among others are economic performance, internationalization, development of financial markets, quality of infrastructure, flexibility of labor markets, science and technology, business management and political institutions, which are all complementary factors leading to higher growth of productivity.

At the national level it is worth mentioning the comprehensive definition of the National Competitiveness Council (NCC) of Ireland, established to make recommendations on key competitiveness issues for the Irish economy. According to NCC (2004), *“Competitiveness is the ability to achieve success in markets leading to better standards of living for all. It stems from a number of factors, notably firm level competitiveness and a supportive business environment that encourages innovation and investment, which combined lead to strong productivity growth, real income gains and sustainable development.”*

The factors of competitiveness and the abovementioned definition indicate that competitiveness is to be understood as a tool for sustainable and high level of economic growth of countries leading to better standards of living. It is also understood that competitiveness is basically the outcome of productivity growth, which is achieved by increasing the value of output holding inputs constant; or decreasing the amount of inputs holding output constant.

Accordingly, to enhance productivity, and thus competitiveness three important factors are stressed, the role of the government covering free and fair market conditions basically or interventionist measures as necessary;

infrastructure including the business environment and related sectors; and cost and quality of factors of production.

The role of the government is an important determinant for countries developing a competitive position in world markets. Free and fair market conditions provide companies with a competitive environment and force them to upgrade their production processes aiming to increase productivity in order to improve and sustain competitive positions. Protectionist measures, on the other hand, may also sometimes help industries to grow and to develop the ability to compete. In addition, governmentally supported business environment, encouraging private sector investments and innovations, is also an important tool for productivity growth.

The second important factor of competitiveness is infrastructure and the business environment. Most of the factors affecting companies' competitiveness are related with infrastructure, which forms a companies' business environment. The term infrastructure here is to be understood as the financial system of a country, the development of communication and transportation networks and the administrative procedures for businesses, having also important effects on the competitive performance of companies.

Lastly, cost and quality of factors of production are important determinants for enhanced competitiveness. The factors of production consist of land, labor and capital. Land comprises all kinds of raw materials available in a country; labor is a broad term for human resources covering skilled, semi-skilled and unskilled labor; and capital includes physical capital and the availability of financial capital in a country. The availability of these factors affects their costs; and their quality affects productivity, and thus the relative competitive positions of countries using them as inputs. As a result it can be concluded that these factors of competitiveness serve for higher level of productivity growth.

Significant for all, however, essential for newly industrializing countries is to evaluate these factors of competitiveness and to put special emphasis on assessing competitive advantages. Having high growth potentials, existing opportunities have to be distinguished to fasten the process of development of those developing countries.

Being a country at the early stages of industrial development and completely open to the external world, it is highly important to assess the international competitive strengths of Turkey. Additionally, considering its integration process with the European Union (EU), comprised of world's most advanced economies, it is essential for Turkey to continuously reevaluate its current position and potentials for international competitiveness especially with respect to the EU.

This study aims identifying the sources of competitive advantage of Turkey's most successful industries, namely the clothing and cement industries, with respect to the European Union. First of all a comparative analysis is made at the national level to assess the sources of competitive advantage of Turkey on a macro basis with respect to the EU. This analysis shall provide a ground identifying Turkey's sources of advantage of the clothing and cement industries, which have the highest Revealed Comparative Advantage (RCA) value among the industrial sectors in Turkey, in the with respect to the EU.

The RCA index used shows the revealed comparative advantage of Turkish sectors only with respect to the EU in the European market. The analysis of these industries also provides the opportunity identifying sources of advantage of two sectors, having different resource dependencies. The clothing industry is a traditionally competitive sector, which takes its source of advantage from Turkey's most important factor condition, the labor abundance. The cement industry, on the other hand, carries importance to reveal the sources of advantage of an industry, which is characterized as capital and energy intensive, a source scarce in Turkey. These two

industries provide an evaluation of different perspectives leading to a conclusion valid for Turkey.

Among different methodologies to identify the factors of competitiveness of countries or industries that provide certain advantages, the methodology of Porter (1990), the Diamond Framework, which is based on the Theory of Competitive Advantage, has been determined as the most appropriate one.

The Theory of Competitive Advantage is one of the most recent theories explaining the sources of competitiveness. The theory differs from other accepted trade theories in some points. The Theory of Absolute Advantage of Adam Smith and the Theory Comparative Advantage of David Ricardo are mainly based on cost advantages of factors of production. Whereas Porter tries to explain why countries possess advantages not only based on cost but other qualitative attributes.

The Diamond Framework basically tries to identify factors that provide advantageous conditions for a country to make it comparatively stronger and more successful in the global market. According to the framework, the sources of competitive advantage both at the national level and at the industry level stem from the domestic conditions of a country and are determined according to factor conditions, demand conditions, related and supporting industries, firm structure, strategy and rivalry, and factors such as the role of the government and the role of chance indirectly affecting the competitive position of the country.

Although Porter's methodology is taken as a base, there are important differences in this study in identifying the factors that provide Turkey with competitive advantages. While the methodology focuses on domestic conditions to be effective on the sources of competitive advantage, this study includes Turkey's integration process to the EU to assess the sources of competitive advantage with respect to the EU. Since the EU is the main

trading partner of Turkey and since international commercial relationships are determined on a bilateral basis, it is important to analyze whether this close relationship has effects on the sources of advantages of Turkish companies exporting to the EU. Besides the free movement of goods in the framework of the customs union established between Turkey and the EU, the integration process also covers policies having direct effect on the competitiveness of the business environment, having important potential to affect the competitiveness of Turkish companies. Therefore, in addition to the factors determined by Porter (1990), the role of the integration process of Turkey to the EU is included in the analysis to identify whether it provides Turkey with competitive advantages in relation to the EU or not.

The study is organized as follows. In Chapter 2, policies of Turkey and the EU concerning industrial strength and competitiveness are discussed, providing a ground for the evaluation of Turkey's competitive advantage in relation to the European Union. Introducing the efforts for enhanced competitiveness of both sides is important in order to point out the priorities that Turkey sets concerning industrial development and international competitiveness, and the role of EU policies in the same respect.

In Chapter 3, a national analysis of the competitive advantage of Turkey with respect to the EU is made. This analysis is done according to the above mentioned Diamond Framework conditions to point out the sources of competitive advantage of Turkey as a nation compared to the EU.

In Chapter 4 and Chapter 5, the sources of advantage of the clothing industry and the cement industry, respectively, are determined, again by using the methodology of the Diamond Framework, but this time applying it to the industries. Accordingly, the evaluation is made looking at the factor conditions, demand conditions, related and supporting industries, firm structure, strategy and rivalry, role of the government and the role of the integration process of Turkey to the EU.

Lastly, Chapter 6 provides an overall evaluation of the sources of advantage that successful Turkish industries possess in relation to the EU and the effects of the European integration process on Turkey's industrial competitiveness.

## **CHAPTER 2**

### **IMPROVING COMPETITIVENESS IN EUROPE AND TURKEY**

Although major players of enhanced competitiveness are companies, government orientation on a macro basis has important effects on a country's international competitive position, which is reflected in industrial and enterprise policies. The main emphasis of this chapter is evaluating policies of Europe and Turkey towards industrial development and competitiveness including the economic integration between the two parties.

#### **2.1. Policies Towards Competitiveness in Europe**

The European Union is the most advanced form of a regional integration. European countries followed the steps of a regional economic integration from a free trade area to a complete economic and monetary union. The regional integration processes in Europe was enforced basically to make the European economy as efficient as the economies of the United States (US) and Japan. Making European companies able to compete with their counterparts in the US and Japan, competitiveness has become one of the most important issues in the agenda of the European leaders.

To value the importance that has been attached to industrial competitiveness in Europe, it is useful to have an overview of why member countries were encouraged to follow a cooperative approach towards industrial development and how the favorable business environment has been created. It is also important to understand when the Community has

decided to take an interventionist role and when it decided to leave the companies to the hands of the market forces to make the best use of an integrated market.

Enhancing competitiveness in Europe has simultaneously started with the integration process. With the Treaty of Rome, signed in 1957, the European Economic Community (EEC) has been established and several policies emphasized promoting competitiveness of European industries. This intention is best described in Article 2 of the Treaty of Rome asserting “...to promote throughout the Community a harmonious development of economic activities, a continuous and balanced expansion, an increase in stability, an accelerated raising of the standard of living...”<sup>1</sup>, Article 3 provides the ground for enhanced competitiveness of the European industry by providing provisions of a customs union, which stand for the elimination of customs duties and quantitative restrictions on imports and exports, as well as the establishment of a common customs tariff (CET) and a Common Commercial Policy (CCP) towards third countries. The article also includes provisions for a common market foreseeing the free movement of persons, services and capital, and other common policies for enhanced competitiveness in the region.<sup>2</sup>

After the oil crisis at the end of 1970s, the Commission further emphasized the importance of market integration for more efficient resource allocation, which has been reflected in the White Paper adopted by the European Commission in 1985<sup>3</sup>. In that paper the Commission called for the creation of an internal market by 1992, aiming to establish a favorable businesses environment through the elimination of all physical, technical and fiscal barriers for factors of production available across national borders making

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<sup>1</sup> Treaty of Rome, Art. 2, 1957

<sup>2</sup> Treaty of Rome, Art. 3, 1957

<sup>3</sup> European Commission, White Paper from the Commission to the European Council: Completing the Internal Market, 1985 (COM(85) 310 final).



adoption of the Single European Act (SEA) in 1986 a necessity. Essential for competitiveness, the SEA referred to a Research and Development Policy by emphasizing collaboration of SMEs with research centers and universities, the dissemination of its results and training of researchers through the implementation of common policies<sup>4</sup>.

In 1990, a few years before the completion of the internal market, the Communication of the Commission set the grounds for the current industrial policy of Europe.<sup>5</sup> This approach intended to reduce the interventionist role of the Community through a clear division of responsibilities between business and public authorities building a favorable environment for industrial development. Since then, several Communications from the Commission to the Council related to the industrial policy of Europe have been adopted according to the most recent developments in the global environment.<sup>6</sup>

With the Maastricht Treaty signed in 1992, the importance of competitiveness and cooperative approach towards research and technological activity has been emphasized more noticeably. For that the Treaty introduced a multiannual framework programme setting the objectives

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<sup>4</sup> Single European Act, Art. 130f-g, 1986

<sup>5</sup> European Commission, Communication from the Commission to the Council: 'Industrial Policy in an Open and Competitive Environment' (COM(90) 556 final).

<sup>6</sup> The White Paper from the European Commission to the Council: 'Growth, Employment and Competitiveness: The Challenges and Ways Forward to the 21<sup>st</sup> Century' (COM(93) 700 final) , adopted in 1993, stressed the importance of SMEs and technology development. The Communication from the Commission to the Council 'An Industrial Competitiveness Policy of the European Union' (COM(94) 319 final), adopted in 1994, emphasized industrial cooperation among member states and the importance of knowledge and its dissemination. The Communication 'The Competitiveness of European Enterprises in the Face of Globalization – How It Can Be Encouraged' (COM(98) 718 final), adopted in 1999, focused on the importance of globalization and how to turn it to an advantage (European Commission, 2002: 7).

and implementation procedures to achieve a higher level of industrial and scientific development.<sup>7</sup>

The completion of the European Single Market in 1993 had been an important achievement for industrial development in Europe. Since companies were forced competing in an environment without barriers, they were encouraged to focus on research and technological development, and to improve productivity, which are essential for international competitiveness.

While at the beginning of the 1990s value-added output in developed countries was mainly generated in the industry, it shifted to knowledge based output, mainly through the service sector, during the last fifteen years changing the focus of competitiveness policies in Europe. This is reflected in the increase of the share of the services sector in total output from 52% in 1970 to 71% in 2001; and the decrease in the share of the manufacturing industry in total output from 30% to 18% during the same period (European Commission, 2002:8).

However, Smith (2003) emphasizes that it should be reconsidered whether the manufacturing industry is really losing its presence in international competitiveness or whether its importance is undermined. The Communications of the Commission adopted in 2002<sup>8</sup> indicate that the service sector has been brought too much to the front, in point of fact that it cannot be considered separately from the manufacturing industry. Furthermore, new knowledge-based technology development, continuously emphasized by the “new” approach for industrial policies, is implemented in the manufacturing industry. Therefore, competitive advantage in the manufacturing industry remains important.

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<sup>7</sup> Maastricht Treaty, 1997, Art. 130 f-p.

<sup>8</sup> European Commission, ‘An Industrial Policy in an Enlarged Europe’ (COM(2002) 714 final); European Commission, ‘Productivity: The Key to Competitiveness of European Economies and Enterprises’ (COM(2002) 262 final).

A recent initiation for competitiveness of the European Council has been the Lisbon Council held in 2000. The strategic goal agreed in the Council has been for *“Europe to become the most dynamic and competitive knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion, and respect for the environment.”* (European Commission, 2004a). Five policy areas were determined to be strategically important achieving this goal, being knowledge society, internal market, business climate, labor market, and environmental sustainability (European Commission, 2004a).

The current industrial competitiveness policy of the European Union takes its basis from the above-mentioned Lisbon Council and focuses on three key factors: knowledge, innovation and entrepreneurship (European Commission, 2002:18). The Commission emphasizes the importance of a knowledge driven economy, which calls attention to education, vocational training and research, because technologies, which highly need skilled human capital, determine the competitive advantage of today’s nations. This has been also reflected in Communication of the Commission adopted in 2004. Here, the Commission emphasizes once again how essential scientific research, technological development and innovation are for a knowledge-based economy and that they are the key sources for higher growth and improved competitiveness (European Commission, 2004b). Entrepreneurial activity is also a complementary part of competitive performance, which encourages taking risk for higher gains (European Commission, 2002).

## **2.2. Industrial Development in Turkey and the Customs Union**

When the integration process in Europe begun, Turkey was going through important stages bringing it closer to the western world. A turn to liberalism with a multiparty system; favorable world conditions for exports; and the membership to NATO (North Atlantic Organization) during the 1950s, signaled positive conditions for the future. However, the positive outlook did

not last long: economic and political instability followed in the second half of the 1950s ending up with a military takeover in 1960.

Despite military governance, the basis of the industrialization process was formed during this time. The establishment of the State Planning Organization (DPT) in 1963, and its annual development plans constitute the first engagements for industrial development and competitiveness in Turkey. The earlier five year development plans formed the basis of economic policies in Turkey and emphasized both industrial growth and improvement of standards of living of Turkish citizens.

Although the government acknowledged free market conditions, the private sector was not capable of undertaking large-scale investments to realize industrial development in the country. With the beginning of the 1960s, the government took over much of the economic activity and the economy entered into a period of relatively closed industrial development. Until the 1980s, the Five Year Development Plans of DPT determined strategically important industries according to physical and human capital endowments of Turkey, identifying Turkey's future competitive advantages. Strengthening these industries and making them capable to compete within international markets, an "import substituting industrial policy" was implemented and international trade regimes were strictly specified by the state. However, as Celasun (1994) argues, the protected period raised costs of domestic resources due to inefficient allocation, thus liberalization of trade regimes and export promotion initiatives became essential for enhanced industrial development.

Consequently, with the beginning of the 1980s the economic policy changed to a more liberal one. Instead of the "import substituting industrial policy", an "export-led growth strategy" was put into force. The protected industries were strengthened to enter a liberalized system and to compete within international markets. Coupled with exchange rate determinations, many

incentives were given to exporting companies, and resources were directed to industries where comparative advantages were present aiming to increase the competitiveness of Turkish goods in international markets. As a result, exports showed a significant increase from 2.9 billion dollars in 1980 to 8 billion dollars in 1985 and to 11.7 billion dollars in 1988 (Celasun, 1994: 470).

### **2.2.1. The Customs Union between Turkey and EU**

Evaluating the industrialization process, Turkey's integration to Europe is essential to analyze. This process has forced Turkey to open up its market to a more competitive environment and to adopt policies, which were established enhancing economic development and social welfare. Therefore, it is important to evaluate each step of Turkey's integration process to Europe to evaluate its effects on the industrialization process of Turkey.

#### **2.2.1.1 Removal of Tariffs and Quantitative Restrictions**

Turkey's integration process to Europe started with the application to the European Economic Community (EEC) in 31 July 1959 as an associate member, which resulted in the signing of the Association Agreement (Ankara Agreement) in 1963. The Agreement was concluded to promote a continuous and balanced strengthening of economic relations between the EEC and Turkey; to establish a customs union in industrial goods, to provide the free movement of labor, capital and services; and to harmonize economic policies for an eventual full membership to the EEC (Ege, 2002: 152). During that period, Turkey was supposed to improve its level of economic development, employment and standards of living, with the help of the EEC, so as to be ready to successfully survive under the free market conditions of the customs union.

This period of economic integration between Turkey and the EEC was foreseen to develop in three stages. These stages were; the preparatory stage, the transitional stage, and the final stage, which was also supposed to end with a customs union. During the preparatory stage the Community granted unilateral concessions to Turkey and provided preferential treatment on Turkey's agricultural exports. Turkey, however, was following an import substitution strategy and was only expected to improve its economy and prepare itself to the transitional stage.

The transitional stage aimed providing conditions for the establishment of a customs union between Turkey and the EEC. For that the Additional Protocol was signed in 1970, which came into effect in January 1973. The EEC abolished all quotas and tariffs and equivalent taxes on industrial imports from Turkey in 1971 even before the Protocol took effect. An exception was made on petroleum products and raw silk. Concerning the sensitive textile and clothing products, the EU reestablished quotas in 1979 (Ege, 1999: 265). The customs duties on Common Agricultural Policy goods were not included in the customs union, although a preferential trade regime for a limited range of agricultural products exists (Francois, 2005: 128).

Turkey, on the other hand, had a longer period to adjust to the provisions of the customs union. Two different timetables were set for Turkey reducing the duties on goods imported from the EEC and adopting the Common External Tariff (CET) towards third countries. A twelve year-period had been set for goods, already competitive in international markets or which would never achieve a competitive position; and twenty-two years for more sensitive products, which might capture a competitive advantage with respect to the European Market (Ege, 1999: 268). However, Turkey could not follow the timetable as it was supposed to. It made only two tariff reductions in 1973 and 1976, and postponed its obligations after 1977 (Utkulu and Seymen, 2004a: 13). In 1980 with the military takeover, Turkey-EC relations were frozen.

Financial aid constituted one of the most important parts of the association relationship. Four financial protocols were signed during the 1963-1980 period between Turkey and the EC, which were partly grants and partly loans from the European Investment Bank. Turkey was able to benefit from the first three protocols, but the fourth protocol was frozen due to the uncertainty of Turkish-EC relations. Although the aids were supposed to continue until the completion of the customs union, Turkey did not receive any aid until 1996 (Kabaalioğlu, 1998: 133).

After its accession request in 1987, Turkey started to fulfill its customs union obligations according to an accelerated calendar. By the end of 1995, Turkey fulfilled the obligations of tariff reductions mentioned in the Customs Union Decision 1/95 (CUD), which was adopted in March 6, 1995, and joined the customs union in December 31, 1995. As a result, Turkey eliminated all customs duties, quantitative restrictions and all charges of equivalent effect applied to industrial products and processed components of agricultural products imported from the EU. The EU eliminated the quotas it set for textile and clothing products. Moreover, Turkey adopted the Common Commercial Policy and started conclude free trade agreements that the EU had signed with its preferential partners including the European Free Trade Area (EFTA), Central and Eastern European Countries (CEEC) and the Mediterranean countries by January 2001.<sup>9</sup> Turkey also became part of the Pan-European Cumulation System in 1999.<sup>10</sup>

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<sup>9</sup> Countries with which Turkey signed free trade agreements are: Israel in 1997; Romania, Lithuania, Hungary, Estonia, Czech Rep. and Slovakia in 1998; Bulgaria in 1999; Poland, Slovenia, Latvia and Macedonia in 2000, Croatia in 2003, Morocco, Palestine and Syria in 2004, and with Tunisia in 2005 (DTMa, 2005). FTAs concluded with countries that have joined the European Union in the framework of the recent enlargement are cancelled, turning to a customs union agreement.

<sup>10</sup> The Pan-European Cumulation System is based on the principle of the harmonization of rules of origin among countries of the EU and the EFTA. The aim is to strengthen the effectiveness of trade agreements concluded among European countries (DTMa, 2005).

Table 2.1 presents the trade relations of the EU and Turkey for the period of 1980-2004. This period is important since it begins with the liberalization process of Turkey and shows how the trade relations were affected by the economic integration to the EU.

**Table 2.1**

Turkey's Trade with the EU (1993-2004)

	Turkey's Total Trade		Turkey's Trade with the EU				Share of EU Trade in Turkey's Total Trade	
	(Million USD)		(Million USD)				(%)	
Years	Exports	Imports	Exports	Change (%)	Imports	Change (%)	Exports	Imports
1993	15,348	29,429	7,599	-	13,875	-	49.5	47.1
1994	18,105	23,270	8,635	13.6	10,915	-21.3	47.7	46.9
1995	21,636	35,707	11,078	28.3	16,861	54.5	51.2	47.2
1996	23,224	43,627	11,549	4.3	23,138	37.2	49.7	53.0
1997	26,261	48,559	12,248	6.1	24,870	7.5	46.6	51.2
1998	26,974	45,921	13,498	10.2	24,075	-3.2	50.0	52.4
1999	26,587	40,671	14,333	6.3	21,401	-11.1	54.0	52.6
2000	27,775	54,503	14,510	1.1	26,610	24.3	52.2	48.8
2001	31,342	41,399	16,118	11.1	18,280	-31.3	51.4	44.2
2002	36,059	51,553	18,459	14.5	23,321	27.6	51.2	45.2
2003	47,252	69,339	24,484	32.6	31,695	35.9	51.8	45.7
2004	63,074	97,361	34,417	40.6	45,434	43.3	54.6	46.7

Source: DTM, 2005a.

According to Table 2.1, with the completion of the customs union, bilateral trade had considerably increased. The increase in Turkish exports in 1996, just after the completion of the customs union, had been approximately 4.3%, whereas the increase in imports had been about 37.2%. It is observable that the change both in exports to the EU and imports from the EU has been smaller compared to the trade in 1995. Concerning imports, it is important to take into account that tariff reductions were made according



to a time table, which was almost complete during 1994 and 1995.<sup>11</sup> The relative small increase in exports is due to the fact that the EU had already abolished most of its quotas and tariffs to Turkey in 1971. Further opening up on the EC market to Turkish products was only due to the removal of textile and clothing quotas at the end of 1995 (Ege, 1999: 265).

Imports from the EU, on the other hand, have shown a substantial increase just after the completion of the customs, since Turkey abolished its quotas and tariffs with the completion of the customs union. The sudden increase of EC imports to Turkey is a result of the static effects of the customs union.

Whereas when we look at the period of 1996-2004, we see that there is a gradual increase in exports of Turkish products to the European market. This might have been related to the dynamic effects of the customs union, since firms in Turkey were forced to go through a restructuring process in order to stay competitive increasing their technical efficiency.<sup>12</sup>

It is also obvious that the customs union has directed Turkish exports to the EU since the share of exports to the EU in total exports has continuously increased showing a clear trade creation effect in the product categories exported to the European market. An important increase in exports is also observable in 2004, primarily because Turkey has incorporated EU's instruments on the removal of technical barriers to trade into its own legal system in 2003 (Togan, Nebioğlu and Doğan, 2005: 94). Although it is usually argued that the customs union has evolved greatly to the advantage of Europe, Turkish exports to the EU have shown a much higher rate of increase compared to imports from the EU.

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<sup>11</sup> Tariff alignment as of 1.1.1995 for goods in the 12-year list has been 90%, for goods in the 22-years list has been 80% (Ege, 1999: 270)

<sup>12</sup> "Technical efficiency is defined as input minimization at any given output level, given the employment of the best techniques available." (Pelkmans, 2001: 97). The increase in technical efficiency provides cost reductions per unit of production eliminating waste.

The customs union between the EU and Turkey covers also additional areas, which regulate the free movement of goods and provide an environment for fair trade. These areas include technical barriers to trade, competition policy and state aids, intellectual and industrial property rights and trade defence instruments (Ege, 2002).<sup>13</sup>

### **2.2.1.2. Technical Barriers to Trade**

Probably the most important area affecting the competitive positions of both sides is Technical Barriers to Trade (TBT). TBT are barriers for imports when countries impose certain restrictions related to technical regulations, standards and testing and certification requirements, which are important determinants for competitiveness specifically for producers concentrated in the European market.

The EU has determined some technical regulations, mainly for safety reasons such as the protection of health and the environment, on the entry, sale and use of products in the European market.<sup>14</sup> The institution authorized to harmonize Turkish standards with Community provisions is the Turkish Standards Institute (TSE), which was founded in 1960 and became a member of the European Standardization Institute (CEN) and the Institute for European Electrical Standardization (CE-NELEC) (Togan, 2000: 20). Although the harmonization process was supposed to end by 2001, Turkey has incorporated only 276 of 560 Community instruments concerning the removal of TBT (Togan, Nebioğlu and Doğan, 2005: 108). This hinders

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<sup>13</sup> The CUD also includes cooperation in energy and environmental regulations, industry and R&D policies, transportation, trans-European networks, telecommunications, justice and home affairs, culture and consumer protection, and also financial aid to support the adjustment process in the abovementioned fields (Ege, 2002: 156).

<sup>14</sup> Turkey adopted a Framework Act related to the Preparation and Implementation of Technical Legislation on Products and five regulations determining the implementation of the Act in 2001 to enhance the implementation of these technical regulations (Ülgen and Zahariadis, 2004).

Turkey to make full use of the demand potential in the European market; an important loss to the competitive advantage of Turkey.

The harmonization process of testing and certification procedure with that of the Community is also a problematic area. The EU has determined 23 directives for the harmonization of the certification procedures related to the CE (Conformity Europe) Marking, all of which Turkey has adopted. The Mark indicates that the product, on which the mark is attached, has been produced under the minimum safety requirements, which provide it to circulate freely within the Union without any further certification requirements. Important steps were taken to transpose the directives into the Turkish legal system and the TSE has been accredited as the institution to approve the CE certification (İKV, 2004: 43). Still harmonization is not completed and constitutes a disadvantage for Turkish exports to the EU.

Turkish products produced under the correct EU specifications, can still face barriers while exported to the EU, because the Turkish National Accreditation Body (TURKAK), although a member of the European Accreditation Agency since 2003, has not signed any multilateral agreement with the European partners, which makes accreditations by TURKAK invalid in Europe. Since the Turkish conformity assessment is not completely established and certification procedures are not fully recognized by the Community, there is little confidence and recognition to the Turkish certificates. This forces Turkish firms to apply to foreign laboratories and certification agencies, which in turn means increased costs (Togan, Nebioğlu and Doğan, 2005: 109). To improve these conformity assessment conditions in Turkey, joint projects with the World Bank and the EU-MEDA are developed (İKV, 2004).

### **2.2.1.3. Competition Policy and State Aids**

Ensuring a competitive environment is an important condition affecting the competitiveness of domestic companies. Especially being part of a customs union requires competition policies of member countries to be harmonized in order to prevent the distortion of competition. Distortion of competition may occur through agreements and decisions related to the abuse of dominant positions, which may come out with mergers or acquisitions (Togan, 2000). As part of the CUD, Turkey was obliged to harmonize its competition policy with that of the EU, and to establish a competition authority, which had to work harmoniously with the ones in the EU. However, the competition policy in the EU, formulated at the supranational level, focuses on the regulations of market integration, and does not meet the needs of the Turkish market. Now the European Commission is preparing to make some important changes to the European competition policy. The changes consist mainly of the establishment of a European Competition Network (ECN) composed of the Commission and the national competition authorities, so as to serve national markets at a better degree (Ülgen and Zaharaidis, 2004).

Another important issue covered by the competition policy is state aids. Uncontrolled government intervention hinders companies to compete under equal and fair conditions, which may discourage new companies to enter the market or existing ones to increase production efficiencies. One of the most important provisions of the Common Commercial Policy is the restriction of direct state aids on exported goods. However, government support for underdeveloped regions and for strengthening the competitive position of SMEs, R&D support etc. is rather encouraged (Ege, 1999). Moreover, the importance to coordinate state aids by a single authority is constantly emphasized by relevant bodies in Turkey and especially by the EU however the subject is still under progress (İKV, 2004: 49).

#### **2.2.1.4. Trade Defence Instruments**

Although the customs union between Turkey and the EU is based on liberalization of trade, there are several defence measures set in the Customs Union Decision 1/95 (CUD). Even though these measures are set to sustain fair trade, they are usually evaluated as loopholes of trade liberalization (Ülgen and Zahariadis, 2004 and Togan, 2000). According to the CUD 1/95 both parties retain the right to initiate, investigate, and impose measures in cases of unfair practices of the other party. These measures include anti-dumping and countervailing duties.<sup>15</sup>

The analysis of these defence measures for the period of 1990-2000 shows that both sides have made use of anti-dumping measures against each other. On the European side, the cases have concentrated on low-skilled industries, especially the textile industry. On the side of Turkey, the major sectors were textiles, chemicals and some other manufacturing products. As the cases are homogeneously distributed throughout the ten years, one cannot conclude that Europe has increased its defence strategies after the conclusion of the customs union (Ülgen and Zaharaidis, 2004). However, it is obvious that these measures cause important distortions for trade, especially for Turkey having a competitive advantage in low-skilled sectors with respect to the EU.

#### **2.2.1.5. Intellectual and Industrial Property Rights**

Intellectual and industrial property rights are important to encourage research and innovation, and therefore have an important role to develop national competitive advantages. The internationally accepted rules

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<sup>15</sup> Anti-dumping measures consist of special import duties imposed on products when the export prices of the goods are set below the price or normal value charged for domestic goods. Countervailing measures involve special import duties when subsidized goods imported to the market tend to result in serious prejudice or material injury to domestic production.

concerning trade related intellectual property rights are the rules of the World Trade Organization, which are accepted both by the EU and Turkey. The World Intellectual Property Organization, on the other hand, encourages technological and innovative developments and sets rules for a more confidential and secure environment for foreign investors. The related responsible authority in Turkey is the Turkish Patent Institute. However, the European Commission still remains unsatisfied with the level of compatibility between Turkish and EU laws, as well as related international laws (Ülgen and Zaharaidis, 2004). These are indicators of an unfavorable business environment, which does not encourage research and innovation and hinders the improvement of national competitiveness.

Considering the harmonization process of the provisions covered in the CUD, Turkey has important tasks to fulfill; which are not only important to integrate EU regulations to its own system, but also to create an environment that encourages companies to succeed with their own efforts, which is an important precondition to increase international competitiveness.

### **2.2.2. Current Industrial Policy of Turkey**

As it is the objective of the European industrial policy, the one for Turkey also aims to increase the competitiveness and productivity of industries, and to promote and maintain sustainable growth within the increased global competitive environment. The Barcelona European Council held in March 2002, on which it had been decided to include the thirteen candidate countries to the process of the Lisbon Strategy, has become an important base for the creation of the current industrial policy of Turkey.

In line with the EU, the industrial policy of Turkey is focused to improve its business environment favorable for international competitiveness, in which entrepreneurs and enterprises can take initiatives, make use of opportunities and bring up their potentials. It covers the areas of foreign trade, investment,

energy, technology, quality improvement, environment, labor, the SME's and competition. However taking into account Turkey's comparative advantages of high growth, market potential, and factor endowments, special emphasis has been given to innovations, investments, and exports (DPT, 2003).

The Eighth "Five Year Development Plan" and the Industrial Policy, both prepared by the State Planning Organization, are corner stones of the industrial development in Turkey. As it is the case in the European Union, Turkey stresses on research and innovation, as well. The emphasis is given to the promotion of innovations of advanced technologies in information and communication for the usage of companies in their quality management including the production process, management information systems and inter-company collaborations (DPT, 2003). Accordingly, as it is also emphasized by the Report of UNICE on the countries progress for the implementation of the Lisbon strategy, company-university collaboration is significantly important in R&D activities and innovations, which have to be further strengthened (TÜSİAD, 2003).

The promotion of investments, included in the industrial development strategy, is also technology oriented. Besides the manufacturing industry, R&D investments especially in information and communication technologies are emphasized. Investments carry also an important role for the creation of employment and the cohesion of regions having different levels of development. Accordingly the industrial policy aims to support investments that would contribute to the reduction of disparities among different regions, while creating valuable employment opportunities (DPT, 2003).

Export promotion in Turkey carries an important role not comparable with the EU countries. This is due to the difference in factor endowments and intensities. Despite the technological development strategies of the EU, which are oriented towards capital-intensive industries, Turkey focuses on export promotions in labor-intensive industries. Consequently, for further

improvement of international trade, as discussed before, standardization, compliance and mutual recognition of technical regulations with the EU have to be completed.



## **CHAPTER 3**

### **ASSESSING SOURCES OF COMPETITIVE ADVANTAGE OF TURKEY WITH RESPECT TO THE EUROPEAN UNION**

Countries possess certain features making them relatively stronger or weaker compared to other countries. Therefore it is important to identify those features that provide a country with competitive advantages and to evaluate their sustainability. This chapter aims identifying Turkey's sources of advantage, which make it comparatively stronger in relation to other European Countries. The chapter is organized as follows. First, an introduction is made to the methodology, the Diamond Framework. Then, based on that methodology with certain revisions including Turkey's integration process to the EU, the strengths of Turkey are analyzed compared to European countries, for which in some parts China, US and Japan are also included. Third, the selection of competitive Turkish industries is made, through which the sources of advantage are identified in the following chapters.

#### **3.1. Competitive Advantage of Nations: The Diamond Framework**

The term "Competitive Advantage" is considered as one of the most important subjects of the globalized business environment. As mentioned in the introduction part, the impact of globalization, mainly through fast dissemination of knowledge, and the elimination of trade barriers, has forced countries to look beyond their domestic markets.

Concerning competitive strengths and weaknesses of countries in the international markets, one of the most recent and accepted arguments is the “Diamond Framework” of Porter (1990). The Framework basically tries to analyze and identify factors that provide advantageous conditions for a country to make it comparatively stronger and more successful in the global market. The analysis of Porter, namely the Theory of Competitive Advantage, differs from other classical and neoclassical accepted trade theories. The classical theories of Absolute Advantage of Adam Smith and Comparative Advantage of David Ricardo, and the neoclassical Heckscher-Ohlin Approach are mainly based on cost advantages of factors of production that differ across countries. Whereas Porter tries to explain why countries possess advantages not only based on cost but also other qualitative attributes. Porter describes this theory as reflecting “... a rich conception that includes segmented markets, differentiated products, technology differences, and economies of scale.” (Porter, 1990: 20).

Porter argues that the major driving force of a country is its domestic environment, the “home base” as he calls it. He states that attributes of a country, which provide it with an advantage in a certain sector over other countries, are created and sustained in its home base. He further stresses that the home base is where company strategies are set and core process technologies are developed and sustained.

He firstly stresses on the historical development of the domestic industry to understand how companies have developed their competitive advantages. Secondly, he addresses four attributes of the domestic environment of an industry that provide it with a competitive advantage. These attributes are; the factor conditions, the demand conditions, related and supporting industries, firm structure, strategy and rivalry, and the role of the government and chance as factors indirectly affecting (Porter, 1990).

The first group of factors affecting an industry's competitive advantage is factor conditions, which are the factors of production necessary for an industry to operate. It includes mainly the availability of natural resources; human resources, the availability of skilled or unskilled labor; knowledge resources, which are mainly related to the number of research centers, universities etc; capital resources; and the infrastructure, such as transportation, communication, the banking system etc. Porter further groups these factor conditions under two separate sub-groups; basic and advanced factor conditions, and generalized and specialized factor conditions.

Basic factor conditions are created through the ordinary evolution of a country or require a minimum effort of development. These conditions are climate, the geographical location of the country, size of land, availability of low and semi-skilled labor etc. These factors are generally possessed by most of the countries so that their existence does not provide an additional advantage over other countries. However, efficient handling of such resources is a basis for sustained competitive strength. Advanced factors, on the other hand, as Porter argues, are important to achieve a distinctive position compared to other countries. The development of such resources requires considerable efforts and investments in both human and physical capital. Examples of advanced factor conditions are the availability of labor with sophisticated scientific knowledge and advanced technological communication systems and the availability of research institutes (Porter, 1990).

The second distinction of factor conditions suggested by Porter is whether they have a general character or aim to support specific attributes for the industry. They are called generalized factor conditions and specialized factor conditions accordingly. Generalized factor conditions address the availability of a sufficient infrastructure, the number of well-educated people, and the availability of low cost capital. Specialized factor conditions, on the other hand, are specific attributes of a country that require a noteworthy amount of

effort to be established and are usually related to only a few industries. Examples of such conditions are industry specific advanced education opportunities, industry specific infrastructures, which also include specifically developed software programs, and highly specialized personnel. As in the previous distinction, the development of specific factor conditions requires a greater engagement and higher amounts of capital. Both advanced factor conditions and specific factor conditions provide the most important contributions to an industry to build up competitive advantages in the international arena. Industries, which hold competitive advantages related to basic and generalized factor conditions, will not be able to sustain it (Porter, 1990). Such factors are easily established; they however do not provide an industry or a country with sustainable advantages, since a country with a wider availability of such resources might open up its economy to international competition.

The second important group of conditions, affecting a country's competitive position, is the demand conditions. It covers the composition of home demand, its size and growth pattern for the relevant sector.

The composition of home demand covers its segmentation, the level of consumer sophistication and whether the demand has an anticipatory structure for international markets. Demand segments are important as they provide producers the opportunity to concentrate on certain divisions of the market to build economies of scale. Firms are usually eager to satisfy the biggest segment of the market in order to gain a higher share of demand. The greater the segment is companies are concentrated on; the higher is the likelihood that the demand will affect firms' decision and strategies towards new product development.

The sophistication level of buyers also has an important effect on the competitiveness of firms. Sophisticated demand forces companies to increase quality, to enhance technology, and to engage continuously in R&D

activities for superior product development, better customer satisfaction and higher market share. The proximity of companies to such consumers or industrial buyers, which entails both geographical and cultural proximity, amplifies their effects. The closer companies are to such segments the more will they be aware of the needs developed by these buyers. Provided with cultural similarities among companies and the customers companies will be able to respond to the needs easier and quicker (Porter, 1990).

The third important attribute of the composition of home demand, if existent, is its anticipatory nature. If the demand of local buyers for a certain product is developed before it is seen in other countries, companies will have the advantage to be one step in front of their international counterparts to learn to satisfy such a demand (Porter, 1990). Through that way companies might capture the leadership in developing the required production technology and be the first to penetrate other markets abroad. The same is also true for market saturation. Early saturation of the home demand will force companies to look for international markets before their international competitors.

The size and growth of the home demand also affect the competitive performance of industries. A large demand structure provides the opportunity to gain economies of scale. Furthermore, the existence of a large number of potential buyers will encourage companies to engage in high amounts of investments, which will contribute to the enhancement of existing or development of new production technologies, adding to the quality of goods and services produced. The growth rate, on the other hand, is usually more vital than the absolute size. A high growth rate in the domestic market triggers initiatives for businesses, since it provides good prospects for success. In such an environment, businesses feel more comfortable to make sizeable investments and to adopt or develop new technologies, which increase their strengths to compete internationally (Porter, 1990).

However, in a global environment, where international trade barriers have almost completely fallen, Porter's argument that company strategies and success are restricted to the influence of the domestic demand seems to be limited. One should not overlook that liberalization of trade relationships among countries have made it possible for companies to have easy access to foreign markets. Especially when it comes to developing countries, which have important advantages on exports, one should reconsider whether the demand in foreign markets does not have important effects on company strategies and success.

Continuing to Porter's classifications, the third important group of factors is related and supporting industries. These factors are important in the respect that their quality and competitiveness affect the industry by providing access to technology and high quality inputs. Related industries are those industries, which produce complementary goods or services or are able to share activities like process and technology development, R&D activities, and activities related to marketing and logistics. Coordination in those activities creates synergy and adds a significant impetus to the competitive performance of the main industry. Supporting industries are the suppliers of an industry. A competitive supplier provides many advantages. The most important ones are quality, low cost, rapid delivery, long-term relations that are based on mutual trust, and flexibility. A well-developed supply-chain management adds therefore an important value to the industries operations. There also exists the opportunity to cooperate in research activities with competitive suppliers, which can lead to new process developments or enhancements of existing ones. Moreover supplier firms can undertake the role of transmitting information among firms within the same industry, which accelerates innovation and development of the whole industry (Porter, 1990).

Firm structure, strategy and domestic rivalry are the forth and last group of factors that are argued to have a direct effect on the shape of the

competitive position of industries. According to the study of Porter, company strategies are highly affected by the norms and values of a nation. Because company strategies are set by people who carry the norms and attitudes of the nation, employers' attitudes towards their workers and vice versa are under the influence of the culture of the country. Moreover, individualistic or team oriented behaviors of the personnel is also a result of culture. Porter further states that factors which shape a country's values and norms grow out of the educational system, social and religious values, family structures etc. (Porter, 1990: 109)

Porter's arguments on domestic rivalry are also important in the respect that they have a larger influence on company orientation than international rivalry. His analysis has revealed that internationally successful companies have a few strong competitors at home (Porter, 1990: 117). He further argues that local rivals are the ones creating pressure on firms to enhance their productivity, in order to reduce costs while increasing quality at the same time. However, one might oppose to that argument, that the current global business environment, with no or little barriers to trade, has made it possible to disregard distances among countries bringing them closer ever since. Any company operating in another country, say far away from the domestic market, might have completely free access to the domestic market. In such a situation it may be difficult to argue on the difference of local and foreign competition.

Lastly, the role of the government and the role of chance are given as indirect factors to affect a country's competitiveness. The role of the government becomes important when regulations, temporary protection measurements provide an industry with competitive advantage. Chance is defined as historical developments or crises that might occur in a country and which may shape a competitive position for the country (Porter. 1990).

## **3.2. Sources of Advantage of Turkey with Respect to the European Union: A Comparative Analysis**

Before a detailed analysis of the sources of advantage of competitive Turkish industries, it is useful to evaluate Turkey's competitive position on a national basis. In this section a comparative analysis of Turkey is made against the EU and other developed countries. The relevant data of China, United States and Japan are also included in the relevant sections. China is important to compare Turkey with its most important rival while the inclusion of the US and Japan is important to evaluate EU's position with respect to other industrialized countries.

The evaluation is made according to the aforementioned methodology with the revision to include Turkey's integration process to the EU, the revised Diamond Framework. Analyzing competitiveness according to factor conditions, demand conditions, national business environment including firms' structure and strategies. Among the indirect factors, the role of the government is included; however the role of chance is excluded due to its overlapping character with the industries' historical development. Lastly, an evaluation on the existing and potential effects of Turkey's integration process to the EU on the Turkish business environment is analyzed. This condition is included referring to Turkey's close relationship to the EU, which comprises many aspects of commercial relations including the harmonization of industry and enterprise policies having therefore an important potential to be a source of advantage within the Diamond Framework.

### **3.2.1. Factor Conditions**

#### **3.2.1.1. Physical Resources**

One of the most important physical assets of Turkey is its large landmass. Turkey's landmass is 780,576 square kilometers, which is the largest among



the EU countries and the other candidate states, as well. 36% of the land in Turkey is appropriate for agriculture, which makes the country an important food producer in Europe. 82% of the total agricultural area are fields, 14.4% are used for fruit cultivation, and the 3.4% for vegetables cultivation (PWC, 2001). Accordingly, the vegetables and fruits sector in Turkey has the highest comparative advantage in relation to the EU.<sup>16</sup>

Another essential natural resource for sustained industrial development is energy, in which Turkey faces difficulties to supply the required amounts domestically being forced to engage in international contracts for energy supply. Dependency on foreign resources inevitably causes energy costs to increase compared to other European countries, which depend comparatively less on energy imports.<sup>17</sup> Two of the most important energy sources used by the industry are electricity and natural gas. While natural gas is a primary source of energy, electricity is generated by other primary energy sources. As of 2003, Turkey constituted about 11.5% of EU-15's total gross electricity generation by hydro power plants and 5.1% in total gross electricity generation. Concerning electrical energy consumption by the industry, in 2003 Turkey ranked 5<sup>th</sup> among the European countries (Derived from Eurostat, 2005a).

Supply of natural gas is even more dependent on external resources. Turkey's natural gas market is still developing and an important part of the country is not served with natural gas. The natural gas market in Turkey is dominated by a state owned enterprise, BOTAŞ, which owns seven natural gas pipelines and related facilities. It has signed three long-term contracts with the Russian Federation in 1986, 1997 and 1998; and one with Iran in

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<sup>16</sup> The Revealed Comparative Advantage (RCA) index for the sector is calculated as 5.24 for the period of 1990-1995, and 4.42 for the period 1996-2003 (Utkulu and Seymen, 2004). The index is distinctively higher than the RCA index of other industries in Turkey: see Table 3.7.

<sup>17</sup> Energy resource dependency rate (exports/consumption) for Turkey has been 69.1% in 2002, whereas the rate in EU-15 has been 50.1% in 2001 (Ege, 2004: 15, 33)

1996, Algeria in 1988, Nigeria in 1995, Turkmenistan in 1999 and Azerbaijan in 2001 each for 25 years on average. Similar emerging natural gas markets can be seen in Greece and Portugal. It is also argued that more mature markets in Europe also have similar conditions as Turkey regarding natural gas supply. One important point that Turkey differs from other European countries is that it is a transit country for natural gas imports and has access to more natural gas than it requires. However, there is almost no opportunity for storage, whereas such a system is available in the Balkans (Mazzanti and Biancardi, 2005: 218).

Given the background on energy supply in Turkey and Europe, Table 3.1 presents energy prices of Turkey, the EU member states and the United States.

**Table 3.1**

Comparative Energy Prices (2004)

	<b>Electricity USD/KWH</b>	<b>Natural Gas USD/GJ</b>
<b>EU-25</b>	0.079	6.563
<b>EU-15</b>	0.080	6.675
<b>Turkey</b>	0.094	7.843
<b>United States</b>	0.047	3.922

Source: Eurostat, 2005a.

As it is shown in Table 3.1, both electricity and natural gas are more costly in Turkey compared to the other countries. While electricity prices per kWh are about 0.094 US dollars in Turkey, they are 0.078 US dollars in the EU and much lower, 0.047 dollars in the United States. Similarly natural gas prices are the highest in Turkey and the lowest in the United States. This puts the Turkish industry in a disadvantageous position compared to its most important trading partners.

### 3.1.1.2. Human Resources

Turkey's most important factor condition is its labor resource endowment. Turkey has a relatively large population size and a high population growth compared to other European countries. Table 3.2 shows the population sizes and growth rates of the EU countries, China and Turkey for the years 2004 comparatively. The indicators of China are also included in the analysis since labor endowment is the most important determinant of China's competitiveness. Therefore, it is important to assess the comparative situation of human resources of those three regions.

**Table 3.2**

Comparative Basic Human Resource Indicators (2004)

Countries	Population Size (Million)	Population Growth Rate (%)	Unemployment Rate (%)**	Wage Rate Index*** (EU-25=100)	Labor Productivity Index (EU-25=100)
<b>EU-25</b>	451.8	0.31	9.0	100.0	100.0
<b>EU-15</b>	376.8	0.47	8.1	145.3	106.8
<b>Turkey</b>	69.2	1.40	10.3	45.0	41.7
<b>China*</b>	1,292.3	0.60	4.3	17.1	34.0

Source: Eurostat, 2005b; European Commission, 2004c; UNIDO, 2005; National Bureau of Statistics of China, 2005; Own Calculations.

(\*) Data for China is for the year 2003

(\*\*) Unemployment Rate is seasonally adjusted.

(\*\*\*) Wage Rate Index is related to the manufacturing industry for the year 2000; the rate for China is for the year 2002.

According to Table 3.2, Turkey has a distinctively higher population size and the highest growth rate compared to European countries. The population in Turkey is about 15.3% of the population in EU-25 and 18.3% of the total population in EU-15. However comparing to China, Turkey's labor

abundance stays only limited. The population of China is almost three times larger than the population in the EU-25 and in the EU-15.

Besides absolute size, the age distribution of a country is also an important signal for future opportunities or threats. As of 2004, 72% of the population in Turkey is under the age of 40, and 20% is under the age of 15, while the number of children born has been approximately 1,487,000 during 2004 (DİE, 2005a: 75). This is an indicator of a potentially larger labor market. In Europe, on the other hand, the percentage of young people compared to elderly is decreasing every year. Especially in Germany Sweden and Spain, people over 65 years of age are more than 17% of the population. As of 2002 the life expectancy for men has increased to 74.8, and for women to 81.1 years.

In China, people aged between 15-64 years are close to 900 million as of the end of 2004, while this number is expected to rise to 1 billion in 2015. 150 to 200 million of the population constitute the unskilled labor force, which has been the driving force for China's incredible industrial development (European Commission, 2005: 236).

In Addition, unemployment rates and the wage rates in a country, give important signs for an efficient allocation of human resources in a country. According to Table 3.2, unemployment rate in 2004 has been 10.3% in Turkey, 4.3% in China, 9.0% in the EU-25 and 8.1% in the EU-15. Turkey has a higher unemployment rate, mainly due to macro economic factors, which affect employment adversely. The recent financial crises and the resulting decline in output have caused the unemployment rate to rise. China's low rate of unemployment is associated with its industrialization process; focusing not only but also on economic policies promoting the development of labor intensive production capacities (European Commission, 2005: 237). Moreover, the intensified flow of FDI to the country

provides also job opportunities for Chinese people, who don't resist working for low wage rates.

A comparative wage rate index is also depicted in Table 3.2 indicating relative differences in labor costs. As of 2000, wage rates in Turkey are about 45% of the wages in the EU-25 countries. This provides Turkey an important advantage concerning labor costs in the manufacturing industry. Comparing wage rates with China, which are only 17% of EU-25, it comes out that Turkey has lost its comparative advantage in low labor costs to a great extent. Labor productivity per person employed, referring to Table 3.2, is also considerable low in Turkey and China compared to the European countries. In Turkey labor productivity is only 41.7% of the EU-25 and China's Labor Productivity is about 34% of that of EU-25. The low productivity rate causes important disadvantages for the Turkish manufacturing industry. The low wage rates compared to the European countries are wiped out by the low productivity rates.

Besides general availability of employment, related costs and productivity, the human resources condition also includes the availability of educational opportunities. In the year 2002, the share of educational spending in total GDP has been 3.4% in Turkey, whereas it has been 5.22% in the EU-25 countries. Considering the difference in national income, Turkey's spending on education lies significantly below the level in the European countries (Eurostat, 2005b).

#### **4.1.1.3. Capital Resources**

The availability of capital resources and the strength of the financial sector over other countries may create important opportunities for industrial competitiveness. The weakness of the sector, on the other hand, may pose difficulties for companies to compete with their international counterparts. Financial stability and access to financial resources are reflected mainly in

the inflation and interest rates of the country. Table 3.3 and Table 3.4 provide the related inflation and long-term interest rates for Turkey and the EU.

**Table 3.3**

Inflation Rates (2000-2004) (%)

<b>Countries</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
<b>EU-25</b>	2.4	2.5	2.1	1.9	2.1
<b>EU-15</b>	1.9	2.2	2.1	2.0	2.0
<b>Turkey</b>	54.9	54.4	45.0	25.3	10.6

Source: Eurostat, 2005c; DİE, 2005a: 293.

According to Table 3.3, inflation rates in Turkey have been declining significantly after the crisis in 2000 and 2001 from 55% in 2000 to 10.6% in 2004. Turkey has experienced very high inflation rates during the past ten years due to the financial crises occurred in 1994, 2000 and 2001, which has created an unfavorable business environment for domestic companies and for foreign investors. The EU countries, on the other hand, are experiencing low levels of inflation for a longer time. The inflation rates of the new member states have been converged with that of the EU-15, so that the rate of 2.1% is not different than the EU-15 level of 2.0%.

**Table 3.4**

Nominal Long-Term Interest Rates (2000-2004) (%)

<b>Countries</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
<b>EU-25</b>	:	:	:	4.3	4.5
<b>EU-15</b>	5.4	5.0	4.9	4.2	4.3
<b>Turkey</b>	70.6	116.6	79.8	50.2	28.1

Source: European Commission, 2004c; TCMB, 2005.

(:) Not Available.

Interest rates are the most important factors affecting capital availability. As it is shown in Table 3.5, interest rates in Turkey have decreased substantially after the crises in 2000 and 2001. As of 2004 long-term interest rates are still higher than the EU and other countries, however compared to the conditions of the past years the rate is accepted as an achievement. The interest rates in the EU countries are at similar levels, which are 4.5% for the EU-25, and 4.3% for EU-15 countries as of 2004. Europe has a more stable economy since a long period of time, which made the European economy a symbol of stability. Consequently, Turkey's integration process to the EU is expected to increase the confidence of foreign and domestic investors in the country, which will contribute to the stability of the economy and is expected to further decrease inflation and interest rates.

In such an environment, businesses in Turkey find it difficult to have access to low cost capital. Especially SMEs, which constitute more than 95% of the enterprises, have difficulties to provide guarantee in exchange of loans, which are strictly demanded by banks due to the vulnerability of the economy. The proportions of loans provided to SMEs in Turkey, constitute only 5% of the total loans given by the retail banks. Besides the retail banks, loans are more often provided by the Turkish Halk Bank, the Eximbank and by the Turkish Development Bank (İKV, 2001).

Foreign direct investments (FDI) are one of the most important means to transfer capital, technology and know-how internationally. Although there are several opportunities for investments in Turkey; such as the large size of working population and the high economic growth rate, this potential is disregarded by foreign investors due to the economic and political instability of the country. Comparing the levels of FDI attraction, Turkey lies considerably below the levels of the European countries. As of 2002, total FDI stock to GDP has been reported as 31.4% for the EU-15, and 35.2% for EU-25. Turkey has reported only 10.2% FDI as a percentage of GDP, while for the same year China reported 36.2% FDI to GDP (European

Commission, 2005: 246). It is obvious that Turkey, as a large developing country provides many opportunities for foreign investments, however, mainly due to the financial instability in the country, does not reach its potential.

It is also useful to evaluate foreign capital permits and the number of foreign companies operating in Turkey. Table 3.5 shows related data for FDI inflows to Turkey through the years 1980-2003, since Turkey has opened its economy to foreign transactions.

**Table 3.5**

FDI Permits and Inflows to Turkey (1980-2004)

<b>Years</b>	<b>FDI Permits (Million USD)</b>	<b>FDI Inflows (Million USD)</b>	<b>Number of Foreign Capital Companies</b>
<b>1980</b>	97	35	78
<b>1985</b>	234	99	408
<b>1990</b>	1,861	684	1,856
<b>1995</b>	2,938	934	3,161
<b>2000</b>	3,477	1,707	5,328
<b>2001</b>	2,725	3,288	5,841
<b>2002</b>	2,243	1,102	6,280
<b>2003*</b>	1,208	983	6,511
<b>2004</b>	-	1,780	-

Source: Hazine Müsteşarlığı, 2005.

\* Until June 2003. All types of permits issued by General Directorate of Foreign Investment have been abolished by the Foreign Direct Investment Law No. 4875 enacted on June 17, 2003. Therefore any statistics on base of permits are not being published from this date on.

According to Table 3.5, FDI inflows to Turkey show a clear increase from 1980 until 2004, reaching to 1.7 billion USD. The statistics show that economic conditions are very effective on the inflows of capital to Turkey, showing a distinctive decline in 2001. Moreover, Öz (2003) argues that the latest statistics indicate that outflows of foreign capital from Turkey may even



exceed the amount of inflows in the near future. Turkey cannot sustain to attract FDI with providing only high growth potentials and low labor costs, since there are countries which provide much higher rates of growth and much lower rates of labor costs. It is essential that Turkey has to provide a favorable business environment and a stable economy to realize its potential for foreign investments.

### **3.2.2. Demand Conditions**

The GDP per capita is among the most important macroeconomic factors in comparing economic positions of countries. It shows the amount a person gains annually and is therefore an important indicator for the demand conditions in a country. With the force of globalization and the elimination of trade barriers, it has become an important indicator of comparative living standards. Table 3.6 provides the real GDP growth rates for the period 2000-2004, the GDP per capita index in PPS and consumption per GDP for the year 2004 for Turkey, the EU, United States and Japan.<sup>18</sup>

According to Table 3.6, Turkey shows significant fluctuations in its GDP growth rate during the period 2000-2004. An important decline is observable in 2001 due to the financial crises in 2000 and 2002. After the crises Turkey experienced a substantially higher GDP growth rate of 9.9% in 2004. It is also observable that Turkey presents high rates of growth on average. These high rates except for 2001 indicate the presence of a dynamic market, which provides the opportunity for market penetration of products that have already reached the saturation level in developed countries. Moreover, they show the potential of the economy to provide opportunities for further investments, the creation of new jobs, and higher capacity usage of industries.

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<sup>18</sup> PPS, Purchasing Power Standards: it eliminates the difference in price levels between countries allowing meaningful volume comparisons of GDP between countries

**Table 3.6**

## National Income and Consumption Indicators

	Real GDP Growth (%)					GDP per Capita in PPS Index (EU-25=100)	Consumption per GDP (%)
	2000	2001	2002	2003	2004	2004	2004
<b>Countries</b>							
<b>EU-25</b>	3.7	1.8	1.1	1.1	2.4	100.0	58.3
<b>EU-15</b>	3.7	1.8	1.0	1.0	2.3	109.3	58.2
<b>Turkey</b>	7.4	-7.5	7.9	5.8	9.9	27.50	68.4
<b>United States</b>	3.7	0.8	1.6	2.7	4.2	154.6	70.1
<b>Japan</b>	2.4	0.2	-0.3	1.4	2.7	115.7	56.5

Source: Eurostat, 2005c.

The European market, on the other hand, showed a growth of approximately 2% both in the EU-25 and in the EU-15 countries. The level is much lower compared to Turkey, which shows that the European market has reached a saturation level, and grows only at small rates. The GDP level of the European market also effects the competitive position of Turkish companies, since more than 50% of the exports are made to European countries. Although the growth rate is low, the high amount of annual income makes Europe still an important market for Turkey. The same is also true for the United States and Japan, which showed GDP growth rates on average of only 2.6% and 1.3%, respectively; have, however, high amounts of annual income.

According to Table 3.6, the GDP per capita in Turkey is also significantly lower than the other European countries, the United States and Japan. Turkey reaches only to 13% of the GDP level of the EU-25 countries. The low level indicates lower standards of living and unfavorable demand conditions accordingly compared to the other countries. The GDP levels of the new member states have converged to a great extent to the EU-15. This

is revealed by the minor difference in the GDP per capita levels. Still the EU is behind the GDP levels of the United States and Japan.

Although the GDP per capita level is much lower in Turkey, Table 3.6 also indicates that final consumption of Turkish households constitutes a much higher percentage compared to the European countries. While the consumption level is at approximately 58% in the EU countries, it is at 68.4% in Turkey, reaching almost to the level of the United States. In Japan the reverse is true. In spite of a high annual income, the proportion of Japanese households' consumption in GDP is much lower at a rate of 56.5%. The high proportion of income Turkish citizens allocate to consumption provides an advantage for Turkish companies, since increased consumption rates encourages companies to increase production to better satisfy the demand.

### **3.2.3. Turkish Business Environment**

The Turkish business environment is mainly dominated by small and medium sized enterprises. According to the definition of OECD, firms employing less than 500 employees are defined as SMEs. Although changing according to sectors, SMEs in Turkey comprise 99.8% of the total number of enterprises and provide approximately 76.7% of the total employment. The share of investments made by SMEs in total investments is about 38% and the share of value added generated by the SMEs in total value added is about 27% (DPT, 2004b: 9).

Since 1996 the companies in Turkey have been forced to compete with their counterparts in the EU within a customs union. IKV (2001) claims that this has brought many opportunities, but also threats for Turkish companies. Opportunities have been for Turkish firms to be encouraged to enhance efficiency and to adopt strategies in order to rapidly adjust themselves to the new market conditions. Threats, on the other hand, are associated with unfair conditions due to the regulatory differences between Turkey and the

EU. Such conditions are mainly related to funds provided by the EU to European companies for regional cohesion, infrastructure development, R&D supports, employment opportunities etc., which provided cost advantages and enhanced productivity of the European companies.

Taymaz and Özçelik (2002) argue that the most important two advantages of Turkish companies have been traditionally low cost, and the advantage of the devaluations of the local currency, which were sometimes implemented as government policies. However, the emergence of other low cost providers has started to threaten the share of Turkey in international markets. Accordingly, Turkish companies had to develop strategies, which would provide them with long-term and sustainable advantages. These strategies are mainly oriented to brand development, if the industry is appropriate, and to quality enhancement.

Textile and clothing companies, for example, which are traditionally among the most important companies in Turkey, have mainly worked for few larger domestic companies and for international companies abroad. However, their strategy is changing to promote products with their own brand names in international markets. Other manufacturing industries have started to give priority to quality at a sustainable level, and to develop a reputation of reliability rather than low cost strategies (Ulusoy, 2003b). However, low costs still continue to be the most important competitive advantage of companies in Turkey.

Nevertheless, low-cost strategy is still an effective tool for competitive advantage; provided that the factors of advantage are sustainable. If the advantage is obtained through a depreciation of the local currency against foreign currencies or through low labor costs, the advantage could be easily imitated by other countries and would not provide a sustained advantage. On the other hand, as Taymaz and Özçelik (2002) argue, innovation and R&D activities are not easily imitable advantages, which provide cost

advantages in the long term and are important for enhanced competitiveness of the Turkish manufacturing companies. Öz (2003) also states that when low cost is provided by process technologies, innovations and productivity, the strategy could enable the company to keep its competitive position for a longer period of time.

### **3.2.4. Role of the Government and European Integration Process**

The role of the government regarding economic activity in Turkey should be analyzed in two separate periods. The period before the 1980s, which is defined as a relatively closed economy with protectionist measures; and the period after the 1980s, when the economy had been liberalized and the government had gradually left its place to the private sector and aimed to function only as a regulatory body.

Considering the aim of this thesis, it is not necessarily important to analyze the period before the 1980s; however the period afterwards has had important effects on the current Turkish industrial development and business environment. Government policies after the liberalization period have mainly concentrated on exchange rate determinations through real devaluations and export subsidies (Celasun, 1994; Özçelik and Taymaz, 2002; and Öz, 2003). However with engagements in international agreements and especially with the integration process to the EU, the government has turned to indirect supports like tax exemptions, supports and several incentives for investments, export promotions, R&D supports, environmental supports etc. (İKV, 2001). Concerning exchange rate policy, the government reduced its interventions and turned to a floating exchange rate regime. However, small interventions in the foreign exchange market sometimes still occur.

Regarding the competitiveness of companies, not only subsidies or exchange rate regimes are related to the role of the government, but also regulations concerning the financial and political system are important

determinants. However, the analysis of all these factors would widen the scope of the study too much. Being aware of their relevance, these factors are excluded from the study, while the concentration is on government support on priority areas determined in the industrial policy of Turkey, which are investments, exports and innovations, (DPT, 2003). It is important to analyze on which areas of activity such supports are concentrated and whether they have positive effects on the competitiveness of Turkish business or not.

Supports for investments are regulated by the Undersecretariate of Treasury and can be divided into five sub groups which are customs tariff and collective housing fund exemptions, investment allowances, VAT exemptions, other tax exemptions and operational and investment credit allocations from the government budget. The aim is directing savings to investments in areas which employ advanced technology for value added production having the potential to create employment and to contribute to regional cohesion (DPT, 2004a).

Export promotions are probably the most important area of government support. In line with the export-growth strategy, there are many supports provided for the enhancement of exports of Turkish products to international markets. These promotions are mainly coordinated by the Undersecretariate for Foreign Trade (DTM). Export promotions among others are; support for opening stores abroad, market research support, support on the enhancement of the Turkish image in international markets, support on export oriented travels, and support on international fairs (DPT, 2004a). These incentives mainly aim to increase exports through establishing an awareness of the quality of Turkish products in the international markets, and through developing a reputation to gain sustainable market shares.

Supports on R&D are made both by the Undersecretariate of Treasury and the Undersecretariate for Foreign Trade. The supports coordinated by the

Treasury cover exemptions for investments in machines, equipment, materials and process technologies, which are intended to be used in research and development activities for new product developments, product and quality standard improvements and for the adjustment of new technologies that provide cost reductions and quality enhancements. These R&D investment supports are concluded with the final decision of the Scientific and Technological Research Council of Turkey (TÜBİTAK) (DPT, 2004a:14).

The supports coordinated by the Undersecretary for Foreign Trade (DTM) aim to provide financial supports for projects, which contribute to the comparative advantage of Turkey in the framework of the current industrial structure, technology and human resources in Turkey.<sup>19</sup> The authorized institution for these supports is the Technology Development Foundation of Turkey (TTGV).<sup>20</sup>

The role of Turkey's integration process to the EU has certainly effects on the business environment of Turkey. As described in every textbook covering custom union theory, the one between Turkey and the EU has also resulted in static and dynamic effects for the two parties.

The study on the effects of the customs union on Turkish industries has revealed that still the static effects outweigh the dynamic effects. Two important reasons lie behind that conclusion. One is that Turkey did not complete all the legislation that is required for complete free movement of

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<sup>19</sup> The support has been adopted by the ministerial decree of "Decision on Government Supports on Exports" in 27.12.1994.

<sup>20</sup> R&D supports are directed to two groups of projects. One is for technology development projects, which is open to all companies and has a maximum amount of 1 million dollars with a 4-year payback period; the other one is for strategic focus matters, which is aimed to contribute for the national economy as a whole and has a maximum amount of 100,000 dollars as a grant (DPT, 2004a).

goods. Second, the period to evaluate the dynamic effects is until now not long enough.

As explained in section 2.2.1.1 the formation of the customs union has increased the trade between the two partners, mainly with increasing imports from Europe. Although this indicates an initial effect of trade diversion from more efficient third countries to Europe, Bayar (2000) argues that the data for the first four years after the completion of the union show that trade diversion from third countries has stayed limited.

Considering the dynamic effects Bayar (2000) argues that the expected adverse effects of the intense competition resulting from the customs union have also not observed during the first four years. Since, as he states, most of the sectors had already started to adjust their production and investment strategies before the completion of the customs union.

While it is difficult to determine the long-run effects of the customs union, many studies point out the potential long term effects of the union. A comprehensive study of Bayar (2000) based on a simulation of a customs union between Turkey and the EU holding all other variables constant, has revealed many positive effects on the Turkish economy, with the assumption of urgent economic and institutional reforms. The most important result has been capital inflow to Turkey due to the increased stability of the country. He found that increased capital stock will create conditions for better allocation of resources and significant increase in manufacturing production with a shift from labor intensive production to capital intensive production. Moreover, new technology and know-how transfer to Turkey will increase the level of productivity resulting in enhanced competitiveness.

However, five years after his simulation, one may argue that his assumptions were only partly realized. While important economic and institutional reforms have been undertaken, capital inflow did not show a significant increase. On



the other hand, consistently with the analysis of Bayar (2000), Lohrman (2001) has found that after the completion of the customs union the importance of the clothing sector in the trade patterns has declined shifting to more capital intensive industries like transport equipment, motor vehicles, electrical household appliances and other similar products.

An analysis of Togan (2000) concerning the welfare effects of trade liberalization between Turkey and the EU comparing the periods of 1993-1995 and 1997-1998 has shown that GDP has increased by 17.6% and total employment by 4.2%. In the manufacturing sector value added increased by 26.3% and manufacturing employment increased by 15%. These results are not only due to the customs union, but it shows that Turkey was able to perform well under increased competition of the EU. Lohrman (2001) also states that the well performance of Turkey during the first years of the customs union indicate positive prospects for future development.

Policies of the EU concerning the enhancement of the competitive position of businesses have also effects on the competitiveness of Turkey both at the national level and at the industry level. Besides the harmonization of regulations within the framework of the Custom Union Decision, financial resources of the EU constitute an important part of the effects of the integration process. The EU provides different financial resources for both the private sector and the government institutions, which take the form of grants and loans.

Beginning with the Ankara Agreement, the European Union had intended to provide several financial resources to Turkey. Although the relations of the two parties have been intricate through the 1970s and 1980s, until the completion of the customs union at the end of 1995, three protocols were signed providing credits amounting to 680 million euros to Turkey as Community and European Investment Bank (EIB) credits (Delegation of the European Commission to Turkey, 2005).

Despite the fact that EU had envisaged to provide several credits, grants and financial resources for various projects concerning the adaptation process of the Turkish SMEs to the customs union concluded between the two parties, only 33% of the loans and grants amounting to 2.2 billion ECUs, foreseen to be allocated to Turkey, were realized. Further initiations had been an SME Action Plan and an “Industrial Strategy” to support Turkish SMEs through the integration process to the customs union, which could however not put into force (DPT, 2004b: 29)

With the approval of the candidacy of Turkey in 1999, Turkey gained access to larger variety of funds, under which have been funds provided for the improvement of the competitive positions of the SMEs.<sup>21</sup> Such funds were in the form of credits and are categorized as Global SME Credits; Pre-Accession Funds and European Investment Funds provided by the European Investment Bank (EIB); and SME credits provided by the Council of Europe Development Bank (CEDB). The Global SME Credits can be obtained through the intermediation of certain domestic banks, which currently amount to 360 million euros that are used by more than 25 million SME projects in Turkey (DTM, 2005b).

Initiations to enhance the competitive position of SMEs in Europe have also important potentials to contribute to the SMEs in Turkey. An important project developed by the European Union concerning the assessment of the competitive position of the SMEs in Europe has been the establishment of BEST (Business Environment Simplification Task Force) study group in 1997. The group mainly aimed simplifying the business environment and to

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<sup>21</sup> Despite the fact that several funds had been developed for the adjustment process of the Central and Eastern European Countries (CEEC) to the EU, Turkey was not included in those funds. Instead, loans allocated for Turkey were in the framework of the MEDA-II (Euro-Mediterranean Partnership). Through that process, an assistance of 177 million euros have been provided to Turkey which was supposed to increase to 250 million euros in 2004, 300 million euros in 2005 and to 500 million euros in 2006 on a cumulative basis. Besides other adjustment areas, the “SME Strategy and Action Plan” of Turkey is also going to be assisted through those funds (DPT, 2004b: 29)

exchange best practices of SMEs among member countries. For that purpose certain priority areas were identified such as education and training, financial access, research and innovation, transparency of support, public administration and the improvement of employment and working conditions (KOSGEB, 2002a).

In 2000, the European Commission decided to involve the candidate countries in the BEST study groups and started to enact the CC Best Reports (Candidate Country Business Environment Simplification Task Force). Accordingly, the CC Best Report for Turkey was prepared with the contribution of all the related institution, by the coordination of KOSGEB and in the leadership of the Ministry of Industry and Trade (KOSGEB, 2002a).

To enhance the implications of SME policies in Europe, the European SME Charter was adopted in 2000 and took the place of the CC BEST Reports. The charter was prepared to enhance entrepreneurial skills of the member countries and to provide a better environment for entrepreneurship. In 2002, the Charter was also adopted by the candidate countries (KOSGEB, 2002b). This Charter has provided an opportunity to evaluate the situation of the SMEs in Turkey, to draw up the strengths and weaknesses and compare them with the other member and candidate countries of the EU.

Another important initiative concerning the SMEs in Europe and Turkey has been the Multiannual Programme for Enterprise and Entrepreneurship (MAP). This program was established mainly for the same purposes of improving the competitive positions of the SMEs and to provide enhanced regulatory and business environments for companies. The current program covering the years 2001-2005 is the fourth program, to which Turkey has become part of in 2002. The financial tools provided in the framework of the MAP are venture capital and credit guarantees. It is intended to provide loans to the SMEs in the partner countries through national intermediaries, which were going to be determined by the European Investment Bank.

These loans are especially provided to technology intensive projects that anticipate value added outputs (KOSGEB, 2005).

### **3.3. Selection of Competitive Turkish Industries**

Following a general overview of the sources and potentials of advantage for Turkey with respect to the European Union, two sectoral studies are conducted to identify the sources of advantage of the most competitive industries in Turkey in relation to the EU. These sectors have been determined according to the Revealed Comparative Advantage (RCA) indices<sup>22</sup> of Turkish industries with respect to the EU, which was calculated by Seymen and Utkulu (2004).

For the calculations, the commodity classification STIC Rev.3 of the United Nations is used. RCA values higher than zero (which have a revealed comparative advantage with respect to the EU) are given in Table 3.7.

By using the results in Table 3.7, the industries selected are; the Turkish clothing industry and the cement industry. Although Turkey has a clear advantage in the fruits and vegetables and tobacco industry, they will not be included in the analysis. The reason for that is the difficulty to apply Porter's diamond framework to the agricultural industry. The selection is mainly based on the RCA indices; however other factors such as the availability of

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<sup>22</sup> The RCA Index shows the trade patterns of a commodity of a country in relation to the global world or a region as it is observed, without trying to identify and eliminate the factors effecting (Utkulu and Semen, 2004).

The RCA Index formula is as follows:

$$RCA = \ln (X_i / M_i) / (X / M) * 100$$

where;

$X_i$  = Turkey's export value of sector i to EU

$X$  = Turkey's overall export value to EU

$M_i$  = Turkey's import value of sector i from EU

$M$  = Turkey's overall import value from EU

The evaluation of the RCA Index is made according to the following methodology:

If  $RCA > 0$ , the sector in Turkey is accepted to have a revealed comparative advantage in relation to the EU; If  $RCA < 0$ , the sector in Turkey is accepted to have a revealed comparative disadvantage in relation to the EU.

sources, applicability of the diamond framework and the unique structure of the sectors have also been among the determinants.

**Table 3.7**

Turkey's Sectoral RCA Index Values vis-à-vis the EU (1990-1995) and (1996-2003)

<b>Sectors based on STIC Rev. 3</b>	<b>RCA (90-95)</b>	<b>RCA (96-03)</b>
Vegetables and fruits	5.24	4.42
<b><i>Clothing and clothing accessories</i></b>	<b>5.30</b>	<b>3.91</b>
Tobacco	2.73	2.48
<b><i>Lime, cement and fabricated construction materials</i></b>	<b>1.85</b>	<b>1.92</b>
Sugar, sugar preparations, honey	0.32	1.20
Oil seeds and oleaginous fruits	2.06	1.20
Travel goods, handbags and similar goods	2.86	1.15
Textile yarn, fabrics and related products	1.54	1.06
Beverages	0.34	1.05
Glass and glassware	1.08	0.85
Rubber manufactures	0.13	0.65
Crude animal and vegetable materials	1.40	0.60
Furniture bedding, mattresses	-0.51	0.08
Oils fats and waxes	-0.57	0.03

Source: Utkulu and Seymen, 2004.

According to the findings of Utkulu and Seymen (2004), the two most successful industries in Turkey in relation to the EU, under the classification of the UN's STIC Rev.3, are the clothing and accessories industry and the lime, cement and construction materials industry. The clothing and accessories industry has the highest revealed comparative advantage though the years 1990-2003 among industrial products. Although its competitive performance in the EU market is decreasing as indicated by the falling RCA values from 1990-1995 to 1996-2003, it still has a high comparative advantage vis-à-vis the EU. Moreover, the clothing industry is a

good example representing the structure of the Turkish manufacturing industry. The second industry, the cement industry, carries the second highest RCA values among industrial products and is interesting to study due to its differentiated character.

## CHAPTER 4

### THE TURKISH CLOTHING INDUSTRY: IDENTIFYING SOURCES OF COMPETITIVE ADVANTAGE WITH RESPECT TO THE EU

The clothing industry<sup>23</sup>, covering all textiles, leather and plastic ready-made cloths, has been one of the leading industries in Turkey with significant contributions to national income. The share of output of the clothing industry within the manufacturing industry in Turkey has been 2.2% in 2001 indicating its importance for national income (DiE, 2005a, 2005c, own calculations). It is obvious that the clothing industry takes its source of advantage from the labor endowment in Turkey. This however, is not a sustainable advantage, and can be easily imitated by other countries having larger labor supply. Therefore, it is important analyzing the competitive advantage of the clothing industry through the methodology of the Diamond Framework, which bases its criteria on many other factors besides production costs. This chapter tries to identify whether the sources of advantage of the Turkish clothing industry is dependent only on the labor intensity of the country, or whether it has other attributes which have the potential to increase its competitive position on a sustainable basis with respect to the European Union.

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<sup>23</sup> The clothing industry is classified under the code 84 as "Clothing and Accessories" in the Standards of International Treaty on Classifications (SITC), and is described as "Articles of apparel and clothing accessories" (UN, 2005).

#### **4.1. Historical Development**

The textile and apparel industry in Turkey dates back to the period of the Ottoman Empire. Production and processing of cotton and yarn were an important part of the manufacturing industry. Reason for that was mainly the geographical location, providing high quality cotton in large quantities. When the empire collapsed, the new Turkish Republic, founded in 1923, inherited 8 factories and 10,000 looms from the Empire (Tan, 2001:6).

The newly established Republic followed a protectionist strategy in important sectors, including the textile and clothing industries. It engaged in important investments by opening new factories and forming related state economic enterprises. Sümerbank was established as a state owned enterprise in 1933. It was only producing textile products, but had important contributions to the development of the Turkish clothing industry.

After the 1980s, with the economic liberalization, the government started to encourage and to promote clothing and textile exports. Although Europe set quotas on textile and clothing products, in 1979, Turkey remained to be a major supplier of clothing products to Europe until the emergence of Asian countries providing much cheaper goods (Tan, 2001:6). The transfer of Sümerbank to the private sector, which started in 2001, aimed increasing productivity in textile production. However, while production increased substantially in certain factories, up to 28% within the two years of privatization, there were also significant declines in production in other factories (ÖİB, 2005).

#### **4.2. Current Global Environment**

Since the Turkish clothing industry is generating revenues mostly from exports, global trends towards trade in clothing become important indicators



evaluating Turkey's international success. Table 4.1 gives trade data on leading clothing exporters for the period 2000-2004.

**Table 4.1**

Leading Exporters of Clothing (2000-2004) (Million USD)

<b>Countries</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
<b>China and Hong Kong**</b>	60,290	60,100	63,640	73,210	86,960
<b>European Union (15)</b>	-	47,090	50,450	59,950	74,921*
<b>Turkey</b>	6,530	6,630	8,060	9,940	11,190
<b>Mexico **,***</b>	8,700	8,010	7,750	7,340	7,200
<b>India ***</b>	6,030	5,480	6,460	6,620	-
<b>United States</b>	8,650	7,010	6,030	5,540	5,060
<b>World Exports</b>	199,939	195,026	200,840	225,940	258,097
<b>Change in Total Exports</b>	-	-2.46	2.98	12.50	14.23

Source: WTO, 2005.

(\*) EU with 25 member states

(\*\*) Includes significant shipments through processing zones

(\*\*\*) Includes secretariat estimates

According to Table 4.1, world clothing exports amounted 200 billion dollars in 2000, 195 billion dollars in 2001, 201 billion dollars in 2002 and 226 billion dollars in 2003 and 258 billion dollars in 2004. Except for a decline in 2001, the export value of clothing products showed an accelerating increase during 2001-2004. Especially in 2003 and 2004, increases in world exports have been substantial with 12.5% and 14.2% respectively.

China and Hong Kong together are clearly the largest exporter of clothing products in the world. Their exports increased from 60,290 million dollars in 2000 to 73,210 million dollars in 2003 and to 86,960 million dollars in 2004. China and Hong Kong constituted approximately 30% of world trade in 2000 and 2001 and showed an increase by 6% in 2002, 10.4% in 2003 and about 19% in 2004. With the abolishment of textile and clothing quotas in the beginning of 2005, it is not unrealistic expecting China to capture a much

larger share of world trade in clothing. According to Çulpan, Ekin and Kumbaracı (2005), China and Hong Kong combine the advantages of low production costs and large production capacity. Provided with economies of scale, cheap labor, important government support and integrated cotton, textile, and garment industries, China and Hong Kong are expected to keep their dominant positions.

The EU is also among the leading exporters of clothing products. As Table 4.1 depicts, EU increased its amount of exports from 47,090 million dollars in 2001 to 59,950 million dollars in 2003. In 2004, clothing exports of the EU increased to 74,921 million dollars, a reflection of the enlargement to 25 member states. The EU-15 has constituted about 24% of total clothing exports in 2001, increasing to 27% in 2003 and with the enlargement in 2004 the share of clothing exports of Europe in total world exports increased to 29%.

Turkey is also an important clothing exporter. During the period of 2000-2004 Turkish clothing exports showed a significant increase. While exports were 6,530 million dollars in 2000, they increased to 11,190 million dollars in 2004. The increases were 1.5% in 2001, 21.6% in 2002, 23.3% in 2003 and 12.6% in 2004.

While import markets are more essential to analyze, Europe's share in total clothing imports points toward Turkey's advantage. Table 4.2 present leading importers of clothing products for the period of 2000-2004.

According to Table 4.2 Europe has been the largest market for clothing imports during 2001-2004. Clothing imports of the EU increased substantially from 79,260 million dollars in 2001 to 121,656 million dollars in 2004. The rates of increase were realized as 7% in 2002, 19% in 2003 and 20% in 2004. The accelerated increase in clothing imports during that period

presents a large and dynamic market for Turkish clothing products, providing Turkey with an important advantage.

**Table 4.2**

Leading Importers of Clothing (2000-2004) (Million USD)

<b>Countries</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
<b>European Union (15)</b>	-	79,260	84,880	101,290	121,656*
<b>United States</b>	66,392	66,391	66,730	71,280	75,730
<b>Japan</b>	19,709	19,150	17,600	19,490	21,690
<b>Hong Kong</b>	16,009	16,100	15,640	15,950	17,130
<b>Russian Federation**</b>	2,960	2,670	3,860	3,710	5,460
<b>Canada***</b>	3,690	3,920	4,010	4,500	5,220

Source: WTO, 2005.

(\*) EU with 25 member states

(\*\*) Includes Secretariat estimates

(\*\*\*) Imports are valued F.O.B.

United States constitutes the second largest import market for clothing during the years 2000-2004. In 2000 clothing imports of the US amounted to 66,390 million dollars and increased to 75,730 million dollars in 2004. The increase in clothing imports shows a less dynamic structure compared to Europe with increases being approximately at the same level during 2000-2002; and increased by 6.8% in 2003 and 6.2% in 2004. Contrary to the argument of American people spending more on consumer goods, the European market has much higher values of imports during the mentioned periods.

Following clothing importers are Japan and Hong Kong. Clothing imports of the two countries showed a mere change during the same period. Japan's imports increased from 19,709 million dollars to 21,690 million dollars in 2004. The same is also true for Hong Kong, having approximately the same level of clothing imports of 16 million dollars during 2000-2004. The Russian

Federation and Canada have even smaller amounts of clothing imports but have the same increasing trend in clothing trade.

### **4.3. Assessing Sources of Advantage**

#### **4.3.1. Factor Conditions**

The factor conditions of the clothing industry in Turkey provide the most important advantage for the industry. Referring to the classifications of the Diamond Framework, factor conditions are analyzed according to physical, human, and capital resources, as well as the technological infrastructure of the industry.

Considering physical resources, one of the most important advantages comes out to be the availability of raw materials used in clothing production. Given that Turkey is one of the most important cotton producing countries in the world, it is not surprising that 80% of total clothing products are made from cotton textiles (Sevim, 2002:5). Therefore, the availability of rich and high quality cotton provides the industry an important advantage. Table 4.3 shows cotton production in Turkey compared to other major cotton producing countries.

According to Table 4.3, India has the largest cotton area in the world with 7,440 thousand hectares, which is about 25% of world cotton production area. The second largest cotton area belongs to the United States having a share of 17% in total cotton area. China ranks third having 14% share of world cotton area while Turkey ranks 7<sup>th</sup> with 719 thousand hectares in 2003. It is observable that cotton cultivation area in Turkey has been widened from 693 thousand hectares to 740 thousand hectares, which is an increase of almost 7%.

**Table 4.3**

## Cotton Area and Production of Major Countries (2001-2003)

	Area (Thousand Hectares)				Production (Thousand Metric Tons)			
	2001/2002	%	2002/2003	%	2001/2002	%	2002/2003	%
China	4,820	14	4,824	16	5,313	25	4,921	26
USA	5,595	17	5,029	17	4,421	21	3,747	20
India	8,730	26	7,440	25	2,678	13	2,308	12
Pakistan	3,130	9	2,700	9	1,807	8	1,676	9
Uzbekistan	1,430	4	1,420	5	1,067	5	980	5
Turkey	693	2	710	2	865	4	893	5
Brazil	750	2	740	2	766	4	827	4
World	33,870	100	30,274	100	21,414	100	19,040	100

Source: USDA, 2003: 9-17

Concerning cotton production, China constitutes for the highest amount of world cotton production, which has been reported as 5,313 thousand metric tons for 2001/2002 and 4,921 thousand metric tons in 2002/2003. China is followed by the US and India, which also have important shares in total cotton production of 20% and 12% respectively.

Turkey has constituted about 4% of total cotton production in 2001/2002, which was 865 thousand metric tons. This share has been increased to 5% in total production of cotton which was reported as 893 thousand metric tons for 2002/2003. However, although Turkey has a significant share in total cotton production, it has also high rates of consumption, which brings it among the major cotton importers in the world. In 2001, Turkey has been the 5<sup>th</sup> largest country of cotton usage and the second largest country of cotton imports after China and Indonesia (USDA, 2003:6)

Besides production, the quality of cotton produced is also highly important. Tan (2001) and Sevim (2002) point out that especially the cotton produced in the western part of Turkey, around İzmir, is considered to be of best quality

and has a higher value added both in domestic and export markets. According to Sevim (2002), the quality of cotton fiber is related to its length, slimness, durability and color. The cotton produced in the Aegean Region has longer fibers and therefore a higher quality. Several institutions in Turkey work on quality improvements of cotton production and have developed different types of cotton, which have been officially registered. Examples of such institutions are the Nazilli Cotton Research Institute, as the most active one, Çukurova, Akdeniz, Güneydoğu Anadolu, Akçakale and Kahramanmaraş Agricultural Research Institutions and Faculties (Sevim, 2002:3).

The implementation of the South East Anatolian Project has had significant contributions to the development of cotton production as well. Through the irrigation process, which has started in 1995, the area of cotton cultivation in South East Anatolia has been widened while the amount of cotton produced has significantly increased. Compared to 1990, in 1998 cotton production in that region increased by 166%. Though not at the highest quality, as of 1998 the proportion of cotton production in South East Anatolia accounted for 42% of total cotton production in Turkey (GAP Bölge Kalkınma İdaresi Başkanlığı, 2005).

Besides cotton, leather production also carries importance for the clothing industry. Having the greatest animal husbandry in Europe, Turkey has a strong position in leather processing compared to other European countries. Öz (1999) states that animal husbandry in Turkey has always been a traditional area, however although the raw leather has a high quality, in recent years the supply of raw leather has been insufficient forcing leather processing firms to import.

Labor intensity in Turkey represents probably the most important advantage of the Turkish clothing industry. Being a developing country with a high rate of population growth, Turkey has focused on labor-intensive industries since

the beginning of its industrialization process in the 1960s. This advantage, however, is being gradually lost. The emergence of Asian countries, like China and India having higher population growth rates and lower wage rates, cause Turkey to lose its relative competitive position, since an advantage based on a basic factor condition is easily imitable and not sustainable in the long-run. Table 4.4 presents annual wages in some European countries, China, the United States and Japan for the clothing industry on a comparative basis for the year 2000.

**Table 4.4**

Annual Wages in the Clothing Industry (2000) (USD)

Country	Annual Wages	Country	Annual Wages
Denmark	25,792	Italy	12,730
Germany	20,800	Spain	9,839
France	18,105	Portugal	5,150
Belgium	17,615	Turkey	3,709
Finland	17,439	China***	1,324
Ireland*	17,010	United States*	18,925
United Kingdom	13,852	Japan**	9,554

Source: UNIDO, 2005; Derived from Bilgin, Karabulut, Daniş, 2004;

(\*) 1999

(\*\*) 2001

(\*\*\*) Approximate calculations for 2002.

According to Table 4.4, Turkey has the lowest wages in the clothing industry among western European countries, the United States and Japan. While the annual wages in the Turkish clothing industry is 3,706 dollars, it is 25,792 dollars in Denmark as the highest and 5,150 dollars in Portugal as the lowest in Europe, still above Turkey. Annual wages in the US and Japan are 18,925 and 9,554 dollars, respectively, being much higher than Turkey. Although wages in Turkey are significantly lower than the European countries, minimum Turkish wages have shown a substantial increase during the last years, which were realized as 29.4% in 2003 and 41.7% in 2004 (DİE,

2005a). China however has distinctively lower wages compared to Turkey and other countries, which is clearly reflected in the growing world share in clothing exports.

While Turkey has a competitive advantage in labor costs compared to European countries, the low level of labor productivity partly wipes out the advantage. Table 4.5 presents labor productivity by person employed for Europe, Turkey and China in the textile industry, however not for the clothing industry. Still it is a closer estimate compared to an average productivity level of the manufacturing industry in general.

**Table 4.5**

Labor Productivity per Person Employed  
in the Textile Industry (EUR)

<b>EU-15 (2001)</b>	31,537
<b>EU New Member States* (2001)</b>	4,168
<b>EU Candidate Countries** (2000)</b>	1,432
<b>Turkey (2002)</b>	13,930
<b>China (2002)</b>	2,634

Source: European Commission, 2005: 262; Ergün, 2004:99;

(\*) Czech Rep., Hungary, Poland, Slovak Rep., Slovenia

(\*\*) Bulgaria, Romania

According to Table 4.5, Turkey's labor productivity of 13,930 euros per person employed annually is 44.2% of the EU-15. However, the productivity rate in the textile industry in Turkey is 3.3 times higher than the new member states; 9.7 times higher than the candidate countries and 5.3 times higher than China. Productivity per person employed in Turkey showed also a substantial increase of 14.3% in 2004, which is a favorable indicator for enhanced competitiveness (DİE, 2005b). The difference compared to EU-15 countries is compensated by the low wage rates, while having a clear advantage over the new member states. Compared to China, on the other



hand, Turkey retains its advantage but has to improve the level of productivity.

According to the Diamond Framework, human resource planning constitutes also an important part of factor conditions while the availability of qualified human capital is a driving force for an industry to develop. For that, it is important to have necessary educational opportunities for the industry. In that respect, it can be said that Turkey has enough facilities, schools, universities, courses and training programs to educate people for the textile and clothing industries. According to a study of PWC (2001) there are 8 garment faculties, 5 vocational garment faculties, 9 vocational fashion schools and 181 high schools (lycee) in Turkey. It is not unusual for these schools and universities to be located mainly in the Marmara and partly in the Aegean Region, where important textile and clothing clusters exist.

Several projects are undertaken by different associations and institutions providing educational opportunities for workers employed in the clothing industry, many of which are supported by the European Commission. Such organizations are mainly in the form of training, courses and consulting advice provided for SMEs. Among others, the leading institutions involved in these organizations are the Istanbul Textile and Apparel Exporters' Association (ITKIB), the Turkish Clothing Manufacturers' Association (TGSD), the Undersecretariate for Foreign Trade (DTM) and the Small and Medium Size Industry Development Organization (KOSGEB).

One of the recent projects for the development of the competitive position of the Turkish clothing industry has been undertaken by TGSD in 2003. To improve the quality of the workforce, an international training project for instructors in the field of clothing production, has been organized. The project had a budget of 3 million euros (financed by the Euro-MEDA Programme) and was implemented with the cooperation of KOSGEB, the Ministry of Education and TGSD. Another recent project is developed within

the framework of the “Active Employment Policy Program” of the European Union. The project is called “Preparation for Employment Training Program” and is led by the Ankara Clothing Manufacturers’ Association (AGSD). With 275 thousand euros granted by the policy program, aim is responding to the necessity of qualified personnel in the clothing industry. The project has a mobile structure, starting in Istanbul and continued in several cities in Anatolia. It aims training unemployed primary school graduates, and employing them in several manufacturing facilities for clothing production (Dünya, 2005).

In spite of the above-mentioned training opportunities, authorities constantly argue that the insufficiency in qualified human capital is one of the most important factors that hinder the Turkish clothing industry to surpass the dependence on subcontracting activities. However Aktuoğlu (2003) points out that the production process of clothing includes very simple phases that even secondary school graduates can easily learn. This does not mean that education is unnecessary; however unrealistic arguments on advanced educational requirements should be reconsidered. The shift to production of goods with higher value added is indeed required; but can only be developed with personnel having the related background supported with the relevant technology.

Financial capital availability is also an important factor condition determining the competitive advantage of industries. Since the clothing industry is mainly composed of small firms having little bargaining power considering the access to low cost financial capital, they are hindered investing in research, technology or human capital in order to stay competitive. Larger companies, on the other hand, have better opportunities for investments for human resource and technological development.

Since the clothing industry is mainly composed of small export-oriented companies, flexibility of financial capital planning is an important

management tool. Yet, problems in capital availability create difficulties for companies to provide different payment options to their customers. Venture capital is one of the weak sides of the financial system in Turkey. Although this method is considered to be used only in high tech industries, scientific research institutions like TÜBİTAK (2003) state that the insufficiency of venture capital is one of the weak sides of the clothing industry in Turkey. It is clear that the financial system in Turkey provides disadvantages for clothing manufacturers against their international counterparts.

Physical capital, reflected in technological infrastructure is another important factor affecting the competitive position of an industry. Before the announcement of the customs union between Turkey and the EU, manufacturers in the textile and clothing industries made widespread investments to increase the production capacity and to improve technology of related machines with the expectation that exports to Europe would increase significantly. As of 2003, capacity utilization in the clothing industry in Turkey has been reported as 85%, still higher than the average capacity utilization in the manufacturing industry of 79.1% (TGSD, 2005).

Computer Technology in clothing design and manufacturing has gained special importance during the 1990s. Computer Aided Design (CAD) and Computer Aided Manufacturing (CAM) are important technologies for higher quality output. Aktuoğlu (2003), points out that Turkey has completed the transformation process to high technology productions, however faces several difficulties to develop those technologies by its own being further dependent on imports.

#### **4.3.2. Demand Conditions**

Demand conditions in the clothing industry are important determinants for the industry's growth and success, since the sector is highly consumer oriented. Referring to the classifications of Porter (1990), demand analysis

includes demand size and growth; and its sophistication and anticipatory nature.

According to Porter, domestic demand conditions are more important than international demand, primarily because of cultural similarities, consumer behavior and proximity. However, due to the fact that the clothing industry in Turkey is highly export oriented, and the existence of a customs union between Turkey and the EU, the European market has become an important factor affecting the competitiveness of the Turkish clothing industry. Thus, demand conditions are analyzed in two groups, namely as domestic demand conditions and demand conditions in the EU.

#### 4.3.2.1. Domestic Demand Conditions

Table 4.6 shows the annual clothing sales as an indicator of domestic consumption volume and the rate of change sales in Turkey for the years 2000-2004

**Table 4.6**

Clothing Consumption in Turkey (Million TRY)

	2000	2001	2002	2003	2004
<b>Sales</b>	1,348	2,637	4,644	5,500	6,633
<b>Rate of Change (%)</b>	-	95.6	76.1	18.4	20.6

Source: DİE, 2005c.

According to Table 4.6, clothing sales in Turkey have been realized as 1.3 billion New Turkish Liras (TRY) in 2000, increasing to 5.5 billion TRY in 2003 and 6.6 billion TRY in 2004. Rates of change have been 95.6% in 2001, 57.5% in 2002, 18.4% in 2003 and 20.6% in 2004.

Although at a decreasing rate, the large domestic market shows continuous growth indicating a dynamic structure. This encourages Turkish apparel

companies to increase their production scales, leading to cost advantages. Moreover, Özben, Bulu and Eraslan (2004) point out that although the average income in Turkey is comparatively low, as of 2004 the share allocated to clothing consumption is about 9% of total disposable income, which shows that fashion and clothing is important for Turkish consumers, being a favorable condition for clothing manufacturers.

Furthermore, Çulpan, Ekin and Kumbaracı (2005) argue that with the advancement in communication technologies and the spread of television broadcast, an awareness of western life style is created, bringing European and Turkish customer preferences closer together. Additionally, being exposed to western products, Turkish consumers developed the need for higher quality products, forcing Turkish apparel manufacturers to adjust to European quality standards, providing an important contribution to enhanced competitiveness of Turkish clothing companies in western markets.

#### **4.3.2.2. European Demand Conditions**

Europe is the largest clothing market in the world. It has also been the most significant clothing market for Turkey, despite the fact that textile and clothing trade regimes have always been sensitive between the two parties. Surely not young or dynamic, but certainly rich, European countries provide important potentials for the clothing companies in Turkey.

Evaluating the potential, absolute consumer expenditure on clothing is an important indicator for the size of the market. Table 4.7 gives an overview of clothing consumption in individual European countries covering the years 2001-2003; and the per head consumption for the year 2003.

**Table 4.7**

Consumer Expenditure on Clothing in the EU-15 (Million EUR)

Country	Consumer Expenditure (Million EUR)			Per Head Consumption (EUR)
	2001	2002	2003	2003
Germany	63,046	61,570	58,550	710
UK	45,580	46,845	48,196	806
Italy	40,335	41,055	41,920	723
France	33,056	34,094	35,174	591
Spain	19,895	21,249	21,890	521
Netherlands	9,655	9,985	10,088	627
Belgium	8,914	9,195	9,223	895
Austria	6,746	6,873	7,002	875
Sweden	5,417	5,579	5,710	642
Greece	5,578	5,570	5,608	525
Portugal	4,857	5,250	5,400	505
Denmark	3,394	3,455	3,584	666
Finland	2,510	2,621	2,753	529
Ireland	2,941	3,070	3,187	787
Luxemburg	311	362	370	829
<b>EU15</b>	<b>252,240</b>	<b>256,790</b>	<b>258,660</b>	<b>681</b>

Source: Sarvaas, 2004:16.

According to Table 4.7, total EU-15 consumption of clothing increased from 252 billion euros in 2001 to 259 billion euros in 2003. Annual increase has been 0.2% in 2002 and 0.7% in 2003. This is an observable stagnation in the clothing market for Europe. Germany is the largest market among the EU countries due to its large population size. Five countries (Germany, UK, Italy, France and Spain) account for almost 80% of the total EU clothing consumption. Table 4.7 also indicates that despite the fact that Germany is the largest market, Belgian and Austrian consumers are willing to spend higher amounts for clothing products compared to the other countries.

For a further analysis, it is also useful to compare the position of Turkey with other developing countries that export clothing products to the European Union. Table 4.8 shows comparatively the export market shares of countries exporting to the EU.

**Table 4.8**

Imports of Clothing from Leading Developing Countries by Major EU Countries in 2002 (% of Total Imports)

	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>
<b>Germany</b>	<i>Turkey (15%)</i>	China (9%)	Bangladesh (4%)
<b>UK</b>	China (13%)	<i>Turkey (11%)</i>	Bangladesh (5%)
<b>France</b>	Morocco (8%)	Tunisia (8%)	China (7%)
<b>Italy</b>	China (19%)	Tunisia (9%)	Bangladesh (3%)
<b>Netherlands</b>	China (15%)	<i>Turkey (10%)</i>	Bangladesh (6%)
<b>Spain</b>	China (13%)	Morocco (11%)	Bangladesh (4%)

Source: Sarvaas, 2004: 36

According to Table 4.8, by the end of 2002, Turkey ranked first among the developing countries exporting clothing products to the German market having a 15% share in total German clothing imports. Similarly Turkey ranked second among the exporting countries to the UK having a share of 11% of total clothing imports; and to the Dutch clothing market, having a share of 10% of total Dutch clothing imports.

Turkish export volume to the EU-15 indicates directly the market size of European countries for Turkish clothing products. Table 4.9 presents Turkish exports to the EU-15 and annual changes for the years 1996-2003.

**Table 4.9**

Turkish Clothing and Accessories Exports to EU Countries (Million USD)

Turkey's Exports to	1996	1997	1998	1999	2000	2001	2002	2003
<b>Germany</b>	2,880	2,695	2,737	2,536	2,465	2,323	2,538	3,066
<b>UK</b>	357	425	498	589	771	917	1,281	1,500
<b>France</b>	386	402	436	426	420	465	532	692
<b>Netherlands</b>	332	327	368	353	347	355	441	612
<b>Denmark</b>	67	75	94	100	104	133	192	275
<b>Italy</b>	90	106	136	133	140	151	184	260
<b>Sweden</b>	49	63	83	86	96	96	127	173
<b>Austria</b>	116	107	113	95	79	79	97	109
<b>Ireland</b>	9	15	13	18	13	20	37	65
<b>Spain</b>	9	15	13	18	13	20	37	65
<b>Greece</b>	6	10	13	19	18	20	33	53
<b>Finland</b>	10	12	13	13	14	17	21	26
<b>Portugal</b>	2	2	2	3	4	5	5	6
<b>EU15</b>	<b>4,313</b>	<b>4,253</b>	<b>4,520</b>	<b>4,388</b>	<b>4,485</b>	<b>4,600</b>	<b>5,527</b>	<b>6,903</b>
<b>Change (%)</b>	-	-1.4	6.3	-2.9	2.2	2.6	20.2	25.1
<b>Total Exports</b>	6,076	6,697	7,074	6,516	6,586	6,661	8,094	9,962
<b>EU Share in Total Turkish Exports (%)</b>	<b>71</b>	<b>64</b>	<b>64</b>	<b>67</b>	<b>68</b>	<b>69</b>	<b>68</b>	<b>69</b>

Source: UN Statistical Division (SITC Rev.3 Data), 2005; DTM, 2005c.

According to Table 4.9 Turkey has increased its exports to the EU by 67% during the period of 1996-2003. Nevertheless, the increase has gone through important fluctuations. Until 2002, exports showed increases and declines about 2%; and an exceptional increase in 1998 of 6.3%. However, in 2002 and 2003, the rates climbed substantially by 20.2% and 25.1%, respectively.

Germany is the largest market for Turkish clothing exports. The increase in exports to Germany showed little changes during the period after the customs union, but increased at a higher rate during 2002 and 2003, showing a similar trend to total exports. UK, France and Netherlands, have



also shown a similar trend, which can be attached to the stagnation observed in Europe, as well as to the instability of the Turkish economy during the years 1996-2003. The depreciation of the Turkish Lira against Euro during the financial crises in 2001 has been the reason behind the sharp increase in the following years.

The share of income spent on clothing is also important to identify the consumption behavior of European citizens. Table 4.10 shows spending on clothing as a percentage of disposable income in the largest European clothing markets for the years 1998, 2000 and 2002.

**Table 4.10**

Spending on Clothing as a Percentage of Disposable Income in Some European Countries (1998-2002) (%)

<b>Country</b>	<b>1998</b>	<b>2000</b>	<b>2002</b>
<b>Germany</b>	5.7	5.4	5.2
<b>UK</b>	5.2	5.1	5.3
<b>Italy</b>	6.1	5.8	5.6
<b>France</b>	4.2	4.0	4.0
<b>Spain</b>	5.5	5.4	5.4
<b>Netherlands</b>	4.2	4.0	4.0
<b>EU15</b>	<b>5.6</b>	<b>5.3</b>	<b>5.2</b>

Source: Sarvaas, 2004: 30.

Despite the fact that Germany is the largest clothing market for Turkish exports in the EU, primarily due to its large population size, it is observable in Table 4.10 that the proportion of disposable income German consumers spend on clothing has also declined from 5.7% to 5.2% during 1998-2002.

According to the study conducted by Sarvaas (2004) the slowdown in the German economy diminished personal consumption and has led to greater price consciousness among consumers; and thus, greater demand for

relatively cheaper goods. The average spending on clothing has also declined, indicating the tendency towards lower priced products.

The second largest market for clothing is UK. Table 4.7 depicts that British clothing consumption showed an increase of 3% in the year 2003 and an increase of 9% during the period 2001-2003. The average proportion of disposable income spent on clothing, shown in Table 4.10, however remained generally stable with a slight increase in 2003. Based on his study, Sarvaas (2004) concludes that different trends of the British clothing market compared to the German clothing market is mainly due to differences in the economic conditions. While in Germany unemployment rates increased and total production decreased, unemployment rate in Britain remained stable and national production showed a growth.

The third largest clothing market among European countries is Italy. According to Table 4.7, Italian clothing consumption increased by 3.9% reaching almost 42 billion euros during 2001-2003. Although total consumption in Italy is smaller compared to the other two countries, the average spending on clothing as a proportion of disposable income is higher. It is important to state that Italian consumers are more fashion oriented than the German and British consumers. Therefore, price plays a less important role in the consumption behavior of Italian people. Moreover, price is often perceived as an indicator of quality.

Quality of the product is a very important attribute in Europe, and is mainly determined according to its durability. Quality requirements also include well fits and comfort. The recent consumer trend is towards high quality but affordable prices; therefore the degree of the price/quality ratio is the most important attribute of clothing in Europe.

This price/quality ratio has made Turkish products attractive in the European market, because goods provided are relatively cheap but not at lower quality.

Furthermore, Tan (2001) states that because of quick response to the demand, due to proximity and because of diversified supply and the integration to the EU, Turkish goods have gained advantages over other exporting countries to the European market. The sophisticated European market also forces Turkish firms to upgrade production technologies in order to provide higher quality products. It is likely that further adaptation of European quality standards will amplify the demand for Turkish clothing products and improve the competitiveness of the clothing industry in Turkey.

#### **4.3.3. Related and Supporting Industries**

Major related and supporting industries of the clothing industry can be identified as cotton and woolen textiles, including fabric and yarn, leather industry and the industry for clothing machinery.

The textile industry is the most important supporting industry, establishing the basis for clothing production in Turkey. It accounts for more than 10% of total output and for more than 35% of total exports and is counted as the backbone for the competitive position of the clothing industry (İTKİB, 2005). High quality and low priced supplies of textile are important determinants. İTKİB (2005) points out that heavy investments to the sector and continuous technology transfer from developed countries, especially from the EU, has enhanced the technology used in textile production and the quality of textile products in Turkey.

According to İTKİB (2005), fiber processing technology in Turkey, including production capacity, technological advancement and product quality are at least at the same level as the European countries. Table 4.11 presents established textile production capacities a percentage of world production capacity in major textile producing countries/regions as of 2001.

**Table: 4.11**

Textile Production Capacity as a Share of World Capacity (%) (2001)

Country	Weaving	Shuttling	Yarn Textile	Woolen Textile
China	12.2	41.1	35.5	18.7
India	1.7	9.2	0.3	5.7
Turkey	2.4	2.1	0.5	4.9
EU-15	7.3	0.6	3.8	25.0
World	100.0	100.0	100.0	100.0

Source: Derived from Bilgin, Karabulut and Daniş, 2004: 31.

Table 4.11 indicates that China's textile production capacity is in all forms significantly higher than other countries. While Turkey constitutes about 32.5% of weaving textile production of Europe, the production capacity of China in the same category is 1.7 times higher than the capacity of Europe. Concerning shuttling textile production, the capacity in Turkey is far above the EU, however China's capacity reaches to one third of the world shuttling textiles production capacity.

The same is also true for yarn textile production. In that category Turkey constitutes about 14% of EU's total capacity, while China's capacity is 9.3 times higher than the EU covering 35% of world yarn textiles production. Lastly, woolen textile production capacity in Turkey is about 19.5% of the EU, while China's capacity constitutes almost 75% of EU's woolen textiles production capacity.

Despite being far behind China, Turkey makes up a significant percentage of EU's total textile production capacity, providing Turkish clothing industry with an important advantage over European countries. As İTKİB (2005) argues, Turkey continues to make significant amounts of investments to several types of textile machines such as yarn, weaving, and others; and gives special importance to keep these technologies upgraded.

The quality of textile and clothing machines used in the production process has clear impacts on the quality and competitiveness of the clothing industry. Related Associations such as İTKİB and TGSD argue that while the supply of technologically advanced local machines is insufficient and import is highly required, excess in basic textile and clothing machines is present, due to heavy investments made during the 1990s. Contrary to the arguments of Porter (1990), the domestic market being more important than export markets, the textile and clothing machines industry in Turkey grows significantly with exports and plans sustaining its presence mainly with export revenues. According to Dünya (2005b), since Turkey is insufficient in producing advanced textile and clothing machines, it continues producing basic machines, where there is no need for, and tries to finance technologically advanced machine imports by exports of those basic machines mainly to the newly emerging Asian countries.

Although at a much lower degree, the leather industry is also an important supporting industry providing processed leather for leather clothes production. The share of the leather industry in Turkey's total industrial production is 2.2%, which makes it the 10<sup>th</sup> biggest sector in the country. Especially during the period of 1984-1992, the Turkish leather industry showed a remarkable growth of 9% (Öz, 1999). The announcement of the customs union to be established between Turkey and the EU also affected the leather industry. During the period of 1996-1998, raw leather processing machine investments increased tremendously and Turkey became the second biggest country in raw leather processing machine imports in the world.

Comparing Turkey with the European countries, in 1996 Turkey constituted about 61.6% of Europe's small cattle processed leather production. Compared to Italy, the strongest processed leather producing country in Europe, Turkey was able to produce about 118% of Italy's production. This, however, changed during the following years. According to Özçörekçi and

Öngüt (2005) global crises and crises occurred in Turkey after 1996 have resulted production to decrease and Turkey ranked ninth in machine imports in 2000 and lost its supreme production capability by 12% from 1996 to 2001.

#### **4.3.4. Firm Structure, Strategy and Rivalry**

The companies in the apparel industry are generally small to medium sized. There are approximately 35000 small-and medium sized apparel companies in Turkey, of which 125 are medium sized companies. According to İKV (2004), the number of large companies is small but they have a great share in the European market. Most of the large clothing companies have a vertical integration, from spinning, weaving to the production of ready-made cloths. This enables companies to make use of technology and knowledge transfer, as well as faster supply of inputs. The small to medium sized companies on the other hand, focus on a certain phase of the production procedure (WIIW, 2005:85). Since the market is mainly dominated by small and medium sized companies, it is highly competitive and it is easy to enter and exit the market. Still prices vary widely according to the product and type of outlet, provided with different market segments for price and quality. While small firms compete mainly on price, bigger companies compete on design and quality.

The small companies are usually owned and operated by entrepreneurs and their families, who have practical experience rather than related educational background in the textile and apparel industry. These companies are mainly engaged in subcontracting activities. According to Çulpan, Ekin and Kumbaracı (2005) the most important advantage of these small companies is their quick responsive structure to the changes in demand, changes in consumer preferences and adoptability to different needs in the international markets. Added with low production cost opportunities, most of these companies are export oriented. Çulpan, Ekin and Kumbaracı (2005) further state that the major proportion of those companies is European-oriented,

due to the proximity to the market; and converging tastes and preferences provided with migration and travel opportunities. Tan (2001) further states that in the recent years, a number of foreign manufacturers, including many internationally known brands, have formed license agreements with Turkish producers. More than 10 global brands, which are known for their quality and design are produced in Turkey and exported to foreign markets.

Given the advantage of low labor cost and proximity, it is not surprising that most of the Turkish clothing manufacturers are engaged in low-cost strategies. However, both the domestic and global market is increasingly demanding for higher quality products. Accordingly, most of the companies are forced to develop differentiation strategies for quality and pricing as consumers become more informed and aware of international standards and brands, starting to introduce their own brand names through fashion fairs or other activities.

Çulpan, Ekin and Kumbaracı (2005) have identified three main types of Turkish apparel companies based according to their business strategies. These are: companies, who take low cost production as their main strategy, subcontracting companies and companies, which base their strategy on product differentiation.

The first group of companies, which consist of mainly small-sized manufacturers, make up the biggest proportion of clothing manufacturers in Turkey. Their core strategy is to provide products at affordable prices targeting the lower to middle income class in Turkey and abroad. It is known that most of the companies in that group are not registered and use low cost as the only strategic advantage. Their cost advantage results primarily from hiding company records, avoiding the payment of employee insurance, income taxes etc. Although their primary strategy is not subcontracting, they usually also work for large foreign companies, which are well known for their

quality. These multinational companies are eager to use the advantage of upper quality textiles and low production costs in Turkey.

The second group is identified as subcontractors. The restructuring policy of many manufacturing companies in Europe during the last two decades led to relocation of clothing productions, mainly due to labor cost comparisons. Consequently, EU countries have developed an outsourcing policy for production, focusing more on technology development and design. According to Sarvaas (2004) companies in Europe focus technology intensive products in their own factories; products with an average value added, on the other hand, are subcontracted at short distances; whereas bulk products are sub-contracted in low-wage countries (like India, China etc). Turkey has an important comparative advantage to be geographically close to Europe compared to China or other Asian countries, enabling Turkey to meet the demand for short delivery times successfully.

There are three basic types of subcontracting: Outward Processing Trade (OPT); Cut, Make and Trim (CMT); and Free on Board (FOB). European countries with the highest number of subcontractors work with Romania (22%), Ukraine (9%), Poland (9%), Morocco (6%). and the Czech Rep. (5%) (Sarvaas, 2004:36). Turkey does not lie among the most important subcontractors for European clothing manufacturers, mainly because of relatively higher labor costs. Even Turkish clothing manufacturers have started to relocate their facilities to those countries (İKV, 2004). Çulpan, Ekin and Kumbaracı (2005) further stress on the fact that to hinder the possible decline in the market share, is important transferring entrepreneurship to professional management, so as not to let the Turkish clothing companies remain as small-sized cottage businesses.

Companies, who use a differentiation strategy, constituting the third group of companies in Turkey, engage in quality leadership and channel control. They provide upper quality products in their own retail stores with special design



and promotion. These companies mainly target the upper class of the domestic market, but have also retail stores in major cities in Europe and North America. They have retail operations, which are either vertically integrated, meaning manufacturing their own brands, or use subcontracting for their productions. Although the percentage of such companies is rather small, they engage in important investments for fashion and design. These companies are the ones who have the potential to resist against future threats.

#### **4.3.5. Role of the Government and European Integration Process**

The textile and clothing industry has always been important both for the European Union and Turkey. For Turkey, the sector entails significant contributions to national income, as well as to employment. For Europe, it is perceived as a threat due to its labor intensive structure, where Europe has lost its competitive advantage long time ago. Relocating production facilities, Europe experienced 31% decline in employment in the clothing industry during the period of 1985-1995 (Wysokinska, 2003:47). However, since commercial relations between the two parties are determined by the EU, and since Turkey is obliged adopting these policies without being involved in the decision making process, it is crucial analyzing EU's policies towards the sector.

In 1971, when the EU (EEC at those times) abolished all tariffs and quotas and other measures having equal effect on industrial products against Turkey in the framework of the customs union to be concluded, it did not foresee the substantial increase in Turkish exports of textile and clothing products to its market. Consequently, the EU made several attempts to implement quotas on those products within the context of the Multifiber Arrangement (MFA), concluded in 1974, extended several times, and lastly taken into the scope of GATT, was, however, not successful due to the

Association Agreement signed with Turkey. Consequently, the EU started to implement quotas on Turkish textile and clothing exports within the form of Voluntary Export Restraints (VERs) in 1979 and set several conditions to eliminate them by 1995, with the completion of the customs union (Ege, 1999:265). These conditions were the harmonization of the competition policy including state aids, technical barriers to trade, intellectual and industrial property rights, public procurements and the commercial legislation regarding anti-dumping and safeguard measures (Togan, 2000: 18).

The elimination of quotas on Turkish textile and clothing products by the EU at the end of 1995 within the framework of the customs union, provided an important advantage for Turkish clothing manufacturers in the European market with respect to their competitors for nine more years until the abolishment of textile and clothing quotas in January 2005.<sup>24</sup>

Prior to the completion of the customs union, one of the highest two customs duties that Turkey applied to other countries was on textile and clothing products. When Turkey had to abolish these duties against the EU at the end of 1995, European clothing imports, having much higher quality, showed a substantial increase, bringing Turkish clothing manufacturers to an unfavorable position. However, one might argue that this has become the dynamic effect of the customs union, due to the fact that Turkish textile and clothing products have reached the highest RCA value among other industrial products with respect to the EU during, indicating that clothing manufacturers have gone through a restructuring process enhancing their competitiveness.

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<sup>24</sup> After the Uruguay Round in 1995, the quantitative restriction on textile and clothing products were included in the Agreement on Textile and Clothing (ATC), which was an additional Agreement annexed to the agreement establishing the World Trade Organization (WTO) in 1995. According to the agreement, the said quotas were to be reduced step by step until the complete elimination in January 1, 2005.

In the framework of the Common Commercial Policy (CCP) and the Common External Tariff (CET), Turkey was obliged to align its tariffs rates and quotas on textile and clothing products to third countries with that of the EU. Accordingly, the average tariff rate was reduced from 26% to 6% (İKV, 2004:85). However, while Turkey was not applying any quotas to third countries since 1981, it had to set certain quotas within the framework of CCP. The effects of reduced tariffs were twofold. While it was favorable for Turkey to import cheap textiles from Asian countries, Turkish manufacturers feared from increased imports of clothing products due to the imbalance in tariff rates of the Asian countries and Turkey. The same was also true for countries like India, Pakistan, Brazil, and Indonesia, which applied higher tariff rates to Turkey resulting in an unfair position for Turkish products. They were able to enter the Turkish clothing market with much lower import tariffs which had reduced domestic clothing production from 30% to 10% during the first years of the CET application (İKV, 2004:85).

Nevertheless, these FTAs also contributed to the relationship between the member countries of Pan European Cumulation System, EFTA, CEEC and the EU, providing Turkish companies with inputs at lower costs, so that they could export them at lower prices to the European market. The new member states have become both attractive markets and opportunities for cheaper production (İKV, 2004). On the one hand, the market is eager for new western type products; on the other hand due to its cheap labor and energy costs these countries provide attractive opportunities for the production of clothing, which then can be imported tariff free to the Turkish market.

Trade relations with the EU have also been highly related to the harmonization of regulations in the field of technical barriers to trade. Turkey's efforts to harmonize its technical legislation with that of the EU resulted in the elimination of the usage of inputs, harmful for the environment and health; the accreditation of laboratories; compliance with the directives related to calibration usage, which were all positive developments increasing

the strength of the industry in the EU market. In addition, there is a tight control on the companies exporting to the EU in terms of working conditions, security and health. Companies, which do not comply with the relevant legislation of the EU, are not allowed to export to the European market. Therefore, the Turkish Clothing Manufacturers' Association (TGSD) has started an initiative called the Charter of Social Responsibility. The charter has been prepared according to the European standards of environment, work and security and aims to certify those companies complying with the Charter (İKV, 2004:90).

China, being the most important rival in exports of clothing products to the EU, is an important actor concerning the competitive position of Turkish clothing manufacturers. With its population size and newly liberalizing economy, the most important advantage of China is its low labor cost. Since the clothing industry is highly labor-intensive, China does not only penetrate into the European market, but also constitutes a threat for the Turkish domestic market. Even under quota restrictions, China was the most important clothing supplier to the EU. With the elimination of textile and clothing products in the framework of the ATC in January 1, 2005, Chinese imports increased enormously and constituted a threat to the European clothing industry. Therefore, the EU decided to conclude an agreement with China in June 10, 2005, which provided the EU to impose quotas on 10 different product groups until 2008.

Concerning the efforts of the Turkish government, it is clear that it had important effects on the competitiveness of the clothing industry. Protectionist strategies and investment incentives during the 1960s and 1970s have established a stable ground for the industry to grow. When Turkey turned to a more liberal strategy in 1980, the clothing industry was able to compete in international markets. Complying with the provision of the EU concerning state aids within the context of the customs union, government supports cover mainly market research, support for opening

stores abroad, support on the enhancement of the Turkish image in international markets, support on export oriented travels, and support on international fairs (DPT, 2004a:169).

An important Council of Ministers Decree was taken in 2000 aiming to establish a strong image of Turkish goods in international markets through the enhancement of quality, presentation and promotion of these products.<sup>25</sup> With that, the government is supposed to cover all costs and expenditures of Turkish companies operating and/or producing under their own names together with foreign trade companies, engaging in presentation and promotion activities of their products, including registration of brand names, aiming to create a valuable image of Turkish products (Eryaşar, Aşar and Şan, 2001). Since Turkey is losing its competitive advantage as a low cost producer in the clothing sector, this has been an important opportunity for clothing manufacturers to establish and promote their own names, and to shift to a higher value-added production.

Yet, the inefficiency of the government to create a favorable environment to increase the competitive position of clothing companies especially after the emergence of Asian low cost producers is among the commonly emphasized arguments of the heads of clothing manufacturers associations. According to Dünya (2005a) one of the most important ones is the high percentage of social security rates for workers, which is also highly related to the significant amount of unregistered small firms causing unfair competition in the market. Another important point stressed is the level of exchange rates. Since the Turkish clothing industry is highly export oriented, the overvalued level of the New Turkish Lira puts the industry at an unfavorable position.

As a conclusion, the labor abundance, reflected in low wages, is distinctively the most important advantage of Turkey's clothing industry. This advantage

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<sup>25</sup> Published in the Official Gazette of the Turkish Republic No: 23948 in 29.01.2000.

is however partly wiped out by the low labor productivity rates. Cotton production as a main raw material for the clothing industry is also a clear advantage. Having high dependency on basic factor conditions at present, the analysis has further shown that the industry is aware of its strengths in fashion and design and therefore makes important investments both in human resources and technological infrastructure. Concerning technologies, the industry has completed the transformation to technologically advanced clothing machines but is insufficient to produce such machines by itself.

The large and increasing population together with increasing national income, the domestic market is a source of advantage for clothing companies in Turkey. Contradicting to the argument of Porter (1990), the analysis has also shown that the European market plays a significant role and is a source of advantage for Turkish clothing companies.

Company strategies, on the other hand, play a minor role on the current competitive status of the industry. These companies prefer taking the advantage of low production costs rather developing business strategies. There are numerous small clothing companies traditionally working for a few big clothing companies in Turkey and abroad due to the above-mentioned cost advantages; however, the number of companies trying to build their own brands to be promoted in the international markets is increasing which signals a potential of enhanced competitiveness.

Turkey's integration process to the EU has probably most served the textile and clothing industries. Due to the Association Agreement between the two parties, Turkey, as an important textile and clothing producer, had the advantage to have access to the European market prior to its competitors. This has provided Turkey the advantage to gain a certain market share, to build an image and to obtain experience in the European clothing market, indicating that the role of Turkey's integration process to Europe has been a source of advantage for the Turkish clothing industry.

## CHAPTER 5

### THE TURKISH CEMENT INDUSTRY: IDENTIFYING SOURCES OF COMPETITIVE ADVANTAGE WITH RESPECT TO THE EU

Cement<sup>26</sup> is among the basic inputs used in the construction industry, comprised of construction buildings and infrastructure projects. Having a large spectrum, it is intensively used both by developing countries, mainly for new buildings and infrastructure; and by developed countries, mainly for renewal purposes. Different from the clothing industry, it is highly energy and capital intensive. Still, the cement industry in Turkey has the second highest RCA value with respect to the European Union among other industrial sectors in Turkey. Therefore, it is important analyzing the sources of competitive advantage of the Turkish cement industry, which does not build its success on the labor abundance of the country. This section tries to assess the sources of advantage of the Turkish cement industry with respect to the EU continuing to use the methodology of the revised Diamond Framework.

#### 5.1. Historical Development

Production of cement in Turkey has begun in 1911 in the Portland Cement Factories in Darıca and Eskişehir as state initiatives (DPT, 2000:12). Until the end of the Second World War the Turkish cement industry experienced a gradual growth. After the war, especially in central Europe,

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<sup>26</sup> Cement is classified under non-metallic mineral manufactures and has the code 6612 as “Portland cement, etc” in the Standards of International Treaty on Classifications (SITC). The description given under this code is: Portland cement, aluminous cement, slag cement, supersulphate cement and similar hydraulic cements, whether or not colored or in the form of clinkers (UN, 2005).

new constructions became a necessity, giving an impetus for the Turkish cement industry. During the 1950s, four new plants were established in Ankara, Zeytinburnu, Kartal (İstanbul), and in Sivas. In 1953 the Turkish Cement Industry Co. (ÇİSAN), a state enterprise, was established with the joint ownership of Turkish Emlak Kredi Bank, Sümerbank, İş Bank and public plants in Ankara and Sivas, owning 11 of 13 cement plants in Turkey during the period of 1950-1963 (Saygılı and Taymaz, 2001: 584).

In the 1960s the rate of urbanization in Turkey showed an important growth, amplifying the necessity for housing and infrastructure, which in turn increased the demand for cement. The increasing demand was partly satisfied with domestic production but still imports were needed.

After 1970, Turkey became a net exporter of cement. The crises occurred globally in the construction sector during the years 1978-1983 also affected the Turkish cement industry, resulting in an excess capacity of cement production. In addition, government investments and incentives for the private sector increased production capacity in the cement industry, forcing companies to engage in exports. Domestic demand increased gradually in the 1980s and in the 1990s, in excess of production creating a need for imports of cement in some regions. Until the end of the 1980s 17 new plants were established to satisfy the demand (Saygılı and Taymaz, 2001: 585). Furthermore, enhancement of capacity and elimination of bottlenecks through modernization and restructuring procedures had been made (DPT, 2000: 13).

After the 1980s, with the economic liberalization, a privatization process in the cement industry had begun. In 1989 five cement plants, in 1993 ten, in 1996 five and lastly two more cement plants in 1997 were privatized, completing the whole process of ownership transfer. Most of the transfer was made to foreign investors, some of which made joint ventures with domestic investors (Saygılı and Taymaz, 2001: 586). As of 2001 the cement industry



constituted about 1.3% of total manufacturing output (DIE, 2005b; 2005c; own calculations).

## 5.2. The Current Global Environment

Table 5.1 shows world cement production and trade, as well as production and trade data for the EU-15 and Turkey for the years 2000-2004.

**Table 5.1**

Cement Production and Trade (2000-2004) (Million Tons)

	2000	2001	2002	2003	2004
<b>World Production</b>	1,666	1,714	1,763	1,817	2,100
<b>World Trade</b>	130	126	125	124	130
<b>EU Production</b>	198	192	194	199	207
<b>EU Trade</b>	48	50	48	46	46
<b>Production in Turkey</b>	36	30	33	35	39
<b>Turkish Exports to EU</b>	4.5	5.2	6.0	7.4	8.2

Source: OAIB, 2003; CEMBUREAU, 2001-2005; DIE, 2005a: 208; UN, 2005.

According to the Table 5.1, the global cement industry produced 1.66 billion tons in 2000 increasing to 2.1 billion tons in 2004, with a small but continuous rate of change during the period 2000-2004. The average annual increase during 2001-2003 has been approximately 3%, while in 2004 the industry experienced a distinctive growth of 15.6%. China is the biggest cement producing country in the world constituting for 44% of the total world cement production (CEMBUREAU, 2005). Concerning trade, it is observable that world trade volume is considerable below the level of production, indicating the inappropriateness of cement for trading. World cement trade experienced a gradual decline of 3% in 2001, and 1% in 2002 and 2003. In 2004, world trade in cement increased by 5% reaching the level of the year 2000.

Production volume of cement in the EU-15 countries has been approximately 11% of total world production through the years 2001-2004. Except the year 2001, cement production in Europe showed growths of 1% in 2002, 3% in 2003 and 3.5% in 2004. According to the 2004 annual report of CEMBUREAU (2005), cement production in Europe is concentrated in Italy and Spain representing more than 40% of total EU cement production. Trade data for Europe is also significantly below the production volume, being about 1/4, through the mentioned period.

According to Table 5.1, Turkish cement production has been 36 million tons in 2000 increasing to 39 million tons in 2004; while the rate of growth has been 10% in 2002, 6% in 2003 and 11% in 2004, indicating a dynamic market for cement with a continuous growth except for the crisis year 2001. Exports to the EU showed also growth, from 4.5 tons in 2000 to 8.2 tons in 2004, with annual growth rates of 15.6% in 2001, 15.3% in 2002, 23.3% in 2003 and 11% in 2004. Although this indicates that the European cement market shows a dynamic structure and is vital for the competitive position of Turkish cement manufacturers, the data indicate that the cement industry is certainly inward oriented.

As of 2002, Turkey ranked fourth in cement consumption and third in cement production within the European countries (Büyükizgi, 2004:120). Total cement exports amounted to 342 million dollars in 2003, of which 51% were made to the EU (UN, 2005). Turkey constitutes approximately 18% of the total EU cement production and is the biggest cement supplier of European countries.

Placing Turkey in the global arena, Table 5.2 and 5.3 present world's leading cement exporters and importers as of 2004.

**Table 5.2**

Leading Cement Exporting  
Countries (2004) (Million Tons)

<b>Turkey</b>	11.0
<b>Japan</b>	10.5
<b>Thailand</b>	10.0
<b>India</b>	9.5
<b>Egypt</b>	7.8
<b>Indonesia</b>	7.5

Source: Cemnet, 2005

According to Table 5.2, Turkey has been the biggest cement exporting country in the world with approximately 11 million tons at the end of 2004. In the same year Japan ranked second with approximately 10.5 million tons; and Thailand third with approximately 10 million tons. Although China constitutes for almost half of world cement production, it did not lie among the major cement exporting countries in 2004, indicating a dominating domestic market for cement consumption in China.

**Table 5.3**

Leading Cement Importing  
Countries (2004) (Million Tons)

<b>USA</b>	26.5
<b>Spain</b>	8.0
<b>Bangladesh</b>	6.0
<b>Nigeria</b>	5.8
<b>Italy</b>	5.0
<b>Vietnam</b>	4.8

Source: Cemnet, 2005

According to Table 5.3, at the end of 2004 with approximately 26.5 million tons, the USA has been clearly the biggest cement importing country in the

world. The following countries have roughly imported the same amount of cement during 2004 of 5-8 tons.

### **5.3. Assessing Sources of Advantage**

Sources of advantage of the Turkish cement industry with respect to the EU are further assessed based on the methodology of Porter (1990). Adding the EU perspective, the evaluation is made according to factor conditions, demand conditions, including the domestic and European demand, firm structure strategy and rivalry, related and supporting industries, and role of the government and Turkey's integration process to EU.

#### **5.3.1. Factor Condition**

Physical resources constitute the most essential part of cement production, of which the most important ones are raw materials and energy. Table 5.4 presents the proportion of main production factor costs in production comparing Turkey and members of the European Cement Association, CEMBUREAU.<sup>27</sup>

Raw materials constitute the most important part in cement production.<sup>28</sup> Turkey enjoys the advantage of having raw and supporting materials domestically available. As shown in Table 5.4, while the proportion of raw materials in Turkey to total costs is only 9.5%, it is much higher in Europe,

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<sup>27</sup> CEMBUREAU Member Countries: Austria, Belgium, Czech Rep., Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

<sup>28</sup> Cement production process is divided into three phases: (1) preparation of the raw material (limestone) for kiln, (2) production of the intermediate product (clinker), and (3) mixing clinker with other raw materials for the final production of cement. The production process is technology oriented and therefore highly capital intensive (Saygılı and Taymaz, 2001: 584).

which is 16.9%. This shows that Turkey has a relative cost advantage concerning raw materials over other European countries.

**Table 5.4**

Share of Costs in Total Production Costs in Turkey and CEMBUREAU Countries (%)

<b>Production Factors</b>	<b>Turkey</b>	<b>CEMBUREAU Countries</b>
<b>Raw and Supporting Materials</b>	9.5	16.9
<b>Energy</b>	43.5	29.0
<b>Package Costs</b>	11.5	7.8
<b>Supplies</b>	6.5	1.9
<b>Labor Costs</b>	14.0	22.6
<b>Outsourcing Costs</b>	10.0	12.6
<b>Depreciation</b>	3.0	0.8
<b>Other</b>	2.0	8.4
<b>TOTAL</b>	100.0	100.0

Source: TÇMB, 2003: 38.

Main raw materials used for the production of cement are lime, clay and marl, which are mixed with clinker, a supporting material composed of silicon (Si), aluminum (Al), calcium (Ca), and some raw materials containing iron oxide ( $Fe_2O_3$ ). Especially limestone reserves are widespread in Turkey. Lime is formed in the groundwater as travertine, and as chemical and organic sedimentation in sea and fresh water (DPT, 1996:1). Both are sufficiently available in Turkey, especially in the Aegean and Central Anatolian Region.

The extraction and primary processing of these raw materials have a low cost. It is possible to easily granulate and to boil them, given that they have a high quality and a brittle characteristic with a low rate of density. Moreover, the fields in Turkey are large and appropriate for forge operations, and are not located inside forests and agricultural areas, which also contribute to the

convenience of extractions (DPT, 1996:54). Since the cement industry requires high amounts of raw material usage, difficult to transport, factories producing cement are located near to the raw material extraction facilities<sup>29</sup>. Having raw material reserves homogenously distributed throughout the country, the geographical location and structure of Turkey provides appropriate places for these processes.

According to Table 5.4, the second important cost factor is energy, due to the intensive energy usage of the industry. The main fuels used in cement production are petroleum coke, coal, fuel oil, lignite, natural gas and different types of wastes (European Commission, 2001:4). Energy costs cover a high proportion of total production costs. This proportion is much higher in Turkey compared to other European countries. Electricity and fuel costs constitute 23.5% and 20.0% for Turkey; and 14.1% and 14.9% for Europe, respectively (TÇMB, 2003:38). Consequently, as shown in Table 5.2, the energy cost shares in total production cost are 43.5% in Turkey and 29% in the European countries. As given in Table 3.1, energy prices are higher in Turkey compared to other European countries. The difference is related to the scarcity of energy supply in Turkey. Although, Europe is also dependent on energy imports from abroad, Turkey's dependency is at a higher degree. Accordingly, a depreciation of the Turkish Lira against foreign currencies has the potential to have adverse effects on energy prices (TÇMB, 2003:57).

Problems concerning energy usage are related to the supply of the appropriate coal. The ideal coal for cement production is required to have a low rate of sulfur and a calorific value over 3,000kcal/ton. Coal having those attributes can only be supplied in small amounts from the Marmara, Aegean and the Black Sea Regions. As a result, domestic coal usage constitutes only a small amount of total usage, making imports necessary for cement production. However, since import of coal is not cost efficient, Turkish

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<sup>29</sup> Within a maximum 5 km.

cement manufacturers are switching to the usage of natural gas. Natural gas is priced lower than electricity and other fuels. The infrastructure to supply natural gas is however not sufficiently developed leaving some regions out. Therefore, manufacturers who cannot reach to natural gas are turning to coke, which is cheaper than but not as efficient as coal or fuel oil (TÇMB, 2003: 65).

Electricity usage creates also some difficulties. Büyükizgi (2003) takes attention to the problem of electricity cuts that happen more frequently in Turkey compared to European countries, having a negative effect on Turkey's productivity level. Therefore, several Turkish cement manufacturers have started to build their own power generating stations in different capacities to supply their own electricity. These generators are connected to the central electricity network and are designed to provide the required electricity for the relevant facilities. If they become insufficient, electricity is gained from the central network; if, on the other hand, excess capacity occurs the amount can be sold to the central network.

Since energy sources are scarce and costly, the usage of waste fuels has emerged as an alternative. Usage of waste fuels enables recycling of wastes and contributes to environmental protection. Moreover, it provides energy savings for the cement producers. These utilizable wastes include; waste oils, rubber, plastic, automobile parts appropriate to burn, inorganic chemical wastes, animal wastes, liquid wastes, wooden parts etc.<sup>30</sup>

This alternative method has been on the agenda of European countries for a long time and is widely used due to systematic collection of wastes and proper transfer to cement producers. Moreover, producers, who use waste fuels in their production process, are awarded for that and can turn their fuel

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<sup>30</sup> Energy gain from certain waste fuels are as follows: burning of rubber results in 28,500-35,000 kj/kg energy, which is equal to the energy gained from coal; plastic burning results in 29,000-40,000 kj/kg energy, which exceeds energy gain from coal; and burning of animal wastes results in 16,000-17,000 kj/kg of energy supply (TÇMB, 2003:36).

costs into revenues. Waste fuel usage in Turkey has also become an important subject concerning costs and environmental protection. Accordingly, a Waste Control Regulation<sup>31</sup>, similar to the ones in the European countries has been adopted. However, the collection of wastes is not properly carried out (TÇMB, 2003:37). This makes difficult to take advantage of waste fuel usage, bringing Turkish manufacturers to an unfavorable position compared to their European counterparts.

Although an energy intensive industry, human resources still play a crucial role in the efficiency of cement production. Based on an empirical study on the technical efficiency of certain sub sectors of the Turkish manufacturing industry, Taymaz and Saatçi (1997) conclude that longer working times of employed personnel have positive effects on the efficiency of cement plants in Turkey. Adding the advantage of lower labor cost proportions in total production costs compared to the CEMBUREAU countries, which is depicted in Table 5.2, the high energy costs in Turkey are partly compensated. Turkey's advantage in human resources is also reflected in Table 5.5, which shows annual wages in the cement industry in some European countries, Turkey, the United States and Japan.

According to Table 5.5, Turkey has the lowest wage rate among the other countries, contributing significantly to the competitive advantage of Turkish cement manufacturers in the European Market. Saygılı and Taymaz (1997) further argue that the number of low skilled workers compared to engineers is higher in private cement plants compared to privatized plants. Especially subcontracting activities have increased with the privatization process, which indicates that profit-oriented cement manufacturers are keen to use the advantage of low labor costs in Turkey. Consistently, Taymaz and Saatçi (1997) reveal in their study of technical efficiency of the cement industry, that subcontracted inputs increase efficiency.

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<sup>31</sup> Published in the Official Gazette of the Turkish Republic No: 20834 of 03.04.1991.



**Table 5.5**

Annual Wages in Europe, Turkey, United States and Japan (2000) (USD)

<b>Country</b>	<b>Wages</b>	<b>Country</b>	<b>Wages</b>
<b>United States*</b>	33.862	<b>Finland</b>	23.239
<b>Netherlands</b>	33.050	<b>Greece*</b>	19.484
<b>Denmark</b>	32.608	<b>Japan**</b>	19.468
<b>Germany</b>	27.562	<b>Italy</b>	18.444
<b>Ireland*</b>	25.587	<b>Spain</b>	16.877
<b>United Kingdom</b>	25.397	<b>Portugal</b>	8.447
<b>Belgium</b>	24.992	<b>Turkey</b>	6.209
<b>France</b>	23.964		

Source: UNIDO, 2005.

(\*) 1999, (\*\*) 2001

Besides labor costs, human resource planning is also important for the competitiveness of an industry. Although it is argued by the TÇMB (2003), that even most of the cement companies do not have a human resources department. Ulusoy (2003a) based on a survey conducted with 25 cement companies in Turkey, has found that annual number of training hours provided for the technical personnel in the cement industry reaches to 56 hours.<sup>32</sup>

There are also efforts of TÇMB, reporting to have carried out fifteen different training programs in 2002 through lectures of experts to several participants from plants, companies or institution, which is presented as one of the most important activities of TÇMB since its foundation (TÇMB, 2002: 13). The association further argues that currently, it is not difficult to employ qualified personnel in the Turkish cement industry, however, it is not among the most preferred sectors of new graduates, because there are not sufficient engagements to inform university students about the industry so that Turkish

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<sup>32</sup> This is much lower in the electronics and automotive industry having 24 hours and 14 hours, respectively.

cement manufacturers will find it difficult to employ qualified personnel in the future (TÇMB, 2003: 65).

Capital requirement and availability in the cement industry, being one of the most important factors of competitive advantage, differs significantly from that of the Turkish business environment in general. Since the cement industry is highly technology driven, it requires sufficient amounts of capital and a proper access to the financial market. 92% of the companies operating in the Turkish cement industry are medium and large-sized companies (Ulusoy, 2003a:3).<sup>33</sup> Presenting a stronger capital position, access to financial markets is relatively easier compared to other industries. Especially large-sized companies, which constitute about 8% of the total companies, are owned by big holdings having also their own banks. The stock exchange market is also a means for capital access for the big companies in the industry. At the end of 2004, shares of 17 cement manufacturing companies, with different percentage shares of total capital were trading in the ISE (Istanbul Stock Exchange) (Büyükkizgi, 2004: 166).

The level of productivity is the key determinant of competitive advantage. Due to the high energy costs in the cement industry, enhanced productivity is an essential factor. According to a study conducted by McKinsey Global Institute (2003), a comparison between the productivity levels<sup>34</sup> of cement plants in developed countries like the United States and Turkey has shown that Turkey reaches to only 84% of the productivity level of those countries, whereas the productivity potential of Turkish cement plants is at 103% of the productivity level of those countries.

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<sup>33</sup> Company size is determined by the number of employees, although the cement industry is a process industry, and open to full automation (Ulusoy, 2003b:4).

<sup>34</sup> The productivity level is identified by using the Cobb-Douglas formula; allocating 0.29 to labor productivity, 0.25 to capital productivity and 0.46 to energy productivity provided the productivity levels of those variables.

According to this study, the reason for the gap between the potential and the actual productivity is related to three factors: plants size, capacity utilization, technology and R&D. It is stated that production plants in Turkey do not have the optimum capacity, which should be at least one million tons/year for operating in a cost saving scale. While capacities in major European countries meet the required level, this level is only provided by 11 out of 39 cement manufacturing plants in Turkey. Low capacity utilization is another important factor. While capacity utilization of cement manufacturing plants in developed countries is around 95%, the level in Turkey stays at 84% (McKinsey Global Institute, 2003).

Concerning that issue, TÇMB (2003) argues that the main reason behind the low rate of capacity utilization is the unplanned incentives given by the government to cement manufacturers, who made continuous investments in capacity enhancements. As the market began to shrink excess capacity occurred, forcing companies to reduce capacity utilization rates. A third factor is the resources allocated to technological investments and R&D. Although automation is seen as relevant for efficiency, the labor abundance in Turkey makes manufacturers reluctant to engage in technological investments. Ulusoy (2003a) has found that 95% of the cement companies in Turkey allocated less than 2% of their total sales on R&D activities.

Besides productivity and capacity utilization, recent technological developments in the cement industry are related to energy savings and environmental protection. Since energy costs are very high and constitute an important part of total production costs, energy saving technologies are necessary for increased productivity. One of the most important method of energy saving is to switch from wet production system to dry production system.<sup>35</sup> There are important energy consumption differences in the two

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<sup>35</sup> Raw materials received by a cement plant contain a small amount of water: lime stone about 2-5%, and clay about 5-10%. In the dry production system, the water is evaporated

systems. While the wet system requires 1450-1650 kcal energy in the clinker furnaces, the dry system requires only 700-900 kcal energy (DPT, 2001: 31). Many European production plants, as well as plants in Turkey, have turned to the dry system. It is reported that since 1960s all new plants in Turkey have been established to operate under the dry production system, which illustrates, according to TÇMB (2003) that Turkish production technologies are at least at the same level as the European ones.

Saygılı and Taymaz (1997), in their study on technical efficiency comparison of privately owned and privatized cement plants in Turkey, have also concluded that dry production technology as well as plant size and the age of technology used have positive effects on the technical efficiency of the cement plants in Turkey.

Concerning technological developments for environmental protection, researches in Europe have been concentrated on the reduction of the CO<sub>2</sub> (Carbon Dioxide) emission levels. CO<sub>2</sub> is produced mainly by using fossil fuels for the burning of clinker in cement production. CO<sub>2</sub> emission has become an important subject because CO<sub>2</sub>, as a dangerous gas, causes air pollution at an important degree. The emission can be reduced by decreasing the usage of raw materials having organic content, or by increasing the proportion of waste fuel usage (European Commission, 2001). However, Gielen (1997) points out that the reduction of CO<sub>2</sub> consumption increases costs by 5-15%. In order for the substitution of organic fuel usage by alternative fuels to be cost efficient, the cost to switch to alternative fuels has to be below that percentage. As of 2003, European cement industry has saved more than 3 million tons of coal by using equally efficient 4.4 million tones of alternative fuels in it plants (CEMBUREAU, 2003).

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through an independent heater before the raw materials are mixed with kiln, which saves energy during the production process (UNIDO, 2004:4).

### 5.3.2. Demand Conditions

The cement industry produces intermediate goods mainly for the construction industry, so that the demand for cement shows a derived structure. Therefore, the demand analysis of the construction industry is essential to further assess the competitiveness of the cement industry. The analysis of the demand structure is made according to the size, growth, segmentation and sophistication.

#### 5.3.2.1. Domestic Demand Conditions

The primary target for cement manufacturers is the domestic market primarily because of the difficulty to transport cement to long distances and related high transportation costs. If the domestic demand does not experience a sharp decline, as it may during economic crises, cement manufacturers prefer to supply domestic customers. Table 5.6 presents annual cement consumption volumes in Turkey for the years 2000-2004.

**Table 5.6**

Annual Cement Consumption in Turkey (Million Tons) (2000-2004)

	2000	2001	2002	2003	2004
<b>Consumption</b>	36.0	30.5	32.8	35.5	38.9
<b>% Change</b>		-15.3	7.5	8.2	9.6

Source: DİE, 2005a; Own calculations.

According to Table 5.6, except for the year 2001, the domestic demand for cement has shown a dynamic structure with accelerated growth rates for the years 2002-2004.

Being the only user, demand for the cement industry is derived from the demand patterns of the construction industry. The construction industry is

one of the leading industries of the Turkish economy. The demand for the construction sector is highly related to a country's growth rate of national income, the population growth, especially in urban cities, and rate of migration to the cities, with a certain time lag. Economic conditions influence government spending on housing and infrastructure projects, whereas population growth and migration have direct effects on the demand for housing. Although Turkey faces unstable economic conditions from time to time, the high growth rate of urban population has always enabled the construction industry to sustain its dynamic structure.

Buildings constitute an important part of the construction industry. Demand for buildings depends to a great extent on the rate of migration to the cities. In Turkey approximately 64.9% of the total population is living in the cities. This rate is about 80-85% in European countries (TÜSİAD, 2005). The number of construction permits and number of new apartments are also important indicators of the demand for cement. While in 2004 the additional number of new construction permits were 33.7% higher compared to the previous year, the increase construction value has been as 10.8% (DİE, 2005a:223pp).

The second demand segment for the cement industry is the large-scale infrastructure projects undertaken by the government. Since Turkey is a developing country, it has continuous requirements for infrastructure projects. These projects are financed by the government and therefore depend highly on the economic conditions of the country. The financial crises in 2000 and 2001 had adverse effects on the planned infrastructure investment in Turkey. In order to reduce the amount of government spending, the government had to postpone its large-scale investment projects. The proportion of resources allocated to such projects accounted for 5.1% of GDP in 1994; however it declined to 4.8% of GDP in 2000. Although the proportion increased to 5.9% in 2001, most of the dam,

hydroelectric power plant, highway, and irrigation channel projects in 2002, were cancelled or postponed (Büyükdizgi, 2004:122).

### 5.3.2.2. European Demand Conditions

Since Turkey is the largest cement exporting country to the European Union, it is also important to analyze the European cement market and its demand structure. Table 5.7 presents annual consumption amounts for cement and its rate of change in the EU-15 countries.

**Table 5.7**

Annual Cement Consumption in the EU-15 Countries (2000-2004) (Million Tons)

	2000	2001	2002	2003	2004
<b>Consumption</b>	193	192	194	197	204
<b>% Change</b>	2.8	-0.5	1.0	1.6	3.3

Source: CEMBUREAU, 2001-2005.

Cement consumption in Europe does not show an important change during the period of 2000-2003 with amounts between 193 and 197 million tons. In 2004, the consumption increased by 3.5% to 204 million tons. Table 5.8 shows cement consumption in individual European countries to identify major markets.

According to Table 5.8, the three biggest cement markets in Europe are Spain, Italy and Germany. Especially Spain and Italy constituted about 45% of the total cement market in Europe during 2000-2004. While a steady increase in the top two countries is seen, other countries show significantly different consumption patterns. Despite being the third largest cement market, Germany experienced a drastic decline in cement consumption between the years 2000-2004. On the other hand, France and United

Kingdom present a stable picture. The new candidate countries, although having very small absolute amounts of cement consumption, show a dynamic market with further increase potentials due to a liberalizing economy with reconstruction requirements.

**Table 5.8**

Cement Consumption in the EU (2000-2004) (Million Tons)

Country	2000	2001	2002	2003	2004
Spain	38.05	41.86	43.92	46.14	48.01
Italy	38.10	39.32	41.04	43.33	45.77
Germany	36.20	32.03	29.66	29.88	28.84
France	20.64	20.66	20.72*	20.62	21.94
United Kingdom	12.46	12.19	12.77	12.90	13.05
Poland	13.21	10.97	10.84	11.12	11.46
Greece	8.26	8.69	9.84*	11.13	10.63
Portugal	9.88	10.07	10.57	9.24	9.11
Belgium	6.38	6.00	5.71	5.44	5.74
Netherlands	5.44	5.04	4.75	4.85	4.90
Austria	:	:	:	4.53	4.62
Czech Rep.	3.95	3.95	4.03	4.03	4.28
Hungary	3.46	3.49	3.83	4.00	4.05
Ireland	3.02	3.03	2.94	3.38	3.66
Sweden	1.51	1.62	1.57	1.62	1.73
Finland	1.69	1.63	1.59	1.59	1.68
Denmark	:	:	:	1.52	1.60
Slovakia	1.29	1.27	1.34	1.34	1.29
Luxembourg	0.51	0.52	0.53*	0.54	0.55
Latvia	:	:	0.34	0.38	0.47
Estonia	0.22	0.24	0.31	0.37	0.42

Source: CEMBUREAU, 2001-2005; Own Calculations.

(\*) Estimates made according to the construction industry

(:) No data available.



Further analysis is done by providing Turkish cement export volumes to individual European countries, which is depicted in Table 5.9 for the period 1996-2003.

Turkey is the largest cement producer and supplier of Europe. Turkish cement exports to the European market consisted about 46% of the total cement exports until 2000, increased to 60% in 2001 and to 61% in 2002.

Table 5.9 shows clear target markets for exports among the European countries. According to the data the most important European markets, namely Spain, Italy, Portugal and France, constitute more than 90% of the total exports to the European Union. Therefore, instead of a general analysis of the European cement market, it would be more useful to identify the opportunities of the individual markets that create advantages for Turkish cement manufacturers.

As of 2003, the highest amount of exports was directed to Italy. According to a study conducted by TÇMB (2003), Turkey follows a similar growth pattern in the cement industry compared to Italy, the biggest cement producing country in Europe, with approximately 19 years time lag. The 19 years difference is related to the industrialization process of the two countries. Therefore, the Italian cement market carries an anticipatory demand structure and enables Turkish manufacturers to forecast demand patterns in the market, being an important advantage for companies exporting to Italy. The Italian cement market is dominated by a few large cement companies with 31% of the market belonging to two companies. Italy's success is also related to its geographical location. Being close to the sea Italy was able to establish facilities near the ports where it can import or export cement and its raw materials at lower costs compared to other European countries (TÇMB, 2003:187).

**Table 5.9**

Turkish Cement Exports to the European Union Countries (1996-2003)  
(Thousand USD)

Turkey's Exports to	1996	1997	1998	1999	2000	2001	2002	2003
<b>Spain</b>	56.929	47.748	33.249	38.479	42.128	58.095	79.457	62.669
<b>Italy</b>	726	869	975	2.359	25.012	52.442	62.938	63.902
<b>Portugal</b>	0	4.666	2.381	5.946	5.568	27.867	26.675	25.782
<b>France</b>	5.810	9.479	10.685	10.726	10.405	11.014	12.953	11.743
<b>Luxembourg &amp; Belgium</b>	2.053	4.368	3.742	6.364	7.451	5.841	4.025	5.627
<b>Netherlands</b>	481	0	49	293	2.599	967	1.476	2.014
<b>United Kingdom</b>	38	0	354	119	117	86	939	1.592
<b>Ireland</b>	946	3.739	3.293	5.436	2.704	291	341	1.234
<b>Finland</b>	57	148	69	395	0	36	77	329
<b>Sweden</b>	0	0	0	0	459	0	0	16
<b>Greece</b>	358	50	0	0	0	0	0	4
<b>Germany</b>	1	2	15	119	158	0	0	2
<b>Denmark</b>	330	587	363	118	2	44	0	0
<b>Austria</b>	0	0	0	0	0	0	3	0
<b>Total EU15</b>	<b>66.012</b>	<b>71.655</b>	<b>55.175</b>	<b>70.354</b>	<b>96.603</b>	<b>156.682</b>	<b>188.885</b>	<b>174.915</b>
<b>Change (%)</b>		8.5	-23	27.5	37.3	62.2	20.5	-7.3
<b>Total Turkish Exports</b>	135.122	170.892	157.557	155.792	210.273	260.828	309.404	341.242
<b>EU Share in Total Turkish Exports (%)</b>	49	42	35	45	46	60	61	51

Source: UN, 2005 (SITC Rev.3 Data); Own calculations.

The second largest market for Turkish cement exports is Spain. Perceived as the engine in European construction activities, Spain has shown accelerated growth in its consumption structure for cement during the last four years. Especially in 2000 and 2001, the growth in consumption was realized as 11% and 9%, respectively; continuing with approximately 4.5% during the years 2002-2004. The increased demand was mainly generated by the large-scale infrastructure projects of the Spanish government. Housing projects were also intensively carried out, providing further opportunities for the cement market. Concerning cement producing companies in Spain, a similar structure to Italy exists. 65% of the production

capacity is dominated by a few large companies (Spanish Cement, 2004). It is also important to mention that infrastructure projects in Spain are increasingly supported by the EU, an important contribution to the Spanish construction market, as well as to exporters to Spain.

The Portuguese cement market is the third largest European market for Turkish exports. Similar to Spain, the most important factor contributing to the development of the cement industry has been large scale infrastructure projects, mostly funded by the European Union. These supports have begun with the accession in 1986, aiming to close the gap in infrastructure with the other European countries. While cement consumption was 5.3 million tons in 1985, it increased to 10 million tons in 2000. Especially during the period of 1994-1998, cement consumption increased by 30%. Both production and consumption trends have shown an accelerating structure with the full membership to the EU. Therefore, the most important target segments in Portugal are public infrastructure projects. These projects constituted 44% of total construction in 1993, and increased to 47% in 2000 (TÇMB, 2003:209 pp.).

Concerning the type of cement preferred, most of the European countries have started to decrease the usage of Portland cement. In Turkey, on the other hand, the proportion of Portland cement in total cement sales has increased from approximately 14% in 1995 to 25% in 2000. This type of cement contains less additional raw materials and is largely composed of clinker, and is therefore perceived as having a higher quality. However, increasing the proportion of clinker used causes also a higher CO<sub>2</sub> emission level during the production process, while other types of cement can be produced with higher inputs of fly ash (TÇMB, 2003:56). This has a potential to encourage cement producers to reduce Portland cement production in order to increase the share in the European market, which may also contribute to environmental protection.

### **5.3.3. Related and Supporting Industries**

Mentioned above, the construction sector is the most related sector for the cement industry. Comprising all public and private building and infrastructure projects, the construction industry is the only consumer of cement. Consequently, the competitive advantage of the Turkish construction sector has major effects on the competitive position of the cement industry. Therefore, it is important to analyze the sources of advantage of the construction sector.

The increasing population and the developing structure of Turkey have given the construction industry an important role for the economy. The construction sector in Turkey showed approximately 16.5% growth in value added in 2004, being one of the locomotive industries for the Turkish economy (DİE, 2005b).

Besides the availability of raw materials, the most important factor advantage of the Turkish construction industry is also human resources. Although the sector is defined as capital and energy intensive, the low cost of labor provides the sector with an important advantage. Moreover, Öz (2001) argues that Turkish construction employees do not hesitate to work under difficult conditions, encouraging Turkish companies to employ Turkish workers in their projects abroad as well. She further states that not only low skilled labor, but also Turkish civil engineers are stated to be competent in work and show an above-average performance.

The second important factor that increases the competitiveness of the Turkish construction sector is its internationalization. Intentional construction projects have carried importance especially during the times when the Turkish economy entered into recessionary periods and when private and state construction projects were postponed.

The sector started its internationalization process during the 1970s with projects in the Middle East and North African countries. In the following decade, the Russian construction market was opened to Turkish companies with the Natural Gas Agreement made in 1988 between Turkey and the Russian Federation. The agreement covered natural gas purchases of which 70% was in exchange of Turkish goods and services sold to the Russian Federation. This encouraged Turkish constructors to engage in construction projects, which made Russia to become an important market besides Middle East and North Africa, and brought important experience for Turkish constructors (Öz, 2001 and Kılıç, 2005).

However the two catastrophic earthquakes in 1999, have demonstrated the deficiencies in the Turkish construction industry, which are mainly related to the control mechanism of the state. Still, this unfortunate event may turn to an opportunity to reevaluate Turkey's construction processes and controls. Furthermore, quality expectations in the domestic market have increased to an important degree. Additional regulations concerning construction inspections have been introduced with tighter control of compliance, which all have increased quality expectations of cement used in construction processes providing an opportunity to enhance the competitive position for the cement industry.

Problems associated with the construction industry in Turkey do not only relate to inadequate control, but also to problems such as inappropriate government policies and bureaucratic procedures, which affect construction companies negatively. Problems are also related to insufficiency in technological development and know-how. Although Öz (1999), based on her study on the competitive advantage of the Turkish construction industry, argues that there are enough upper quality educational opportunities for the industry, Koraltan and Dikbaş (2002) take the attention to the insufficiency in education and training for new technologies and approaches. Having such

close ties with the construction industry, these inefficiencies create disadvantages for the competitive position of the cement industry in Turkey.

#### **5.3.4. Firm Structure, Strategy and Rivalry**

As of 2000, there are 39 integrated facilities and 18 grinding and packaging facilities totaling 57 large cement producing factories in Turkey. The industry is mainly dominated by medium sized enterprises, while the number of small-sized companies is not definite. TÇMB (2003) states that those enterprises have the technological infrastructure sufficient to compete with European manufacturers and companies in other developed countries.

Although an industrial concentration exists in the Marmara Region, due to homogeneous availability of raw materials, throughout the country, the distribution of companies is also homogeneous. Also the fact that private cement companies preferred to build their plants mainly in the Marmara region and that the state built plants in the eastern regions, mainly for regional development purposes, made the distribution of the plants homogeneous at the end. Table 5.10 presents the main factories in each region, ownership type and annual production capacity.

Before the liberalization process in Turkey during the 1980s, the cement industry was entirely owned by the government. All companies were members of the Cement Industry Association of Turkey, which decided on the price of cement and where the product had to be sold. Through the privatization process in the 1990s, all cement facilities were transferred to private investors mostly by bloc sales. During that process major foreign cement producing companies entered the Turkish market and hold now one-third of the market.

**Table 5.10**

Main Cement Producing Companies in Turkey (2005)

Region	Factory	Ownership	Capacity Tons/Year
<b>Marmara Region</b>	Akçansa	Sabancı+CBR	3,750,000
	Set Marmara	Italcementi	1,033,000
	Bursa	Domestic	1,357,000
	Lafarge Aslan	Lafarge+Aslan+Aurelius	1,251,000
	Nuh	Domestic	2,010,000
<b>Aegean Region</b>	Çimentaş	Domestic	1,520,000
	Batiçim	Domestic	1,400,000
<b>Mediterranean Region</b>	Oyak Adana	Domestic	2,294,000
	Çimsa	Domestic	2,142,000
	Göлтаş	Domestic	1,420,000
<b>Black Sea Region</b>	Oyak Bolu	Domestic	1,250,000
<b>Central Anatolia Region</b>	Set Çimento	Italcementi	1,510,000
	Set Afyon	Italcementi	640,000
	Yibitaş	Yibitaş + Lafarge	450,000
<b>Eastern Anatolia Region</b>	Elazığ Altınova	Domestic	960,000

Source: TÇMB, 2005; DPT, 2000.

Company strategies in the cement industry are also important determinants for the international competitiveness of companies. The cement market shows a regionalized oligopolistic structure. This is because cement production is highly capital intensive allowing only few companies to grow. Moreover being a homogeneous product and being only able to serve the closest region due to transportation difficulties has created regionally strong integrated production plants.

Regarding company strategies, two important studies were conducted; one by TÜSİAD in 1997 and one by Ulusoy in 2003, which were based on questionnaires applied to 39 cement companies by TÜSİAD and 25 cement

companies by Ulusoy, all members of the TÇMB.<sup>36</sup> According to the results of these surveys, the two most important company objectives in the Turkish cement industry were found as increased market share and profitability. Increased market share shows that these companies engage in aggressive company strategies and try to allocate their resources more efficiently. Increased profitability, on the other hand, indicates that these companies give importance to higher new and value-added product development (Ulusoy, 2003b). To achieve these targets companies develop some strategically important priorities. Table 5.11 presents the hierarchy of competitive priorities of cement producing companies in Turkey.

**Table 5.11**

Competitive Priorities of Turkish Cement Companies

Priority	Competitive Priority
1.	Sustainable Quality and Reliability
2.	Low Price
3.	Dependable Deliveries
4.	Image Building

Source: TÜSIAD, 1997: 45

According to Table 5.11 Quality and reliability are the most important competitive priorities. Besides quality, low price strategy is also pointed out by most of the companies as an important competitive tool. As a result, the competitive emphasis of cement producers can be summarized as high quality provided with an affordable price (TÜSIAD, 1997).

<sup>36</sup> The Report of TÜSIAD (1997) and the study of Ulusoy (2003) have analyzed the process model of manufacturing strategy formulation for the cement industry based on a study of Kim and Arnold (1996). According to the analysis there is a “Business Strategy”, as the most conclusive strategy designed as the final goal of the company. It is argued that to accomplish these Business Strategies there is a “Manufacturing Strategy” comprised of “Competitive Priorities”; “Manufacturing Objectives”; and “Action Plans”, each of them designed to accomplish the previous one, having action plans at the lowest operation level.



The above mentioned priorities indicate that cement companies give importance to process technology enhancements for higher quality products, and cost reductions. According to the study conducted by TÜSİAD in 1997, while the reduction of breakdowns and stops were included in manufacturing objectives, it was omitted during the six years, indicating an increase of the quality of production processes of Turkish cement companies giving importance to total quality management (TQM).

To achieve product quality and especially reliability, companies emphasize on compliance with environmental standards and preventive maintenance (Ulusoy, 2003b:17). Concerning the European market, environmental protection became important satisfying the demand for sophisticated buyers in Europe. Currently, the necessity to comply with the environmental standards in the EU increases the production costs of the European cement producers. This, for the time being, provides an advantage for the Turkish cement producers in terms of low costs and low prices offered, but will not continue to be so due to the harmonization of Turkish environmental laws with that of the EU.

Similarly, to achieve cost reductions in cement production, energy savings are revealed to be highly important (Ulusoy, 2003b:17). This is apparent, since the industry is energy intensive and energy costs in Turkey have the highest share in total production costs. Moreover, the integration process with the European Union forces companies to focus on the reduction of energy consumption to increase productivity and to stay competitive in the European market.

Periodical maintenance of machines and equipment, before breakdowns, is mentioned among action plans of Turkish cement manufacturers. This method is an important part of TQM, indicating that cement producers give importance to process technology and quality during the production process.

While Turkish cement producing companies give more importance to strategic and operational objectives that allow them to reach their targets in a shorter period of time, European cement producing companies give more importance to modern managerial techniques that take effect in a longer term but are more sustainable. Turkish cement manufacturers are aware of these techniques but put them on their strategic list for the near future. These modern managerial tools are; Total quality management (TQM), process restructuring, employee empowerment, and production automation (Ulusoy, 2003b).

From the above analysis it is to be understood that the cement companies in Turkey have already integrated TQM into their production processes, emphasizing quality controls during the whole production process aiming zero defects, rather controls at the end. TQM requires a restructuring of the production process, so that monitoring and control can be efficiently done during the production process. Lastly production automation is given, which however is expected to be realized relatively later, because of the labor abundance in Turkey, which is not comparable with western countries that enhance productivity through that way (Ulusoy, 2003b:15).

### **5.3.5. Role of the Government and European Integration Process**

Prior to the 1990s, the government had an important role in the cement industry in Turkey having full control over production, prices and where the products had to be sold. After the privatization process during the 1990s the Turkish cement industry had been fully transferred to the private sector and an environment appropriate for competition was created.

However, the role of the government continued with different incentives provided to cement producers. Subsidies were provided for new facilities aiming to increase production capacities. This however had decreased capacity utilization rates in the 1990s. Especially during 1991-1997 the

government incentives were three times higher than the 5 year period before. Although the capacity utilization rate at that time was about 90%, 70% of the incentives were for the increase of present capacity level and capacity utilization fell to 82%. In 2001 the government empowered the Turkish Cement Manufacturers' Association (TÇMB) to decide on the allocation of investments. Still, the incentives continued to flow to capacity increases reaching to 200 million dollars in 2001. These incentives had adverse effects on competition, because inefficient companies were encouraged to continue to operate (McKinsey Global Institute, 2003: 462).

In the EU the institutional body related to the non-metallic manufactures sector is the Technical Committee, which has begun to operate in 1990 aiming to improve efficiency, and reducing the administrative burden of the construction sector in the European countries (İKV, 1999). It has important contributions to the construction products directive, the most important regulation concerning the construction sector and related industries.<sup>37</sup>

According to the directive, the products mentioned, have to carry the CE (Conformity Europe) marking. The institution, empowered to give the CE marking in Turkey, is the Quality and Environment Board, which has been established by the Turkey Cement Manufacturers' Association (TÇMB). Additionally, the Board is monitoring environmental developments and European regulations, and works to harmonize member company operations accordingly (İKV, 2004).

Concerning technical regulations in the EU, TÇMB has provided the harmonization of the activities of its member companies. With the enforcement of the Directive on Construction Materials in 2004, the harmonization of activities of non-member companies have also been

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<sup>37</sup> The Construction Products Regulation (89/106/EEC) has been published in the Official Gazette of the Turkish Republic No: 24870 in 08.09.2002, aiming to ensure the usage of construction materials properly without constituting danger to human, animal and other properties.

provided. In that way product quality controls have been sustained and only those products were permitted to enter the market.

Product quality controls of the TÇMB member companies are made according to the directives of Compositions and conformity criteria for common cements, brought out by the European Committee for Standardization (CEN), and transposed into the Turkish Law (İKV, 2004).<sup>38</sup> The controls are made by the Quality and Environment Board according to the statistical procedures that are used in the EU, which aims to reveal the deviations from the standards so that efforts are made to reduce the deviations and increase efficiency.

Relating trade policies of the EU, with the cement industry, one can see that the EU did not pursue special treatment on its trade of cement or other related products with third countries as it did in the clothing industry. Only under the customs union concluded with Turkey, cement was among the sensitive products for which the CET alignment was supposed to be completed in 31.12.2000, five years after the completion of the customs union. Further regulations are only limited with certain standards so as to protect European consumers and the environment, which is the main purpose of market integration and fair trade. This is primarily because the cement industry is an energy and capital intensive industry having a minor potential to threaten the European market.

As a conclusion, the Turkish cement industry has been found to be highly dependent on basic factor conditions, as well, able to supply all its raw materials domestically. A disadvantage, on the other hand, has been observed in energy usage. Cement production requires high amount of energy consumption, a source scarce in Turkey making it dependent on

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<sup>38</sup> Original Directives EN-197/1 and EN-197/2 are translated and transposed into the Turkish Law within the framework of the Construction Materials Regulation as TS EN-197/1 and TS EN-197/2, respectively.

external sources. Although the cement industry is a capital intensive industry, the labor abundance in Turkey is a source of advantage, as well.

One of the most important driving forces for the demand of the Turkish cement industry is the dynamic construction sector, which is growing at a high rate. The increasing population and high rates of migration to the cities, increase the demand for buildings and infrastructure constructions.

Due to the fact that cement is a homogeneous product, it is difficult to follow a differentiation strategy; therefore Turkish cement companies have been emphasizing quality and reliability as the most important competitive strategies. Regarding strategies, other than the traditional ones such as cost savings, the analysis showed that cement manufacturers give emphasis to process restructuring and preventive maintenance. This indicates that Turkish cement manufacturers make use of modern production and management techniques. This has an important contribution to the capacity to compete with western companies.

The European integration process has fewer effects on the competitive position of Turkish cement manufacturers compared to the clothing industry. The effect is rather observed in regulations on product and production standards than preferential treatment concerning barriers to trade. Europe's special emphasis is on quality requirements, which are not mandatory but their application would necessarily contribute to the enhancement of the competitive position of the cement industry in Turkey.

## **CHAPTER 6**

### **CONCLUSION**

This study has been conducted with the aim identifying the sources of competitive advantage of Turkey's most successful industries, the clothing industry and the cement industry with respect to the European Union. The methodology of the Diamond Framework, introduced by Porter (1990) has been taken as a base, adding the integration process of Turkey to the EU, in assessing the strengths of the Turkish industries with respect to EU.

Providing a ground for the determination of Turkey's sources of advantage, policies towards improvement of competitiveness both of the EU and Turkey have been evaluated. Special emphasis has been given to the integration process of Turkey to the EU due to its importance shaping the legal framework of the business environment in Turkey. After a comparative analysis of the sources of advantage of Turkey in relation to Europe and other developed countries, two Turkish industries, competitive in the European market, were selected according to their RCA values. These industries were the clothing industry and the cement industry. It was interesting to identify the sources of competitive advantage of these two industries, due to the fact that they have different production factor dependencies and provide an evaluation of the industrial strengths of Turkey from different perspectives.

In Chapter 2, an overview of the European integration process, with emphasis on its policies towards competitiveness, as well as the industrialization process of Turkey and the customs union concluded

between Turkey and the EU have been given. It was important to point out the policies Europe has developed towards industrial development and competitiveness, since it presents one of the most advanced economies following strategies crucial for advanced industrial development and it was found that most recent European competitive strategies are oriented towards the transformation of an industrial based economy to a knowledge-based, innovative economy promoting entrepreneurship, giving special emphasis on information and communication technologies that are identified as strategically important sectors for future international competitiveness.

Similarly, Turkey's industrialization process has been evaluated. The recent industrial orientation of Turkey is highly affected by competitiveness strategies of the EU. Turkey also started to give special emphasis to R&D activities, innovation, investments and the development of SMEs, and to emphasize the development of knowledge and technology based industries, which are significantly important in developing and sustaining competitive advantage.

Further conclusion of Chapter 2 has been on the integration process of Turkey to the EU mainly in the framework of the customs union. It has been concluded that although free trade exists between the two parties, the insufficient harmonization mainly in the field of technical legislation hinders Turkey to take full advantage of the customs union with the EU.

In Chapter 3 an evaluation of the sources of competitive advantage of Turkey with respect to the EU and other developed countries has been made aiming to provide a macro level basis for the competitiveness analyses of the clothing and cement industries with respect to the European Union.

The findings have shown that Turkey has a high dependency on advantages related to basic factor conditions. Main advantages were climate and a comparatively large agricultural area, appropriate for agricultural production;

labor abundance, not only providing with an advantage of comparatively low wages, but also providing a dynamic market for domestic and foreign companies; and the potential high growth rate of GDP have been sources of competitive advantage of Turkey compared to European countries. Disadvantages for Turkey, on the other hand, were found as a comparatively weak and unstable financial market, causing for high rates of inflation hindering companies to have access to low cost capital, and a low level of capital inflow related to the instability of the financial system, which put Turkey in an unfavorable position compared to the European countries.

The role of Turkey's integration process to the EU on the national level has been found having a rather small effect on the business environment until now. Studies conducted on the effects of the customs union on the Turkish economy have found that Turkey has performed well under the customs union during the first years and for the long term positive developments such as increased capital flow, better allocation of resources and consequently higher rates of production are expected. Further expectations have been a shift from exports of labor intensive products to more capital intensive products and transfer of technology and know-how to Turkey through foreign direct investments, resulting in increased productivity and competitiveness.

In Chapter 4 and 5 analyses have been conducted to identify the sources of advantage of Turkey's most competitive industries with respect to the EU, namely the clothing and cement industries respectively. These sectoral studies have been important in determining whether the sources of advantage have a sustainable characteristic in relation to the European countries or whether the advantages are easily imitable basic conditions.

Accordingly, the aim of Chapter 4 has been to identify the sources of competitive strength of the Turkish clothing industry in relation to the EU. The clothing industry was important to analyze in the respect that it is one of



the most competitive labor intensive industries in Turkey reflecting the advantage of labor abundance in an effective way.

A conclusion has been made that the primary sources of advantage of the industry are basic factor conditions. The labor abundance, reflected in low wages, is the main factor condition advantage, which is, however, partly wiped out by the low labor productivity rates in Turkey. Cotton production as a main raw material for the clothing industry has been also found to be a source of advantage. Having high dependency on basic factor conditions at present, the analysis has further shown that the clothing industry is aware of the threats from Asian low cost producers and therefore makes important investments both in human resources and in technological infrastructure in order to enhance value added production.

Demand conditions for the clothing industry, both domestic and foreign, have been found to provide significant sources of advantage. With high and increasing population together with an increasing national income the domestic market is a source of advantage for clothing companies in Turkey. However, contrary to the argument of Porter (1990), who does not attach much significance to foreign demand as a source of competitive advantage, the analysis has shown that the European market plays a significant role and is a source of advantage for Turkish clothing companies, as well. Besides being a large export market, the sophistication level of European consumers and their increasing demand for high quality low priced products forces companies to enhance efficiency to make better use of the market.

Company strategies, on the other hand, play a minor role on the competitive status of the industry. These companies prefer to take the advantage of low production costs rather than developing differentiated business strategies. However, Turkish companies had the opportunity to experience the European market more intensively compared to their competitors due to the customs union concluded between the two parties. As the number of Turkish

companies trying to build their own international brands is increasing, companies exporting to the European market are able to develop products and brands suitable to the needs of the European consumers, signaling potentials of enhanced competitiveness in the European market.

Turkey's integration process to the EU has probably most served the textile and clothing industries. Due to the Association Agreement between Turkey and the EU at the end of 1995, Turkey had the advantage to have access to the European market prior to its competitors within the context of the Agreement on Textile and Clothing of the WTO. This has provided Turkey the advantage to gain a certain market share, to build an image and to obtain experience in the European clothing market. Testing and certification procedures and other technical standards for quality control, required by the EU to enter the market, are costly but an opportunity to increase the acceptance of Turkish clothing brands in the European market.

In Chapter 5, the aim was to assess the competitive advantages of the cement industry in relation to EU. Having also a high RCA value with respect to the EU, this capital and energy intensive industry carried an important role in the study identifying Turkey's industrial strengths other than labor abundances. However, the cement industry has been found to be highly dependent on basic factor conditions, as well. The availability of raw materials domestically provides Turkey an important advantage. Human resources in the cement industry have been also identified as important although the cement industry is characterized as a capital intensive industry. Disadvantages, on the other hand, have been observed in the energy usage, a source scarce in Turkey making it dependent on external sources.

Constituting for the total demand for cement, the competitive construction industry in Turkey has been determined as an important source of advantage both in demand conditions and in related industries. The construction sector in Turkey shows significant growth and has high

potentials for further strength due to the growing population of Turkey. European demand conditions on the other hand, have found to play a minor role in the competitive position of Turkish cement manufacturers.

Concerning company strategies, due to the fact that cement is a homogeneous product, it is difficult to follow a differentiation strategy; therefore Turkish cement companies have been emphasizing quality and reliability as the most important competitive strategies. Besides, the highly competitive business environment forces these companies to search ways to reduce their costs of production, especially energy costs. Therefore several energy saving measures are taken to stay competitive.

Regarding strategies, other than the traditional ones such as cost savings, the analysis showed that cement manufacturers give emphasis to process restructuring and preventive maintenance. This indicates that Turkish cement manufacturers give importance to quality controls and have integrated TQM into their production processes and make use of modern production and management techniques. This has an important contribution to the capacity to compete with western companies.

The European integration process has fewer effects on the competitive position of Turkish cement manufacturers compared to the clothing industry. An advantage related to the integration process is rather observed in the regulations on product and production standards Turkey has to meet. Obligated to produce under certain standards is an advantage forcing companies to enhance production technologies.

As a conclusion, both of the industries take their primary sources of advantage from basic factor conditions, which are the availability of labor and raw materials. Another feature, common for the two industries, is a competitive related and supporting industry; the competitive textile industry for the clothing industry and the strong construction industry for the cement

industry. Further strengths, however, are based on different sources of advantage. Since clothing products are appropriate for trade, European demand structure constitutes an important source of advantage for the success of the clothing industry. Although Turkey is the biggest cement supplier of Europe, due to transportation difficulties it is a secondary market for cement manufacturers which primarily target the domestic market. The study has also found a difference in company strategies. This is because the clothing industry is mainly dominated by small companies and the cement industry is dominated by medium sized companies. Therefore business strategies are only few in the clothing industry, whereas cement manufacturers follow advanced management and production strategies. The European integration process has also had different effects on the two industries. For the clothing industry the customs union concluded between Turkey and the EU has been a source of advantage for the cement industry, on the other hand, the European integration process has not played a significant importance.

Bearing in mind the decline in the advantage of low costs of factors of production, labor intensive and capital and energy intensive industries in Turkey should change their focus from easily imitable basic factor conditions to sustainable sources of competitive advantage, supported by government policies on cooperative research and development. Production efficiencies attained through technological development and know-how are key factors for enhanced productivity, which is the most sustainable advantage of industries in international markets.

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