

146282

CLUSTERS AND FDI:  
THE CASE OF TURKISH AUTOMOTIVE  
INDUSTRY

Thesis submitted to the

Institute of Social Sciences

in partial fulfilment of the requirements

for the degree of

Master of Arts

in

Business Administration

by

Ömer Faruk Yalınız

146282

Fatih University

May 2004

© Ömer Faruk Yalınız

All Rights Reserved, 2004



FRONT PIECE PAGE



"Dedicated to the memory of my beloved father and  
all members of the YALINIZ Family"





FATİH ÜNİVERSİTESİ  
FEN/SOSYAL BİLİMLER ENSTİTÜSÜ MÜDÜRLÜĞÜ  
YÜKSEK LİSANS TEZ SINAV TUTANAĞI

02 / 07 /2004

Enstitümüz İşletme Anabilim Dalı ....51020112.. numaralı yüksek lisans öğrencisi  
....Ömer Faruk Yalınız...’ın hazırlayarak Enstitümüze teslim ettiği “ Clusters And  
FDI: The Case Of Turkish Automotive Industry.” Adlı tezi, tez jüri üyeleri  
huzurunda .....70.....(\*) dakika süre ile savunulmuş ve sonuçta adayın  
tezi hakkında, oybirliği.....(\*\*) ile kabul.....(\*\*\*) kararı verilmiştir.

Başkan

Prof. Dr. Vildan Serin

(Tez Danışmanı)

Üye

Doç. Dr. Selim Zaim

(İlgili Anabilim Dalı Öğretim Üyesi)

Üye

Prof. Dr. Nurdan Aslan

(Başka Bir Üniversite Öğretim Üyesi)

\* savunma süresi el ile yazılacaktır. (savunma süresi, en az 45 en çok 90 dakikadır)

\*\* oybirliği / oyçokluğu el ile yazılacaktır.

\*\*\* kabul / red ve düzeltme el ile yazılacaktır.

## **AUTHOR DECLARATIONS**

The material included in this thesis has not been submitted wholly or in part for any academic award or qualification other than that for which it is now submitted. I am the author of this thesis and that any assistance I received in its preparation is fully acknowledged and disclosed in the thesis.

The program of advanced study of which this thesis is part has consisted of:

- International business course during the undergraduate study
- Examination of several published and unpublished studies in the field both in Turkey and abroad as well as professional books on this subject.

I have also cited any sources from which I used data, ideas or words, either quoted directly or paraphrased. I also certify that this thesis was prepared by myself specifically for this purpose.

Ömer Faruk Yalınız

July , 2004

## **ABSTRACT**

**ÖMER FARUK YALINIZ**

**July 2004**

### **LOCAL CLUSTERS AND FDI: THE CASE OF AUTOMOTIVE INDUSTRY IN TURKEY**

This study analyses network clusters of FDI firms, with specific attention to the automotive industry in Turkey. The study attempts to examine the production clusters in foreign direct investment (FDI) into Turkish automotive industry between 1954 when FDI was first allowed in Turkey and to the date.

This study extends the current literature on FDI in Turkey by adding the network cluster factor affecting automobile firms' investment decisions in Turkey. A study of total automobile FDI companies and local lean companies for years (1966-2002), we find that there is a network cluster settled in automobile sector on the triangle in Turkey.

Key words: Network Clusters      Network Chains      Foreign Direct  
Investment      Automotive Industry

## **KISA ÖZET**

**ÖMER FARUK YALINIZ**

**Temmuz 2004**

### **YEREL KÜMELER VE DOĞRUDAN YABANCI YATIRIMLAR: TÜRK OTOMOTİV ENDÜSTRİSİNİN DURUMU**

Bu çalışma Türkiye’de yatırım yapmış yabancı otomotiv firmalarının kümelenme durumlarını incelemektedir. Çalışmanın amacı 1954’de ilk doğrudan yatırım izninin çıkışından günümüze otomotiv sektöründeki yabancı yatırımları inceleyerek kümelenme olup olgusuna odaklanmaktır.

Bu çalışma Türkiye’de doğrudan yabancı yatırımlarına kümeler kavramını da ekleyerek otomotiv firmalarının Türkiye’deki yatırım kararlarını literatüre eklemektedir.

1966-2002 arasındaki doğrudan yatırım otomotiv ve yan sanayi firmalarını inceleyerek Türkiye’de “gelişme üçgeninde” bir ağ kümelenmesi olduğu bulunmuştur.

#### **Anahtar Kelimeler:**

Üretim ağları, Doğrudan yabancı yatırım, Otomotiv Endüstrisi



## TABLE OF CONTENTS

Author Declarations .....	iii
Abstract .....	iv
Kısa Özet.....	v
Table Of Contents .....	vi
List Of Figures .....	xi
List Of Appendices .....	xiii
List Of Abbreviations .....	xiv
Glossary .....	xv
Acknowledgements .....	xviii
Preface .....	xix
Chapter 1.....	1
Introduction.....	1
1.1 Background.....	1
1.2 Aims And Scope Of The Study .....	5
1.3 Research Question .....	6
1.4 Research Methodology .....	8
1.5 Outline Of The Study .....	9
Chapter 2.....	11
Theoretical Background.....	11
2.1 Introduction.....	11
2.2 Theories Of FDI And MNC.....	13
2.2.1 Traditional Theories.....	13

2.2.2	Internalisation Approach: Towards Dunning’s Eclecticism	18
2.2.3	OLI Paradigm and The Eclectic Theory .....	20
2.2.4	The Cluster View And National Competitive Advantage ...	27
2.2.4.1	The Cluster Framework of Porter: The Diamond Model	28
2.3	Summary .....	33
Chapter 3	.....	34
FDI In Turkey	.....	34
3.1	Introduction .....	34
3.2	Legal Framework And Historical Evaluation .....	35
3.3	FDI Trends .....	41
3.4	FDI Distribution in Turkey .....	46
3.4.1	Foreign Direct Investment by Source Country .....	46
3.4.2	Sectoral Distribution of Foreign Direct Investment in Turkey	51
3.4.3	Locational Distribution of FDI in Turkey .....	53
3.5	Summary .....	59
CHAPTER 4	.....	61
AUTOMOTIVE INDUSTRY	.....	61
4.1	Introduction .....	61

4.2	The Nature Of Automotive Production .....	62
4.3	Automotive Production In The World .....	65
4.4	Recent Trends In The Automotive Sector.....	69
4.5	Automotive Environment In Turkey .....	74
4.5.1	Social Information .....	74
4.5.2	Evaluation of Turkish Economic Policies .....	75
4.5.3	Turkish Automotive Industry .....	79
4.5.3.1	Automotive Production of Turkey.....	81
4.5.3.2	Trade Figures of Turkish Automotive Sector .....	84
4.6	Summary .....	87
	Chapter 5.....	88
	Automobile Cluster(S) In Turkey.....	88
5.1	Introduction .....	88
5.2	Automotive Manufacturing / Assembly Firms In Turkey .....	89
5.2.1	Anadolu Isuzu.....	89
5.2.2	Ford Otosan.....	89
5.2.3	Honda Türkiye .....	90
5.2.4	Hyundai Assan .....	90
5.2.5	M.A.N. Türkiye .....	91

5.2.6	Mercedes Benz Turkey.....	91
5.2.7	Otoyol Iveco .....	91
5.2.8	OYAK Renault .....	92
5.2.9	Tofaş.....	92
5.2.10	Toyota.....	93
5.2.11	Türk Traktör .....	93
5.3	The Automotive Side Industry FDI Firms In Turkey .....	94
5.3	Geographical Movement Of The Sector.....	96
5.4	Summary .....	102
Chapter 6	.....	103
6.1	Summary And Conclusions .....	103
	Implications Of The Study.....	105
	Limitations Of The Study And Suggestions For Further Research .....	106
	Bibliography.....	107

## LIST OF TABLES

Table 3. 1	Top Ten Foreign Investor Countries in Turkey .....	49
Table 3. 2	FDI Distribution in Turkey (January 1954 – July 2003) (TL) .....	54
Table 4. 1	World Automotive Production (1920-1999), (x1000) .....	67
Table 4. 2	Production Shares of Global Automotive Alliances .....	70
Table 4. 3	Production Shares of Global Automotive Alliances, 2003 .....	71
Table 4. 4	Main Economic Indicators of Turkey (1997-2002) .....	76
Table 4. 5	Automotive Trade of Turkey (1992 -2003).....	85
Table 5. 1	Automotive and Automotive Side Industry FDI Firms in Turkey (1954-2003) .....	98

## LIST OF FIGURES

Figure 1.1	Research Questions .....	7
Figure1. 2	The Structure of the Thesis .....	10
Figure 2. 1	The Determinants of International Production.....	22
Figure 2. 2	The Diamond Model.....	30
Figure 3. 1	FDI in Turkey (1954-1979) (Million Dollars).....	37
Figure 3. 2	Sectoral Distribution of FDI Firms in Turkey (1954-1979) .....	38
Figure 3. 3	FDI in Turkey (1980-1985) (Million Dollars at current prices). 39	
Figure 3. 4	Road Map of Investing in Turkey .....	40
Figure 3. 5	FDI Inflows to Turkey 1980-2003 (\$ million).....	42
Figure 3. 6	FDI Inflows as Percentage of Gross Fixed Capital Formation (1985-2001) .....	44
Figure 3. 7	FDI in Turkey by Source Country (Cumulative, 1954 – 2002). 47	
Figure 3. 8	Breakdown of EU FDI in Turkey (Cumulative, 1954 – 2002)... 48	
Figure 3. 9	Sectoral Distribution of Turkish and Global FDI Stocks .....	51
Figure 3. 10	Regional FDI Stock in Turkey: 1950-2002 (cumulative, percentages).....	56

Figure 4. 1	Major Players in the Automotive Production.....	63
Figure 4. 2	World Automotive Production (1997-2003) (x1000) .....	68
Figure 4. 3	Top 20 Car Manufacturer Companies (as of 2002) .....	72
Figure 4. 4	Automotive Production in Turkey (1966-1984) (x1000 units) ....	82
Figure 4. 5	Automotive Production in Turkey (1984-2003) (x1000 units) ....	83
Figure 5. 1	Map of Automotive and Automotive Side Industry FDI Firms in Turkey (as of 2003).....	99
Figure 5. 2	Regional Distribution of FDI Automotive and Side Industry Firms in Turkey.....	101

## **LIST OF APPENDICES**

APPENDIX I.	TOP AUTOMOTIVE PRODUCERS IN THE WORLD	118
APPENDIX II	FDI AUTOMOTIVE PRODUCTION / ASSEMBLY PLANTS IN TURKEY	119
APPENDIX III	MARKET SHARES OF THE AUTOMOBILE COMPANIES IN TURKEY	120
APPENDIX IV.	DEVELOPMENT ZONES IN TURKEY	121
APPENDIX V.	FDI AUTOMOTIVE SIDE INDUSTRY COMPANIES BY YEAR	122



## **LIST OF ABBREVIATIONS**

CBTR	Central Bank of Turkish Republic
GDFI	General Directorate of Foreign Investment (Turkey)
GDP	Gross domestic product
IMF	International Monetary Fund
IMF <sub>2</sub>	International Metalworkers' Federation
LDCs	Less developed countries
MNCs	Multinational corporations
ODD	Association of Automotive Distributors (in Turkey)
OECD	Organisation for Economic Co-operation and Development
OSD	Association of Automobile Industrialists (in Turkey)
(PSBR)	Public Spending Borrowing Requirement
R&D	Research and Development
SEEs	State Economic Enterprises, namely Turkish Government's state owned enterprises
SIS	State Institute of Statistics (in Turkish: DIE)
SPO	State Planning Organisation (in Turkish: DPT)
TAYSAD	Association of Automotive Side Industrialists (in Turkey)
TNC	Transnational corporations
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
WTO	World Trade Organisation
YASED	Association of Foreign Entrepreneurs (in Turkey)

## GLOSSARY

**Backward Linkages:** linkages as a result of foreign affiliates' acquiring goods or services from domestic firms

**Cluster:** a geographically proximate group of interconnected companies and associated institutions in a particular field, including product producers, service providers, suppliers, universities, and trade associations.

**Comparative Advantage:** advantage over the others in the production of a good or service, if it can produce at a lower cost than they do.

**Competitive Advantage:** advantage over the others in the production of a good or service due to better management.

**Economies of Scale:** production economies that mean a reduction in long-term average cost as a result of operating on a large scale.

**Externalisation:** benefits from outsourcing.

**Fixed Investment:** investment with at least a life period of one year and to be used in production such as, buildings and equipment.

**Foreign Direct Investment:** lasting interest in an enterprise operating in an economy other than that of the investor, the investor's purpose being to have an effective voice in the management of the enterprise.

**Forward Linkages:** linkages as a result of foreign affiliates' selling goods or services to domestic firms

**Globalisation:** the outcome of transnational growth, global standardisation of production, concentration, and centralisation of capital.

**Greenfield Investment:** investment from scratch, setting up own business rather than acquisitions or mergers.

**Horizontal Integration:** involve interactions with domestic firms engaged in competing activities

**Internalisation:** setting up the business close to the foreign market rather than entering the market through exporting or licensing, in order to reduce the costs of transportation, distributor, middlemen and to take the advantage of local resources.

**Liberalisation:** abolishment or lessening of the governmental controls on foreign trade and investment and allowance of the free market system conditions.

**Licensing:** an agreement by which a company allows another to use its intellectual property for payment.

**Market Failure:** existence of imperfections in the market or/and, lack of a market for a specific good or service, or/and externalities because of market's producing social costs.

**Market Imperfections:** see structural market imperfections and natural market imperfections.

**Multinational Corporations:** companies, which invest around the globe.

**Natural Market Imperfections:** failure of markets to take account of costs and benefits of transactions.

**Network:** A group of firms with restricted membership and specific, and often contractual, business objectives likely to result in mutual financial gains

**Structural Market Imperfections:** barriers to entry to the market, barriers to trade, possession of proprietary rights, oligopoly and/or monopoly control, restrictive business practices, cartels, and interference with market system by the governments.

**Thick Market Externalities:** external economies of scale/scope generated by networking for firms operating within a cluster

**Vertical Integration:** a merger of companies at different stages of production, for instance, a merger between the distributor and the manufacturer.

Sources: Rutherford, D. (1995) *Routledge Dictionary of Economics*, Cornwall: T.J Press

Seyidođlu, H. (1992) *Ekonomik Terimler Sözlüğü* Ankara: Güzem Yayınları

## **ACKNOWLEDGEMENTS**

Writing a thesis is not an easy task without a lot of time and effort being dedicated to it by several people. For this thesis, I first would like to thank to IIBF of Fatih University for providing a valuable environment to me and all of the students in terms of study and research facilities.

My special gratitude goes to Prof. Dr. Vildan SERİN. Without her extensive efforts, inspiration, encouragements and support, this thesis could not have been prepared.

I would like also thank to Assc. Prof. Selim ZAİM of IIBF, for his supports, useful discussions and thoughts on this thesis and in my study life at IIBF, Fatih University.

Last but not least, I would also like to express my appreciation to my family members for supporting me at all stages of my life and at the time during preparing this thesis.

## **PREFACE**

Foreign direct investment (hereafter FDI) has long been a research area for the scholars. On the other hand, much of the literature dwell upon causality of investing abroad, reasons and results of why multinational companies (hereafter MNCs) exist at. Recent studies however, focus on firm strategies rather than that of government policies, restrictions, or exploitation issues.

Global competition and advanced technology, communication and transportation facilities of the new era has forced companies to cooperate for better competition and increase productivity. Such collaboration involves firms in close proximity, which might be reason and/or result clusters. A cluster is defined as a concentration of companies and industries in a geographic region that are interconnected by the markets, products, suppliers and lean manufacturers, trade associations and related organizations with which they work together. Clusters depend on resources related to a specific sector and thus these clusters are most likely to be industry specific.

This thesis attempts to discover the context for clusters in the Turkish automotive sector and how they affect the cluster strategies of foreign direct investment to the country.

# **CHAPTER 1**

## **INTRODUCTION**

### **1.1 Background**

There are many kinds of collaboration among the firms, such as licensing, franchising, vertical and horizontal linkages, and strategic alliances. In any case, geographic proximity to each other is a catalyst for inter-firm and intra-industry corporations. As a result, firms share their knowledge like technology, marketing, management and other kinds of knowledge in order to compete effectively with other companies in the sector. In addition, they might set up supply and distribution networks, and benefit from spillovers. Although there are many forms of collaboration or strategic partnership, for the purpose of this study two of them will be of great interest: clusters and networks.

On the other hand, clusters might have been formed not only for collaborative reasons, but also for competitive reasons. Competitor companies might have chosen certain regions where resources and endowments might be available, quality and/or cost effective.

In what follows is that definitions of clusters and networks are given in order to understand these terms more profoundly.

Michael E. Porter (1998) defines clusters as "Geographic concentrations of interconnected companies, specialized suppliers, service providers, firms in related industries, and associated institutions (for example, universities, standards agencies, and trade associations) in particular fields that compete but also cooperate." (p.48)

Similarly Roelandt and den Hertog (1999) give the definition as "...networks of production of strongly interdependent firms (including specialised suppliers) linked to each other in a value-adding production chain"

A more detailed definition by Harvard Business School (2003) explains cluster as:

*"...a geographically proximate group of interconnected companies and associated institutions in a particular field, including product producers, service providers, suppliers, universities, and trade associations. Clusters arise out of the linkages or externalities that span across industries in a particular location."*

Some well known examples of production clusters are: Silicon Valley in USA, printing industry in Germany and software industry in India. While clusters are made up interdependent institutions and organizations such as firms, suppliers and government bodies, "networking is often used to describe arms-length interactions between firms such as subcontracting relationships" (UNCTAD; 1997).



Clusters might take place as a result of governmental policies, such as, encouragements and promotions of investment in particular areas and locations; as a result of subcontracting firms' relations with each other or simply for competitive reasons. On the other hand, members of a network choose each other, for various reasons, like cooperative agreements or depending on each other. Networks develop more readily within clusters, particularly where multiple business transactions have created familiarity and built trust (Rosenfeld 1995a, p. 13)." Ties between firms in networks are typically more formal than in clusters.

The difference between conventional partnership forms, such as, licensing and the new ones (clusters and networks) is that one-way partnership exists in conventional forms while a two-way relation is subject to the latter. This kind of relation occurs not only among the local companies, but also among the foreign/foreign and foreign/local companies. Thus the network approach views FDI as the construction of a link between a domestic network and a foreign network (Chen and Chen, T.-J; 1998).

In order to be able to mention about the success of a cluster, there should be at least one large MNC at its centre, regardless if it is local or foreign company as long as it is globally competitive (Hodgetts, 1993). So that supporting industries or dependent companies might set up business around that company and form a strong cluster.



## **1.2 Aims and Scope of the Study**

Global competition and advanced technology, communication and transportation facilities of the new era has forced companies to cooperate for better competition and increase productivity. Such collaboration involves firms in close proximity, which might be reason and/or result clusters. A cluster is defined as a concentration of companies and industries in a geographic region that are interconnected by the markets, products, suppliers and lean manufacturers, trade associations and related organizations with which they work together. Clusters depend on resources related to a specific sector and thus these clusters are most likely to be industry specific ones. Thus if the industry is more component-specific, it is likely these clusters to occur organized by the government policies rather than happening as a result of linkages among the companies over time.

This thesis attempts to discover the context for clusters in the Turkish automotive sector and how they affect the cluster strategies of foreign direct investment to the country.

Although all kinds of manufacturing facilities are in the area of this thesis topic, however, since such a detailed work is beyond the scope of this study, specific attention is paid to automotive sector which has been taking attention by pioneering Turkey's export and FDI issues.

### **1.3 Research Question**

In the light of the above background information, our main question for this thesis is to find out if clusters and linkages theories are relevant to the automotive sector in Turkey. In this context, if there any such cluster exists than our further question will be:

*What is the role of clusters in automotive sector FDI flows to Turkey?*

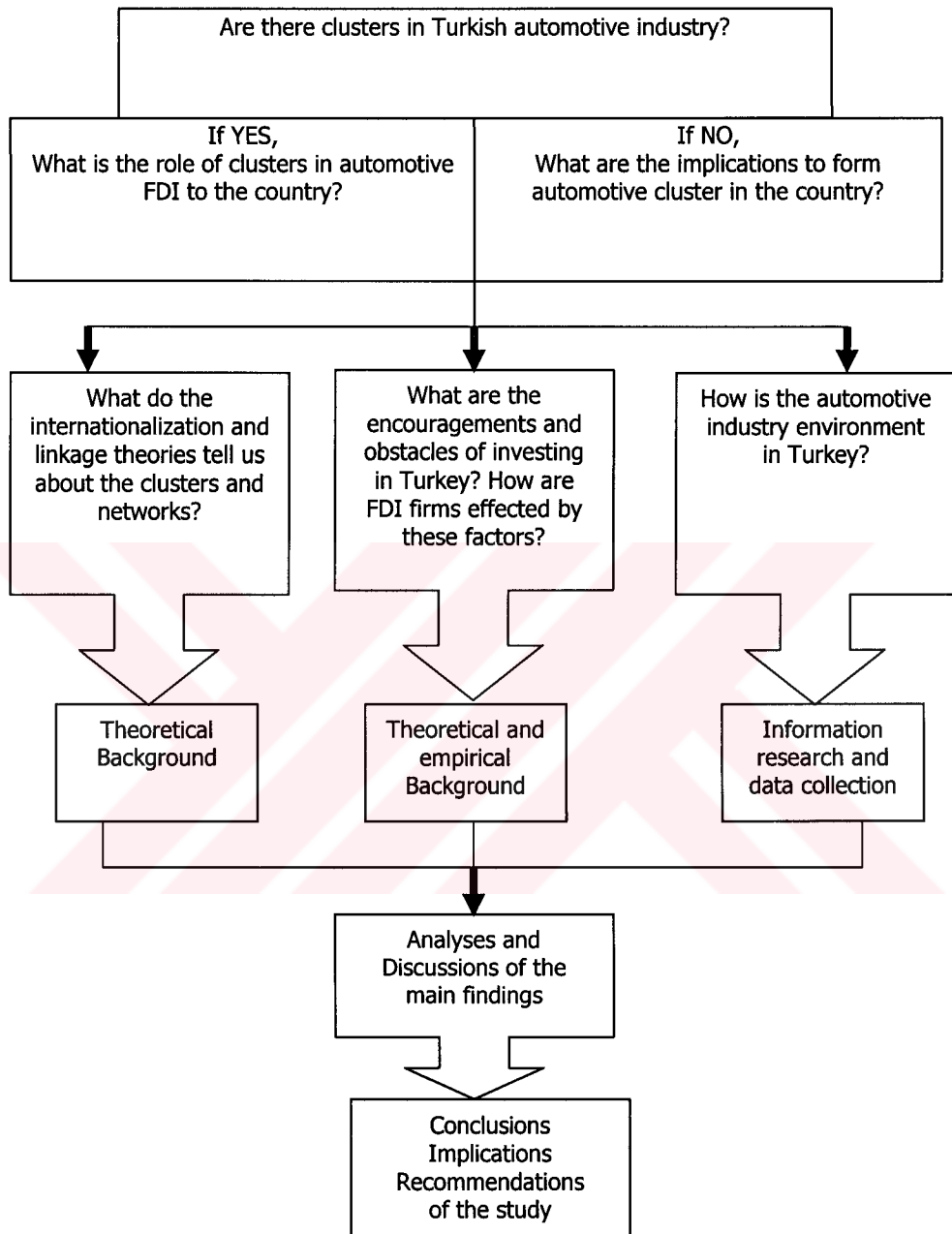
On the other hand, there is a possibility to find out no evidence for such a cluster, and thus our sub-question will be:

*What are the implications to form automotive cluster in the country?*

In order to find an adequate answer to these questions properly, and explore the issue in depth, our research framework is drawn as shown in Figure 1.1, on the next page.

In what follows is a brief explanation of the research method(s) that will be used in this study for the purpose of finding out answer to the above questions and conclude this thesis as it is planned.

**Figure 1.1 Research Questions**



## **1.4 Research Methodology**

While doing a social research, there are a number of methods to choose from depending on what the researchers want to study. These different research strategies involve different ways of analyses and each might have disadvantages as well as advantages. It is widely known that there are five kinds of research methodology: experiments, field researches and surveys, archival analysis, historical and case studies. If the research question focuses on "what", just like this study, analysis of archival records and field researches are likely to be the best choice.

In order to achieve the aims stated in section 1.3 and answer the research questions in section 1.4, a descriptive approach is needed. The descriptive approach explores the answers to the questions "what is going on in real world" and "how does it work".

Descriptive approach is also rather favourable when the research aim is to explore certain outcomes. This is because; such questions mostly deal with operational links, which have to be traced over time rather than frequencies or incidence.

## 1.5 Outline of the Study

As shown in Figure 1.2, this thesis consists of six chapters.

**Chapter 1**, '*Introduction*' presents the aims and scope of the study, definitions areas related to study that of clusters, networks and FDI and finally gives a brief plan of the thesis.

**Chapter 2**, '*Theoretical Background*' discusses theories related to FDI, with specific attention to linkages theories in order to explore recent views in networks and clusters of industries and countries in attracting FDI.

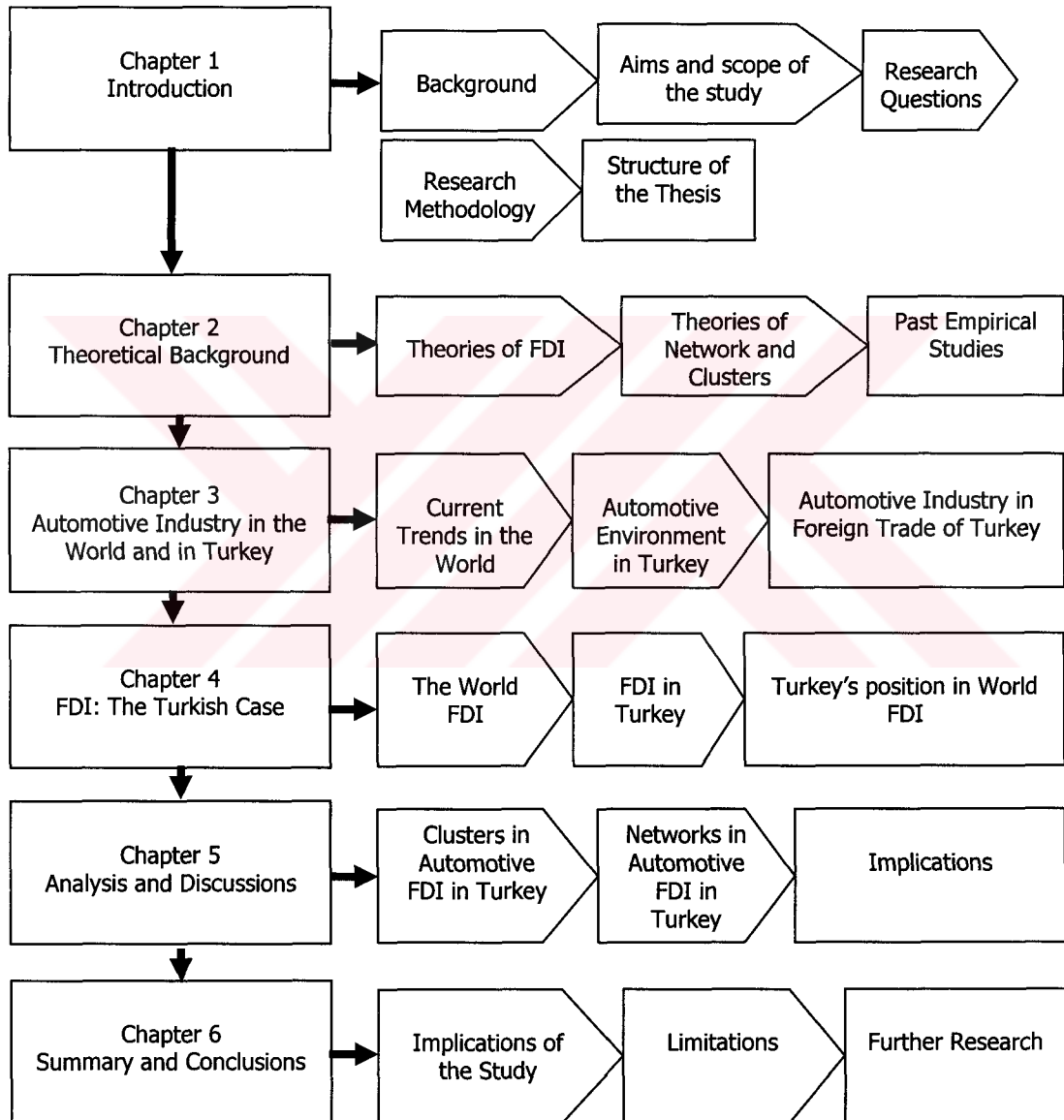
**Chapter 3**, '*Automotive Industry in the World and in Turkey*' presents automotive industry in the world and in Turkey and discusses Turkey's strengths and weaknesses, and the place automotive sector in foreign trade of Turkey.

**Chapter 4** '*FDI: the Turkish Case*' discusses world trends in FDI and reasons for Turkey's failure to attract less FDI than its potential. Moreover historical evaluation of FDI in Turkey with particular interest to automotive sector, legislative body and motivations for investing in Turkey in addition to inferior political and economical conditions will be discussed in Chapter 4.

**Chapter 5** '*Analyses and Discussions*' presents findings of the study in terms of clusters and networks in Turkish automobile industry and concludes with implication for sectoral and governmental policies.

**Chapter 6** “*Summary and Conclusions*” provides the summary, implications and limitations of whole study and the advises areas for further studies related to the area.

**Figure1. 2 The Structure of the Thesis**





## **CHAPTER 2**

### **THEORETICAL BACKGROUND**

#### **2.1 Introduction**

Although there is an abundance of the literature about FDI and MNCs, nevertheless, the theory still lacks of explaining the concept as a whole. One reason for this deficiency is that these issues are multi-discipline ones due to the nature of international business reclining between the grey area of finance, economics, and business. Hence, in order to explore the so-called theories of FDI and MNCs (or they can be regarded as the same thing, as Graham states) one should study both macroeconomic factors of FDI and microeconomic strategies of MNCs.

This section aims to explore theories of FDI and MNC, and internationalisation to investigate clusters, networks and linkages theories and their significance for Turkish inward FDI in automotive sector. In this regard, following pages provide a literature survey, both theoretical and empirical studies in the field of international business and internationalisation process of the firms.

In what follows is a theoretical review of trade, FDI, and MNC theories in order to find out main characteristics of FDI in Turkey and internationalisation process of the FDI companies in Turkish automotive sector to find out if they made up a cluster or if other reasons lie behind this process.



## **2.2 Theories of FDI and MNC**

### **2.2.1 Traditional Theories**

Traditional trade theories (and to some extent so-called *new* trade theory) view FDI as a part of long term capital movement and a factor affecting balance of payments. Since Adam Smith's (1776) pioneering work, the *Wealth of Nations*, the importance of international trade to the countries has been studied heavily in any area of economics, trade and business related fields. *Theory of Absolute Advantage* as explained by Smith (1776) assumes that, nations trade, not the firms. Countries trade because they need to balance the balance of payment and finance the imports through exports. The rationale under the theory is simple: the tailor does not make shoes and he exchanges shoes with suits. Hence, both the tailor and shoe maker gain from trade (Södersten and Reed, 1994; pp.4-11).

According to the absolute advantage theory, countries gain from trade on condition that one country is more productive than others in at least one product line. On the other hand, the theory does not answer the question "what if a country is less productive than the others in all product lines, can this country still gain from trade?" Ricardo's (1887) *Law of Comparative Advantages*, further refined by Heckscher-Ohlin's "Factor Proportion Theory" answer this question as "YES". So long the less productive country is not equally less productive in all lines of production; it still can gain from the trade through opportunity costs (Rugman and Hodgetts; 1995, pp.148-154) .

Macroeconomic developmental approaches root from the theory of comparative advantage. At its most basic, Turkey produces cheaper leather than Greece and Greece produces cheaper feta cheese than Turkey, thus it benefits both countries to exchange these goods. Accordingly, investment is trade of factor endowments. One country exports such products that it produces more cost effective to another which pro such factors of production as, finance, technology, know-how, etc. to the others where other factors are available and cost effective, such as labour and land.

Trade related theories best work with two-country, two goods model, with non-restricted trade conditions, zero transportation cost, and perfect markets that does not exist in real life. Besides, trade theories lack explaining the famous Leontief Paradox. According to the theory, countries should export goods which use abundant factor of production and import goods which use scarce factors of production. On the other hand, Leontief (1956) discovered that though United States was endowed with capital at that time, nevertheless, the country exported more labour-intensive goods.

While these theories are valuable in defining the trade relations across countries and FDI to some extent, however, they are not enough to explain the FDI waves of 1960s, 1980s and 2000s among countries. Trade theories might best explain international trade in perfect market conditions, however, there is not such a "perfect" market in the world to the date.

International finance theory, on the other hand, focuses on interest rates as a reason of investing abroad. Nevertheless, the theory ignores the “control mechanism” which is the essence of FDI. International finance theory deals with capital movements; however, this capital is only financial capital that is called portfolio investment. The well known push-pull factors theory of international capital movements assume that international investment is realised for two reasons. These are: push factors that unfavourable conditions in developed countries and pull factors that favourable conditions in developing markets (Fernandez-Arias; 1994). International capital flows are attracted by nominal after-tax interest returns (interest, dividends) and/or expected change in equity values; expected change in the exchange rate; exchange rate volatility, business risk, and political stability; and ability of investors to repatriate capital incomes freely, requiring the absence of capital controls and the existence of convertible currency (Rugman; 1981). According to the *Capital-Arbitrage Theory* capital movement continues until investment rates and risk-adjusted money return are equalised in all countries. Such flows of capital hold higher risks for especially developing countries. As Maskus (2001) states:

*They are a big factor in rapid growth in new equity markets in developing countries, suggesting that financial liberalization can attract significant amounts of capital. Their abrupt reversal can play a role in currency crises, such as those in Mexico, East Asia and Russia recently and Turkey and Argentina currently.*

So far, international trade and finance theories are briefed to see if they are capable to explain strategic FDI behaviours of MNCs; however, as it is concised, although theories of finance and trade focus on macroeconomic variables, such as international interest rate differentials and different endowments of production factors, they do not even bring into the subject of multinational companies. In trade theories, traders are countries, and balance of payment effect matters more than anything else, and in finance theories, capital is a monetary item, which is called "hot money" and individuals, not companies invest.

It was Stephen Hymer (1960) first studied the "Market Imperfections" in his seminal doctoral thesis. Hymer's work (often pronounced with Kindleberger, his doctoral supervisor) could be counted as a turning point in studying FDI, because he was the first determining the difference between direct investment and portfolio investment, in addition to the market imperfections that explain capabilities and advantages of firms rather than countries. In that sense, FDI theory did not exist before Hymer (1960). What is more, he also showed that capital-arbitrage theory explaining international capital movements was inconsistent with MNCs behavioural patterns. The essence of Hymer's influential study is that it came to be understood that analyses of FDI should focus more on MNCs per se.

Applying *Industrial Organisation Theory*, Hymer (1960) pointed out that if foreign multinational companies are exactly identical to domestic

firms, they will not find it profitable to enter the domestic market, since there are added costs of doing business in another country, such as, communications and transport costs, barriers due to culture and customs, and being outsider in the local business environment. Therefore, Hymer argued that for MNCs to conduct foreign production they must possess some kind of *firm-specific ownership advantages*, as listed by Kindleberger (1969):

- *Ownership of a brand name*
- *The possession of special marketings,*
- *Access to exclusive technologies,*
- *Favoured access to sources of finance and managerial skills,*
- *Planned economies of scale, and*
- *Economies of vertical integration.*

The firm could exploit these advantages either by licensing or by FDI depending on the level of imperfections in the host markets. The greater imperfections, the more tendency would be for FDI and control operations rather than licensing or other kinds of contractual agreements. Whether the firm will exploit such advantages through licensing or FDI depends on the nature of the advantages and the degree of imperfections in the markets for the advantages it possesses.

In what follows is a brief of theories related to Dunning's eclectic theory in order to fully accomplish cluster theory of the economic geography and Porter's Diamond Model.

### **2.2.2 Internalisation Approach: Towards Dunning's Eclecticism**

Hymer's work was later developed by scholars such as Buckley & Casson (1976) and Dunning (1977) to model internalisation theory. According to Buckley and Casson (1976):

*"The essence of Hymer-Kindleberger theory is that there are two barriers to market servicing: barriers to trade which prevent the MNCs from maximising returns by exporting, and barriers which prevent indigenous firms from producing a competitive product –specially the inability of indigenous firms to acquire the necessary proprietary knowledge".*

Internalisation theory of FDI was further developed by Rugman (1981) as that MNCs develop in response to market imperfections, and *country specific advantage of nation* that leads to trade is replaced by a *firm specific advantage* internal to MNC firms. The theory of internalisation was based on Coasian theory of the firm introduced in 1937, further refined by Williamson (1970 and 1973). The essence of internalisation is that underlining the importance of worldwide market imperfections in real life that forms barriers to international trade and investment. Accordingly, Multinationals occurred in order to overcome both exogenous government regulations and controls and other types of market failure, such as natural externalities. In order to avoid costs of transaction, sub-contracting, coordinating, and such kind, firms could use administrative power to fix



internal prices. Thus the firm could easily control the production and marketing of goods via its vertically integrated structure.

*Industrial Organisation Theory* and internalisation notion are best applicable to FDI flows from developed countries to less developed ones, similar to the Vernon's (1966) *Product Life Cycle Theory*. According to Vernon, goods are first produced in the innovator and advanced countries (USA), and exported from there, due to the information costs, when they start to get matured they are produced in less advanced countries (Europe) and when the product gets completely matured they are produced in less developing countries in order to benefit from cheaper labour costs in these countries. In his later work, Vernon (1974) concerning the developments communication facilities, emphasises locational factors such as land (Europe) and material (Japan), and he re-concludes about the comparative advantage.

To this point, international trade and finance theories, industrial organisation theory, technical advantage approach, internalisation, and the factor oriented theories were briefed. However, none of these theories/approaches could explain why firms do invest abroad or why MNCs exist at all. Dunning's (1980) outstanding work of *eclectic paradigm of OLI* offers an embracing theorem for FDI.

*"Within the field of international business, it has become virtually mandatory for young scholars to cite what is variously known as 'OLI' or 'Eclectic Paradigm' of FDI and the MNE (MNC) [these are both the same thing] when discussing direct investment or multinational enterprise" (Graham, 1996)*

### **2.2.3 OLI Paradigm and the Eclectic Theory**

The essence of OLI paradigm underlies the three letters "O" for ownership advantages, "L" for location advantages, and "I" for internalisation advantages.

*Ownership advantages* are specific to the firms, and include those advantages such as, information and knowledge, skills, proprietary, and so on to, particular income generating assets. Those assets as stated by Dunning (1958) and Hymer (1959), in earlier theory market imperfections, are still at the core of theoretical treatment of FDI (Graham; 1996).

*Locational advantages* stresses the importance of combined transferable intermediate products produced in the home country, with at least some immobile factor endowments, or other intermediate products, in another country that MNCs engage in foreign production when firms perceive it is best to. Rugman (suggested that L factor is just another name for "exogenous spatial imperfections". In Rugman's view, the true general theory of FDI is internalisation for the above reasons.

Finally *internalisation* advantages refer to the fact that firms choose to use firm specific assets, (as stated in ownership advantages) rather than working them in arm's length operations, such as, licensing. MNCs further benefit by internalising ownership advantages and locational advantages together, in order to avoid high transaction costs and uncertainties.

Ownership and internalisation advantages are specific to the firm while locational advantages are country specific ones. Locational advantages are determinants of the host country advantages that attract FDI.

Dunning (1993), then, identified four general types of foreign direct investment: natural-resource seeking, market seeking, efficiency seeking, and strategic-asset seeking. In addition, he determined six types of international production and prepared the matrix as shown in Figure 2.1 on the next page. One can find Dunning's determinants of international production as all-embracing in explaining international production and FDI.

**Figure 2. 1 The Determinants of International Production**

<i>Types of International Production</i>	<i>Ownership Advantages</i>	<i>Location Advantages</i>	<i>Internalization Advantages</i>	<i>Illustration of types of activity which favor MNEs</i>
<i>1. Resource-based</i>	Capital, technology, access to markets,	Possession of resources	To ensure stability of supply at right price. Control of markets	Oil, copper, tin, zinc, bauxite, bananas, pine-apples, cocoa, tea
<i>2. Import substituting</i>	Capital, technology, manufacturing management and organizational skills; surplus R & D & other capacity, economies of scale; Trade marks	Material & labor costs, markets, government policy (with respect to barrier to imports, investment incentives, etc.)	Wish to exploit technology advantages. High transaction or information costs, Buyer uncertainty, etc.	Computers, pharmaceuticals, motor vehicles cigarettes.
<i>3. Export platform manufacturing</i>	As above, but also access to markets	Low labor costs Incentives to local production by host governments.	The economies of vertical integration	Consumer electronics, textiles & clothing, cameras, etc.
<i>4. Trade &amp; distribution</i>	Products to distribute	Local markets. Need to be near customers. After-sales servicing, etc.	Need to ensure sales outlets & to protect company's name	A variety of goods-particularly those requiring close consumer contact
<i>5. Ancillary services</i>	Access to markets (in the case of other foreign investors)	Markets	Broadly as for 2/4	Insurance, banking & consultancy services
<i>6. Miscellaneous</i>	Variety-but include geographical diversification (airlines & hotels)	Markets	Various (see above)	Various kinds a) Portfolio investment-properties b) Where spatial linkages essential (airlines & hotels)

Source: Adopted from Dunning (1983)

Dunning's Eclectic Paradigm has been utilised by a number of scholars to explain how firms choose specific entry modes (see for example; Tatoğlu and Glaister, 1998; Brouters, K.D., L.E. Brouters and S. Werner, 1996; Agarwal, S., Ramaswami, S N., 1992). Although it is widely accepted that *Dunning's Eclectic Paradigm* is the most satisfying and embracing one, among the competing theories of FDI, it is not without criticism.

First of all, mostly it is criticised for being tautological (Katseli; 1991, Singh and Jun; 1995, Graham; 1994 and 1996) and for not being able to explain low level of inward FDI to the less developed countries, if such locational advantages existed. In above studies, Katseli (1991) questions if such advantages of OLI existed, FDI companies should prefer less developed countries to locate labour intensive productions there. On the other hand, FDI is much more intensified advanced countries. Katseli's study of FDI concludes that host country advantages are not limited with factor prices, but FDI is attracted by those markets with low uncertainty and efficiency of inputs. Those are called as "thick market externalities" by Graham (1994). Singh and Jun (1995) describes OLI paradigm as a taxonomy rather than theory and state it is tautological. Their extensive research on why certain location attracts FDI has concluded that FDI does not follow a rule.

In addition to the above criticisms, Dunning's eclectic paradigm has been problematic as it fails to allow for behavioural interaction between MNCs which both affect and is affected by their foreign activities, as a result

of such factors as uncertainty of the foreign markets, government policies, rivalry in the markets, suppliers, consumers, labour unions and so on. Eclectic paradigm also needs to integrate with other forms of international business than FDI, for example contractual agreements, licensing, arms-length trade and non-equity agreements. What is more, Eclectic Paradigm ignores divestments by MNCs. If the paradigm can explain why certain locations have advantages over others it also should explain divestments from these locations, too. Furthermore, Eclectic Paradigm emphasises advantageous conditions for MNCs, however, it does not remark the effects of FDI on the macroeconomic conditions of home and host countries.

The effects of multinational activities are twofold: they have influence on both home and host country economies. MacDougall (1960) was the first who examined the effects of foreign capital (without differentiation of direct or portfolio investment) and concluded that foreign capital would increase the marginal productivity of labour and reduce the marginal productivity of capital in the host country. What is more host countries might benefit from inward FDI via technology and productivity spillovers (Blomström and Kokko, 1996 1997). Because, FDI is not only form of the financial capital transfer, but also MNCs transfer intangible assets, by internalisation. There is a bundle of literature on the advantages of FDI in addition to those international institutions such as, OECD, UNCTAD, and WTO. For example, Caves (1974), Blomström (1986), Eicher and Markusen (1997) Aitken,

Hanson and Harrison (1997), Sjöholm (1998) all studied effects of FDI on host country productivity and labour and found out that FDI might certainly have spillover effects on host country productions. In more recent studies, Mortimore (2000) found out that in textile and automotive industry, multinationals in Latin America and Caribbean countries have positive impacts on exports, and growth, Beers (2003) also have found evidence on increasing R&D facilities through MNCs.

From the home country point of view, multinational companies investing abroad may either increase or decrease the economic welfare of the home country, depending on the type of investment. Caves (1998) argues that if MNCs operate in an efficiency-enhancing way, like overcoming natural market-failure in cross-border technology markets, they will improve the long-term competitiveness of the home countries, by promoting a more efficient international division of labour and by better exploiting the economies of common governance. On the other hand, famous Japanese strategist and international economist Kojima (1990) discusses that MNCs engage in defensive oligopolistic tactics and where governments distort prices for technology, they are likely to reduce welfare. What is more, technology is now available everywhere and thus technology transfers abroad at low marginal cost might weaken the competitive advantage of the home countries. In discussing home country effects, Dunning (1993) also warns that it technology-related policies cannot be separated from policies

that address the total welfare effects of MNC activity: environment, employment, antitrust matters, or balance of payments effects. It requires a systemic view. Host countries welcome inward FDI for the upgrading technology, employment opportunities (through greenfield investments), and better utilisation of existing indigenous endowments.

On the other hand, since MNCs might have stronger bargaining power over the local firms, the foreign firms might be able to capture undesirably high shares of the subsidiaries in the host countries. Moreover, resources transferred and used via FDI might yield less benefit to the home country than which might arise from other patterns of resource allocation

So far, the conventional theories of FDI, from finance to economic views and from Hymer to Eclectic Paradigm were briefed. To this point, the most embracing theory of FDI was stated as OLI paradigm; however, it took shape before the recent "flood" of world FDI since 1990s. Thus, for scholars studying FDI, it is essential to examine the up-to-date thinking. In this context, next section is dedicated to explore the network (cluster) view and Competitive Advantages of Countries –as known Diamond Theory of Porter; in order to see if Turkey can benefit those factors in attracting FDI in automobile (or in any) sector. A particular problem that interests this work is that FDI in Turkey has become stagnant in 1990s when it has taken enormous dimensions world-wide.



#### **2.2.4 The Cluster View and National Competitive Advantage**

Not only the scholars in economics, trade and business explore rationale of FDI, economic geographers have also have been studying similar issues for the last two decades. Lall (1980) has come up with his novel idea that *instead of FDI alone we must consider the Total Involvement*. This means exports together with FDI, which is a precursor of Singh-Jun finding that, exports induce FDI. Graham (1996), considering the *irregular* patterns of FDI pays special attention to *clusters* of investment, which he calls *externalisation* in contrast to *internalisation*. By focusing on clusters, he tries to say, in a cautious language, that there is more to economies of scale/scope to be overshadowed by internalisation.

Technically speaking, economic geography approach to FDI location roots back to Marshallian (1860) view of industrial districts which than was not studied in the discipline of international business. The term "cluster" represents a convergence of various expressions related to economic development, such as, inter-firm cooperation (networks), agglomeration (external economies), social capital (associative behaviour), technology transfer and diffusion (knowledge spillover), embeddedness, and clusters (Rosenfeld, 2001; Lin and Yeung, 2003). Economic geographers use the terms such as 'industrial districts', 'industrial spaces', 'industrial complexes' and so on (see, for example, Storper, 1992; Markusen, 1996; and Krugman, 1998; ) instead what UNCTAD (2001) calls linkages, and networks and what

Porter (1990) calls "clusters". For the purpose of this paper, the term *cluster* will be utilised to describe the above expressions.

In what follows is that a detailed description of clusters and the diamond model of Porter in order to complete the theoretical approaches that our study is based.

#### **2.2.4.1 The Cluster Framework of Porter: The Diamond Model**

The need for a new paradigm stem from the questioning of national success of those countries in certain industries and having competitive power over their rivals. The cluster framework presented by Porter in 1990 has been an attempt to explore those issues. Porter (1990) and his team studied 100 industries in 10 nations in order to answer the above question. Introducing the diamond model, Porter (1990) stated that there are four main factors determining "the National Advantage": *Factor Conditions, Firm Strategy, Structure and Rivalry, Demand Conditions, and Related and Supporting Industries* (Figure 2.2 on page 30). The basis of those four factors are as follows.

***Factor Endowments*** are a nations' position in factors of production such as quantity and quality of labour, and cost efficiency, physical resources (e.g. abundance, quality, accessibility, cost, climate, and location), knowledge resources, capital resources and infrastructure. The role of factor

endowment is that competitive advantage depends on efficiency and effectiveness of deployment

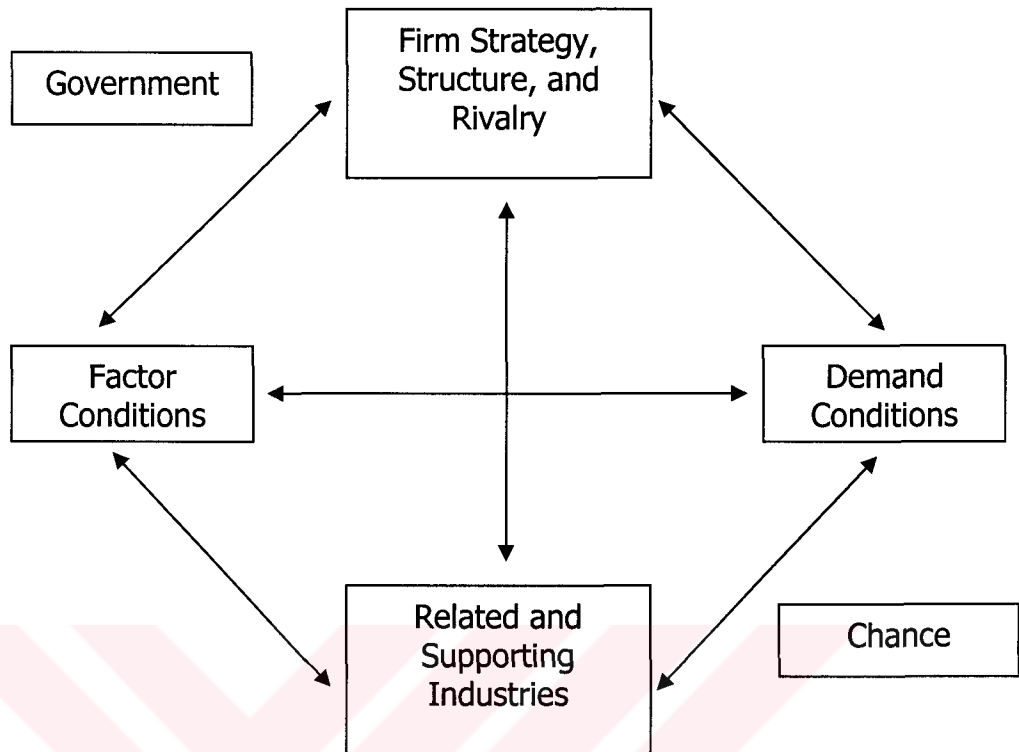
***Demand Conditions*** mean the nature of home demand for the industry's product or service. These include structure of demand in market segment, sophistication and demanding degree of buyers, anticipatory buyer needs and capability to perceive, understand and act on buyer needs.

***Related and Supporting Industries*** refer to supplier industries and related industries that are internationally competitive. The two important points here are the coordination and role of relationships together with availability of specialised innovative products' supplies.

***Firm Strategy, Structure, and Rivalry*** underlines the conditions in the nation governing structure and systems, such as cultural influences and attitudes towards authority; corporate and individual goals shaping firm strategy, and the level of rivalry in the domestic market.

Firms are most likely to invest and succeed in industries where the diamond is the most competitive. The effect of each of the elements of the diamond is dependent on the state of others.

**Figure 2. 2 The Diamond Model**



Source: Adopted from Porter, 1998, p. 167

In addition to the four forces there are also two exogenous forces, also affecting the competitiveness of a nation, indirectly: the role of chance and the role of governments.

**The role of chance** are such occurrences as: new inventions, political decisions by foreign governments, wars, significant shifts in world financial markets or exchange rates, discontinuities in input costs such as oil shocks, surges in world or regional demand, and major technological breakthroughs.

Role of government might include subsidies, education policies, actions toward capital markets, the establishment of local product standards and regulations, the purchase of goods and services, tax laws, and antitrust regulation<sup>1</sup>.

In sum, competitive advantage of nations, or national diamond, is nothing but attractive conditions for MNCs to invest in certain countries. According to Porter, these attractive conditions for foreign firms will also foster domestic companies.

On the other hand, this view has been challenged by Enright (2000) giving the example of HSBC Bank's headquarters moving to the UK though its home country being Hong Kong. The author's findings point out that Hong Kong provides an advantageous environment for foreign financial companies in terms of diamond, however, as for the local ones, the country does not provide an attractive environment.

Like any other paradigms, notions, theories and approaches, Porter's competitive advantages of the nations approach is not without criticism. For example, Krugman (1994) argues that only productivity enhances national welfare and that national competitiveness is irrelevant. Similarly, Kogut (1991) challenges the diamond by emphasizing relevance of the importance of country-specific factors. Reich (1989) and Tyson (1993) discuss that

---

<sup>1</sup> Above statements are excerpted from Porter (1990), pp. 69-130

national origin of the MNCs does not matter any more in global competition because enterprises have become separate from nations, with industries developing as global webs disassociated from nation states.

Our main line of research is that if foreign firms “tap into<sup>2</sup>” industry clusters in Turkey (automotive sector) or they are generating clusters, or none. Birkinshaw (2000) identifies two particular roles of foreign subsidiaries that are:

*“One is the scanning unit whose role is to tap selectively into sources of advantage in other national diamonds. Such units have been identified in a number of other studies, including Bartlett and Ghoshal (1986), Vernon (1979), and Westney (1990). The other role is the transplanted home base (Porter 1990), which consists of top management, R&D activities, and the main manufacturing operations of an entire product division, all based in the same foreign location”.*

That is to say foreign firms invest where national diamonds are advantageous and second they relocate their R&D activities and manufacturing facilities in those countries. Thus it can be concluded here that FDI goes for national diamonds, national diamonds attract more developments in production and R&D.

---

<sup>2</sup> The term “tap into” has been derived from Birkinshaw (2000)

## **2.3 Summary**

So far, reasons for why firms invest abroad are discussed from the point of trade, economics, and business theories.

It has been seen that, although there is a bundle of research in FDI, much of the literature is on either effects of FDI to the home and host countries, and locational factors attracting FDI embedded to Dunning's OLI paradigm. There is no theory, paradigm or notion explaining FDI alone.

Next, though economic geography has researched industrial clusters, it was left to Porter (1990) to identify those clusters and he named this as "diamonds of nations". Thought Porter's diamond, might be regarded as a repetition of "the wealth of nations" and Porter's "competitive advantage" might be compared to Adam Smith's "absolute advantage" and David Ricardo's "comparative advantage; it is found the most appropriate in identifying and studying clusters in the field of business.

In what follows is an attempt to find out if industrial clusters approach is applicable to inward FDI in Turkish automotive industry.

## **CHAPTER 3**

### **FDI IN TURKEY**

#### **3.1 Introduction**

This chapter aims to provide a background for the empirical part of the study by presenting the FDI figures in Turkey in addition to the legislative framework.

As mentioned in previous chapter, Turkey did not favour foreign investment until 1950s; instead, the policy makers preferred foreign aid as a source of capital and development. This has been started to change with Turkey's membership to IMF, OECD, and the World Bank in 1947, and liberating the legislation regarding FDI to some extent in the same year. Although FDI was deregulated to some degree, however, other restrictions discouraged foreign investors until the law concerning FDI was made in 1954. Thus, analysing FDI, this thesis takes 1954 as start year.

Subsequent, is a brief of the legislation and historical evaluation of FDI in Turkey and then an analysis of FDI in Turkey in terms of its causality, trends, and distribution.



### **3.2 Legal Framework and Historical Evaluation**

The history of FDI in Turkey starts with the law about protection of Turkish Lira on 22 May 1947, which allowed foreign investments. Nevertheless, transfer of money by foreigners was limited with governmental permissions. With another law in March 1951, FDI was further deregulated (though agricultural and commercial sectors still were forbidden to the foreigners); a right to transfer 10 percent of the total profit was allowed. During the 1954 crisis, Turkey required financial aid from the USA, however, the government was given credit on conditions of further deregulation of FDI. Thus, a commission of experts supervised by Randall (USA Foreign Economics Politics Commission) prepared a far more liberated law (Decree No: 6224) in 1954. With this law, foreign entrepreneurs were allowed to deal with mining, quarrying, and oil exploration. According to the General Directorate of Foreign Investment data, there were only six foreign direct investment firms (all in manufacturing sector) by the end of 1954. Yet foreigners were allowed to deal in any business that the domestic companies could, however, some restrictions continued: According to the law, the Foreign Direct Investment decisions would be made by the Committee for the Encouragement of Foreign Capital. The Committee was founded under the Chairmanship of the General Director of the Turkish Central Bank and consists of the General Director of Treasury, General Director of International Trade, General Director of Industry, Head of the Department of Research

and Planning of Ministry of State Administrations and the General Secretary of the Union of Chambers of Commerce and Industry and Commodity Exchanges.

The law required a certain restraint on the amount of the capital proposed to be invested in Turkey, with a minimum amount of 50.000 Dollars. Until the -1980 liberalisation-cum-stabilisation programme, FDI in Turkey did not show a significant change. However, 1980s witnessed a dramatic increase in FDI in Turkey especially, after the further deregulations.

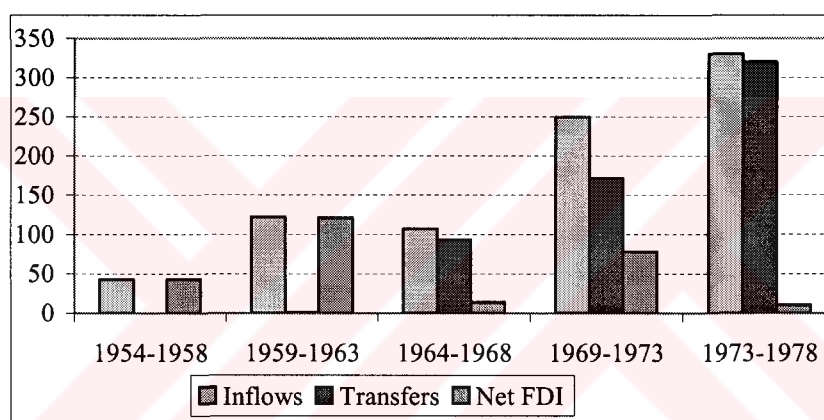
The law concerning foreign investments was further modified in 1980 (establishment of General Directorate of Foreign Investment –GDFI- under SPO -than assigned to the Ministry of Treasury in 1994.), 1986, and 1992. Finally, in 2003, the decree took its recent form declaring that:

- Foreign and domestic investors have the same rights and responsibilities
- There is no limitation on the equity participation ratio of the foreign shareholders
- Employment of expatriate staff is permitted
- All kinds of money transfers –such as profits, dividends, proceeds of sale or liquidation, etc.-are unrestricted,
- Capital could be hold in foreign exchange deposits account, investors do not have to convert it into Turkish Lira

Although FDI was deregulated to some degree, however, foreign trade, especially importation was still restricted until 1980. As the Figure 3.1 and Table 4.1 illustrate, although FDI inflows gradually increased, however, it did not help to the net FDI very much be due to the high ratio of revenue transfers to the inflows. Astonishingly, the ratio of FDI flows and revenue

transfers did reach to 96.7 percent meaning that revenue transfers nearly reached to the total inflows during 1973-1979 term. It would have been appropriate here to analyse the distribution of FDI in terms of sectoral and regional in addition to its share in domestic capital formation; nevertheless, our efforts were not sufficient to find the relevant data concerning pre-1980 FDI.

**Figure 3.1 FDI in Turkey (1954-1979) (Million Dollars)**



*Source:* Based of GDFI Annual Reports, Various Issues

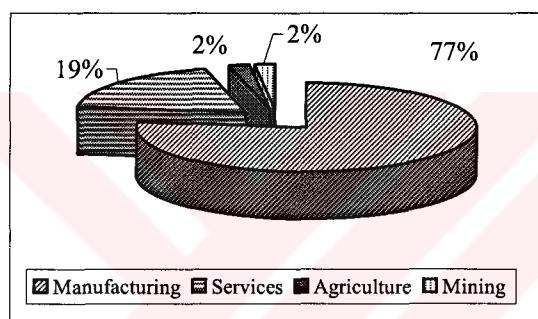
The rapid increase of FDI during the 1960s are explained as:

- Increasing reliability due to the 1960 coup d'état
- Development plans giving importance to FDI
- The agreement with European Union
- The potential of the Turkish market for durable consumer goods

The ratio of transfers to total foreign direct investment reached its zenith between 1973 and 1979 with 97 percent. This could be interpreted as the share of FDI to the gross domestic investment was lessened,

nevertheless, the value to the production, technology, and skills added by the foreign firms could not be ignored. There were 62 FDI companies, of which 77 percent belong manufacturing, 19 percent services, and one percent agriculture and extractive industries each (Figure 3.2).

**Figure 3.2 Sectoral Distribution of FDI Firms in Turkey (1954-1979)**



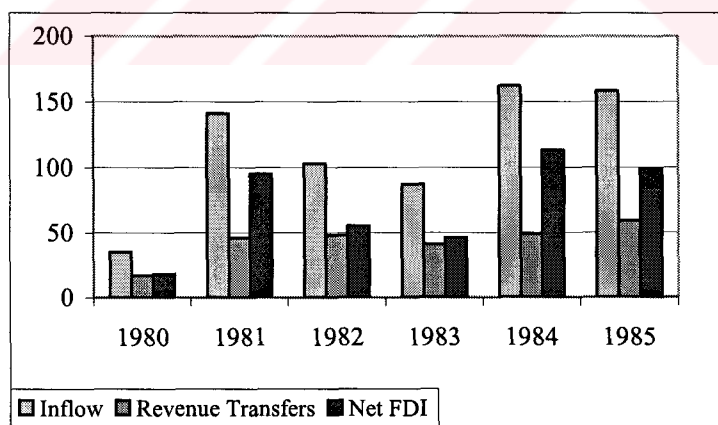
*Source:* Based on GDFI (1995)

Although the number of firms were very small during the pre-1980 period, however, most of them are world's top MNCs, such as Bayer Pharmaceuticals of Germany, Sandoz and Roche Pharmaceuticals of Switzerland, Pfizer Pharmaceuticals, Unilever of USA, Pepsi Cola and Coca Cola of USA, Philips of Netherlands, Hemel Chemistry of UK, and Mercedes Benz of Germany. Chemical production firms dominated the manufacturing sector with total 12 companies of which eight pharmaceuticals producers. In services sector, five of the twelve companies were hotels dealing with tourism, three

trading, three engineering, and one bank. During the pre-1980 period, there was only one agriculture firm (from Germany) and one mining firm (a Dutch one).

Efforts of Turkey during 1980s to catch with the globalisation wave in the world resulted increasing FDI to 114.33 million Dollars on annual average between 1980 and 1985 (Figure 3.2) with a total of newly set up 291 companies. Among those, Chase Manhattan Bank of USA, Glaxo-Wellcome of UK, International Hospital of Ireland, Pirelli of Italy, Philips of Netherlands are some significant multinationals, in addition to the individual investors and small and medium size enterprises, joint ventures and acquisitions.

**Figure 3.3 FDI in Turkey (1980-1985) (Million Dollars at current prices)**

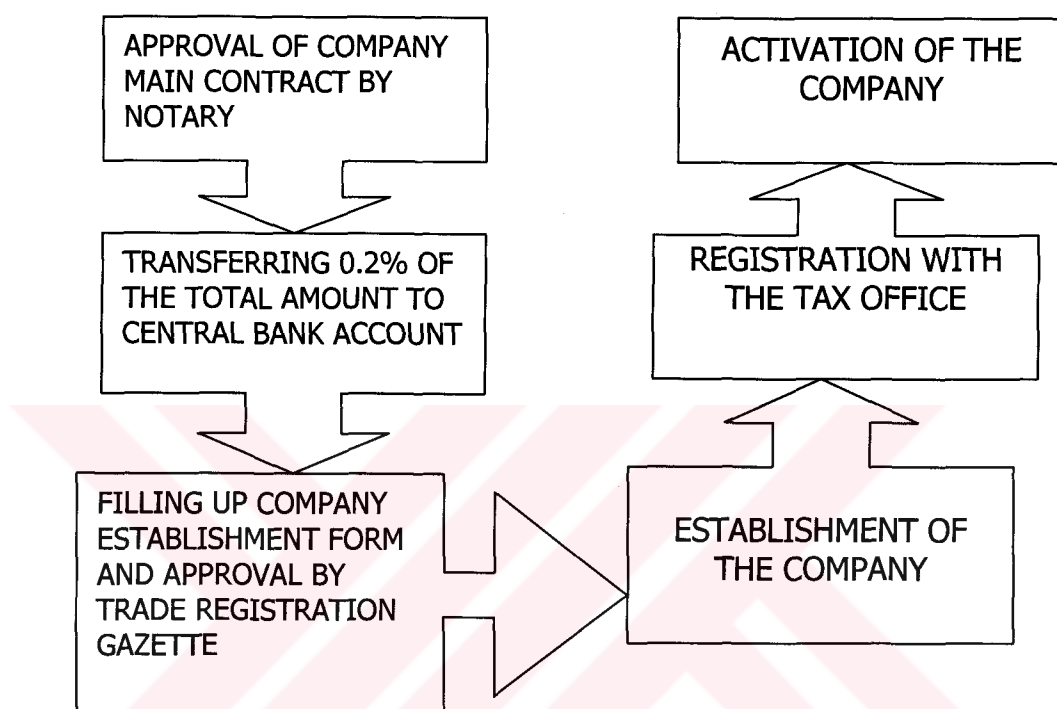


*Source:* Based on Balance of Payment Statistics

Although FDI was deregulated and several liberalisation programmes were implied in Turkey, however, there were still concealed barriers, for example, prior to the law in 2003, there were 13 steps to establish an FDI company in Turkey. Thus, the gap between investment permissions and

realised investments were high. Recently, the map of establishing an FDI firm is as follows:

**Figure 3.4 Road Map of Investing in Turkey**



*Source: Translated from YASED (2004) web page "Road Map of Turkey"*

As seen on the Figure 3.4, only one item in the list is different from local companies which is Central Bank account. The long said "local and FDI firms are equal" is now realised.

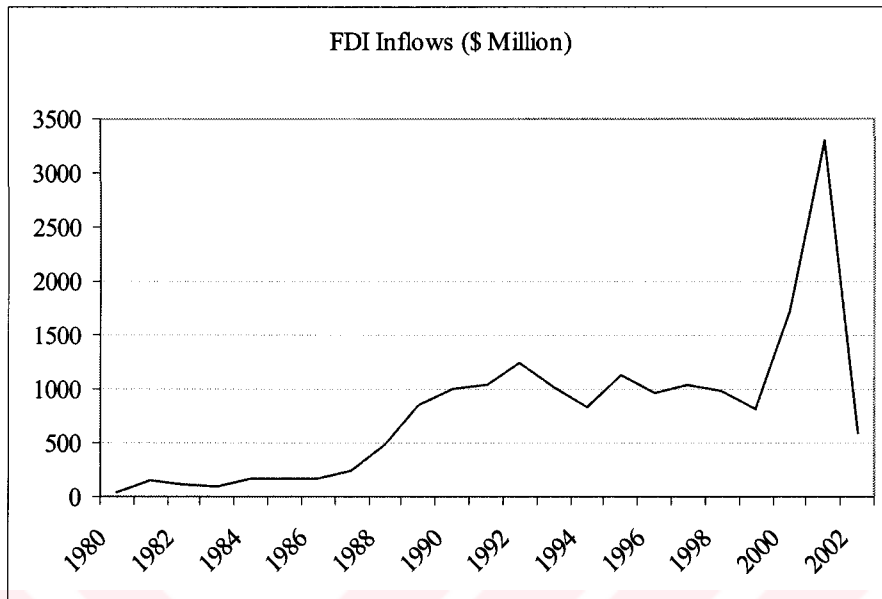
### **3.3 FDI Trends**

The growth of foreign direct investment (FDI) in Turkey is one of the most dramatic consequences of the country's change in economic policy from autarky towards liberalisation policies. Despite fluctuations, total accumulated amount of foreign direct investment at current prices rose from the initial \$0.560 billion from 1979 to 12.23 billion in 1998, and 15.75 billion in 2002. Together with its expansion of international trade, foreign direct investment has increasingly exposed and integrated the Turkish economy into the world economy since 1980s.

As it has been mentioned before, GDFI was the main source of this thesis in getting information of the FDI companies in Turkey. However, several other sources were also utilised in order to get the accurate data. GDFI records indicate that by the end of July 2003, there were 6511 FDI companies in Turkey.

Turkey's liberalisation programme performed an important role into encouraging the foreign investment inflows. Starting from 1981, FDI inflows to Turkey has shown a constant increase (apart from 1983) and reached its zenith in 2002. During the 1986-1990 FDI boom in the world, the growth rate of FDI flows to Turkey was recorded as 40%, which shows a bigger increase than that of the average global rate.

**Figure 3. 5 FDI Inflows to Turkey 1980-2003 (\$ million)**



However, unlike the rise in the global development of FDI, Turkey recorded a decrease in 1993, 1994, and 1999. This can be judged by the crisis of 1990s, which ended with another stabilisation programme. The year 1995 witnessed 35% growth, nevertheless, FDI inflows to Turkey decreased by 14.5% next year. The reasons for decline are pointed by Financial Times Newspaper (1996) as political instability in addition to inflation, exchange and interest rates volatility. Similarly, Uygur (2000), SPO (2000), and much of the literature state that factors such as, large public deficits, high inflation and interest rates in Turkey would cause instability and thus foreigners would wish to leave the country.



In more details, Erdilek (2003) categorises Turkey's failure of attracting adequate FDI as due to economic and non-economic reasons and lists them:

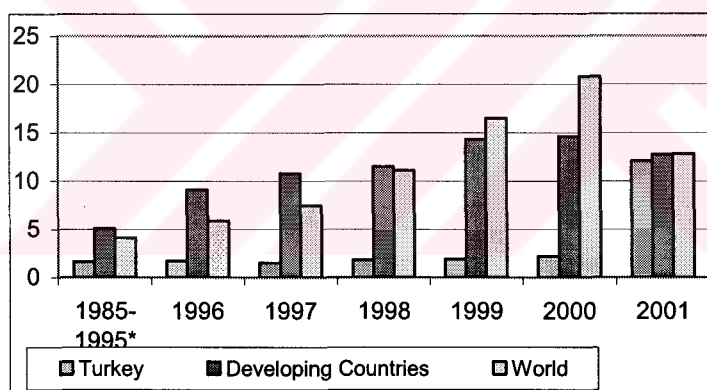
*Economic causes include high transactions costs of entry and operation for foreign investors (due to excessive bureaucracy and red tape, and widespread corruption), chronic high inflation, increasing economic instability, inward orientation until 1980, lack of protection of intellectual property rights, lack of inflation accounting and internationally acceptable accounting standards, failure of privatization, insufficient legal structure and inadequate infrastructure (especially energy).*

*Non-economic causes include chronic political instability, internal conflicts (especially the Kurdish problem), historical animosity towards foreign economic presence (dating back to the Capitulations during the Ottoman Empire), fear of foreign political domination within the civilian and the military bureaucracy, lack of FDI promotion (indicating an unwillingness or reluctance to attract FDI), and the structure of Turkish business (family-owned and controlled and closed to foreign takeovers).*

Apart from the shortage of inflows, as shown in Figure 3.5, the unruly FDI in Turkey do not perform a symmetrical pattern compared to the rest of the world (neither developed nor developing countries). The reason for this could be explained as country specific conditions, as reviewed in Chapter 1. The sharp decrease in 1992 and 1993, for example, could be explained by the financial crisis of 1993, and the elections in 1995. Besides the instability phenomenon, Ozag (1993) has found out that FDI in Turkey has been affected by several factors after the 1980 liberalisation programme. Among these factors, an increase in real exchange rate and wages resulted a decrease in FDI. The peak in 2001 is greatly effected by HSBC Bank's heavy investment in that year.

From another point of view, the ratio of FDI inflows to Gross Domestic Investment presents a more rational comparison. As Figure 3.7 shows Turkey performed well in utilising foreign direct investment for capital formation until 1997, however, since then the country felt behind the average of West Asian Region (Refers to Bahrain, Cyprus, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, United Arab Emirates, Yemen). The share of Turkey in world FDI inflows has also decreased to 0.38 percent in 1998 from 1.06 in 1985 (calculated from UNCTAD, 2003).

**Figure 3.6 FDI Inflows as Percentage of Gross Fixed Capital Formation (1985-2001)**



Note: Annual average between 1985 and 1995

Source: UNCTAD (2003) Country Fact Sheet: Turkey

To sum up, many advantageous factors, such as, locational aptness, market size, human resources, and infrastructure for attracting FDI do exist in Turkey. However, the share of the country from the world FDI is relatively small (0.13 percent of the world FDI, 0.48 percent of the developing countries and 9.20 of the West Asian FDI). Most of the literature on the

issue revealed here was focused on economical and political instability, mainly the rapid changes of governments, high inflation and interest rates, and fiscal imbalances for such a small share.

To this point, the efforts of this study to find out a similarity between FDI trends in Turkey and other countries has been unsuccessful, since the ground for FDI has not been well prepared in Turkey.

Having briefed FDI flows from legislative and chronological points of view, next section deals with distribution of FDI since quality counts more than quantity.

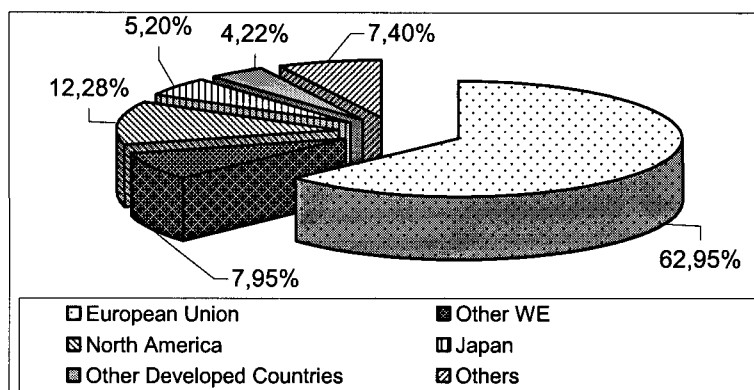
### **3.4 FDI Distribution in Turkey**

Thus far, foreign direct investment in Turkey was revealed based on the amount of the capital invested in the country in order to provide a comparison with the rest of the world. This section deals with the source country, geographical, and sectoral, distribution of FDI firms in Turkey with the aim of preparing the ground for the sampling and empirical research section.

#### **3.4.1 Foreign Direct Investment by Source Country**

By the end of July, 2003, there were 6511 FDI companies from 102 countries operating in Turkey. As a whole, 70.90 percent of the foreign capital to Turkey is originated from Western Europe. The largest FDI source countries in the world, European Union, USA, and Japan share 88.38 percent of the FDI flows in Turkey as of 2003. Among Triad, European Union countries have the biggest share in foreign capital investment in Turkey, with 62.95 percent of the total foreign investment; USA and Japan count 12.28 and 5.20 percents, respectively.

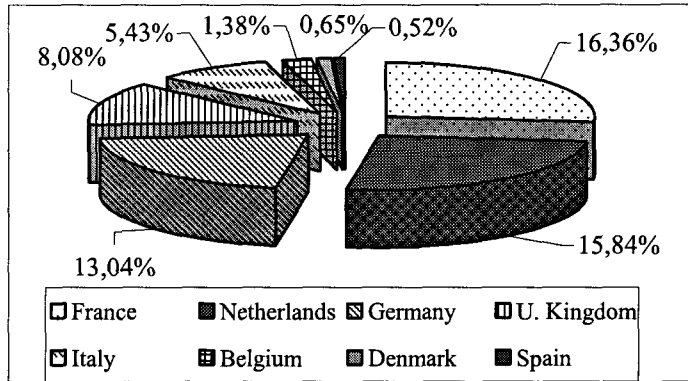
**Figure 3.7 FDI in Turkey by Source Country (Cumulative, 1954 – 2002)**



Source: Calculated from GDFI data

As a whole, 92.60 percent of total FDI stock in Turkey is held by developed countries, whereas developing countries' share is 7.13 percent and 0.27 percent has been invested by two International Organisations, namely International Finance Corporation (IFC). Among the EU countries, France (16.35 percent) has been the top source of foreign investment, followed by the Netherlands (15.84 percent), and Germany (13.03 percent) based on the amount of the total inflows (Figure 3.8)

**Figure 3.8 Breakdown of EU FDI in Turkey (Cumulative, 1954 – 2002)**



*Source:* Based on data compiled from GDFI statistics, various issues

One significant concern with FDI in Turkey is that the relative amount of the small business investments in the country. As it has been mentioned above, there are 6511 firms from 102 countries, however, the share of top ten investors count 86.27 percent of the total FDI stock, relatively other 92 countries invest only the 13.67 percent (remaining 0.06 is International Organisation's FDI) as shown on Table 4. on the next page. The reason stated by Onaner (2000), the director of GDFI, is that most of those small businesses are set up by the individual entrepreneurs from the neighbouring countries, in order to get permission to settle down in Turkey to establish trade between Turkey and home countries.

**Table 3.1 Top Ten Foreign Investor Countries in Turkey**

Country	Percentage in Total FDI	No. of Firms
1 Netherlands	15.84	449
2 Germany	13.04	1084
3 USA	12.28	393
4 France	16.36	277
5 United Kingdom	8.08	413
6 Switzerland	6.67	234
7 Italy	5.43	249
8 Japan	5.2	62
9 South Korea	0.92	56
10 Ireland	2.1	29
TOTAL	85.92	3246

*Source:* Compiled from GDFI (FDI report) and SPO (Balance of Payments) data

Another point is that during the analysis of FDI companies for this thesis, it has been observed that many registered European companies' owners or partners are Turks. The reason for this has been explained by Mr. Arıman, (2000) General Secretary for Foreign Investors Association of Turkey, with specific attention to Germany (where Turkish workers count significantly) states that majority of these FDI companies are built, with a partnership of the Turkish workers and their colleagues abroad. However, there are of course, many well-known, large scale MNCs, too. What is more, the top 50 companies hold more than half (53.17 percent of the total 6511 companies) of the total FDI stock in Turkey as of 2003.

As for the American FDI in Turkey, when the secretary for Foreign Economic Relations, Mr. Jeffrey E. Garten announced that Turkey as the second most important emerging market following China in 1995, many

authorities were expecting American investment to stream to Turkey. However, USA counted only 12.28 percent of the total FDI. The reason for that small amount is pointed out by U.S. & Foreign Commercial Service (2000) as "*because of the absence of a bilateral tax treaty until 1998, much U.S.-origin capital has been invested in Turkey through third-country subsidiaries. By unofficial estimates, the U.S. is actually the largest source of foreign investment in Turkey*" (P.67).

Finally, Japanese FDI counts only 5.2 percent by 60 companies of which 10 vehicle and vehicle related manufacturing companies count 74.68 percent of Japanese capital.

Having studied distribution of FDI in terms of investor countries, next section examines geographical and sectoral FDI in Turkey.

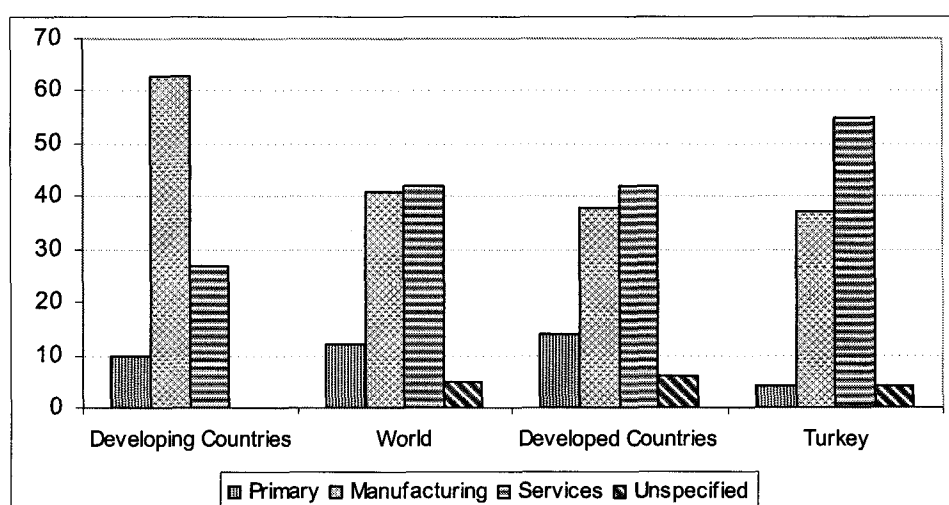


### 3.4.2 Sectoral Distribution of Foreign Direct Investment in Turkey

Sectoral distribution of FDI in Turkey has been very uneven: primary sectors (agriculture and extractive industries) are ignored by foreign investors at all times.

The share of agriculture and mining sectors in FDI stocks counts only around 4 percent of the total, whereas manufacturing and services sectors' shares are 36.79 and 54.76 percent, respectively. These ratios are 10 percent for the primary sectors, 63 percent and 27 percent for the manufacturing and services sectors in developing countries (Figure 3.9). However, it is likely that this will change in the coming years, because of the new legislation and other efforts of YASED together with GDFI and other governmental bodies.

**Figure 3. 9 Sectoral Distribution of Turkish and Global FDI Stocks**



Source: Data for Developing Countries, World and Developed Countries are adopted from UNCTAD (2003).

*Data concerning Turkey is own calculation from YASED, 2004*

Viewed from the point of global change, the sectoral distribution of FDI reflects the global pattern well in Turkey. There is a general tendency of declining in manufacturing sector FDI unlike increasing interest in services sector over a decade as UNCTAD reports, mainly be due to the increasing investment in financial sub-sector (i.e. banking, insurance, securities, investment financing, etc.) of the services sector..

*... TNCs need to be physically present in a market in order to provide financial services to that market, especially to service the international trade of foreign affiliates of TNCs in manufacturing and other services. ...Liberalization of the sector in developing countries has given further momentum to FDI in financial services. (Miyake and Sass, 2000)*

As far as the sub-sectoral distribution of FDI, finance sector holds 17.80 percent of the total FDI stock, with 35 banks alone counting 12.95 percent, followed by trade companies and the social services counting, 11.52 percent share. These three sub-sectors also record the highest share of inward FDI stocks of Turkey as of 2003 July.

In sum, sectoral distribution of FDI in Turkey is relatively uneven, fluctuated, and there is a great tendency of investing in services sector, especially in financial services and trade, whereas primary sectors have been ignored much of the time, as it happens in the global distribution of FDI. Manufacturing sector is dominated by automotive, food and drink and textile sub-sectors owing to the consumption patterns of the Turkish people.

### **3.4.3 Locational Distribution of FDI in Turkey**

Similar to the global distribution of FDI, the most developed regions in the country receive the highest capital in Turkey. There is currently an intensive demand for foreign capital, especially among the developing countries for growth, development and capital reasons and Turkish authorities also do the same for less developed regions, encouraging investment in those areas by means of incentives, etc. On the other hand, like the richer the country, the more the FDI flows in the world; the richer the area, the more FDI flows in Turkey which shows FDI is rich-man's game.

**Table 3. 2 FDI Distribution in Turkey (January 1954 – July 2003) (TL)**

	Agriculture	%	Energy	%	Manufacture	%
Aegean Region	3,593,057	1.30%	171,000	0.05%	238,935,415	8.04%
Black Sea Region	5,041	0.00%	--		5,516,412	0.19%
Central Anatolia	3,116,850	1.13%	325,158,402	90.29%	101,277,853	3.41%
East Anatolia	475,000	0.17%	--		106,738	0.00%
Marmara Region	264,389,018	95.57%	34,675,385	9.63%	2,580,561,261	86.78%
Mediterranean Region	4,978,947	1.80%	96,000	0.03%	42,813,774	1.44%
South East Anatolia	84,572	0.03%	40,500	0.01%	4,312,546	0.15%
<b>TOTAL</b>	<b>276,642,485</b>	<b>3.42%</b>	<b>360,141,286</b>	<b>4.46%</b>	<b>2,973,523,999</b>	<b>36.79%</b>

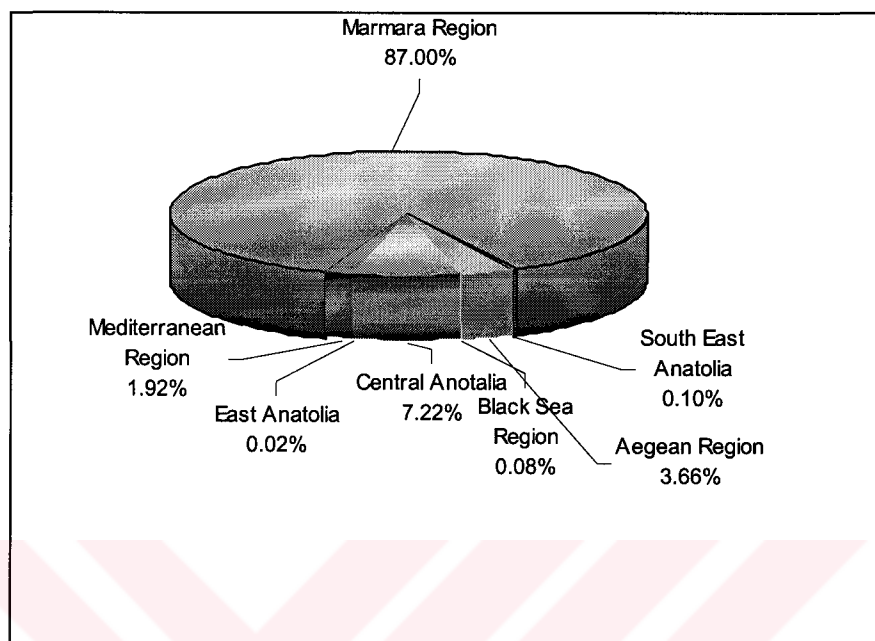
	Mining	%	Services	%	TOTAL	%
Aegean Region	4,428,783	9.77%	48,703,551	1.10%	295,831,806	3.66%
Black Sea Region	54,720	0.12%	1,065,235	0.02%	6,641,408	0.08%
Central Anatolia	14,581,152	32.17%	139,690,900	3.16%	583,825,157	7.22%
East Anatolia	74,517	0.16%	--		656,256	0.01%
Marmara Region	25,830,775	56.99%	4,125,512,491	93.22%	7,030,968,932	87.00%
Mediterranean Region	187,800	0.41%	107,322,821	2.42%	155,399,343	1.92%
South East Anatolia	169,113	0.37%	3,459,911	0.08%	8,066,641	0.10%
<b>TOTAL</b>	<b>45,326,860</b>	<b>0.56%</b>	<b>4,425,754,909</b>	<b>54.76%</b>	<b>8,081,389,543</b>	<b>100.00%</b>

	<b>NO. OF FIRMS</b>						TOTAL
	Agriculture	Energy	Manufacture	Mining	Services	TOTAL	
Aegean Region	32	1	299	15	621	968	
Black Sea Region	2	4	3	21	30	60	
Central Anatolia	30	16	193	19	654	912	
East Anatolia	4	1	18	0	4	27	
Marmara Region	45	24	1039	36	2410	3554	
Mediterranean Region	29	3	88	7	699	826	
South East Anatolia	9	2	27	3	123	164	
<b>TOTAL</b>	<b>151</b>	<b>51</b>	<b>1667</b>	<b>101</b>	<b>4541</b>	<b>6511</b>	

In Turkey, FDI is concentrated in the most developed areas, i.e. Marmara (87%), Central Anatolia (7.22%), and Aegean (3.66%), and regions. Istanbul, of course, has the biggest share in this region (93%) and in Turkey (84.13%).

In terms of sectoral breakdown, Istanbul alone hosts 71.36 percent of the total FDI capital (and 2094 of total 3247 firms) in services, 32.58 percent (and 479 of the total 1032 firms) in manufacturing, and 35.04 in mining (20 of 61 firms) and 6.84 (17 of 101 firms) in agricultural sectors, respectively. A noteworthy point concerning the distribution of FDI is that among the 6511 FDI companies among the 63 cities hosting FDI in Turkey, top 40 of the foreign companies established in Istanbul (26 services including 12 in finance, 7 in trade sub-sectors; 14 manufacturing companies of which 3 food and drink, 3 in chemical production, and 2 in vehicle industries) holds 32.35 percent of the total FDI in Turkey which is more than the total FDI capital excluding Marmara Region. In addition, these top 30 companies hold 58.22 percent of the total FDI in Istanbul (and the remaining 2580 companies in the region share the rest 41.78 percent).

**Figure 3. 10 Regional FDI Stock in Turkey: 1950-2002 (cumulative, percentages)**



*Source:* Calculated YASED (2004), "List of Foreign Firms in Turkey, 2004"

The second third highest recipient of FDI flows is the Central Anatolia Region with 7.22 percent of the total FDI capital. Similar to the other regions, Central Anatolia is dominated by few companies with highest capital.

Aegean, the third highest FDI host in Turkey, top ten foreign companies (of which two tobacco products, two food and drink, two electronics, one jewellery mining, one vehicle and one tourism sub-sectors) share 64 percent of the total FDI capital in the region and 6 percent in Turkey.

Mediterranean Region holds only 1.92 percent of the total FDI in Turkey. In this region, has the highest share in agricultural FDI with 30

companies holding nearly 32 percent of the total FDI capital in agricultural sector, followed by Marmara (22.6 percent by 32 firms) Central Anatolian (22.2 percent by 12 firms), and Aegean (21.3 percent by 22 firms) regions.

The least developed three regions, i.e., Black Sea, East Anatolian and South-East Anatolian Regions received only 0.19 percent of the total FDI of which made of small firms apart from Birecik dam and hydroelectric power plant built by a consortium of eight companies from four countries (Belgium, Germany, France, and Austria) in 1995, despite protests from the neighbouring countries, Syria and Iraq. In spite of the huge GAP project going on in the region, and investment incentives offered by the government, FDI flows are still tiny. This In South East Anatolian Region, the city Gaziantep (famous with border trade with Syria) alone hosts 88 of 164 FDI companies.

In Black Sea Region, there are 60 companies of which 20 belong to former Soviet Union countries. The region is well known with its trading with this countries, since they have got borders.

The least developed region, East Anatolia attracted only 0.02 percent of the total FDI of which 0.018 belongs to a Netherlands production company's investment. Should this firm omitted, the remaining 26 companies' FDI capital would count nearly null.

To conclude, just like the global case, geographical distribution of foreign investment is uneven. Less developed countries, regions in a country, and cities or areas in a region are in need for FDI in order to perform some technological, managerial know-how in addition to investment to develop, whereas investors prefer developed places.





### **3.5 Summary**

So far, a ground for the empirical study has been prepared: from the theoretical point of view, it has been seen that there is no single theory to explain FDI, there is no single study to clarifying the effects of FDI, etc.

Secondly, Turkey was overrun by several crises, suffered from chronic inflation and political instability for several years until 1980's. Since than, with its unique geographical and socio-political place, and 1980s liberalisation programme together with the rapid increase of FDI flows in the world, Turkey has performed well until the mid 1990s in attracting FDI. However, continuous political and economic instability with the crisis of early 1990s and 2000s has been seen as the main challenge for the country in unsatisfactory inflows.

Thirdly, the regional distribution of FDI inflows into Turkey has been very uneven and mainly concentrated in Marmara and Aegean Regions whereas East and South East Anatolia received only a small amount of capital, which may support the regional disparity between the developed and least developed areas.

Fourthly, among sectors, manufacturing and services are the major FDI recipients, whereas agriculture and mining sectors have received very little FDI inflows. Historically, FDI inflows into Turkey have mainly concentrated in manufacturing sector, which reveals the advantage of low-

cost and availability of labour force, and the market seeking investment behaviour as the main motives for foreign investors in Turkey. However, there is a tendency towards services sectors, particularly financial sub-sector of the FDI firms since the mid 1990s.

Finally, an analysis of the recorded data has shown that all three polls of the Triad has similar preferences in investing in Turkey, however, more in depth research is needed in order to find out their investment behaviour, operations, and performance which is the main aim of the empirical part of this study.

## **CHAPTER 4**

### **AUTOMOTIVE INDUSTRY**

#### **4.1 Introduction**

Automotive industry includes production of cars, lorries, buses, trailers and semi-trailers, parts thereof and accessories. The automotive industry is a leading industry in many advanced countries, such as, EU, USA, Japan and Australia. Recently, it has become more important to developing countries like India, Portugal, Mexico, South Korea, Malaysia and Turkey. The industry now exists in some form in numerous locations.

The automotive industry needs intra-firm and intra-industry linkages heavily. Many automotive producers make their own components; i.e. they either build up partnership with component manufacturers or acquire are due to lower costs and strategic reasons while others source their inputs in wider sense for reasons such as gaining easier market access.

In what follows is that the nature of automotive production will be reviewed first, than automotive industry in Turkey will be studied in order to explore FDI inflows and prepare a ground for the next chapter of this thesis.

## 4.2 The Nature of Automotive Production

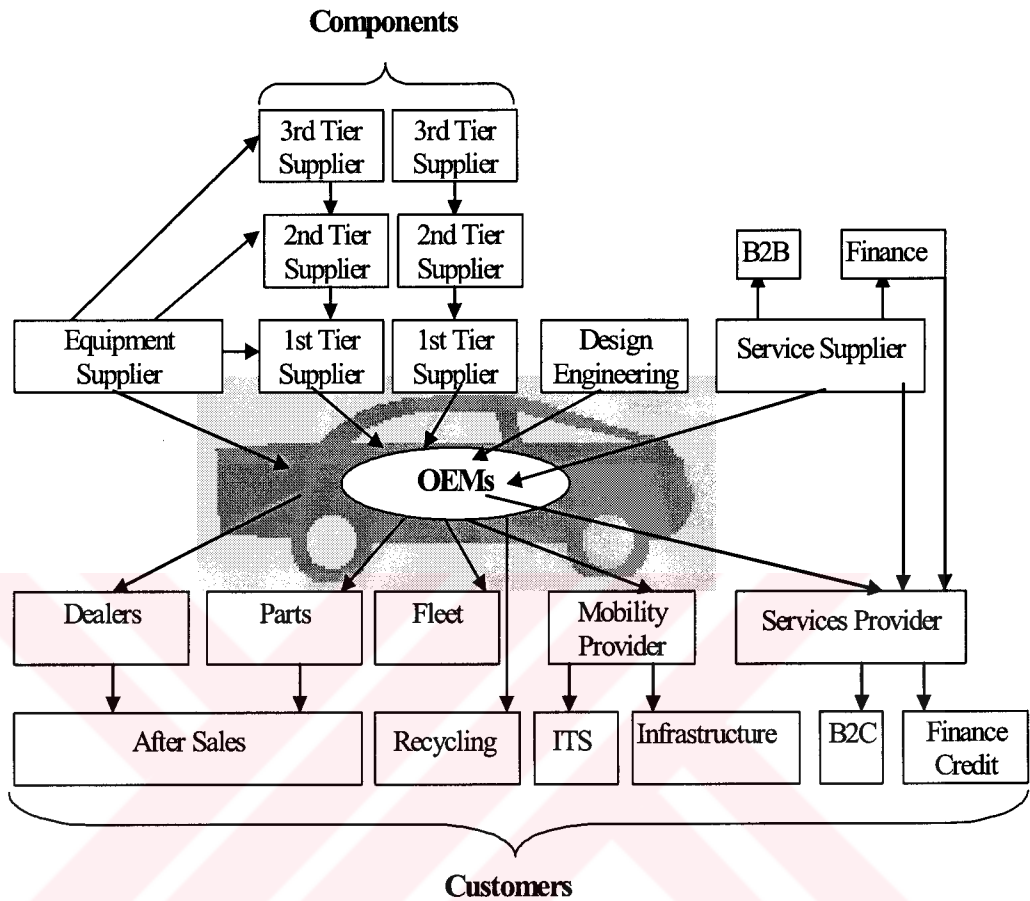
The nature of automotive production consists of cars, buses, trailers and semi trailers, lorries, long vehicles and accessories.

The first car was produced in 1886 by Karl Benz and Gottlieb Daimler while the first automobile production according to the standard dimensions and in big quantities was realised by Henry Ford's production of famous Model T car (Bedir, 1999, pp.5-9). Since T car, three main production systems have been adopted in automotive manufacturing. These are labour intensive, transplant production and the latest system, called tier segmentation or modularisation. In the late 1990s that is adopted by most of the automobile industry producers. In the tier system

*The first tier assembles the module (or produces the system), while the second and the third relates directly with the first for the supply of sub-components. The producer of modules and systems is typically the first tier supplier. The final producer has visibility over the whole chain, while interfacing only with the supply tier closest to him. The consequence is the reduction in the number of direct suppliers (Bardi, 2001)*

The shift from the traditional OEM centred, transaction cost focused to the modules and tier system has brought the matter of supply chain management and automotive technological system utilisation more efficiently. As a matter of fact, the number of direct suppliers in the industry had been reduced (Chanaron, 2002; p. 53) (Figure 4.1)

**Figure 4. 1 Major Players in the Automotive Production**



Source: Derived from: Chanaron (2002) page 53

As Figure 4.1 shows, the first tier assembles the module (or produces the system), while the second and, the third relates directly with the first for the supply of sub-components. The automotive sector compiles a great deal of various components, many of which are produced by immense number and variety of components, many of which are manufactured by individual firms. There are three major processes prior to final assembly: the

manufacture of bodies, of engines and transmissions, and of other components (e.g., electrical components, braking systems, wheels, tires, windscreens, exhaust systems). The producer of modules and systems is typically the first tier supplier (Bardi, 2001; pp. 16-19). Due to its complex nature, automotive production is named as *automobile technological systems* by Leoncini and Montresor (2001).

In sum, automotive production consists of clustering technological and industrial activities of not only automotive firms but also other players in the industry, i.e. related suppliers and other services providers. Thus, this thesis is not built up purely industrial or business view; it is rather an attempt to explore the cluster relations of all.

Having briefed the industrial structure of automotive production, in what follows is a concise revision of the automotive production trends in the world and in Turkey.

### **4.3 Automotive Production in the World**

The automotive industry has been established in the beginning of 1900s. The industry has been mainly developed by the Ford Company since 1910 with establishment of the manufacturing plant in the USA. Until 1970s automotive sector was labour intensive and dependent on low labour costs. With the great recession in 1979, automotive industry nearly stopped as the market leans on the availability and cost efficiency of oil. Just in these times Japanese car manufacturers came out to the market with their *just-in-time methods*, and use of *entire sub-assemblies ('modules')* (Diehl, 2001).

In line with the globalisation wave of 1980s, world automotive industry has been started to be re-structured be due to the technological developments and saturation in the triad markets (IGEME, 2004). With the attack of South Korea in 1990s, the automotive industry in the world witnessed a fear competition among the countries rather than companies.

Between 1970 and 1999, the share of Japan in the world automotive production has been increased from 15% to 21%. On the contrary, share of Western Europe and USA has been declined from 48% to 38% and from 34% to 21%, respectively. Again, during these years of the industry, the world automotive manufacturing has been increased 1,75 times (ISO, 2002; P. 28).

Another significant development during mid 1990s is that newly industrialised countries'; such as, South Korea, Brazil, Mexico, Poland, Czech Republic, and Turkey attain to the world production and market of automotive industry.

As for the recent trends in world automotive production, passenger car manufacturing consists of nearly 70 per cent of the whole automotive sector (DTM, 2002; IMF<sub>2</sub> 2000), while light vehicle production make up nearly 20 percent and the remaining 10 percent is shared among heavy vehicles, trucks, and buses.

As shown in Table 4.1 on the next page, automotive production has been accelerated especially after 1960s and America was the leading automotive producer while Japan was not even dealing with the industry. On the other hand, Europe became leader in the industry with nearly half of the total world automotive output in the world (See Appendix I). The production of automotive become stagnant during the years 1997-1999 and started to recover in 2000. As Figure 4.2 shows, Europe (EU, other Western Europe countries and East Europe) leads automotive production followed by America (NAFTA and South America) and Japan and South Korea.



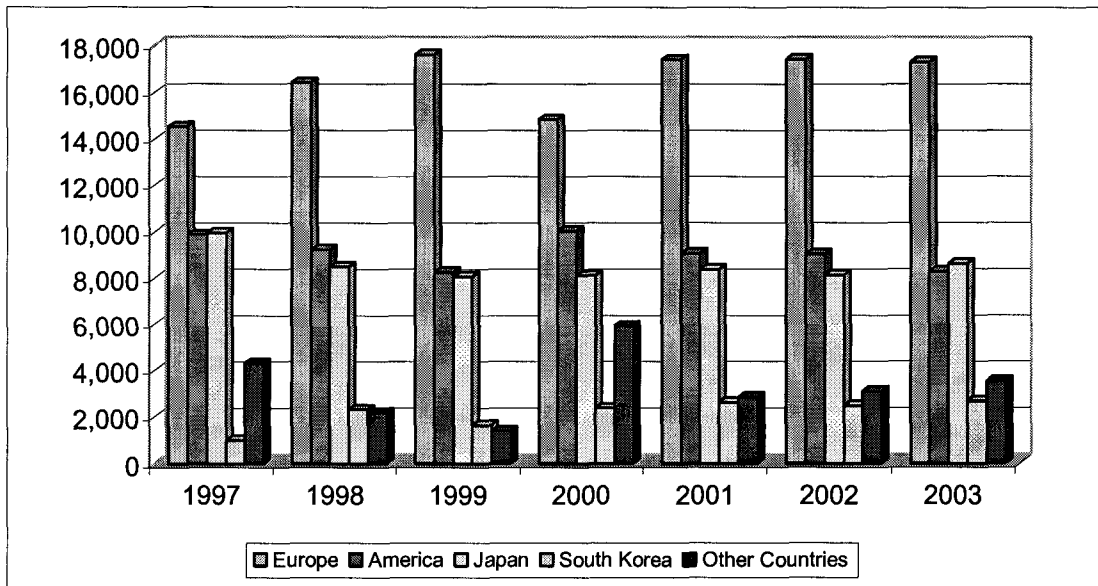
**Table 4. 1 World Automotive Production (1920-1999), (x1000)**

<b>YEAR</b>	<b>Europe</b>	<b>America</b>	<b>Japan</b>	<b>South Korea</b>	<b>Other Countries</b>	<b>TOTAL</b>
1920	61	2,321	-	-	-	2,382
1940	900	3,876	-	-	-	4,776
1950	1,100	6,950	-	-	-	8,050
1960	6,158	7,000	165	-	100	13,423
1970	10,400	8,490	3,179	-	648	21,717
1980	10,090	9,221	7,038	57	1,514	25,920
1990	14,527	14,679	9,947	987	4,302	37,442
1997	18,843	16,262	10,975	2,819	1,955	53,117
1998	20,264	17,663	10,050	2,819	2,332	37,925
1999	14,835	8,256	8,102	2,362	5,908	39,463

Source: Compiled from DTM (2002) and OICA Annual Reports (1998-2003)

Since the year 2000 however, the share of the world automotive production has been changing gradually. Europe, America and Japan's shares have been declining for the last three years while South Korean and other countries' has been increasing (See Appendix I).

**Figure 4.2 World Automotive Production (1997-2003) (x1000)**



Source: Based on Table 4.1 and Appendix I

## 4.4 Recent Trends in the Automotive Sector

Being a complex procedure, compiled with the fear competition in the industry, recent years have witnessed several mergers and acquisitions (hereafter M&A), and strategic alliances in automotive sector. The two leading firms Daimler and Chrysler have been merged in 1998 (DaimlerChrysler AG, 2003). The impact of this merger was so high that just after Nissan and Renault has announced their alliance (Nissan, 1999); Ford acquired Volvo in 1999, and Land Rover in 2000 (Bordenave, 2003). As UNCTAD (2000) states:

*The automotive industry has gone through substantial restructuring in recent years, partly as a result of weak demand, overcapacity and environmental pressures (e.g. production of "clean cars"). This is an industry where size matters. (p.128)*

In a wider study, International Metalworkers' Federation, (hereafter IMF<sub>2</sub>) (2001) focuses on the share of M&As on the global automotive production. As Table 4.2 shows, nine big companies in the industry alliance with 24 companies. The difference between M&A and strategic alliance is that while two or more companies become one in the case of a merger or acquisition, firms have own identity and business in the second, only they help each others. One significant point with alliance is that its tenuous structure, i.e. they do not necessarily last long.

**Table 4. 2 Production Shares of Global Automotive Alliances**  
(alliances as of July 2000; production shares, 1998)

Alliances/Partners	World Total	North America	South America	EU	Other Europe\	Japan	Asia Pacific\
<b>GM-Fiat (GMF)</b>	<b>23.9</b>	<b>33.3</b>	<b>52.7</b>	<b>22.2</b>	<b>17.6</b>	<b>14.3</b>	<b>12</b>
GM	14.7	31.	23.7	12.1	0.4	-	3.1
Isuzu	0.5	0.7	-	-	0.2	0.9	1.2
Fiat	5.1	-	29	9.9	14.6	-	0.5
Fuji	1	0.7	-	-	-	4.6	0.1
Suzuki	2.5	0	-	0.2	2.3	8.7	7.1
<b>Ford-Mazda-Daewoo (FMD)</b>	<b>17.2</b>	<b>28.2</b>	<b>9.2</b>	<b>14.7</b>	<b>5.4</b>	<b>8.4</b>	<b>16.6</b>
<b>Ford-Mazda</b>	<b>15.6</b>	<b>28.2</b>	<b>9.2</b>	<b>14.7</b>	<b>1.3</b>	<b>8.4</b>	<b>4.1</b>
Ford	12.7	27.5	9.2	11.3	1.2	-	3.4
Volvo Cars	0.8	0	-	2.4	-	-	0
Mazda	1.8	0.6	-	-	-	8.4	0.7
Land Rover	0.3	-	-	1	0.1	-	0
<b>Daewoo Alliance</b>	<b>1.5</b>	-	-	-	<b>4</b>	-	<b>12.5</b>
Daewoo	1.5	-	-	-	4	-	11.6
Ssangyong	0.1	-	-	-	-	-	0.8
<b>DC-Mitsubishi-Hyundai</b>	<b>13.6</b>	<b>20.6</b>	<b>1.5</b>	<b>7.7</b>	<b>1.2</b>	<b>10</b>	<b>27.9</b>
<b>DC-Mitsubishi</b>	<b>11.1</b>	<b>20.6</b>	<b>1.5</b>	<b>7.7</b>	-	<b>10</b>	<b>5</b>
DC	8.3	19.	1.5	7.1	-	-	0.4
Mitsubishi Cars	2.8	1	-	0.6	-	10	4.7
<b>Hyundai Alliance</b>	<b>2.5</b>	-	-	-	<b>1.2</b>	-	<b>22.8</b>
Hyundai	1.7	-	-	-	1.2	-	16
Kia	0.7	-	-	-	-	-	6.7
Asia	0	-	-	-	-	-	0.2
<b>Toyota</b>	<b>9.7</b>	<b>6.2</b>	<b>1.3</b>	<b>1.1</b>	<b>0.5</b>	<b>37.2</b>	<b>5.7</b>
Toyota	8.6	6.2	1.3	1.1	0.5	31.4	5.7
Daihatsu	1.1	-	-	-	-	5.8	-
Hino	-	-	-	-	-	-	-
<b>Renault-Nissan (RN)</b>	<b>9.5</b>	<b>3.4</b>	<b>5.9</b>	<b>13.9</b>	<b>7.6</b>	<b>16.7</b>	<b>3.2</b>
Renault	4.3	-	5.9	11.5	7.6	-	0.1
Nissan	5.1	3.4	-	2.4	-	16.7	2.3
Samsung	0.1	-	-	-	-	-	0.8
<b>VW-Scania (VWS)</b>	<b>9.4</b>	<b>2.2</b>	<b>26.5</b>	<b>19.8</b>	<b>14.8</b>	-	<b>6.2</b>
VW Group	9.4	2.2	26.5	19.8	14.8	-	6.2
Scania	-	-	-	-	-	-	-
<b>Honda</b>	<b>4.6</b>	<b>5.7</b>	<b>0.9</b>	<b>0.7</b>	-	<b>13.4</b>	<b>1.4</b>
<b>Peugeot-Citroën (PSA)</b>	<b>4.4</b>	-	<b>1.8</b>	<b>13.1</b>	<b>0.5</b>	-	<b>1.3</b>
<b>BMW*</b>	<b>1.6</b>	<b>0.4</b>	-	<b>4.5</b>	-	-	<b>0.3</b>
Listed Companies	93.7	100	99.8	97.7	47.6	100	74.6
Others	6.3	0	0.2	2.3	52.4	0	25.4
World Total \c	100	100	100	100	100	100	100

\* BMW without Rover

\*\* DC has purchased 9.9% of Hyundai (with an option to buy 5% more in 3 years) and controls an additional 4.6 % which are owned by Mitsubishi (34% owned by DC) Mitsubishi Truck is owned 19% by Volvo

\a includes Turkey

\b includes Oceania, Asia except Japan and other regions

\c Totals may differ from sum of details because of rounding

Source: Derived from IMF<sub>2</sub> (2000, page 2)

As Table 4.2 on page 80 shows, in 2000, 29 firms were taking place in 7 global production alliances. On the other hand, the fast moving global alliances wave turned again to M&As (OICA, 2004). The reasons are first the fragility nature of alliances, difficulty in building trusts and the soundness of information walls since the sector mostly depends on R&D and R&D is expensive. Second, the fear competition in the market drives firms to be more powerful and firms want to add their competitors' or other firms' power to own strength.

**Table 4.3 Production Shares of Global Automotive Alliances, 2003**

	NAFTA	West Europe	Japan	Asia-Pacific	East Europe	South America	Africa & Mideast	Total
<b>GM Alliance</b>	<b>29.8</b>	<b>19.3</b>	<b>14.5</b>	<b>19.7</b>	<b>27.1</b>	<b>46.7</b>	<b>16.2</b>	<b>24.2</b>
Daewoo	0.0	0.8	0.0	2.4	4.6	0.0	0.1	0.7
GM	28.2	9.8	0.4	6.7	8.7	23.6	9.1	16.5
Fiat Auto	0.0	7.4	0.2	0.9	9.2	22.9	5.4	3.4
Fuji HI	1.1	0.3	3.7	0.3	0.1	0.0	1.0	0.9
Isuzu	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Suzuki	0.4	1.0	10.3	9.4	4.5	0.1	0.7	2.7
<b>Ford-Mazda</b>	<b>21.9</b>	<b>12.5</b>	<b>5.8</b>	<b>6.2</b>	<b>6.6</b>	<b>12.9</b>	<b>13.5</b>	<b>14.9</b>
Ford	20.3	11.0	0.7	3.5	5.7	12.8	6.9	12.8
Mazda	1.7	1.5	5.1	2.6	0.9	0.1	6.6	2.0
<b>DCX Alliance</b>	<b>19.0</b>	<b>9.8</b>	<b>7.4</b>	<b>20.3</b>	<b>4.1</b>	<b>2.7</b>	<b>10.7</b>	<b>14.3</b>
DCX	13.6	6.5	1.2	1.1	1.4	1.0	6.2	8.0
Hyundai	3.9	2.5	0.1	17.0	2.1	0.5	3.7	4.5
Mitsubishi	1.5	0.9	6.1	2.2	0.5	1.2	0.7	1.8
<b>Toyota</b>	<b>10.6</b>	<b>4.9</b>	<b>40.7</b>	<b>8.2</b>	<b>5.9</b>	<b>3.9</b>	<b>16.7</b>	<b>11.2</b>
<b>VW Group</b>	<b>3.3</b>	<b>18.2</b>	<b>1.6</b>	<b>13.0</b>	<b>26.0</b>	<b>20.7</b>	<b>17.3</b>	<b>10</b>
<b>Renault-Nissan</b>	<b>5.6</b>	<b>13.4</b>	<b>13.2</b>	<b>4.4</b>	<b>16.4</b>	<b>5.6</b>	<b>11.9</b>	<b>8.9</b>
Renault	0.1	10.6	0.1	2.1	14.6	4.9	9.0	4.1
Nissan	5.6	2.8	13.1	2.4	1.9	0.7	2.9	4.8
<b>Honda</b>	<b>8.0</b>	<b>1.3</b>	<b>15.3</b>	<b>4.8</b>	<b>1.3</b>	<b>2.3</b>	<b>3.3</b>	<b>5.9</b>
<b>Peugeot-Citroen</b>	<b>0.1</b>	<b>14.8</b>	<b>0.4</b>	<b>2.1</b>	<b>11.5</b>	<b>5.0</b>	<b>5.9</b>	<b>5.3</b>
<b>BMW</b>	<b>1.6</b>	<b>4.4</b>	<b>1.1</b>	<b>0.7</b>	<b>0.6</b>	<b>0.1</b>	<b>4.2</b>	<b>2.2</b>
Listed Companies	99.8	98.7	99.9	79.3	99.4	99.9	99.6	97.0
Others	0.2	1.3	0.1	20.7	0.6	0.1	0.4	3.0

\* Totals may differ from sum of details because of rounding

Source: Derived from IMF<sub>2</sub> (2004) p. 65

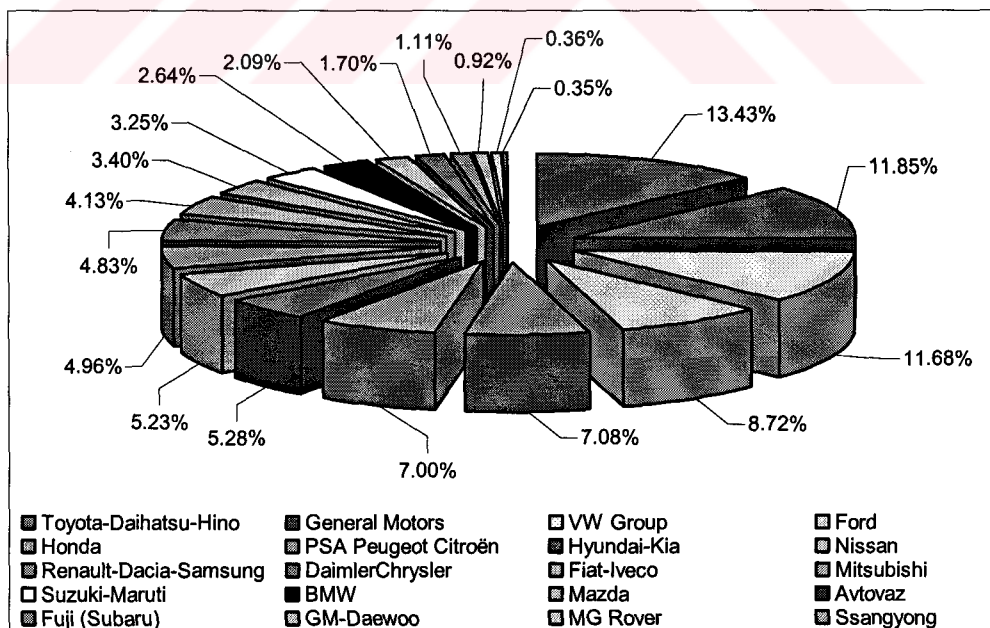


As Table 4.2 shows, by 2003 the number of alliances and the number of allied companies declined, however, the share of the allied companies in the world production did not.

Regarding to the manufactures, the top 20 companies (listed according to their production in units, by OICA, 2003) are:

Toyota-Daihatsu-Hino, GM-Daewoo, VW Group, Ford, Honda, PSA Peugeot Citroën, Hyundai-Kia, Nissan, Renault-Dacia-Samsung, DaimlerChrysler, Fiat-Iveco, Mitsubishi, Suzuki-Maruti, BMW, Mazda, Avtovaz, Fuji (Subaru), GM-Daewoo, MG Rover, and Ssangyong, respectively, as shown by Figure 4.3.

**Figure 4.3 Top 20 Car Manufacturer Companies (as of 2002)**



Source: Figure drawn based on the OICA yearly Statistics (2003)

These 20 companies among the biggest 40 in the world made up 98% of the world's car manufacturing by the end of year 2002 (Figure 4.3). The other 20 top companies made just about 2% of the total world passenger car production (Appendix I).

As for the country-based production, Europe has been the leader since 1970s (Table 4.1 page 77). Although Europe's share of automobile production has been declined to 41.12% in 2003, from 45.97% in 1998, nearly half of the car production is realised in Europe. Similarly to Europe, the second leading region in car production, America's (North & South America) share in world car production has also been reducing gradually. In 1997, 25.15% of the total car production was realised by America while this number was 19.71% in 2003. The last pool of the Triad, Japan has also been reducing automotive production gradually; in 1997 Japanese manufacturing was 21.63% of the world total, while it reduced to 20.19 % in 2003 as a result of the continuing decline. In 1997, total share of the Triad was 88.59%, however, this reduced to 81.02% in 2003.

In sum, the automotive sector is dominated by the triad countries and nearly half of the world automotive production is realised in Europe. Since Turkey is geographically close to Europe and has been trying to enter to EU, it might benefit from the European automotive clusters. Next section explores the automotive production environment in Turkey, in this context.

## 4.5 Automotive Environment in Turkey

This section explores economic, political, and industrial conditions under which Turkish automotive industry operates. The section first briefs the demographic, economic, and infrastructure indicators. Next, the history of the automotive industry, car manufacturer firms and the lean industry in Turkey and, the place of automotive in Turkish trade will be revised.

### 4.5.1 Social Information

In between Asia and Europe, Turkey has been trying to integrate with the European Union for a long time.

Land Area	779,452 km <sup>2</sup>
Population	70,712, 000
Poverty	26.96% below the national poverty line (food and goods)
Unemployment Rate	10.5%
Primary and secondary school enrolment	96.3%
High school enrolment	81% (including Open High School)
University and higher education enrolment	35.8% (including Open University)

Source: Compiled from DIE (SIS) Annual Statistics

Turkey is the third largest country in Europe in terms of land area. It's young and dynamic population, common market agreement with the EU, and geographical proximity to both Middle East and Europe are some of the driving factors of Turkey's development. However, for several years, the country's economic environment was not found very favourable be due to



the financial and economic crises following each other. In what follows is a chronological look at the Turkish Economy.

#### **4.5.2 Evaluation of Turkish Economic Policies**

At the crossroads of Europe and Asia, having young and dynamic population, a reasonably higher level of industrialisation compared to the neighbouring countries, one would consider Turkey as a stable country and favourable location for investment.

As Loewendahl, H. and Ebru Ertugal-Loewendahl (2000) states:

*Turkey is the largest economy in Eastern Europe, the Balkans, the Black Sea basin and the Middle East. It is the European Union's sixth biggest trading partner and the world's 7th largest emerging economy.*

On the other hand, Turkey suffered from several financial and economical crisis together with its well known political instability. As Table 4.4 illustrates, the country has been suffering from high amount of external debts, fluctuations in growth rates and high rates of inflation though some decline has been observed recently.

**Table 4. 4 Main Economic Indicators of Turkey (1997-2002)**

<b>Main Economic Indicators</b>	<b>Unit</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>
GDP (at 1987 constant prices)	Percentage Change	8.3	3.9	-6.1	6.3	-9.5	7.8
External Debts	Million US\$	84,182	96,429	102,992	118,702	113,826	131,200
Debt Service	Percentage of GNP	43.3	46.8	54.9	59.0	79.0	72.2
Debt Service	Million US\$	12,418	16,513	18,316	21,937	24,623	28,638
Inflation Rate	% Change	91.80	87.34	58.00	54.69	45.86	42.97

Source: Compiled from DPT (State Planning Organisation, SPO) and DIE (State Institute of Statistics, SIS) Annual Statistics

Turkey followed export-driven economic policy at the beginning of 1980 and this policy was quite successful. Ertugrul and Selcuk (2001) points out those years as:

*The export-led growth strategy of the early 1980's was quite successful. The average annual growth rate of real gross domestic product (GDP) was an impressive 5.8 percent between 1981-1988 and the economy did not experience any recession, making the country an exemplary one in annual reports of international financial institutions such as the IMF.*

However, during 1988-1989 the country witnessed stagflation which accelerated the liberalisation program and Turkish Lira was made convertible in this period. In the late 1980s and early 1990s, the Turkish government followed expansionary policies.

In 1988, interest rate terms were liberalised, economy was relied on rental means and speculative actions rather than productive ones. Although

development of Turkey has been impressive judged with GNP, however, the country is still challenged with the burden of inflation, interest and exchange rate volatility, foreign debts and fiscal deficits. These entire economic and financial troubles doubled with the so-called Spring Actions (public sector workers' long lasted strikes) and the government agreed on a 42 percent increase to public sector labour. Such a high increase led to a rebound of domestic demand and growth in 1990.

Sahin (1997) argues that with this liberalisation in financial markets and exchange convertibility, the government's chance to direct macroeconomic policies are lessened. The author states the reason for 1989-1994 period's unsuccessful financial policies as the lack of legal and institutional organisation ground for an open and liberalised economy (pp. 190-192). As a result of oil prices' sharp increase in 1991 together with the Gulf Crisis, Turkey went to another economic shock owing to import costs. What is more, the high amount of public expenditures in 1991, because of the elections held in this year and the great trade deficit (14.2 Million US\$, DPT Statistics) of 1993 altogether brought the famous so-called "Black Wednesday", the great crisis in Turkey in 1994. Just before recovering these crises, 1997's global crisis also severely effected Turkey together with Russia.

Fortunately, Turkey managed obtaining financial backups through privatisation and recovered easier than Russia, as Cassard and Pappi states

*The government responded to the turmoil in emerging markets and tensions in its domestic debt markets by tightening its fiscal stance considerably...Turkey also made important progress on privatisation in 1998... Turkey managed to push through two large deals. The transfer of two mobile phone licences yielding USD1bn and the sale of the minority share holding in IS Bank (USD650m) brought total privatisation revenue this year to some USD1.9bn compared to a total of about USD3bn in the previous 10 years.*

On top of everything else, the following year was a misfortune in the country's history because of the two earthquakes in August and November of 1999. The death toll was reported more than 18 thousand with around 48 thousand injuries, and nearly *50.4 percent of Turkey's value-added manufacturing, 47.9 percent of all business establishments and 46.5 percent of all jobs.* It did not *"...directly affected industrial production in a negative way, not only through loss of workdays and labour force but also because of damage to industrial plants and infrastructure"* (Central Bank of Turkish Republic, TCMB: CBTR, 2000).

Coming to the 2000s, Turkish economy faced a great bottleneck in 2001, and now it is recovering rapidly owing to its industrialisation program, increases in exports and more stable government policies. The government has announced "The Program of Transition to the Powerful Economy" in 2001 May. According to TUSIAD (2002) this program has the vision for

money and budget policies in order to establish macroeconomic stability in the country (p.14).

So far, the Turkish Economy was briefed from a historical perspective in order to see the factors affecting low level of FDI inflows to the country despite the other factors (e.g. openness, liberalisation, incentives, etc.) are well established advantageous for the foreign investors. In what follows, is another approach to the Turkish Economy about the recent facts in order to draw a picture of the current situation.

#### **4.5.3 Turkish Automotive Industry**

Turkish automotive history begins following years of the World War I, when Istanbul was occupied, Ford and Chevrolet brand automobiles and lorries have been brought to Turkey by the company called "American Foreign Trade" and Italian Fiat Brand automobiles were introduced in the same year by a private office connected to Torino (DTM, 1999).

On the other hand, automotive industry did not take an important place in Turkey and was stopped in 1934 till 1950s. By 1955 trucks, and by 1963 buses were being assembled in Turkey. In 1956 Koç Ticaret A.Ş. obtained "assembly rights" and got "dealer-assembler status" from the Ford Company and started its series production in 1966<sup>3</sup>.

---

<sup>3</sup> This plant was later closed down, thus it was not included in our analyses.

The first automobile produced in Turkey was called "Devrim" (Revolution) in Eskişehir Railway Factory. Only 4 units of Devrim was produced and then production was withdrawn. The importance of Devrim is that it proved "car could have been produced in Turkey".

Later, in 1966, Otosan has introduced its Anadol model via unique dealer -assembler agreement with Reliant Motor Company of Britain. The government gave the priority to local production of automobiles under licensed technologies towards the end of the 1960s. Oyak-Renault was established via licensing agreement with Renault in France in 1969 and Tofaş was formed in cooperation with Fiat SpA in 1968. Investment permits to both companies were issued with the conditions of achieving 85% local content rate in the fifth year of production.

Now, Turkish automotive industry consists of 17 assemblers of which 11 are foreign owned or joint ventures operating under licenses and 6 local firms (Appendix II). Interestingly, none of the fully local owned firms produce passenger cars. There are 6 firms that manufacture passenger cars, namely, Honda, Ford Otosan, Hyundai Assan, Oyak Renault, Tofaş, and Toyota. There are around 1,300 supplier providing products (Taysad). Automotive industry, one of the youngest branches of Turkish industrial developments is the third important sector following textile and food and called as the *dynamo of the economy* by Tezer (1999).

In line with the above statement, Turkish automotive industry has taken an important place both in Turkish economy and in the world automotive industry. The year 2003 and these days have witnessed enormous performance of the Turkish automotive sector.

For the purpose of our main research, this section will (not) ignore but will not deal either with the all aspects of automotive industry. Our main aim as stated in Chapter I is to explore the clusters (if there any) in automotive sector. In what follows is production and trade indicators of automotive in Turkey will be explored and a summary of the chapter will be provided.

#### **4.5.3.1 Automotive Production of Turkey**

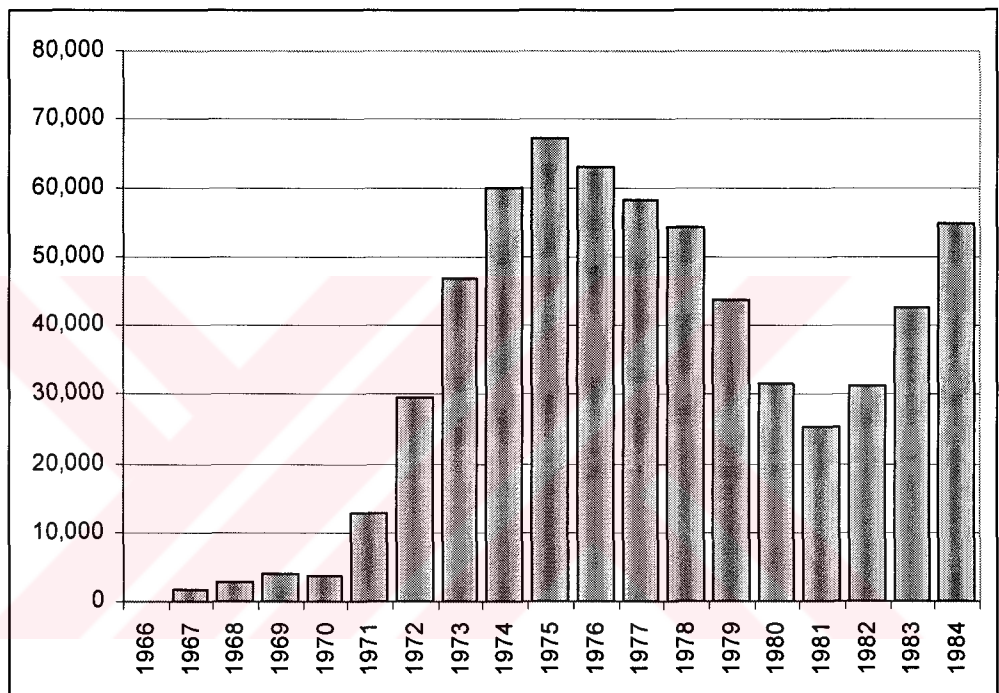
Since Devrim and Anadol, Turkish automobile production has taken a long way. Today, Turkey is an automotive and spare parts exporter country.

Taking 1980 as turmoil in Turkish economic policies, as figures 4.4 and 4.5 illustrate, Turkish automotive sector has recorded its fastest production growth between 1990 and 1993. Those years also witnessed fast production growth in all automotive sector owing to rapid growth in demand as a result of financial liberalization policies and banking and credit systems.

With doubling Tofaş's production in 1972, and Oyak Renault's and Ford's productions in 1973, Turkish automotive production has reached to its first peaks during 1972-1975. However, the famous oil shock of late 1970s

(automotive industry depends on oil) and political instability in Turkey (the country witnessed a coup d'etat in 1980), automotive production fluctuated until 1984, and reached its second turmoil at that year (Figure 4.4).

**Figure 4. 4 Automotive Production in Turkey (1966-1984) (x1000 units)**



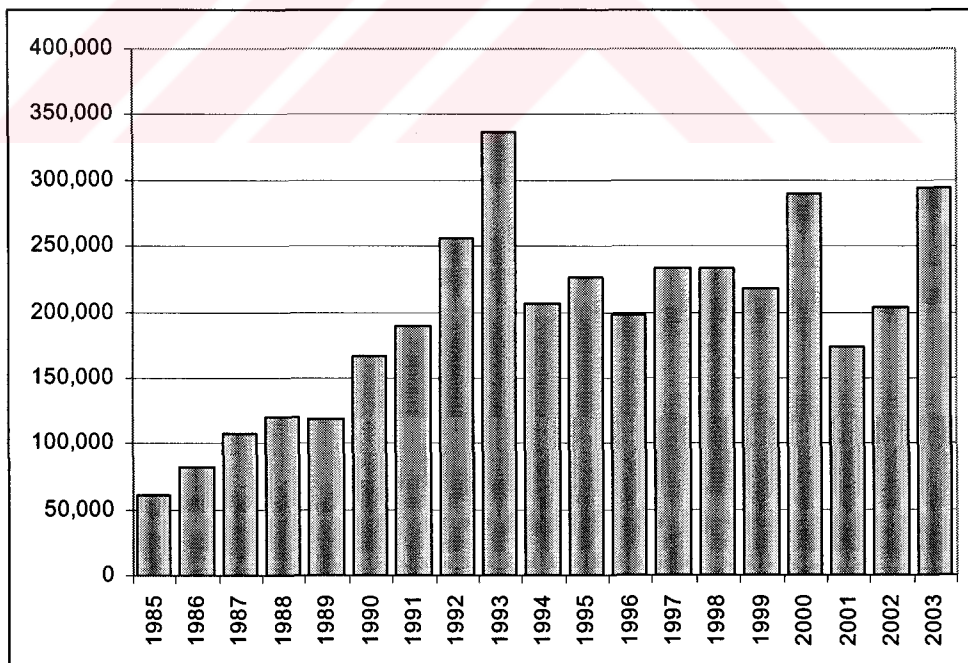
Source: Compiled from DPT Annual Statistics (2004) and OSD Report "Car Production in Turkey 1963-2003"



In 1993, automotive manufacturers performed a record in Turkish car industry, with a total production of 336,002 units of cars of which 133,006 by Oyak-Renault, 200,740 by Tofaş and 2,256 by Ford Otomotiv.

Until 1995, there were only Oyak Renault, Tofaş and Ford Otomotiv have been operating in Turkish car manufacturing. With the entrance of Toyota (Formerly ToyotoSA Joint Venture with the Sabanci Holding Company of Turkey) to the Turkish market in 1995, the sector gained a substantial momentum and two years later Hyundai Assan and one year later than it, Honda Company have set up their production facilities in Turkey.

**Figure 4. 5 Automotive Production in Turkey (1984-2003) (x1000 units)**



Source: op. cit

While new companies were entering to Turkish market (widely said for the reasons of customs union agreement between Turkey and EU)\* , on the other hand, Ford Otosan withdrawn its automotive production (but not commercial vehicles) in 1999.

#### **4.5.3.2 Trade Figures of Turkish Automotive Sector**

For many years, the young Turkish Republic has followed import substitution policies and financed imports through exports together with state led industrialisation policies (Kepenek and Yentürk, 1996; pp. 53-73). Not only Turkey production of cars, but also imports and exports take a great deal of place in Turkish economy.

On one hand, authorities and media promotes the recent boost in automotive exports, however, it is only the year 2001 that automotive sector started not to give trade deficits. Secondly, not only exports, but also imports have been increasing drastically. Interesting enough, while the place of automotive exports count only 9.27 % of Turkey's industrial goods exports in its peak time in 2003, just in the same year it recorded the highest share in total industrial imports by counting more than half (51.70%).

---

\* Findings of Neyapti, Taskin and Üngör (2003) strongly supports the view that European Customs Union has strong effects on Turkey's both exports and imports, however, to our best knowledge effects on FDI has not been tested yet.

**Table 4.5 Automotive Trade of Turkey (1992 -2003)**

	Total		Trade		Balance	% of Total Exports	% of Total Imports
	Exports \$	% Change	Imports \$	% Change			
1992	569,583,584		1,072,294,000		-502,710,416	3.87	4.69
1993	558,684,423	-1.91	2,091,650,000	95.06	-1,532,965,577	3.64	7.11
1994	794,608,391	42.23	617,170,000	-70.49	177,438,391	4.39	2.65
1995	1,246,045,278	56.81	941,670,000	52.58	304,375,278	5.76	2.64
1996	1,371,819,090	10.09	2,866,138,000	204.37	-1,494,318,910	5.91	6.57
1997	1,249,719,843	-8.90	4,812,410,000	67.91	-3,562,690,157	4.76	9.91
1998	1,675,163,905	34.04	4,209,500,000	-12.53	-2,534,336,095	6.21	9.17
1999	1,998,484,447	19.30	3,464,066,000	-17.71	-1,465,581,553	7.52	8.52
2000	3,274,874,483	63.87	6,884,152,000	98.73	-3,609,277,517	11.79	12.63
2001	3,475,090,251	6.11	1,536,384,000	-77.68	1,938,706,251	11.09	3.80
2002	4,319,298,558	24.29	2,306,372,000	50.12	2,012,926,558	11.98	4.60
2003	6,095,219,893	41.12	6,883,086,000	198.44	-787,866,107	13.28	10.63

Source: Calculated from OSD (2004)

\*A more detailed statistical figures on foreign trade of Turkey in automotive sector calculated by the author from DPT, OSD and DIE data is placed in Appendix II).

From Table 4.5 above it could be seen that both automotive imports reached to a record in 1996 while exports registered record in 2003. In terms of country-sector analysis, more than half of the Turkish automotive customers are European countries, as stated by Anadolu Agency, the prime news agency in Turkey reports that 62.7% automotive exports was realised to European countries in (2003), followed by East European and Middle Eastern Countries (OSD, 2004). This is not surprising considering the geographic proximity and common market with EU, geographic and cultural proximity Turkic Republics in East Europe and the Middle East.

Having briefed the Turkish automotive sector, next page gives a summary of this chapter and following automotive cluster notion of Turkey will be discussed.

## 4.6 Summary

Some conclusions that could be drawn from this chapter are:

First, although its geographical location is counted as an advantage for business and economic terms, however, it could be also disadvantage for Turkey, such as, being effected by the Gulf Crisis, Russian Crisis and more recently war in Iraq. Therefore firms operating in Turkey must have the ability to manage crisis on top of everything.

As for automotive sector, starting its adventures in the early years of the Republic, car manufacturing has taken several steps and nowadays Turkey is one of the key players in the world automotive production.

Turkey's exports in automotive sector has been increasing dramatically especially for the last three years, on the other hand, also the sector resulted great trade deficits (apart from the last three years) and record increase in imports too. Therefore it is very difficult to judge Turkish automotive exports as engine for growth or substitute for other industries. However, one thing is clear that "automotive sector" is one of the *life veins*\* of Turkish industrial process.

---

\* This idiom is used to express something of great importance in Turkish

## **CHAPTER 5**

### **AUTOMOBILE CLUSTER(S) IN TURKEY**

#### **5.1 Introduction**

Thus far theories related to clusters and the role of clusters in FDI formation has been revealed in order to see if they are relevant to Turkish automobile industry.

It is worth to note again that among the six car manufacturing companies all are foreign owned or joint ventured firms.

In what follows is that a brief introduction of these firms and an attempt to explore if they are clustering or networking, or if lean industry is clustering or networking around them.

## **5.2 Automotive Manufacturing / Assembly Firms in Turkey <sup>4</sup>**

### **5.2.1 Anadolu Isuzu**

Based in Istanbul, Anadolu Isuzu has started its production in 1966. The Company's production facilities are located in Gebze (a province of Kocaeli), and 29.75 of the total capital is hold by Japanese partners, Isuzu and Itachu while the local partner is Anadolu Group. The company produces trucks, pick ups and midi buses. The company has produced Skoda brand trucks until 1986 and since than they manufacture Isuzu brand. By the end of 2002 the company has produced 112,220 units of vehicles.

### **5.2.2 Ford Otosan**

With three production location in Turkey based in Istanbul, Eskişehir and Kocaeli, Ford is the oldest automobile company in Turkey. The company's 41% foreign capital is held by Ford Motor Company, 41% local capital belongs to Koç Group of Turkey and the remain 18% is held by public. The last production base of the company is opened by a very big ceremony in April 2001 by the 9<sup>th</sup> President of Turkey, Süleyman Demirel. *This unit, which required an initial investment of \$650 million and is part of the Ford Otosan joint-venture, is destined to become a cornerstone of FoE's (Ford of Europe) light commercial vehicle production and at full capacity will employ up to 4,000 persons (Bordenave. 2003; p. 54).* The company has

---

<sup>4</sup> by alphabetical order

produced 767,146 units of vehicles (by the end of 2003) including passenger cars, trucks, pick ups and midi buses.

### **5.2.3 Honda Türkiye**

The company has been set up in 1992 by Honda Motor Co. and Anadolu Group of Turkey with a 50-50% equal partnership. The company was built in 1992 but started its production in 1998. Honda's factory in Turkey, in Gebze is the second biggest of Honda in the Europe. In its 6-year history, Honda has produced a total of 46,209 units of passenger cars made up its 1.4 Sedan and 1.6 Sedan models.

### **5.2.4 Hyundai Assan**

The company was built in 1994, as a 50-50% partnership with Hyundai Motor Company and its formerly distributor Kibar Holding. It started production in 1997. Hyundai Assan employs 850 people and produces only for Turkey because prior to the company's setting up production facilities in Turkey, Assan was importing Hyundai and increasing demand showed that Turkey was a profitable market for the company and they produce only for Turkey around İzmir. Hyundai Assan has produced 139,342 units of vehicles consisting of passenger cars, pick ups and mini buses.



### **5.2.5 M.A.N. Türkiye**

The company was set up in 1966, in Ankara and nearly wholly owned (99.9 of the shares) of MAN Nutzfahrzeuge of Germany). The company is one of the leading firm in commercial vehicles including, road tractors, trucks and buses. The company has 3498 of employees and produced 38,934 units of vehicles by the end of 2003.

### **5.2.6 Mercedes Benz Turkey**

Another leading commercial vehicle manufacturer in Turkey, Mercedes Benz has two plants one in Istanbul (built in 1968) and another in Aksaray (1985). Although Mercedes Company is famous with its luxury passenger cars, the company produces buses heavy vehicles in Turkey, which are road tractors, trucks and busses. Mercedes Benz Turkey has produced 85,852 units of vehicles as of 2003 with its 3,364 employees.

### **5.2.7 Otoyol Iveco**

One of the leading light vehicle producers, Otoyol Iveco is a partnership between Otoyol (73%) and Iveco (27%). The company has started its production in Sakarya in 1966 and started its production a year later. The company has produced units of 141,096 vehicles made up pick ups, mini busses, midi busses and trucks as of 2003. Otoyol Iveco is also well known with its marketing (91 sales offices), spare parts (85 shops) and technical services (142 facilities) in Turkey.

### **5.2.8 OYAK Renault**

The company is a joint venture with Renault Group of France and Oyak (Ordu Yardımlaşma Kurumu)\* with the shares of 51% Renault and 49% Oyak. The company was built in 1968, however, started production in 1971.

The company held 1/4 of the Turkish market and 4/5 of automobile exports by 1999 (INPUT, 2001) Oyak Renault possesses 44.96 of 2004 automobile production, 43,16% cumulative automobile production in Turkey (calculated from the OSD) and 17.44% of the total local market by April 2004 (ODD).

### **5.2.9 Tofaş**

Though the company was built in 1968, however, it started production in Turkey in 1971. Koç Holding owns 37.59%, Fiat owns 37.86% of the company shares and the remaining 24.55% is held by the public. Being the second automobile manufacturing firm in cumulative amount, Tofaş has realised the biggest production of automobiles among the others and added to 1993 peak of the automobile production by manufacturing more than the whole sum of its competitors in Turkish market (see Appendix III).

---

\* A pension fund of the Turkish Army

### **5.2.10 Toyota**

One of the late comers, the company was built in 2000 with a share of 65% Sabanci Holding of Turkey, 25% Japanese Toyota Motor Corp. and 10% Mitsui & Co. However, the partnership was broken in 2001 and Sabanci's shares passed on to Toyota and the name of the company changed to Toyota Motor Manufacturing Turkey from ToyotaSA. Now, Sabanci and Toyota has a partnership in marketing but not in manufacturing. Toyota produces only for Turkey and did not export at all.

### **5.2.11 Türk Traktör**

The oldest vehicle producers of Turkey, Türk Traktör was set up in 1948 and started production in 1954. The company is located in Ankara and its first objective was to produce plane engines. In 1952 Türk Traktör was transferred to a State Economic Enterprise, MKE<sup>5</sup>. As a result of privatisation in 1992 the company became a partnership between the Koç Group and Türk Traktör and became an FDI company in 1998 by New Holland N.V. Company's buying 37.5% of the shares. The company produces farm tractors and its production reached to 441,234 units by the end of 2003.

---

<sup>5</sup> State Economic Enterprises are called Kamu İktisadi Teşebbüsü (KİT) in Turkish and MKE stands for Makine Kimya Endüstrisi, Machine Chemistry Industry

### **5.3 The Automotive Side Industry FDI Firms in Turkey**

There are some 700 companies of which 128 FDI firms in automobile side industry in Turkey (Taysad, 2004 and GDFI, 2004). In total, some around 70,000 people are employed in the sector (Taysad, 2004).

Although automotive production FDI firms back to 1960s, however, the first automotive side industry firm (Mako Elektrik San.Ve Tic.A.Ş.) has set up facilities in Turkey in 1970 and Bosch Sanayi Ve Ticaret A.Ş. established just after 4 months (GDFI, FDI firms List).

The share of automotive side industry in Turkey's trade is larger than automobile sector itself. However, both sectors count more than 10% of the total imports and exports of Turkey since year 2000 (Appendix I). That year also records the highest volume and number of side industry FDI firms in total. Despite the fact that automotive side industry has a great share in foreign trade of Turkey, however, statistics show that the sector's trade is quite fluctuated. For example, in 1996 and 2003, imports reached to record in increase (204.37 and 198.44 %, respectively) and exports reached to maximum increase in year 2000 (102.34%). However, only in 4 years; 1994, 1995, 2000 and 2001 the sector's trade balance was positive since 1990s

While taking so much of interest from the private sector and macroeconomic indicators, the sector is not without problems. Some of them are down sizing local market, declining scale economies, the need for technology upgrading and the high costs of technology, challenging main industry demand in price, quality and delivery, threats of new entrants to the older firms in terms of knowledge and technology (TÜSİAD, 1998; Bedir, 1999).

In a recent view, Bilgin (2004), general manager of TAYSAD states the main problems in the sector as bad macroeconomic policies, exchange rate increases and hence high input costs, high energy and labour costs. These problems on the other hand, are not attached only to the automotive or side industry sector in Turkey. Nearly all of the industries, even individuals have long been suffering from the similar troubles caused by the exchange rate swings, and chronic inflation.

To sum up, automotive sector together with side industry counts a great degree of Turkish employment rate, foreign trade, and growth and development issues.

So far, theoretical review, FDI figures in Turkey, automotive and its side industry in Turkey were revised and a ground for a study in spatial movement of automotive and side industry FDI and to see if they are moving together, if there is an evidence of clustering. Therefore Next section is a humble effort to address the above questions from an exploratory view.

### **5.3 Geographical Movement of the Sector**

Given that the automotive production sector works with 80% of its capacity and acquires 60% of all local spare parts are from local producers, one could conclude that not only the foreign firms, but also the local firms contribute to the component sector in great deal.

It is worth to point out that the organised industrial zones develop regional advantages of the location. The component industry manufactures complete engines and engine parts, transferring parts, power train parts, break systems and components, hydraulic and pneumatic systems, suspension systems, security systems, rubber and plastic parts, chassis frame and parts, castings and forgings, electrical equipment and parts, lighting systems, batteries, auto glass and seats for local use and exporting purposes (DEİK, 2004; Vuranok and Er, 2001).

The story of Turkish automotive industry started with in 1950s and took its shape in the late 1970s. Turkish car industry accounted until 5 assembly plants as a pick with some unprofitable plants rapidly closed (Opel closed up in 1991). During the mid 1980s, the Turkish government took several measures aiming at deregulating trade and investment for promoting the establishment of new production facilities, substitute local production to export with export promotion tools and VAT and tax exemptions. These together prepared advantageous conditions for agglomeration of firms.

Before 1980s, 13 of the 17 automotive companies had already invested in Turkey already but they could be counted as assembling units rather than production.

Another interesting point is that 122 of the total 127 component FDI firms invested in Turkey after 1980 (Appendix V). In the 90's, new clusters emerged through extension or relocation of component makers plants. Again, this new agglomeration trend is due to both, firm's strategies and government incentives acting together.

In line with the government's willing to develop more rural areas, taking measure to improve infrastructure in some provinces by putting incentives to firms investing in these regions. In fact, the Undersecretary of Treasury has drawn 3 zones of industrial regions with a classification of incentives attached to each of them. These are: Zones with priority to development, Normal Zones, and Developed Zones (cities included in each zones are given in Appendix IV). The incentives are made of allocation of government's fields (in zones with priority to development), taxes exemptions, and energy resources at reduced price. On the other hand, looking at the places where automobile production firms are based, it could be seen that these companies are set up in developed zones, rather than those zones offering greater investment incentives.

As Figure 5.1 on the next page, automotive side industry FDI firms prefer the most developed regions. Nearly 93% of the firms are located in eight cities, namely, İstanbul, Bursa, İzmir, Kocaeli, Tekirdağ, Ankara, and Sakarya. Among those cities, Kocaeli counts 4 FDI automotive firms, Bursa, Ankara, and Sakarya hosts 2; and Istanbul, Aksaray and Eskişehir has 1 each (Table 5.1).

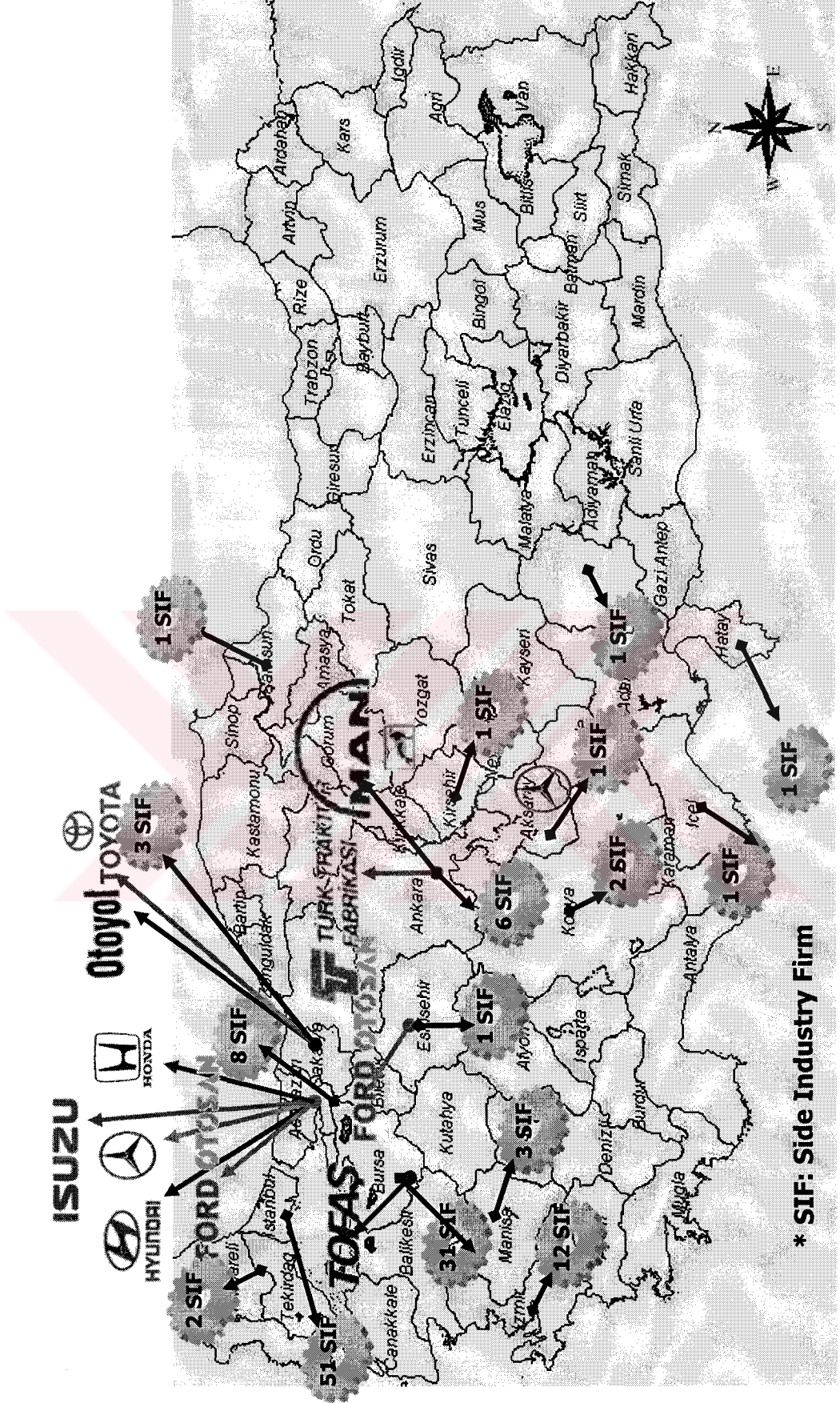
**Table 5. 1 Automotive and Automotive Side Industry FDI Firms in Turkey (1954-2003)**

<i>Province</i>	<i>No. of Automotive Assembly Firms</i>	<i>No. of Side Ind. Firms</i>	<i>% in Total</i>	<i>Share of City in Total GDP</i>
İstanbul	1	51	39.84	21.3
Bursa	2	31	24.22	3.6
İzmir	-	13	10.16	7.5
Kocaeli	4	8	6.25	5.1
Ankara	2	8	6.25	7.6
Manisa	-	3	2.34	2.1
Sakarya	2	3	2.34	1.1
Tekirdağ	-	2	1.56	1.1
Konya	-	2	1.56	2.4
Aksaray	1	1	0.78	0.3
Eskişehir	1	1	0.78	1.2
Hatay	-	1	0.78	1.5
İçel	-	1	0.78	2.8
Kahramanmaraş	-	1	0.78	1.1
Kırşehir	-	1	0.78	0.3
Samsun	-	1	0.78	1.4
<b>TOTAL</b>	<b>13</b>	<b>126</b>	<b>100</b>	<b>60.37</b>

Source: Calculated from YASED (2004), OSD (2004) and SIS (2004) Statistical Data



**Figure 5.1** Map of Automotive and Automotive Side Industry FDI Firms in Turkey (as of 2003)



\* SIF: Side Industry Firm

In terms of the establishment years of the automotive and automotive side industry firms, some underlying points are:

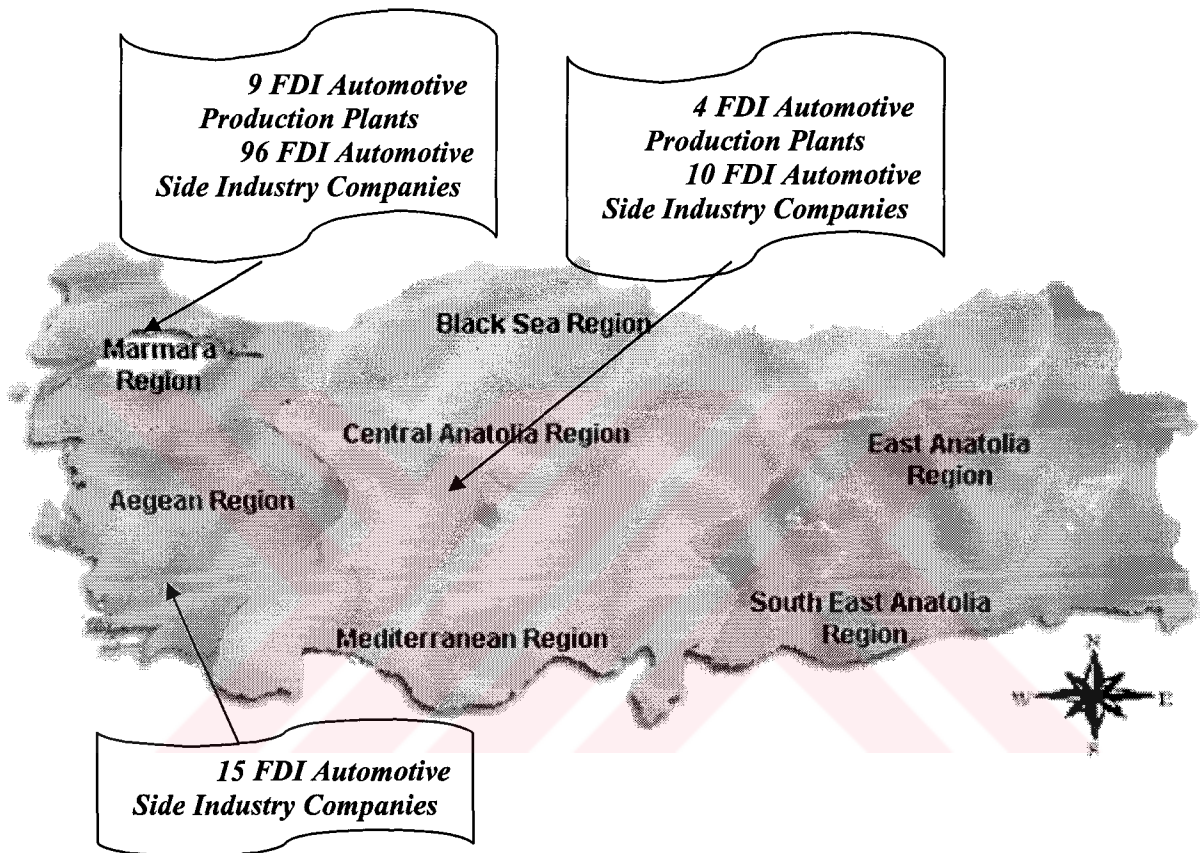
Although it seems that automotive firms are more dispersed in terms of cities, however, commercial vehicles and heavy vehicles producers are based in Central Anatolian (İç Anadolu) Region and automobile producers prefer Marmara Region. Besides, automobile producers are based in Istanbul, Sakarya, Kocaeli, Bursa which is called "the Development Triangle" in Turkey. While automobile producers choose Marmara Region, commercial vehicle producers' base, Central Anatolia, is in the middle of Turkey and has road and railway connections with whole country. Therefore it could be said that locational movement of companies change according to sub-sectors.

Regarding to side industry firms, Bursa was the first location hosting FDI automotive firms in 1970 and continued to be the most favourable place following Istanbul which is late catching FDI automotive side industry firms has started to attract those companies after the mid 1980s, but counted the highest number as of end 2003.

Another developed city, Izmir has attracted 12 FDI side industry firms followed by Kocaeli and Ankara (8 and 6 firms, respectively). Similar to automobile firms, side industry companies also preferred mostly Marmara Region. At the end of year 2003, 96 of the 126 side industry FDI firms were based in Marmara Region, 15 based in Western Coasts (Aegean Region), and

10 preferred Central Anatolian Region (Figure 5.2 on the next page) and the remaining 7 firms are dispersed.

**Figure 5. 2 Regional Distribution of FDI Automotive and Side Industry Firms in Turkey**





## **5.4 Summary**

In the light of the above analyses and historical progress of automotive and side industry sector FDI, it could be seen that the clustering of Turkish automotive industry is not a new phenomenon. The recent establishments of organised industrial estates allow suppliers park organisation type. In addition, the recent wave of strategic alliances and M&As between automotive firms and side industry (since automotive firms want to reduce number of tiers) might have influence on the recent FDI flows in side industry. The foreign owned or joint venture side industry firms are tending to locate close to their own customers, as they contribute to cluster formation. Once this type of dynamic exists, it supports the new inflows since the proximity of supporting industries (suppliers) is one of the major criteria for locational preferences of FDI (as revealed in Chapter 2).

## CHAPTER 6

### 6.1 Summary and Conclusions

This thesis has attempted to investigate if foreign automotive and side industry firms in Turkey follow a cluster strategy from an exploratory point of view. Data about FDI inflows were obtained from GDFI and YASED and information regarding to automotive and side industry sectors from OSD, TAYSAD and FDI firms' internet pages. A literature survey on FDI and brief introduction to automobile sector and other material utilised in this thesis are outcome of an extensive research on the topics in academic journals, books, and other published and unpublished resources.

In view of the fact that international division of labour progress with automotive and side industry dealers there is now a *great deal of tendency* towards reducing the number of suppliers (tiers). In this context, small firms need more corporations with each other in order to compete with the big firms. One threat for the local suppliers is that foreign manufacturers and suppliers might set up clusters which reduce the chance of local firms to benefit from FDI.

On the other hand, concentration of production in the country might increase the *competitive power* of the country as a whole. In Turkey, for example, while automotive sector is dominated by foreign firms, however, there is a visible increase in exports in the sector.

An investigation of FDI in Turkey in automotive and related sectors between 1954 (the first permission of FDI in the country) to the end of year 2003 has shown that those companies follow each other. While automotive firms are closer to each other (automobile companies in Marmara, widely in Kocaeli, Sakarya and Bursa; and commercial vehicle companies prefer Central Anatolia), supporting industry firms are mostly located in Istanbul and Bursa. However, Bursa is also located in Marmara Region together with Istanbul and the existence of two industrial estates might add up to the companies' locational choices. Therefore, investors might be preferring developed areas in that sector in order to benefit from infrastructure facilities.

Finally, this thesis is a preliminary study of a sector that is of great importance, especially during the last five years for Turkey in the country's foreign trade, employment, GDP and other macroeconomic indicators.

## **IMPLICATIONS OF THE STUDY**

From this study two major implications could be drawn related to FDI automotive clusters in Turkey:

First, industrial clusters might determine locational choices of FDI firms, and thus the Turkish government should pay more attention on infrastructure development and industrial zones establishment. Especially automotive sector, as named "engine for trade development" requires infrastructure developments in terms of financial, economical and rural issues.

Secondly, although potential of FDI flows Turkey holds, be due to its strategic location, educated labour, and liberalisation efforts, the country could not achieve enough FDI inflows until recently. Unstable economic and politic environment are widely pronounced as the reason of this failure. Considering the cluster approach and applying it, the government could attract more FDI and organise sectoral developments.

## **LIMITATIONS OF THE STUDY AND SUGGESTIONS FOR FURTHER RESEARCH**

Similar to many researches this study is attached to some limitations.

Firstly, this thesis is focused on one sector, which is automotive. The regionalisation or regional clusters as it is called might occur in other areas both in terms of sectors and regions, and even in the areas this study explored.

Second, this study viewed FDI from the point of host country location, however, more specific attention should be given to the home country or source company policies, too. Moreover, an in-depth field research might provide stronger evidence on the issue. As a result of the accustomed methodological and budgetary constraints, such an effort could not be implied in this study.

Nevertheless, based on the spatial analysis of the FDI automotive firms in Turkey, the findings of this thesis could at least suggest that in Marmara Region, especially in Bursa there is a spatial clusters of FDI automobile manufacturing/assembly and supportive industries firms.



## BIBLIOGRAPHY

AGARWAL, S., RAMASWAMI, S N. (1992) "Choice of Market Entry Mode: Impact of Ownership, Location and Internalisation Factors", *Journal of International Business Studies*, 23 (1): pp 1-28

ANADOLU AGENCY (2004) (News Bulletin 8/1/2004) *Automotive Industry Make 62.7 Percent of Exports to EU Countries in 2003* available at: <http://www.turkishpress.com/turkishpress/news.asp?ID=16606> (03.02.2004)

ANONYMOUS (2000) "Straight Talk on Direct Investing in Turkey", *Global Finance*, Vol. 14, Iss.10 pg. 100

BARDI, A. (2002) "*Corporate Strategies and Organisational Models, Lines of Development and Evolutionary Trends in the Automobile Sector A description paper to support the setting up of the car network*" [http://www.ipielle.emr.it/docs/wpapers/08\\_auto\\_finale\\_bis1\\_en.pdf](http://www.ipielle.emr.it/docs/wpapers/08_auto_finale_bis1_en.pdf) (05.03.2004)

ARIMAN, A. (2000) Speech at the Committee Meeting of GDFI, available at Central Bank of Turkish Republic Web Page: <http://www.tcmb.gov.tr> (02.04.2004)

BARTLETT, C. A. and S. GHOSHAL. (1989) *Managing Across Borders: The Transnational Solution*. Boston: Harvard Business School Press

BEDİR, A. (1999) "*The Relations Between Main-Lean Industry in Advanced Automotive Industries and the Future of Automotive Lean Industry in Turkey*" (in Turkish), Expertise Thesis, State Planning Organisation (DPT) of Turkish Republic, Publication No: DPT 2495

BEDİR, A (2002) "*The Development Perspective of Automobile Industry in Turkey*", State Planning Organisation (DPT) of Turkish Republic, Publication No: DPT 2660

BEERS, C. VAN (2003) *The Role of Foreign Direct Investments on Small Countries' Competitive and Technological Position*, Helsinki: Government Institute for Economic Research

BİLGİN, İ.,Ö. (2004) (President of TAYSAD) Speech at the Meeting of General Committee of OSD (02. Feb. 2004), available at [http://www.taysad.org.tr/viewdosya.asp-dosya\\_id=1026](http://www.taysad.org.tr/viewdosya.asp-dosya_id=1026) (15.04.2004)

BLOMSTRÖM M. and A. KOKKO (1996) *The Impact of Foreign Investment on Host Countries: A Review of the Empirical Evidence*, Working Paper series, No. 1745 World Bank, December.

BLOMSTRÖM, M., and A. KOKKO, (1997) *Multinational Corporations and Spillovers*, Stockholm School of Economics, Working Paper Series in Economics and Finance, No: 99, February

BORDENAVE, G. (2003) "Ford of Europe, 1967-2003" Groupement de Recherches Economiques et Sociales, <http://www.gres-so.org> (15.02.2004)

BROUTHERS, K.D., L.E. BROUTHERS and S. WERNER (1996) "Dunning's Eclectic Theory and the Smaller Firm: The Impact of Ownership and Locational Advantages on the Choice of Entry Modes in the Computer Software Industry", *International Business Review*, 5 (4) pp. 377-394

BUCKLEY, P J. & MARK C. CASSON (1976) *The Future of the Multinational Enterprise*. London: Macmillan.

BUCKLEY, P. J. (1988) "The Limits of Explanation: Testing The Internalization Theory of the Multinational Enterprise", *Journal of International Business Studies*, 19(2): 181-193.

CASSARD, M. and PAPI, L. *Russia and Turkey: A Tale of Two Countries in Emerging Markets Research - Global Emerging Markets*, pp. 74-85

CARKOGLU, A AND EDER, M. (1998) *Privateview*, Autumn, Vol. 2, No. 6

CHANARON, J.J., (2002) "Relationships between the core and the periphery of the European automotive system" in "Coordinating Competencies and Knowledge in the European Automobile System (CoCKEAS)": Université Montesquieu-Bordeaux, pp. 52-75

CHEN, H. and T.-J CHEN. (1998) "Network Linkages and Location Choice in Foreign Direct Investment", *Journal of International Business Studies*, Vol. 29, Iss. 3, pp. 445-468

COASE R.H., (1937) *The Nature of the Firm*, *Economica*, November, pp. 386-405

DAIMLERCHRYSLER AG (2003) *Annual Report for the Fiscal Year Ended December 31, 2002*

DIEHL, M. (2001) "*International Trade in Intermediate Inputs: The Case of the Automobile Industry*", Kiel Institute of World Economics Working Paper No: 1027

DTM (1999) "Küresel Pazarlama Kapsamında Dünya Otomotiv Sanayii ve Türkiye Otomotiv Sanayinin Durumu" (World Automotive Industry and the Case of Turkish Automotive Industry in the Context of Global Marketing), available at: <http://www.foreigntrade.gov.tr/ead/ticaret/kuresel/kureselpaz.htm> (15.04.2004)

DTM (Foreign Trade Undersecretary of Turkish Republic), (2002) "Otomotiv ve Yan Sanayi Sektörü" (Automotive and Lean Industry Sectors), <http://www.foreigntrade.gov.tr/IHR/sector/otomotiv.htm#> (10.03.2004)

DUNNING, J. H. (1983) "Toward an Eclectic Theory of International Production: Some Empirical Tests", *Journal of International Business Studies*, 11 (1) pp. 9-31

DUNNING, J. H. (1995) "Reappraising the Eclectic Paradigm in an Age of Alliance Capitalism", *Journal of International Business Studies*, 26 (3) pp 461-491.

DUNNING, J. H. (1988) "The Eclectic Paradigm of International Production: A Restatement and Some Possible Extensions", *Journal of International Business Studies*, 19 (1) pp 1-32.

ENRIGHT, M.J., (2000) "Regional Clusters and Multinational Enterprises", *International Studies of Management & Organization*, Vol. 30, pp. 114-134

ERTUGRUL, A. and SELCUK, F. "A Brief Account of the Turkish Economy, 1980-2000", *Russian and East European Finance and Trade*, Vol.37, No: 6, pp. 6-30

ESKIOGLU, F (1984) *Uluslararası Sermaye İhracı ve İthalindeki Nedensellik ve Türkiye'de Yabancı Sermaye* (The reasonability of the International Investment Import-Exports and Foreign Investment in Turkey), Unpublished Masters Thesis, Gazi University Institute of Social Sciences

GRAHAM, E.M. (1994) *What can the Theory of Foreign Direct Investment Tell Us About the Low Level of Foreign Firm Participation in the Economy of Japan?* Paper Presented at the Wharton School University of Pennsylvania, October 7, 1994

GRAHAM, E.M. (1996) "The (Not Wholly Satisfactory) State of the Theory of Foreign Direct Investment and the Multinational Enterprise", *Journal of International and Comparative Economics*, Vol. 20: pp 183-206

HODGETTS, R. M. (1993) "Porter's Diamond Framework in a Mexican Context", *Management International Review*, Second Quarter, Vol. 33, Iss. 2; pp. 41-55

HYMER, S. (1970) "The Efficiency (contradictions) of Multinational Corporations", *American Economic Review*, Vol 60: pp 441-448

IGEME (2004) "World Exports of Automotive and Lean Industry" available at: <http://www.igeme.org.tr> (15.04.2004)

IMF (International Metalworkers' Federation) (2001) "*Auto Report 2000: Mergers, Acquisitions and Alliances Industry Review and Outlook*" [www.inputresearch.com](http://www.inputresearch.com) (08.05.2004)

THE INDUSTRY COMMISSION (1997) (formerly Bureau of Industry Economics and the Economic Planning Advisory Commission) "The Automotive Industry" Report No: 58 available at: <http://www.econ.gov.au>

Planning Advisory Commission have amalgamated on an administrative basis to prepare for

ISO (Istanbul Chamber of Industry) (2002) "*Otomotiv Sanayi Sektörü*" ("*Automotive Industry Sector*"), Publication No: 2002/4

ITAKI, M. (1991) "A Critical Assessment of the Eclectic Theory of the Multinational Enterprise", *Journal of International Business Studies*, 3<sup>rd</sup> Quarter, pp. 445-460

KATSELI, L. (1991) *Foreign Direct Investment and Trade Interlinkages in the 1990s: Experience and Prospects of Developing Countries*, Paper prepared for UNCTAD project on *The New Globalism and Developing Countries: Investment, Trade, and Technology Linkages in the 1990s*

KEPENEK, Y. and YENTÜRK, N. (1996) *Türkiye Ekonomisi* (Turkish Economy), Istanbul: Remzi Kitabevi

KOGUT, B. (1991) "Country Capabilities and the Permeability of Borders." *Strategic Management Journal*, Vol. 12, pp. 33-47.

KRUGMAN P., (1998) 'What's new about the new economic geography?'.  
*Oxford Review of Economic Policy* 14(2): pp. 7-17

LALL, S (1980) "Monopolistic Advantages and Foreign Involvement by U.S. Manufacturing Industry", *Oxford Economic Papers*, Vol. 32 (March)

LIN, GEORGE. C.S and HENRY WAI-CHUNG YEUNG (2003) "Theorizing Economic Geographies of Asia", *Economic Geography*, Vol. 79, Iss. 2, pp. 107-132

LOEWENDAHL, H. and EBRU ERTUGAL-LOEWENDAHL (2000) "Turkey's performance in attracting foreign direct investment Implications of EU enlargement", CEPS (the Center For European Policy Studies) Working Document No. 157, available at: <http://www.ceps.be/Pubs/2000/wd/157b.htm> (21.04.2003)

MACDOUGALL, G.D.A. (1960) "The Benefits and Costs of Private Investment from Abroad: A Theoretical Approach", *Economic Record*, Vol. 36, pp. 13-35.

MASKUS, K. (2001) "Theories of Foreign Direct Investment: Why are there Multinational Enterprises", *Colorado University Policy Paper*, available at: [www.colorado.edu/Economics/courses/maskus/3403/mnes.doc](http://www.colorado.edu/Economics/courses/maskus/3403/mnes.doc) (10.04.2003)

MARKUSEN, A. (1996) "Sticky places in slippery space: A typology of industrial districts", *Economic Geography*, 72, pp. 293-313.

MARSHALL A. (1890) *Principles of Economics*. Reprinted London: Macmillan 1920 (8th edition) cited in NACHUM, L. (2000) "Economic Geography and the Location of TNCs: Financial and Professional Service FDI to the USA", *Journal of International Business Studies*. Vol. 31. Iss. 3., pp. 367-378.

MIYAKE M., and SASS, M. (2000) "Recent Trends in Foreign Direct Investment", *Financial Market Trends*, No. 76, June, pp. 23-41

MORTIMORE, M. (2000) "Corporate Strategies for FDI in the Context of Latin America's New Economic Model", *World Development*, Vol. 28, Iss., September, pp. 1611-1626

NEYAPTI, B., TASKIN, F. and M. ÜNGÖR (2003) *Has European Customs Union Agreement Really Affected Turkey's Trade?* Paper Presented at Ecomod2003 Conference, available at:

[http://www.ecomod.net/conferences/ecomod2003/\(07.05.2004\)](http://www.ecomod.net/conferences/ecomod2003/(07.05.2004))

NISSAN MOTOR CO., (1999) "A New Alliance for the Millenium", Annual Report 1999,

ODD (2004) "Automotive Market Statistics" available at: <http://www.odd.org.tr> (02.03.2004)

OICA (2004) " World Car Production" , available at <http://www.oica.org> (02.03 2004)

OKTEN, et. al. (1998) *Spatial Implications of The Organisation of Production in the Automotive Industry in Turkey* Paper submitted at the 38th Cogress of the European Regional Science Association, 28 August-1 September, Vienna

OSD (2004) *Otomotiv Sanayiinde Diş Ticaret (1992 - 2003) Yilari*, (Foreign Trade in Automotive Industry Years (1992 – 2003), available at: <http://www.osd.org.tr> (02.04.2004)

PORTER, M. E. (1985) *Competitive Advantage: Creating and Sustaining Performance*, New York: The Free Press

REICH, S. (1989) "Roads to follow: Regulating direct foreign investment", *International Organization* Vol. 43, pp. 543-84.

ROELANDT T.J.A. AND P. DEN HERTOOG. "*Cluster Analysis and Cluster-based Policy Making in OECD Countries: An Introduction to the Theme*" in *Boosting Innovation: The Cluster Approach*

ROSENFELD, S.A. (2001) *Backing into Clusters: Retrofitting Public Policies*, Paper presented at the OECD Symposium at John F. Kennedy School, Harvard University, March 29-30,

RUGMAN, A. (1980) "Internalisation as a general theory of foreign direct investment: A Reappraisal of the Literature", *Weltwirtschaftliches Archiv*, 116 (2): 365-79.

SAHIN, H. (1997) "*Turkiye Ekonomisi*" (*Economy of Turkey*), 4<sup>th</sup> ed., Bursa: Ezgi Kitabevi

SAMUELSON. P. A., (1962) "The Gains from International Trade Once Again", *Economic Journal*, Vol. 72, pp. 820-829.

SCHADLER S. et al. (1993) *Recent Experiences with surges in Capital Inflows*, IMF Occasional Paper, No 108

SINGH H., AND K.W. JUN (1995) *Some New Evidence on Determinants of Foreign Direct Investment*, World Bank Working Paper, No 1531

SÖDERSTEN, B. and G. REED, (1994) *International Economics*, 3rd ed., London: Macmillan

STORPER, M., (1992) "The Limits to Globalization: Technology Districts and International Trade", *Economic Geography* vol. 68, no. 1, pp. 60-96.



TATOGLU, E., ERDAL, F. (2002) "Locational Determinants of Foreign Direct Investment in an Emerging Market Economy: The Turkish Experience", *Multinational Business Review*, 10 (1)

TAYSAD (2004) "Automotive Side Industry in Turkey" available at: <http://www.taysad.org.tr> (25.04.2004)

TEZER, E (1999) "Ekonominin Dinamosu Otomobil Sanayii", *Görüş*, September, pp. 22-31

TINC, L. "21. Yüzyılın Sektörleri" (Sectors of the 21st Century), *Hurriyet*, 15.11.1998

TURKİYE CUMHURİYETİ MERKEZ BANKASI (TCMB) (CENTRAL BANK OF TURKIS REPUBLIC: CBTR) (1999) *Annual Reports Developments In The Turkish Economy And Monetary Policy* available at: <http://www.tcmb.gov.tr> (11.04.2004)

TÜSİAD (1998) *Taşıt Araçları Yan Sanayiinde Teknoloji ve Yeni Ürün Geliştirme Yönetimi* (Technology and New Product Development Management in Transportation Vehicles and Side Industry), Istanbul: Lebib Yalkın Yayınlar ve Basım İşleri

TÜSİAD (2002) *Türkiye Ekonomisi 2001* (Turkish Economy 2001), Istanbul: Lebib Yalkın Yayınlar ve Basım İşleri

UNCTAD (2000), "World Investment Report 2000: Cross-border Mergers and Acquisitions and Development", available at: <http://www.unctad.org/en/pub/ps4wir00fs.en.htm> (01.11.2003)

UNCTAD (2004) "World Investment Report 2003", available at: <http://www.unctad.org/en/pub/ps4wir03fs.en.htm> (01.11.2003)

UNDERSECRETARY OF TREASURY (2004) "Investing in Turkey", GDFI web  
<http://www.treasury.gov.tr/investment/energy.html> (15.05.2004)

U.S. & Foreign Commercial Service, (2000), "*FY 2001 Country Commercial Guide: Turkey*"

VERNON, R. (1966) "International Investment and International Trade in the Product Cycle", *Quarterly Journal of Economics*, Vol. 80, pp. 190-207.

VERNON, R. (1979) "The Product Cycle Hypothesis in a New International Environment", *Oxford Bulletin of Economics and Statistics*, Vol. 41, No. 3, pp. 253-267.

VURANOK, t. and ER, G. (2001) "Otomotiv ve Yan Sanayi Raporu" *Input Research and Communications Inc.*, available at:

WILLIAMSON, O. E. (1975) *Markets and Hierarchies: Analysis and Antitrust Implications - A Study in the Economics of Internal Organisation*, New York: The Free Press.

WORLD TRADE ORGANISATION (1998) "Global Production and Local Jobs: New Perspectives on Enterprise Networks, Employment and Local Development Policy", International Workshop (Geneva 9-10 March 1998) Global Production and Local Jobs: issues for discussion.

YASED (2004) "List of FDI Firms in Turkey" available at:  
<http://www.yased.org.tr>

## **Web Pages of the Companies**

Anadolu Isuzu: [www.isuzu.com.tr](http://www.isuzu.com.tr)

Ford Otosan: [www.ford.com.tr](http://www.ford.com.tr)

Honda Türkiye: [www.honda.com.tr](http://www.honda.com.tr)

Hyundai Assan: [www.hyundai.com.tr](http://www.hyundai.com.tr)

M.A.N Türkiye: [www.man.com.tr](http://www.man.com.tr)

M.Benz Türk: [www.mercedes-benz.com.tr](http://www.mercedes-benz.com.tr)

Otokar: [www.otokar.com.tr](http://www.otokar.com.tr)

Otoyol: [www.otoyol.com.tr](http://www.otoyol.com.tr)

Oyak Renault: [www.renault.com.tr](http://www.renault.com.tr)

Tofaş: [www.tofas.com.tr](http://www.tofas.com.tr)

Toyota: [www.toyotatr.com.tr](http://www.toyotatr.com.tr)

Türk Traktör: [www.turktraktor.com.tr](http://www.turktraktor.com.tr)

## APPENDIX I. TOP AUTOMOTIVE PRODUCERS IN THE WORLD

Manufacturer	%in Total
GM-Daewoo	14.27
Ford	11.54
Toyota-Daihatsu-Hino	11.36
VW Group	8.60
DaimlerChrysler	7.64
PSA Peugeot Citroën	5.59
Honda	5.12
Nissan	4.66
Hyundai-Kia	4.53
Renault-Dacia-Samsung	3.99
Fiat-Iveco	3.76
Mitsubishi	3.12
Suzuki-Maruti	2.92
BMW	1.87
Mazda	1.79
Avtovaz	1.21
Fuji (Subaru)	0.93
CNAIC (Changhe&Harbin)	0.78
Isuzu	0.75
FAW Group (without VW)	0.63
Dongfeng (without Citroën)	0.57
Chana AG(without Suzuki)	0.45
SAIC (without GM&VW)	0.34
Gaz	0.34
Tata (Telco)	0.30
Ssangyong	0.28
Volvo-Renault Trucks-Mack	0.28
MG Rover	0.25
Beijing AIG (without Isuzu)	0.25
Paccar-Daf	0.15
Ijmach Avto	0.13
Manhindra&Mahindra	0.12
UAZ	0.12
Navistar	0.12
MAN-ERF-NEOMAN Bus	0.10
Kamaz	0.10
Porsche	0.10
Scania	0.08
Roslada	0.07
Nissan Diesel	0.05
Hindustan	0.04

Source: OICA (2004) Annual Statistics

## APPENDIX II. FDI AUTOMOTIVE PRODUCTION / ASSEMBLY PLANTS IN TURKEY

COMPANY	Location	YEAR	LICENCE	CAPITAL (1.000.000.000 TL)	FOREIGN CAPITAL (%)	TOTAL EMPLOYEES (2003)	TYPE OF VEHICLE
M.BENZ TÜRK	AKSARAY	1985	MERCEDES BENZ	100,000	85.00	3,364	Bus
TÜRK TRAKTÖR	ANKARA	1954	NEW HOLLAND N.V.	47,000	37.50	906	Farm Tractor
M.A.N TÜRKİYE	ANKARA	1966	MAN	65,000	99.90	3,498	Road Tractor- Truck-Bus
OYAK RENAULT	BURSA	1971	RENAULT	194,000	51.00	3,810	P. Car
TOFAŞ	BURSA	1971	FIAT	450,000	37.80	4,100	P. Car -Pick-Up
FORD OTOSAN	ESKİŞEHİR	1983	FORD	292,425	41.00		P. Car
M.BENZ TÜRK	İSTANBUL	1968	MERCEDES BENZ	100,000	85.00		Road Tractor- Truck
ANADOLU ISUZU	KOCAELİ	1966	ISUZU	8,471	29.75	525	Truck-Pick Up- Midibus
HONDA TÜRKİYE	KOCAELİ	1997	HONDA MOTOR CO. LTD.	70,000	100.00	447	P. Car
HYUNDAİ ASSAN	KOCAELİ	1997	HYUNDAİ MOTOR COMPANY LTD.	54,520	50.00	1,552	P. Car-Pick Up- Minibus
FORD OTOSAN	KOCAELİ	2001	FORD	292,425	41.00	5,950	Truck-Pick Up- Minibus
OTOYOL	SAKARYA	1966	IVECO	12,000	27.00	1,057	Pick Up-Minibus- Midibus-Truck
TOYOTA	SAKARYA	1994	TOYOTA	74,565	100.00	2,590	P. Car

Source: Web pages of the companies (stated in references) and OSD (2004)

### **APPENDIX III. MARKET SHARES OF THE AUTOMOBILE COMPANIES IN TURKEY**

Brand	Sold	Unit Total	% of
RENAULT		8,372	17.44
OPEL		5,301	11.04
FIAT		4,865	10.14
FORD		4,666	9.72
V.WAGEN		4,315	8.99
PEUGOT		3,699	7.71
HYUNDAI		3,566	7.43
TOYOTA		2,506	5.22
HONDA		2,244	4.68
SKODA		908	1.89
CITROEN		861	1.79
CHEVROLET		811	1.69
SEAT		794	1.65
NISSAN		635	1.32
AUDI		603	1.26
KIA		425	0.89
LADA		420	0.88
DACIA		412	0.86
MITSUBISHI		341	0.71
VOLVO		318	0.66
MAZDA		285	0.59
MERCEDES		258	0.54
BMW		249	0.52
SUZUKI		245	0.51
SUBARU		208	0.43
LAND ROVER		197	0.41
ALFA ROMEO		186	0.39
DAIHATSU		109	0.23
CHRYSLER		87	0.18
NINI		47	0.10
SMART		21	0.04
ROVER		17	0.04
PORSCHE		11	0.02
SAAB		6	0.01
JAGUAR		4	0.01
FERRARI		2	0.00
MG		1	0.00
DAEWOO		47,995	100.00

As of April 2004

Source: ODD (2004)

## APPENDIX IV. DEVELOPMENT ZONES IN TURKEY

Developed Provinces	Normal Provinces		Priority to Development Provinces	
Adana (City Center)	Eskişehir	Konya	Kastamonu	Tunceli
Ankara	Ankara	Gaziantep Sakarya Bolu Burdur	Çorum Artvin Erzincan Trabzon	Adiyaman Kars Gümüşhane Bayburt
Antalya Kocaeli (City Center)	İzmir)	Kütahya Afyon Tekirdağ Yalova	Sivas Osmaniye Aksaray K.Maraş	Batman Mardin Van Siirt
Bursa (City Center)	Bursa (Suburbs And Counties)	İçel Muğla Aydın Balıkesir	Kilis Bartın Tokat Çankiri	İğdir Hakkari Bitlis Ardahan
İstanbul (City Center)	Adana (Suburbs And Counties)	Kirklareli Kayseri Denizli Bilecik	Sinop Ordu Erzurum Diyarbakir	Bingöl Ağrı Şırnak Muş
İzmir (City Center)	Antalya (Suburbs And Counties) Çanakkale (Bozcaada Ve Gökçeada İlçeleri Hariç)	Edirne Isparta Manisa Uşak Düzce Hatay	Yozgat Şanlıurfa Nevşehir Elazığ Amasya Karabük Malatya Zonguldak	Rize Kırşehir Çanakkale (Bozcaada and Gökçeada Counties) Kırıkkale Giresun
			Karaman Niğde	
			Samsun	

Source: DPT (SPO) (2004)

## APPENDIX V. FDI AUTOMOTIVE SIDE INDUSTRY COMPANIES BY YEAR

YEAR	İstanbul	Bursa	İzmir	Kocaeli	Ankara	Manisa	Sakarya	Tekirdağ	Konya	Aksaray	Eskişehir	Hatay	İçel	K. Maraş	Kirşehir	Samsun	Total
1970		2															2
1981							1										1
1982					1												1
1984			1														1
1984																	0
1986		1															1
1987	1		1														2
1988	1																1
1989	1	2	2														5
1990	3											1					4
1991	4	2			1												7
1992	3	1		1													5
1993	2	1	1		1												5
1994	1	3				1											5
1995	6	3	1			1	1										13
1996	5	3						1									9
1997	3	2	1	1			1				1						9
1998	5	2	3					1						1			12
1999	4	3	1	1						1							12
2000	8	4		2	2	1			2						1		20
2001	1	2	1	1												1	6
2002	3			2	1								1				7
TOTAL	51	31	12	8	6	3	3	2	2	1	1	1	1	1	1	1	128

Source: Compiled and calculated from YASED (2004)